San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

FY 2018-19 & FY 2019-20
Adopted Budget

GOVERNMENT FINANCE OFFICERS ASSOCIATION

Distinguished Budget Presentation Award

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San Francisco Public Utilities Commission

California

For the Biennium Beginning

July 1, 2016

Executive Director

FY 2018-19 AND FY 2019-20 SFPUC BUDGET

A balanced two-year budget covering three public utility enterprises that reflects fiscal and social responsibility, investments in the future of our City and Region and response to affordability demands.

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GENERAL MANAGER'S TRANSMITTAL LETTER

Dear Customers, Stakeholders and Commissioners,

On behalf of the San Francisco Public Utilities Commissioners, I am pleased to present the San Francisco Public Utilities Commission (SFPUC) approved budget, covering Fiscal Year (FY) 2018-19 and FY 2019-20. The budget funds the SFPUC's three essential service utilities: Water, Wastewater and Power, including the CleanPowerSF program. It supports our ongoing mission to provide high quality, efficient and reliable water for our 2.7 million customers in the San Francisco Bay Area, wastewater collection and treatment for more than 870,000 customers in San Francisco and neighboring communities and the greener power choice of CleanPowerSF for our City and County of San Francisco residents and businesses as well as power services for our municipal customers and the San Francisco International Airport (SFO).

The SFPUC is widely recognized as a national leader for excellent service, stewardship and innovation. After 100 years of providing clean hydroelectric power for municipal customers and more than 25 years of conservation leadership and controlling wet-weather pollution with our green and grey infrastructure, the SFPUC has adopted a One Water plan for San Francisco. Our *OneWater SF* approach will optimize the use of our finite water and energy resources to balance community and ecosystem needs to create a more resilient and reliable future. In 2016, we launched the 2020 Strategic Plan to set goals for improving our business practices, including building an effective workforce and optimizing our operations, maintenance and asset management. Our *OneWater SF* plan provides a clear vision of the outcomes we expect from our improved business practices.

This two-year budget represents continued engagement for all three Enterprises in major capital infrastructure programs, which are essential to the ongoing mission and the vision of *OneWater SF.*

Our Local Water Program, part of the Water Enterprise (WE), ensures the right water for the right use. That includes developing local groundwater sources to augment our imported water supply and using recycled water for local irrigation to stretch our potable supply. In the last year, our innovative onsite water treatment system in the SFPUC headquarters has become a national model. A Blue-Ribbon Panel hosted by the US Water Alliance, the Water Research Foundation and the National Water Research Institute developed a national blueprint for onsite water reuse based on our system. In San Francisco, onsite water treatment systems are now required in new large-scale developments.

Our Sewer System Improvement Program (SSIP) is deploying cutting edge technology for essential upgrades to our treatment plants and pump stations. Our Distributed Control System will provide 21st century process control, communication and networking technology to support efficient, effective, safe and compliant operations across our wastewater systems. Our new biosolids facilities will produce gas for energy production and Class A biosolids for soil amendment products. The Wastewater Enterprise (WWE) focus on resource recovery and reuse aligns with our *OneWater SF*.

The Hetch Hetchy Power system has been producing green and clean hydropower for 100 years. We provide this clean energy to our municipal facilities and our residents. Our CleanPowerSF program allows residents to choose our power source over the commercial power traditionally provided. To date, we have enrolled more than 108,000 accounts in CleanPowerSF, and we are expecting to grow that total to 360,000 by 2019. CleanPowerSF is not only integral to our *OneWater SF* but is essential to San Francisco climate change goals.

Having survived a five-year historic drought, in which the State required 25 percent water conservation which when implemented for our already low per capita retail customers was 8.0 percent and 15.0 percent for our wholesale customers, water conservation significantly reduced our revenues across our three Enterprises, the SFPUC Commission adopted a combined water and sewer rate increase of 7.6 percent annual average over four years. We have also aggressively pursued low interest financing for our capital projects. The SFPUC has secured nearly $1 billion in low-interest loans including: $103.5 million in Clean Water State Revolving Funds (SRF) loans for our SSIP projects; $186.0 million from SRF and the California state grants for water projects for our Westside Water Recycling project; and $699.0 million Water Infrastructure Finance and Innovation Act (WIFIA) loan from the United States Environmental Protection Agency for our Biosolids Digester Facility project. Fiscal stewardship is one of our highest priorities; we must ensure that our life-essential services are affordable for our customers. Our 10-Year Financial Plan, 10-Year Capital Program and our capital investment and budgeting procedures all support this strict affordability while attaining our service goals.

Profile of the SFPUC

The SFPUC is a department of the City and County of San Francisco, responsible for the delivery of utility services, including engineering, operations, and maintenance of three separate Enterprise utilities: Water (WE), Wastewater (WWE) and Power (HHWP) Enterprises. All three Enterprises are funded through customer fees and charges for utility services. Supporting these three Enterprises are the Business Service, External Affairs and Infrastructure Bureaus, along with the General Manager's Office. These services are fully funded by the Enterprises, as are the capital programs and consequential debt for long-term capital improvements.

The Water Enterprise operates the Hetch Hetchy Regional Water System, a wholesale drinking water utility that serves 2.7 million residents in Alameda, Santa Clara, San Mateo counties and retail drinking water for San Francisco. Approximately 85 percent of the drinking water supplied by our system originates as snowmelt within the 459-square-mile Hetch Hetchy Watershed on the upper Tuolumne River within Yosemite National Park. This high-quality water is then conveyed 167 miles across California solely by gravity. The remaining 15 percent of the water supply comes from precipitation collected in the reservoir Alameda Creek Watershed in Alameda County and the Peninsula Watershed in San Mateo County.

The Water Enterprise revenue is based on retail and wholesale water customer rate payments. Rates are set by the SFPUC Commission. Wholesale rates are specifically pursuant to our Water Supply Agreements with the wholesale customers.

The FY 2018-19 Adopted Operating Budget is $570.1 million, and the FY 2019-20 Adopted Operating Budget is $598.6 million.

The Wastewater Enterprise is responsible for the collection, treatment, resource recovery and discharge of wastewater for San Francisco and parts of northern San Mateo County, Bayshore Sanitary District, Brisbane, Treasure Island and Yerba Buena Island. This highly-regulated Enterprise protects public health and the water environment of the San Francisco Bay and the Pacific Ocean offshore of San Francisco. The system is mostly a combined sewer system, which is unique in coastal California. The combined system offers significant environmental benefits because it captures and treats stormwater and dry-weather urban runoff, which both carry significant pollutants, and the sanitary sewage from homes and businesses.

The Wastewater Enterprise serves both residential and commercial accounts as well as some municipal customers, with cost recovery coming from ratepayer charges based on volume and strength of sanitary sewage flow. Wastewater recovers fats, oils and grease in advance of and during treatment to create a biodiesel product—methane gas—from solids digestion to generate electricity and biosolids products which are beneficially used in agriculture.

The FY 2018-19 Adopted Operating Budget is $343.2 million, and the FY 2019-20 Adopted Operating Budget is $360.1 million.

The Power Enterprise operates two lines of business: Hetch Hetchy Power and CleanPowerSF. **Hetch Hetchy Power** is part of the Hetch Hetchy Water and Power Project and is a publicly owned utility for the City, providing, clean energy services to our customers. Our Hetch Hetchy Power System generates and delivers hydroelectric, solar and biogas energy to retail and wholesale electricity customers. The total project includes: Hetch Hetchy Water, which operates and maintains the upcountry (Sierra Nevada mountains and foothills) water and power facilities; and Hetch Hetchy

Power, responsible for all power utility wholesale and retail transactions and in-City power operations. Several of the upcountry Water facilities are joint assets and are used for both water transmission and power generation and transmission. Operating and capital costs of these facilities are allocated 45 percent to Water and 55 percent to Hetch Hetchy Power.

This year marked the 100th anniversary of the Hetch Hetchy Power System operations and on May 6, 2018, the City recognized our ongoing efforts to provide clean energy to San Francisco residents and businesses by declaring the date as the Hetch Hetchy Power System Centennial Day.

The FY 2018-19 Adopted Operating Budget is $226.3 million, and the FY 2019-20 Adopted Operating Budget is $227.5 million.

CleanPowerSF is San Francisco's Community Choice Aggregation (CCA) program. The CCA program allows us to partner with Pacific Gas & Electric (PG&E) to deliver clean energy to our residents and businesses. Under this program, CleanPowerSF supplies customers with electricity from renewable sources, while PG&E delivers the energy on its transmission lines. CleanPowerSF' s Green product features 43 percent California Renewable Portfolio Standard (RPS) certified renewable energy, and its SuperGreen product offers 100 percent California RPS-certified renewable energy.

CleanPowerSF now serves more than 108,000 San Francisco customers and plans to complete citywide enrollment of customers by 2019. To supply its customers, CleanPowerSF signed several multi-year deals to purchase energy from new wind and solar projects that will be constructed in 2019 and 2020. These projects will create more than 600 new jobs and ensure a clean, safe and reliable renewable power supply to CleanPowerSF customers over the next several decades. Between Hetch Hetchy Power and CleanPowerSF, the SFPUC now supplies electricity to meet approximately 50 percent of the demand in San Francisco.

The FY 2018-19 Operating Budget is $157.0 million, and the FY 2019-20 Operating Budget is $212.9 million.

OneWater SF Guides SFPUC

Our mission is to provide our customers with high-quality, efficient, and reliable water, power, and wastewater services in a manner that supports both environmental and community interests, and that sustains the resources entrusted to our care. In 2017, the SFPUC realized that we needed to build on the existing success of our sustainability and resiliency programs and, in support of our mission, formalized a *OneWater SF* approach on how to manage our water and energy resources. Our strategic plans have always focused on sustaining the resources entrusted in our care. *OneWater SF* provides guiding principles for what that means. The benefits of formalizing our vision of *OneWater SF* states that we intend to ensure greater resilience and reliability for water and energy, we will actively seek opportunities to optimize water infrastructure and address climate change, water shortages and protect water quality, and we will encourage programs and projects that provide multiple benefits. This guidance will change our programs because we will match the right resource to the right use and shift from thinking about one project at a time to thinking more holistically about the impact of one project on another and potential synergies between our water, wastewater and power operations. In addition, it will foster collaboration and partnerships with communities, other agencies and the private sector, while building flexibility and resiliency into our infrastructure, our programs and our outlook so we can respond to change.

Long-Term Strategic Goals

Our budget is aligned with our long-term strategic goals and objectives to improve our internal business practices as detailed in the SFPUC's **2020 Strategic Plan**:

- Reliable Service and Assets: We provide reliable service and value to our customers by optimizing the operation, maintenance, replacement and improvement of all assets in the most cost-effective manner.
- Organizational Excellence: We are a high-performing organization focused on efficiency, effectiveness and accountability across the organization.
- Effective Workforce: We attract, retain and develop an effective workforce, reflective and supportive of our communities, that consistently delivers high-quality services to stakeholders.

- Financial Sustainability: We assure financial integrity and sustainability, meeting today's operating and capital investment needs while managing risk and long-term affordability for the future.
- Stakeholder and Community Interest: We foster trust and engagement with our customers, employees and the communities we serve through open and timely communication and education.
- Environmental Stewardship: We sustainably manage the resources entrusted to our care to ensure environmental and community health.

We have two major 10-year plans which support our goals of financial sustainability and meeting our operating and capital investments needs while managing risk and long-term affordability. These plans are the 10-Year Financial Plan and the 10-Year Capital Plan. The 10-Year Capital Plan is updated and reviewed every year for each Enterprise. It projects the infrastructure and major rehabilitation and replacement projects over 10 years, thereby allowing us to ensure that we are meeting our levels of service, achieving strategic goals and our OneWater SF vision. The 10-Year Financial Plan is reviewed annually and allows the SFPUC to plan for operating and capital spending, associated rate changes, debt service and coverage, and fund balance.

Rates for Retail Water, Wastewater and Power

As required by the City Charter, the SFPUC retains an independent rate consultant at least every five years to evaluate the cost of service of the retail water and sewer systems, and to recommend appropriate rate structures. The rate study is an engineering and financial exercise that explains the basis and rationale for proposed rates, supported by a cost of service analysis, and provides an administrative record to satisfy the legal requirements of California's Proposition 218 and the City Charter. A rate study is generally comprised of three main components: a revenue requirement analysis, cost of service analysis and rate design. A cost of service study was completed in early 2018 and the SFPUC Commission approved adjustments to the Water and Wastewater retail rates in April 2018.

Table L1 and Table L2 show the approved annual average rate increase to retail residential water and wastewater customers.

Table L1. Approved Rate Increases for Retail Residential Wastewater Customers

	Adopted				
Wastewater	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**FY 2021-22**
Average Annual Adjustment	11.0%	7.0%	7.0%	8.0%	8.0%

Table L2. Approved Rate Increases for Retail Residential Water Customers

	Adopted				
Retail Water	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**FY 2021-22**
Average Annual Adjustment	7.0%	9.0%	8.0%	7.0%	7.0%

Retail Water and Sewer-Service rates have been set for single-family and multiple-family residential and non-residential customers.

During the prolonged extensive drought, all water agencies within the state of California were required to significantly reduce water consumption. As a result, the SFPUC water and wastewater revenues decreased significantly. Our organization responded and managed the resulting revenue shortfalls by making operational adjustments, delayed program implementation to reduce expenses and used fund balance savings as appropriate. When the SFPUC Commission adopted the new rates in April 2018, they also adopted a drought surcharge rate, which would be applied to retail water and residential wastewater rates when a retail water shortage allocation plan is implemented by the Commission. There are three stages of the master shortage allocation plan and the consequential surcharge. Stage 1 is a 5 – 10 percent reduction in water consumption. Stage 2 is an 11 – 20 percent reduction in water consumption. Stage 3 covers reductions more than 20 percent. The drought surcharge would be applied to the customer's applicable retail rate depending on the plan stage enacted by the Commission.

Wholesale Rates – Water

Wholesale water rates are managed through a 25-year Water Supply Agreement, with no increase to rates in FY 2018-19. In FY 2019-20, it is anticipated no rate increase will be needed to support the continued funding of vital capital improvements largely comprised of the Water System Improvement Program (WSIP) and the annual renewal and replacement program.

Electrical Rates

Hetchy Power charges for services related to the storage and delivery of water, as well as generating and delivering electricity to contractual and municipal customers. For municipal power customers, there are two rates charged, General Use rates and Enterprise rates. General Fund Department customers mostly pay the General Use rate, a rate that is currently subsidized. However, that rate is moving towards cost of service and increasing by $0.005 per kWh on an annual basis. Enterprise rates are charged based on projected PG&E equivalent rates by customer class.

On May 10, 2018, the SFPUC Commission adopted a new General Use rate that consolidated six previous subcategories of General Use rates into the current, single General Use rate. The adopted General Use rate is $0.07377 for FY 2019 and $0.07877 for FY 2020, respectively. The Power Enterprise continues to develop rates under the cost of service analysis model and has started work on the next power rate study, which is projected to be completed in 2020 and provide power rates for FY 2021.

CleanPowerSF offers two products to San Francisco residents and businesses: a "Green" product comprised of at least 40 percent renewable energy and a "SuperGreen" product comprised of 100 percent renewable energy. Most CleanPowerSF customers (96 percent) take service under the "Green" product rates, with the remaining customers opting to upgrade to CleanPowerSF's "SuperGreen" product rates. In the last rate action for CleanPowerSF rates, the SFPUC Commission adopted Green rates that, on average, increased 5 percent and still maintained a 2 percent discount from comparable PG&E rates, after considering surcharges. The SuperGreen rates adopted in the last SFPUC Commission rate action varied depending upon customer classes and reflect the program's policy objective to remain competitive with PG&E comparable rates. CleanPowerSF rates will be included in the next power rate study, which is projected to be completed in 2020.

Capital Improvement Program

Water System Improvement Program (WSIP)

Through our WSIP, one of the largest infrastructure programs in the nation, we have invested $4.8 billion into strengthening our Hetch Hetchy Regional Water system. The focus of the program continues to be construction of several ongoing large regional projects and closeout of recently completed projects, creating a seismically-designed water lifeline for the Bay Area. The WSIP has enhanced our ability to provide high-quality, reliable drinking water to our customers, even after a major earthquake or during an extended drought period.

Pipeline Repair and Replacement in San Francisco

With more than 1,000 miles each of water and sewer mains, the work of preventative maintenance is an ongoing challenge. Funding is approved in the biennial budget for FY 2018-19 and FY 2019-20, to fund the inspection and replacement of pipeline at a rate of 15 miles per year for water and sewer mains. Additionally, condition assessment is included to populate an asset management data base, and for Wastewater, spot repair of small segments of sewers is also part of the budget. The budget for Water is $112.2 million and $183.1 million for Wastewater over the two fiscal years.

Local Water Program

Our Local Water Program focuses on diversifying San Francisco's water supply while ensuring we optimize efficient use of our water resources. As water supplies become more vulnerable to climate change, our ratepayers understand the importance of conservation as a way of life. We make it easy and affordable for businesses and households to reduce water consumption and maximize water savings. The capital budget is $46.4 million over two fiscal years.

Hetchy Capital Improvement Projects

Upgrades to the aging facilities of Hetchy Water and Hetchy Power (HHWP) are underway. Upcountry water and power facilities being assessed and rehabilitated include impounding reservoir rehabilitation projects, large powerhouses, 170 miles of pipeline and tunnels, almost 100 miles of paved road and bridges, and more than 160 miles of transmission lines, watershed land and rights-of-way property. The two-year capital budget is $340.1 million. The power transmission and distribution improvements, which will cost $86.3 million of the total capital budget, are intended to improve the ability to serve new and existing customers.

Sewer System Improvement Program (SSIP)

The SSIP is a 20-year, $7.2 billion investment to ensure reliable, compliant and seismically-safe wastewater facilities. SSIP will upgrade our aging sewer infrastructure, ensure that we are ready for an earthquake and prepare us for challenges related to climate change. The program has made significant headway over the last two years. Phase One of SSIP is investing more than $2.9 billion across 70 projects to improve and upgrade our collection system, treatment facilities and stormwater management efforts. The Southeast Treatment Plant (SEP), built in 1952, treats 80 percent of the City's wastewater and is a key focus of our Phase One investments. The two-year capital budget for Wastewater includes the SSIP at $728.4 million, the Treatment Renewal and Replacement program at $47.2 million, Treasure Island Treatment Plant upgrades at $30.4 million and other Wastewater facilities projects totaling $105.2 million.

Employee Engagement

As a nationally recognized utility leader, we believe a culture of accessibility, feedback and data-driven decisions are essential to achieving our mission. At the same time, we know that engaged employees are our greatest resource because they are motivated, produce high quality work, identify with the mission of the organization, take responsibility and collaborate with others. Engaged employees will be the key to meeting our strategic goals and accomplishing our mission. Subsequently, we have embarked on a long-term program that will understand the engagement level of our employees, develop new programs to increase engagement, measure and improve our impact through these programs and benchmark our progress and result with other utilities.

Community Engagement

We value the longstanding relationships we have with the diverse communities we serve. We were the first utility in the country to formalize our approach to community engagement when we passed our Environmental Justice Policy in 2009 and our Community Benefits Policy in 2011. These policies shape our approach to project planning in a way that prioritizes community input from those impacted by our services, particularly residents in underserved and low-income communities.

Our community engagement program is fully integrated into all our projects and programs. We strive to be good neighbors in our community by maintaining transparent communications and building strong partnerships, particularly in the communities where our major facilities are located.

Conclusion

We continue to invest in the upgrade and rehabilitation of our existing facilities and enhancements in our new facilities, while fostering environmental, economic and social sustainability for San Francisco and our service areas. We rely upon the support of our community, our staff, and our elected officials to maintain our essential 24/7 operations.

We would like to express our appreciation to the Mayor, the Board of Supervisors, and our Commission for their continued support of our achievements in responsible financial management, financial transparency and reporting excellence.

Respectfully submitted,

Harlan L. Kelly, Jr.

General Manager

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NAVIGATING THE SFPUC BUDGET

The City and County of San Francisco's Public Utilities Commission's (SFPUC) FY 2018-19 and FY 2019-20 Budget Document is organized into the following sections:

The General Manager's Transmittal Letter: This section provides an overview of the SFPUC, Long Term Strategic Goals and some of its major programs, including rates.

Introduction: Provides information on the Mission and Organizational Structure of the SFPUC, and includes the SFPUC Organizational Chart, Ten-Year Financial Plan and Ten-Year Capital Plan, and the 2020 Strategic Plan.

Financial Authority and Policies: Provides the budget cycle calendar, budget process and SFPUC's financial authority and policies.

Budget Summary: Provides an overview of the SFPUC's adopted budget.

- **Budget Appropriation by Fund:** Provides a description of the three Enterprise funds.
- **Budget Sources and Uses:** Provides a high-level summary of the SFPUC adopted budget, budget tables and descriptions by Sources and Uses categories. The budget tables contain: FY 2016-17 Audited Actual; the FY 2017-18 Adopted Budget; FY 2017-18 Actual; and the FY 2018-19 and FY 2019-20 Adopted Budgets. The variance columns measure the dollar and percentage difference between the 2018-19 and FY 2017-18 Adopted Budgets, and the FY 2019-20 and 2018-19 Adopted Budgets. The descriptions provide explanations of changes between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19, for Adopted Budgets for Sources and Uses categories are also provided.
- **Growth by Categories:** Summarizes the growth across budget categories of uses of funds for FY 2018-19 and FY 2019-20
- **Fund Balance:** Provides a summary by Enterprise and the SFPUC overall beginning and ending fund balances.
- **Authorized and Funded Full-Time Equivalents (FTEs):** Provides a summary by Enterprise, Bureaus, and Infrastructure.

Enterprise, Bureau, and Infrastructure Sections: These sections provide budgetary and operational information for each of the SFPUC's Enterprises – Water, Wastewater, and Hetch Hetchy Water and Power, which includes CleanPowerSF; the Bureaus, including the Office of the General Manager, Business Services, and External Affairs, and Infrastructure.

- **Budget Sources and Uses:** Provides the same information as the SFPUC Budget Summary Section on Budget Sources and Uses, at the Enterprise, Bureau, and Infrastructure level.
- **Approved Rates:** This provides details on each Enterprise's approved and projected rates for the budget period and includes descriptions and justifications of sources of revenues.
- **Capital Improvement Program (CIP):** Provides descriptions and budgetary information on major projects in each of the Enterprises' CIPs for FY 2018-19 and FY 2019-20.

  The Capital Improvement Program is driven by the Ten-Year Capital Plan.

- **Ten-Year Capital Plan:** Provides an outlook of the long-term capital needs of each Enterprise over the next ten years, FY 2018-19 to FY 2027-28.
- **Ten-Year Financial Plan:** Provides a ten-year financial summary (FY 2018-19 to FY 2027-28.) for each Enterprise, and describes projected sources and uses, resulting fund balances and key financial reserve ratios.
- **Departmental Section:** Provides operational and financial information on each of the Enterprises, and Bureaus, including an organizational chart, 2020 Strategic Plan goal and performance measure/target and division budget summaries.
  - Divisions: Describes the roles and responsibilities of the Divisions, along with divisional budget summaries. The budget summaries include FY 2016-17 Audited Actual; the FY 2017-18 Adopted Budget; FY 2017-18 Actual; and the FY 2018-19 and FY 2019-20 Adopted Budget. The variance column measures the dollar and percentage change between the FY 2018-19 and the FY 2017-18 Adopted Budgets; and between the FY 2019-20 and FY 2018-19 Adopted Budgets. The descriptions provide explanations of changes between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19 for variances greater than ten percent are also provided.

Glossary of Terms: This section provides explanations and definitions to assist readers in understanding the Budget Document.

The following provides a brief explanation of the categories of FY 2018-19 and FY 2019-20 Budget Sources and Uses of Funds:

Sources of Funds:

Sale of Water
Revenues from sales of water to retail customers in San Francisco and wholesale areas. The wholesale customers are served under the terms of a long-term Water Supply Agreement (WSA).

Sewer Service Charges
Revenues from both San Francisco and neighboring special districts, including Bayshore Sanitary District, the City of Brisbane, and portions of the North San Mateo County Sanitation District, for sewer service charges to retail customers.

Sale of Electricity
Revenues from power sales to City departments for municipal use, wholesale customers, San Francisco residents and businesses and other retail customers.

Sale of Natural Gas and Steam
Revenues from gas and steam provided to City departments.

Fund Balance
Fund balance is used as a source to balance the budget when uses exceed revenues. Conversely, a general reserve is budgeted when revenue sources exceed uses. See Appendix C Fund Balance Reserve Policy.

Other Non-Operating Revenues
Revenues from other income, including rent, permit fees, sale of property, custom work, and reimbursements.

Proceeds from Debt
Revenue received through the issuance of bonds, loans, or other borrowing instruments.

Federal Interest Subsidy
The SFPUC receives a subsidy payment from the Federal Government for a portion of their borrowing costs on taxable bonds. The U.S. Treasury Department is estimated to provide a direct subsidy equal to 35 percent (prior to sequestration) of the interest payable for bonds issued as Build America Bonds per the American Recovery and Reinvestment Act (ARRA).

Interest Income
Revenue earned by an Enterprise on its cash and other financial investments.

Uses of Funds:

Debt Service
Principal and interest payments on revenue bonds, State Revolving Fund loans, and other forms of debt used to finance capital improvements.

Revenue-Funded Capital
Revenue-Funded Capital refers to the portion of the capital budget or program funded through revenues. See Appendix H Capital Financing Policy.

General Reserve
General Reserve is budgeted when sources exceed uses. Conversely, fund balance is budgeted when uses exceed sources. Use of the General Reserve must be approved by the Mayor and Board of Supervisors.

Operations and Maintenance (O&M costs) include the following:

- **Personnel**
  Labor for full-time and temporary employees, and related fringe benefits.
- **Overhead**
  SFPUC's share of City-wide overhead, including the Country-wide Allocation Plan (COWCAP). Allocates the costs of the SFPUC Bureaus to the Enterprises based on the Bureaus allocation model.
- **Non-Personnel Services**
  Services such as maintenance of equipment and facilities, travel, training, memberships, professional services, rent, and other expenses that support maintenance and operations.
- **Materials and Supplies**
  Equipment maintenance, safety, fuel, and office supplies, chemicals, and other miscellaneous materials and supplies for the maintenance and operation of the Enterprises.
- **Equipment**
  Equipment is identified as having a value greater than $5,000, and a useful life of three years or more, such as vehicles, machinery, and other heavy equipment.
- **Services of Other Departments**
  Services performed for the SFPUC by other City departments.
- **Operating Transfers Out**
  These are operational fund transfers to various other funds within an Enterprise or between Enterprises.

Programmatic Projects
Programmatic projects are annual projects that close out at the end of the fiscal year. These projects are used to capture costs for specific operating or maintenance programs.

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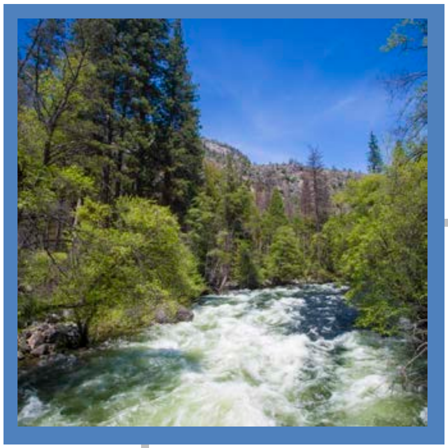


LIST OF CHARTS AND TABLES

The following provides a list of the charts and tables used in the FY 2018-19 and FY 2019-20 Budget Document. **Totals for these charts and tables throughout the document may not sum up due to rounding.**

Four-Year Approved Rates and Charges

Water Enterprise Capital Improvement Program (CIP)

Water Enterprise Ten-Year Capital Plan

Water Enterprise Ten-Year Financial Plan

Departmental Section

Wastewater Enterprise

Budget Summary

Four-Year Approved Rates and Charges

Wastewater Enterprise Ten-Year Capital Plan

Wastewater Enterprise Capital Improvement Program (CIP)

Wastewater Enterprise Ten-Year Financial Plan

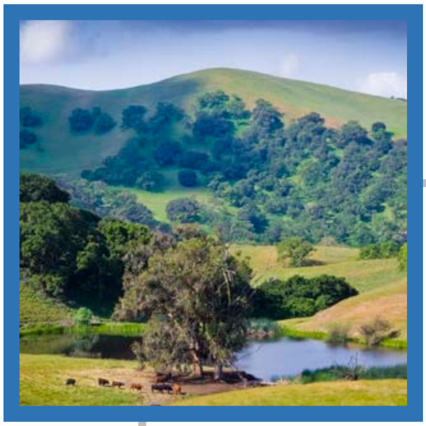
Departmental Section

Hetch Hetchy Water and Power, Including the Power Enterprise

Budget Summary

Hetch Hetchy Water and Power Capital Improvement Program (CIP)

Appendix F



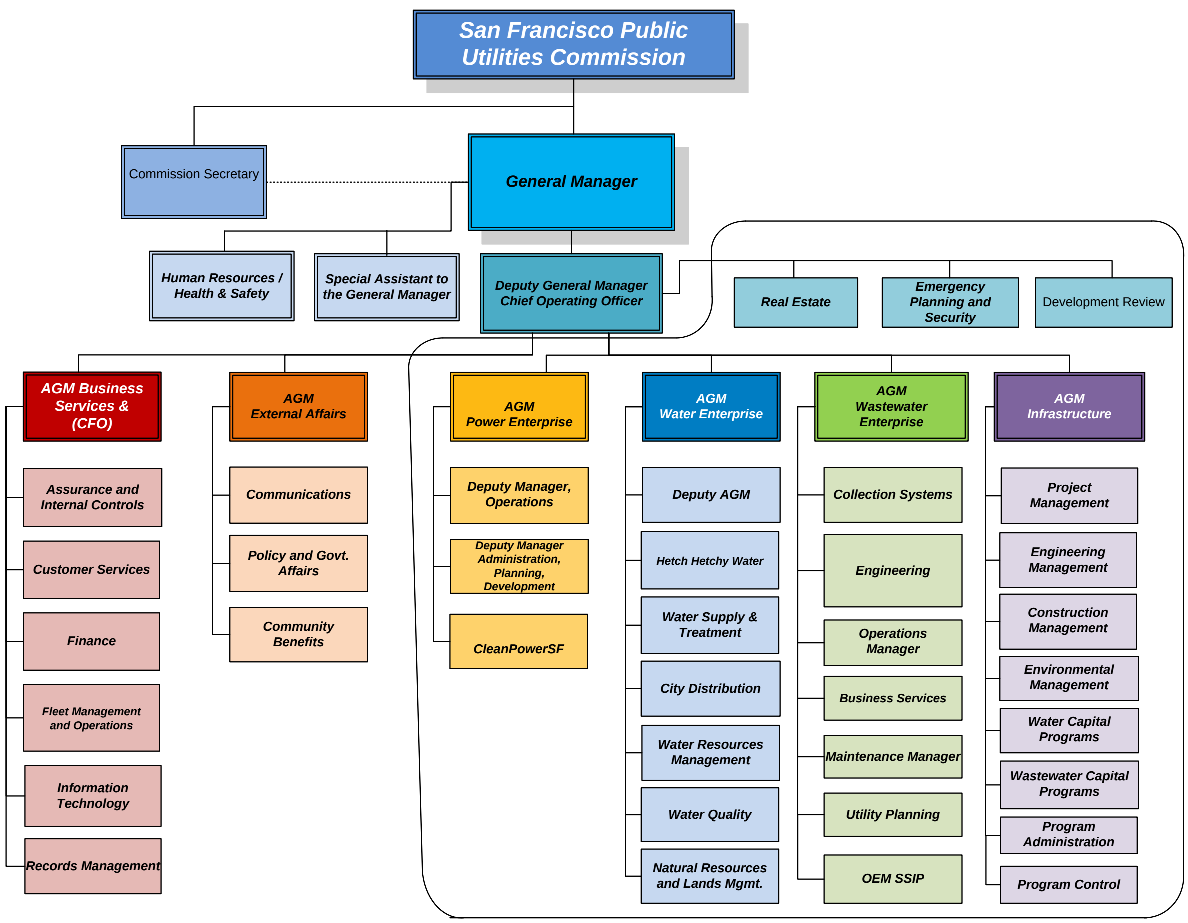
INTRODUCTION

The San Francisco Public Utilities Commission (SFPUC) is an Enterprise Department of the City and County of San Francisco (CCSF) that provides essential-service utilities: Water (both regional and local), Wastewater (local collection, treatment, resource recovery and disposal), and Power. The SFPUC supplies water to 2.7 million people in San Francisco and the San Francisco Bay Area. One-third of the water is supplied directly to retail customers primarily in San Francisco, and two-thirds is supplied to wholesale customers through a long-term Water Supply Agreement (WSA). Wastewater services are provided within the City and County of San Francisco (as well as to three neighboring districts, including the San Mateo Sanitation District, Bayshore Sanitary District, and the City of Brisbane). Power is supplied primarily to San Francisco City departments and their tenants, as well as to the Turlock and Modesto Irrigation Districts.

Mission, Vision, and Organization Chart

The mission of the SFPUC is to provide our customers with high quality, efficient and reliable water, power, and wastewater services in a manner that values environmental and community interests, and sustains the resources entrusted to our care.

The SFPUC is an innovative utility leader, recognized for excellent results in service, safety, stewardship and inclusiveness.



Structure

The SFPUC is comprised of three Enterprises, Infrastructure, CleanPowerSF, and the Bureaus. The three Enterprises are the Water Enterprise, Wastewater Enterprise, and the Power Enterprise. Infrastructure manages the planning, design and construction of the capital programs. CleanPowerSF, the electrical power community choice aggregation program, initiated in 2015, is a self-contained program that is managed by the Assistant General Manger (AGM) for Power. The Bureaus comprised of the Office of the General Manager, Business Services, and External Affairs provide critical support services and oversight to the Enterprises and Infrastructure. The Office of the General Manager includes, Human Resources, Security, Emergency Planning, and Real Estate. Business Services includes Administration, Assurance and Internal Controls, Customer Services, Financial Services, Fleet Management & Operations, Information Technology Services, and Records Management. External Affairs includes Communications, Community Benefits and Legislative Affairs.

Department and Fund Relationship

The SFPUC uses a cost-allocation model to determine the amount of funds to recover from the three Enterprises for the cost of services provided by the Office of the General Manager, Business Services and External Affairs. Costs are allocated from both the operating and capital funds depending on whether the services provided are to support Enterprise operations/maintenance or for capital programs or projects. Bureaus allocations to the three Enterprises are detailed and discussed in the "SFPUC Bureaus" section. Chart S1, illustrates the cost-allocation by showing the breakdown of funding sources. The uses of these allocated funds are shown in Chart S2. As in past years, the Business Services Division has the larger budget of the bureaus and so represents the largest amount of funds from the cost-allocation model.

The sources of funds for Infrastructure are from capital project budgets, either directly for Infrastructure expenses to capital projects, or indirectly through an overhead rate that is applied to capital projects.

CleanPowerSF is a financially independent program funded through customer energy rates.

Ten-Year Financial Plan and Ten-Year Capital Plan

Ten-Year Financial Plan

The SFPUC's Ten-Year Financial Plan as required by City and County of San Francisco Charter Section 8B.123, includes a ten-year financial summary (FY 2018-19 through FY 2027-28), describing projected sources and uses, resulting fund balances and associated financial reserve ratios. This is a planning document intended to inform the development of the Ten-Year Capital Plan, water and power utility rates and the biennial budget. The revenue and cost estimates should be viewed as indications of expected trends, given certain expenditure, receipt, and financing assumptions. These assumptions are based on current Board of Supervisors' and Commission policies, goals, and objectives representing management's best estimates.

Ten-Year Capital Plan

The Ten-Year Capital Plan is developed every year by the SFPUC and approved by the Commission. The Ten-Year Capital Plan informs and guides managers, policy makers, elected officials and the public by providing the proposed long-term capital program, projects and investment. The Ten-Year Capital Plan also guides the development of the Ten-Year Financial Plan and associated rate implications of the planned capital spending. The Ten-Year Capital Plan guides the biennial capital budget development. As the budget process progresses through the Spring and final adoption in the Summer, the updated Capital Improvement Programs (CIPs) are revised forming the biennial capital budget.

Consequently, even though the annual CIPs are based on the Ten-Year Capital Plan, they do not always match by project or dollar amount.

Capital Expenditures Impact on Operating Budgets

Each Enterprise has a Ten-Year Capital Plan included in this document, which illustrates continued total growth in capital investments through FY 2027-28. These capital investments are essential for the reliable delivery of clean drinking water, the protection of public health and the environment, including the San Francisco Bay and Pacific Ocean off San Francisco and the continued delivery of clean energy for municipal services. Due to the nature of water utility operations, which rely on personnel, chemicals and electricity, these multi-billion-dollar investments are not expected to reduce the annual operating budgets, rather to make the system reliable and resilient in the face of earthquakes, sea-level rise, droughts and other severe weather.

Supporting capital expenditures is a significant portion the SFPUC budget for FY 2018-19 and FY 2019-20; most notably debt service which is $351.7 million or 27.1 percent of the total budget in FY 2018-19; and Revenue-Funded Capital which accounts for $201.0 million or 15.5 percent of the FY 2018-19 budget. In FY 2019-20 the total debt service increases to $381.7 million which is 27.3 percent of the total budget and Revenue-Funded Capital increases to $203.3 million which is 14.5 percent of the total budget.

The capital programs are intended to support a defined Level of Service for each utility enterprise based on the SFPUC Vision and Mission. This level of capital investment has changed the SFPUC from an operating-based utility, that was primarily focused on service delivery, to a utility that is focused on reliable service delivery, while at the same time ensuring that the environmental, community and resource management components of the mission are at the forefront. For example, an essential outcome of the capital investment is the implementation of local hire, job training and job creation programs to benefit the community that pays for the capital program.

2020 Strategic Plan

In May 2016, the SFPUC adopted the **2020 Strategic Plan** developed by the Executive Team to reaffirm our overall strategic direction, identify key priorities and serve as a roadmap for the SFPUC to ensure we meet the challenges ahead and continue to deliver reliable water, power and sewer services. The Mission and the Vision of the SFPUC were reaffirmed through this process.

- Our Mission: To provide our customers with high quality, efficient and reliable water, power and wastewater services in a manner that values environmental and community interests and sustains the resources entrusted to our care.
- Our Vision: We are an innovative utility leader, recognized for excellence, results in service, safety stewardship and inclusiveness.

Through this process of reaffirming the Mission and Vision, the SFPUC also reviewed and expanded upon their values, as illustrated in Chart N1. The Goals and Objectives included in the plan focus on accomplishments in the next four years, covering two budget cycles. They aim to ensure that objectives are met while the organization strives to implement capital programs, diversify the water and energy portfolio and ensure triple bottom line sustainability. Goals and the goal descriptions are in Table N1 in this section.

Chart N1. SFPUC Values

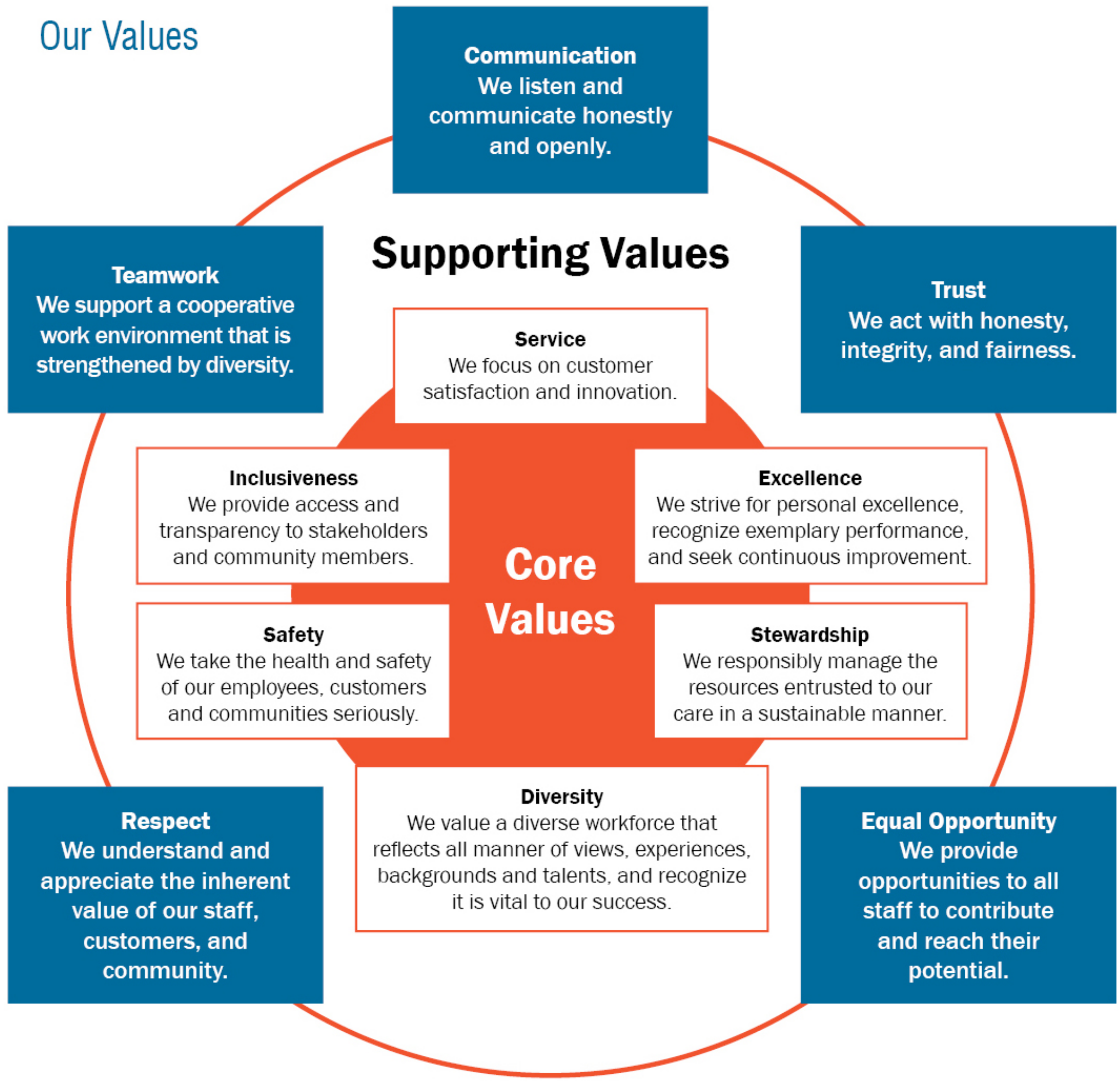


Table N1. 2020 Strategic Plan Goals and Goals Descriptions

2020 Strategic Goals	Goal Descriptions
Reliable Service and Assets	We provide reliable service and value to our customers by optimizing the operations, maintenance, and replacement of all assets in the most cost-effective manner.
Organizational Excellence	We are a high performing organization focused on efficiency, effectiveness and accountability across the organization.
Effective Workforce	We attract, retain, and develop an effective workforce, reflective and supportive of our communities, that consistently delivers high quality services to stakeholders.
Financial Sustainability	We assure financial integrity and sustainability, meeting today's operating and capital investment needs while managing risk and long-term affordability for the future.
Stakeholder and Community Interest	We foster trust and engagement with our customers, employees, and the communities we serve through open and timely communication and education.
Environmental Stewardship	We sustainably manage the resources entrusted to our care to ensure environmental and community health.

Refer to SFPUC Performance Results for FY 2016-17 and FY 2017-18 in Appendix F.

Each Goal in the 2020 Strategic Plan has one or more Executive Champions who have worked across the Enterprises, Infrastructure and the Bureaus to develop performance measures including target and baseline metrics. Additionally, each Goal has key elements on which the Goal Champion has chosen to base the performance measures, these are shown in Table N2.

Table N2. 2020 Strategic Plan Key Elements/Words

Goals	Key Elements/Words
1. Reliable Service and Assets	Reliable service, value, optimization/improvement
2. Organizational Excellence	Efficiency, effective, across the organization
3. Effective Workforce	Attract, retain, develop, reflective, modernizing HR process
4. Financial Sustainability	Sustainability, managing risk, long-term affordability, integrity
5. Stakeholder and Community Interest	Customer trust, employee engagement, employee trust, community engagement, open and timely communication with stakeholders, community, and staff
6. Environmental Stewardship	Sustainably manage, environmental health, community health

The performance measures will: measure progress toward meeting the key elements of each goal area; measure progress against a baseline and or target indicator; and guide the SFPUC in future efforts to establish priorities pursuant to the 2020 Strategic Plan. In May 2018, the performance measures for each Goal were finalized. Performance measures are assigned, as appropriate, to responsible organizations within the SFPUC, for example see Table N3 which provides a performance measure for Goal 1, the target and the responsible Enterprise and Division within the Enterprise.

Table N3. Example of Performance Measure, Target and Responsible Organization

Goal	Performance Measurement	Target/Baseline	Responsible Organization
Reliable Service and Assets	Percent of in-city connections without water for more than 4 hours due to an unplanned outage.	<0.1%	Water Enterprise and City Distribution Division

A Steering Committee will report quarterly to the Goal Champions on progress of achieving the performance measures consistent with the target/baseline. At the end of the fiscal year, each Goal Champion is required to report performance measured against the target/baseline. Performance is shared with both the Executive Team of SFPUC Assistant General Managers and the General Manager, at a Leadership Retreat, and with the City and County of San Francisco Controller’s Office for yearly performance reporting and to the Mayor’s office. The Executive Team will provide guidance to the steering committee regarding the continuance of the performance measure, additional performance measures and/or adjustment of the existing performance measure or target.

In this Adopted Budget, within each Enterprise section, is a chart that identifies the specific performance measures assigned by each Goal for each Enterprise.

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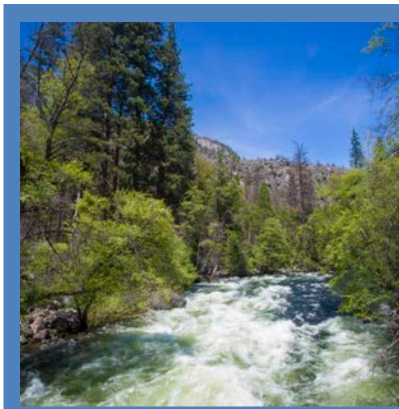


FINANCIAL POLICIES

Calendar and Budget Process

SFPUC's biennial budget cycle begins in September and ends in July. The two-year fixed budget is prepared, reviewed, enacted by the Commission and Board of Supervisors (BOS), signed by the Mayor, and implemented by departments. The Board of Supervisors approves both years together and may amend the second year through supplemental budget adjustments if increases or decreases in revenues or expenditures are significant[1]. SFPUC's two-year budget is comprised of two, single-year spending plans. The budget process is described below.

Participants

- The Public is invited to all public meetings, notified in advance to ensure stakeholder awareness of any budget items. This includes SFPUC's Citizen Advisory Committee.
- The SFPUC Commission holds publicly-noticed Budget meetings, during business hours for public comment on the proposed budget.
- The Committee on Information Technology (COIT) evaluates all departmental technology plans and makes recommendations for approval and funding of the departmental technologies budget requests.
- The Capital Planning Committee (CPC) reviews SFPUC proposed 10-Year Capital Plan and two-year capital project budget specifics along with associated funding requirements, and provides recommendations to the Board of Supervisors' on City-wide priorities for capital and the level of investment needed to meet the priorities they identify.
- The Mayor prepares and submits a balanced SFPUC budget to the Board of Supervisors for review and approval on a biennial basis.
- The Board of Supervisors is the City's legislative body and is responsible for budget review and may amend then approve the Mayor's proposed budget. As a function of this review, the Board's Budget and Legislative Analyst examines SFPUC's proposed budget as well as spending and financial projections.
- The Controller is the City's Chief Accounting and Auditing Officer and ensures the accuracy of the final budget.

Calendar and Process

Beginning in September and concluding in July, the biennial two-year budget cycle can be divided into four major stages.

- **Commission Budget Policy Review:** budget policy review and implementation.
- **Budget Preparation:** budget development and submission to the Commission.
- **Approval:** budget review and enactment by the SFPUC, Mayor and Board of Supervisors.
- **Implementation:** department execution and budget adjustments.

Preparation

- The SFPUC's budgetary process precedes the citywide budgeting process as managed by the Mayor's Office. SFPUC implemented a "Project Charter" which governs the entire scope

[1] "Significant increases or decreases in revenues or expenditures shall be defined as greater than five percent difference between the projected and adopted budget for operating or capital expenditures or revenues for the second year of the department's biennial budget." (Resolution 464-11)

of the budget development and adoption cycle, up to and including final adoption by the Board of Supervisors. See Appendix G Project Charter.

Two categories of budgets are prepared:

- **Enterprise and Bureau Operating Budgets**: Enterprise departments generate budgets to support operations based on the projected non-discretionary revenue primarily from charges for services. Operations include personnel, non-personnel services, materials and supplies, equipment, and services of other departments.
- **Capital Budgets:** Comprised of a biennial capital budget for each of the three enterprise departments and an annually updated Ten-Year Capital Plan. Capital projects must result in the addition of new capital assets and/or improvements to existing assets which extend the asset's service life by at least five years. Capital projects may include associated costs of acquisition or construction of new assets and/or expenditures for activities that enhance the function, improve the performance and/or extend the service life of existing assets.

Beginning in October, SFPUC Enterprises prepare both their operating and capital budget requests which are then submitted to SFPUC's Budget Section. From November to December, the Assistant General Managers (AGM), the Deputy General Manager, and the General Manager review these requests. In December and early January, the General Manager's proposed budget, which includes all the Enterprises, the Bureaus and Infrastructure, is consolidated and submitted to the SFPUC Commission for deliberation. From January to February, the Commission holds public hearings to review and ultimately approve the operating and capital budget requests, Ten-Year Capital Plan, and Ten-Year Financial Plan. By mid-February, the SFPUC approved budget requests are submitted to the Controller's Office. The Controller consolidates, verifies, and refines all the information the SFPUC has submitted. The Controller submits the SFPUC proposed budget requests to the Mayor's Office of Public Policy and Finance for review by mid-March.

The Mayor's Office meets with community groups to provide budget updates and to hear concerns and requests for funding to improve public services. The Controller ensures that the Mayor's final budget request is balanced, accurate, and based on reasonable assumptions.

Approval

On May 1, the Mayor's proposed budget, which includes the SFPUC's budget is submitted to the Board of Supervisors. The Budget and Finance Committee of the Board of Supervisors holds public hearings during the months of May and June to review the Mayor's proposed budget and to solicit public input. The Board of Supervisors' Budget Analyst then develops recommendations on the budget proposal which are shared and discussed with departments. Based on these discussions, the Board's Budget Analyst forwards budget recommendations to the Budget and Finance Committee for public review. The Budget and Finance Committee then submits final recommendations to the full Board by June 1st for review and budget approval. If the Board of Supervisors' budget review lapses into the new fiscal year beginning July 1st, a continuing resolution adopting an Interim Budget--the Mayor's proposed budget with some limitations--is passed by the Board and serves as the operating budget until the budget is adopted. The Mayor typically signs the budget ordinance into law no later than July.

Original Budget Amendments: City Charter requires that the Board of Supervisors vote on the budget amendments twice between July 15 and August 1. The first reading occurs the first Tuesday after July 15, and amendments may be proposed. These amendments are added to the budget if they are passed by a simple majority. Amendments may be proposed by any member of the Board of Supervisors and can reflect further public input and/or Board policy priorities. The Board votes on the amended budget during the second reading and if the budget is passed, it is sent to the Mayor for final signature. If other amendments are proposed during the second reading, there is a further reading a week later. The Board of Supervisors must pass a final budget before the August 1st deadline.

The Mayor has ten days to approve the final budget, referred to as the Annual Appropriation Ordinance (AAO). The Mayor may sign the budget as approved by the Board, making it effective immediately. The Mayor may also veto any portion of the budget, whereupon it returns to the Board of Supervisors. The Board has ten days to override any or all the Mayor's vetoes with a two-thirds majority vote. In this case, upon the Board vote, the budget is immediately enacted, thus completing the budget process for the fiscal year. Should the Mayor opt not to sign the budget within the ten-day period, the budget is automatically enacted but without the Mayor's signature of approval. Once the AAO is passed, it supersedes the Interim Budget.

Implementation

The budget is implemented and executed by SFPUC staff as adopted by the Mayor and the Board of Supervisors, at the start of the fiscal year.

Supplemental Budget Adjustments: Budget adjustments during the fiscal year can be made through surplus transfers, if available. A surplus transfer, moves funds from one activity or project to another to reflect realignment of priorities, duties or reorganization or to meet budget estimates to meet actual operating realities. Adjustments to the budget can also be made through a supplemental appropriation requests, when a department has budget authority for the remainder of the fiscal year or when additional appropriation is needed for operating or capital project funding, grants appropriation legislation, or when a third-party awards funding to a department. Budget adjustments for the second year of the biennial budget can be made through a supplemental appropriation, when increases or decreases in revenues or expenditures between the adopted and projected budget are significant. These adjustment requests require Board of Supervisors approval before going to the Mayor for final signature. The Commission approves any budget adjustments in advance of it being presented to the Board of Supervisors. The public is informed and has the opportunity to engage in the budget amendment process through the agenda and public meetings scheduled with the SFPUC Commission and the Board of Supervisors.

Biennial Budget Activity by Month

In FY 2010-11, the City adopted two-year budgets for the SFPUC and three other pilot departments (the Airport, the Port, and the Municipal Transportation Agency), in accordance with Proposition A passed in 2009. FY 2018-19 & FY 2019-20 represent SFPUC's fifth biennial budget. The SFPUC will amend the budget mid-cycle for FY 2019-20 budget only if revenue- or expenditure changes are greater than five percent. The following schedule reflects the FY 2018-19 and FY 2019-20 biennial budget preparation cycle.

Year One

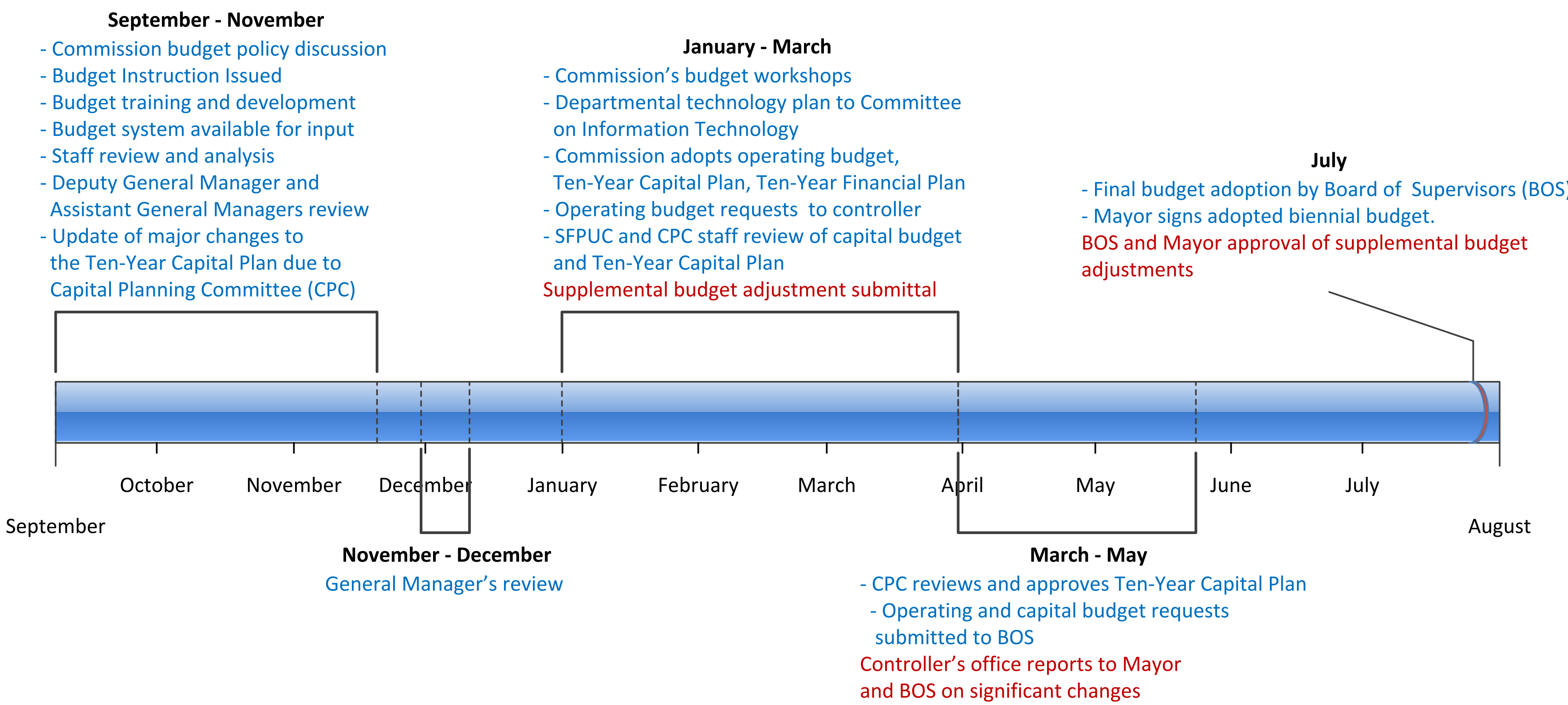
Date	Activity
September 8, 2017	▪ Budget training and budget system available for input
September 12, 2017	▪ Commission budget policy discussion ▪ Biennial Capital and Operating Budget Instructions issued ▪ Proposed structure reorganizations due to Financial Services
October 13, 2017	▪ Ten-Year Capital Plan, Operating and Capital budget request due to Financial Services
October 16 to October 31, 2017	▪ Staff review and analysis: ➢ Operating budget ➢ Ten-Year Capital Plan ➢ Ten-Year Financial Plan
November 7 & 9, 2017	▪ Deputy General Manager and Assistant General Manager review: ➢ Operating budget ➢ Ten-Year Capital Plan ➢ Ten-Year Financial Plan
November 14 & 16, 17, 2017	▪ General Manager's review: ➢ Operating budget ➢ Ten-Year Capital Plan ➢ Technology Plan
January & February 13, 2018	▪ Commission's budget workshops: ➢ Operating and Capital budget ➢ Ten-Year Capital Plan ➢ Ten-Year Financial Plan
January, 2018	▪ Departmental technology plans submitted to COIT ▪ Biennial Capital budget requests submitted Capital Planning Committee ▪ Ten-Year Capital Plan submitted to Capital Planning Commission
February 13, 2018	▪ Commission adopts Operating Budget, Ten-Year Capital Plan, and Ten-Year Financial Plan
February 22, 2018	▪ Operating and Capital budget requests submittal to Controller
March to April, 2018	▪ CPC reviews Ten-Year Capital Plan and staff recommendations
May 1, 2018	▪ Operating and capital budget requests submitted to Board of Supervisors
August 9, 2018	▪ Final budget adoption by Board of Supervisors ▪ Mayor signs Adopted Biennial Budget

Year 2, Mid-Cycle

From January to March, if necessary, the SFPUC submits supplemental budget adjustments to the Controller's Office for changes greater than five percent between the projected and adopted budgets. From March to April, the Controller's Office submits a report to the Mayor and Board of Supervisors, stating whether they project significant changes in SFPUC revenues or expenditures. Budget adjustments greater than five percent triggers the reopening of the second-year budget. From May to June, the Budget and Finance Committee reviews and takes action on operating and capital supplemental budget adjustments. From July to August, the supplemental budget adjustments receive approval by the Board of Supervisors and Mayor's Office.

SUMMARY BUDGET TIMELINE – Year One & Year 2

Year One & Year 2, Mid-Cycle



Budgeting Basis

Historically the City of San Francisco adopted annual budgets for all government funds on a budget basis relying on a current financial resources measurement and a modified accrual basis of accounting. Since the passage of Proposition A (2009), the SPFUC and other enterprises of the City have transitioned to a two-year fixed, biennial budget. The modified accrual method is a basis of accounting used with a current financial resources measurement. It modifies the accrual basis of accounting in two significant ways: first, revenues are not recognized until they are measurable and available; and second, expenditures are recognized in the period in which the SFPUC normally liquidates the related liability rather than when the liability is first incurred, if earlier. Under the modified accrual basis of accounting method, Actuals in the Tables located throughout this document include spending authorized by a carryforward appropriation; these are funds carried forward from the prior fiscal year to be expended in the subsequent fiscal year. Examples typically include capital project funds and certain debt service funds that adopt project-length budgets. The City's budget is a detailed operating plan that identifies estimated costs in relation to estimated revenues. The budget includes (1) the programs, projects, services, and activities to be provided during the fiscal year; (2) the estimated sources (inflows) available for appropriation; and (3) the estimated uses or charges to appropriations. The budget represents a process through which policy decisions are deliberated, implemented, and controlled. The City Charter prohibits expending funds for which there is no legal appropriation.

Accounting Basis

The accounts of the SFPUC Enterprises are organized on the basis of a proprietary fund type, specifically an enterprise fund. The activities of the three Enterprises are each accounted for with a separate set of self-balancing accounts that comprise the Enterprises' assets, liabilities, net position, revenues, and expenses. Enterprise funds account for activities (i) that are financed with debt secured solely by a pledge of the net revenues from fees and charges of the activity; or (ii) that are required by laws or regulations that the activity's costs of providing services, including capital costs (such as depreciation or debt service), be recovered with fees and charges, rather than with taxes or similar revenues; or (iii) that the pricing policies of the activity establish fees and charges designed to recover its costs, including capital costs (such as depreciation or debt service).

The financial activities of the Enterprises and the year-end audited financial statements are accounted for using an economic resources measurement, with a full accrual basis of accounting. Under this method, all assets and liabilities associated with its operations are included on the statement of net position; revenues are recorded when earned, and expenses recorded when liabilities are incurred.

The SFPUC Enterprises do not apply Financial Accounting Standards Board (FASB) statements and interpretations issued after November 30, 1989. The Enterprises apply all applicable Governmental Accounting Standards Board (GASB) pronouncements, as well as statements and interpretations of the FASB, Accounting Principles Board Opinions, and Accounting Research Bulletins of the Committee on Accounting Procedures issued on or before November 30, 1989, unless those pronouncements conflict with or contradict GASB pronouncements.

Financial Authority and Policies

General

The City and County of San Francisco is a Charter City under the California Constitution, and as a result, the Charter is the guiding document for financial authority and policies for City departments. The SFPUC is the department of the City responsible for the maintenance, operation and development of three utility enterprises: The Water Enterprise, the Wastewater Enterprise and the Hetch Hetchy Water and Power Enterprise (which collectively represents Power and Hetchy Water funds). Each of the SFPUC's

Enterprise funds are operated and managed as a separate financial entity and separate enterprise funds are maintained. Refer to Appendix E Debt Management Policies and Procedures.

Below are specific sections of the Charter which pertain to the requirements and parameters of activities in which the SFPUC engages, including the development, content, and approvals of budgets, rates, debt, contracts and capital plans. The language from the Charter is provided without any abbreviations that were used previously in this chapter

Financial Authority

PUBLIC UTILITIES COMMISSION (SF CHARTER SEC. 8B.121.)

(a) Notwithstanding Charter section 4.112, the Public Utilities Commission shall have exclusive charge of the construction, management, supervision, maintenance, extension, expansion, operation, use and control of all water, clean water and energy supplies and utilities of the City as well as the real, personal and financial assets that are under the Commission's jurisdiction or assigned to the Commission under Section 4.132.

(b) The Public Utilities Commission may enter into Joint Powers Agreements with other public entities in furtherance of the responsibilities of the Commission.

(c) Except to the extent otherwise provided in this Article, the Public Utilities Commission shall be subject to the provisions of Charter sections 4.100 et seq. generally applicable to boards and commissions of the City and County.

(d) The General Manager shall have the authority to organize and reorganize the department. The General Manager shall adopt rules and regulations governing all matters within the jurisdiction of the department subject to section 4.102 as applicable.

(e) Ownership or control of any public utility or any part thereof under the jurisdiction of the Public Utilities Commission may not be transferred or conveyed absent approval by the Public Utilities Commission and approval by a vote of the electors of the City at the election next ensuing not less than 90 days after the adoption of such ordinance, which shall not go into effect until ratified by a majority of the voters voting thereon. Voter approval shall not be required for sales or transfers of real property declared surplus to the needs of any utility by the Public Utilities Commission or to leases or permits for the use of utility real property approved by the Public Utilities Commission.

(Added November 2002)

GOALS AND OBJECTIVES RELATED TO WATER AND CLEAN WATER [WASTEWATER] (SF CHARTER SEC. 8B.122.)

(a) The Commission shall develop, periodically update and implement programs to achieve goals and objectives consistent with the following:

(1) Provide water and clean water services to San Francisco and water service to its wholesale customers while maintaining stewardship of the system by the City;

(2) Establish equitable rates sufficient to meet and maintain operation, maintenance and financial health of the system;

(3) Provide reliable water and clean water services and optimize the systems' ability to withstand disasters;

(4) Protect and manage lands and natural resources used by the Commission to provide utility services consistent with applicable laws in an environmentally sustainable manner. Operate hydroelectric generation facilities in a manner that causes no reasonably anticipated adverse impacts on water service and habitat;

(5) Develop and implement priority programs to increase and to monitor water conservation and efficiency system-wide;

(6) Utilize state-of-the-art innovative technologies where feasible and beneficial;

(7) Develop and implement a comprehensive set of environmental justice guidelines for use in connection with its operations and projects in the City;

(8) Create opportunities for meaningful community participation in development and implementation of the Commission's policies and programs; and

(9) Improve drinking water quality with a goal of exceeding applicable drinking water standards if feasible.

(Added November 2002)

Financial Policies

MISSION-DRIVEN BUDGET (SF CHARTER SEC. 9.114.)

Each departmental budget shall describe each proposed activity of that department and the cost of that activity. In addition, each department shall provide the Mayor and the Board of Supervisors with the following details regarding its budget:

(a) The overall mission and goals of the department;

(b) The specific programs and activities conducted by the department to accomplish its mission and goals;

(c) The customer(s) or client(s) served by the department;

(d) The service outcome desired by the customer(s) or client(s) of the department's programs and activities;

(e) Strategic plans that guide each program or activity;

(f) Productivity goals that measure progress toward strategic plans;

(g) The total cost of carrying out each program or activity; and

(h) The extent to which the department achieved, exceeded or failed to meet its missions, goals, productivity objectives, service objectives, strategic plans and spending constraints identified in subsections (1) through (6) during the prior year.

Departmental budget estimates shall be prepared in such form as the Controller, after consulting with the Mayor, directs in writing.

PLANNING AND REPORTING (SF CHARTER SEC. 8B.123.)

(a) Planning and Reporting

The Public Utilities Commission shall annually hold public hearings to review, update and adopt:

(1) A long-term capital plan, covering projects during the next 10-year period; including cost estimates and schedules.

(2) A long-range financial plan, for a 10-year period, including estimates of operation and maintenance expenses, repair and replacement costs, debt costs and rate increase requirements.

(3) A Long-Term Strategic Plan, setting forth strategic goals and objectives and establishing performance standards as appropriate.

The long-term capital plan and long-rage financial plan shall serve as a basis and supporting documentation for the Commission's capital budget, the issuance of revenue bonds, other forms of indebtedness and execution of governmental loans under this Charter.

(b) Citizens' Advisory Committee

The Board of Supervisors, in consultation with the General Manager of the Public Utilities Commission, shall establish by ordinance a Citizens' Advisory Committee to provide recommendations to the General Manager of the Public Utilities Commission, the Public Utilities Commission and the Board of Supervisors.

(Added November 2002)

PROPOSED BIENNIAL AND MULTI-YEAR BUDGETS (SF CHARTER SEC. 9.101)

(a) The Mayor shall submit to the Board of Supervisors each year a proposed biennial budget, ordinances and resolutions fixing wages and benefits for all classifications and related appropriation ordinances.

(b) The proposed biennial budget shall include:

(1) Estimated revenues and surpluses from whatever sources, to the extent feasible, for the forthcoming two fiscal years and the allocation of such revenues and surpluses to various departments, functions and programs to support expenditures. Proposed expenditures may include such necessary and prudent reserves as recommended by the Controller; and

(2) A summary of the proposed biennial budget with a narrative description of priorities, services to be provided and economic assumptions used in preparing the revenue estimates.

(c) The proposed biennial budget and appropriation ordinances shall be balanced for each fiscal year so that the proposed annual expenditures of each fund do not exceed the estimated annual revenues and surpluses of that fund. If the proposed budget contains new revenue or fees, the Mayor shall submit to the Board of Supervisors the relevant implementing ordinances at the same time the biennial budget is submitted.

(d) Until the appropriation ordinances are adopted by the Board of Supervisors, the Mayor may submit to the Board of Supervisors revisions to the proposed biennial budget, appropriation ordinances, and ordinances and resolutions fixing wages and benefits.

The Mayor may instruct the Controller to prepare the draft appropriation ordinances.

(e) The Mayor shall file a copy of the proposed biennial budget at the Main Library and shall give notice of the budget summary, including making copies available to the public. Upon final approval of the budget by both the Board and the Mayor, notice shall be given of the final budget summary.

(f) The Board of Supervisors by ordinance may require multi-year budget plans and other budget planning strategies to be performed by the several departments and offices of the City and County.

(g) No later than February 1 of any even-numbered fiscal year, the Mayor and the Board of Supervisors by resolution may determine that the upcoming budgetary cycle or cycles for some or all City departments and offices shall be a fixed budgetary cycle or cycles in which the biennial budget will remain in effect for two fiscal years. With respect to the designated City departments and offices, the Board will not adopt a new budget for the second fiscal year of such fixed budgetary cycle or cycles, except as provided in subsection (h), below. But the City shall adjust the biennial budget for the second year of any fixed budget cycle if certain conditions exist, using the following process:

(3) If, during the first year of any fixed budgetary cycle, the Controller projects that the City will experience significant increases or decreases in revenues or expenditures during the second year of such budgetary cycle, the Controller shall submit a report to the Mayor and the Board of Supervisors identifying those increases or decreases.

(4) The Mayor shall prepare and submit to the Board of Supervisors a proposed amendment to the biennial budget responding to the Controller's report. The Board may approve or amend the Mayor's proposed budget amendment subject to the limitations that apply to the approval of the budget in Section 9.103. The Mayor's proposed budget amendment shall be deemed approved by operation of law unless the Board finally adopts an amendment to the biennial budget on second reading no later than July 15.

(5) The Board's resolution declaring that an upcoming budgetary cycle or cycles shall be fixed, shall include a definition of the term " significant increases or decreases in revenues or expenditures," a deadline for the Controller's submission of a report identifying such increases or decreases, and a deadline for the Mayor to submit to the Board a proposed amendment to the biennial budget in response to the Controller's report.

(h) Nothing in this section shall limit the ability of the Mayor or a member of the Board of Supervisors to introduce at his or her discretion an amendment to a biennial budget at any time during the budgetary cycle.

(Amended by Proposition A, Approved 11/5/2009)

DEBT FINANCING AUTHORIZATION: WATER ENTERPRISE, CLEAN WATER ENTERPRISE [WASTEWATER], POWER ENTERPRISE (HETCH HETCHY and CLEANPOWERSF) REVENUE BONDS (SF CHARTER SEC. 8B.124.))

a. Charter

b. Section 8B.124 Revenue Bonds (Proposition E, approved by voters in November 2002 and amended by Proposition A, approved by the voters in June 2018): Authorizes the SFPUC to issue revenue bonds or other forms of indebtedness for the purpose of reconstructing, replacing, expanding, repairing or improving water facilities or clean water facilities or power facilities when authorized by ordinance approved by a two-thirds vote of the BOS.

Required Certification: Bonds issued against Charter Section 8B.124 require the certification of a Qualified Independent Consultant that estimated net revenues of the applicable enterprise will sufficiently meet debt service coverage and other Indenture requirements, as well as certification from an Independent Engineer that the bond-financed projects meet utility standards.

i. Section 9.110 Power Revenue Bond Election by Initiative (Proposition B, approved by voters November 2001): Subject to BOS approval, authorizes the issuance of up to $100 million in revenue bonds or other forms of indebtedness to finance solar energy, energy conservation, or renewable energy facilities and equipment.

ii. Section 9.110 Water Revenue Bond Election by Initiative (Proposition A, approved by voters November 2002): Subject to BOS approval, authorizes the SFPUC to issue up to $1.628 billion in revenue bonds or other forms of indebtedness to finance the acquisition and construction of improvements to the City's water system.

iii. Section 9.107(6) Water and Power Revenue Bonds: Authorizes the SFPUC to issue revenue bonds or other forms of indebtedness for the purpose of the reconstruction or replacement of existing water facilities or electric power facilities or combined water and power facilities when authorized by resolution approved by three-fourths vote of the BOS.

iv. Section 9.107(8) Power Revenue Bonds (Proposition H, approved by voters November 2001): Authorizes the issuance of revenue bonds to finance or refinance the acquisition, construction, installation, equipping, improvement or rehabilitation of equipment or facilities for renewable energy and energy conservation.

v. Section 9.109 Refunding Bonds: Authorizes the issuance of refunding bonds that achieve aggregate net debt service savings on a present value basis without voter approval. Refunding bonds must be approved by the Commission, and the Clerk of the BOS must be provided a report as more fully described in Section VI (e)(iii).

c. Short-Term Borrowing Authorization

i. Wastewater Enterprise $750 million Commercial Paper Program:

a. $150 million authorized by SFPUC Resolution No. 06-0164 and BOS Ordinance Nos. 266-06/270-06.

b. Authorization to increase Wastewater CP authorization from $150 million to $300 million (SFPUC Resolution No. 11-0197, BOS Ordinance No. 91-12).

c. Authorization to increase Wastewater CP authorization from $300 million to $500 million (SFPUC Resolution No. 14-0139, BOS Resolution No. 378-14).

d. Authorization to increase Wastewater CP authorization from $500 million to $750 million (SFPUC Resolution No. 17-0086, BOS Ordinance No. 193-17).

ii. Water Enterprise $500 million Commercial Paper Program

a. Authorization to issue up to $150 million (SFPUC Resolution No. 99-084 and BOS Ordinance No. 451-99).

b. Authorization to increase Water CP issuance from $150 million to $250 million (SFPUC Resolution No. 00-0234 and BOS Ordinance No. 953-00).

c. Authorization to increase Water CP issuance from $250 million to $500 million (SFPUC Resolution Nos. 08-0202/09-0175 and BOS Ordinance No. 311-08).

iii. Power Enterprise $90 million Commercial Paper Program

a. $90 million authorized by SFPUC Resolution No. 15-0183 and BOS Resolution No. 427-15.

d. San Francisco Administrative Code

i. Article V of Chapter 43 of Part I (Ordinance No. 203-98 adopted by BOS on June 8, 1998 and amended in December 2006): Establishes a procedure for the SFPUC to issue commercial paper.

ii. Appendix 54 Revenue Bonds (Proposition B, approved by voters November 2001): Subject to BOS approval, authorizes the issuance of up to $100 million in revenue bonds or other forms of indebtedness to finance solar energy, energy conservation, or renewable energy facilities and equipment.

RATES (SF CHARTER SEC. 8B.125.)[2]

Notwithstanding Charter sections 2.109, 3.100 and 4.102 or any ordinance (including, without limitation, Administrative Code Appendix 39), the Public Utilities Commission shall set rates, fees and other charges in connection with providing the utility services under its jurisdiction, subject to rejection--within 30 days of submission--by resolution of the Board

[2] See Appendix C for further information on the SFPUC Rates Policy.

of Supervisors. If the Board of Supervisors fails to act within 30 days the rates shall become effective without further action.

In setting retail rates, fees and charges the Commission shall:

1. Establish rates, fees and charges at levels sufficient to improve or maintain financial condition and bond ratings at or above levels equivalent to highly rated utilities of each enterprise under its jurisdiction, meet requirements and covenants under all bond resolutions and indentures, (including, without limitation, increases necessary to pay for the retail water customers' share of the debt service on bonds and operating expenses of any state financing authority such as the Regional Water System Financing Authority), and provide sufficient resources for the continued financial health (including appropriate reserves), operation, maintenance and repair of each enterprise, consistent with good utility practice;

2. Retain an independent rate consultant to conduct rate and cost of service studies for each utility at least every five years;

3. Set retail rates, fees and charges based on the cost of service;

4. Conduct all studies mandated by applicable state and federal law to consider implementing connection fees for water and clean water facilities servicing new development;

5. Conduct studies of rate-based conservation incentives and/or lifeline rates and similar rate structures to provide assistance to low income users, and take the results of such studies into account when establishing rates, fees and charges, in accordance with applicable state and federal laws;

6. Adopt annually a rolling five-year forecast of rates, fees and other charges; and

7. Establish a Rate Fairness Board consisting of seven members: the City Administrator or his or her designee; the Controller or his or her designee; the Director of the Mayor's Office of Public Finance or his or her designee; two residential City retail customers, consisting of one appointed by the Mayor and one by the Board of Supervisors; and two City retail business customers, consisting of a large business customer appointed by the Mayor and a small business customer appointed by the Board of Supervisors.

   The Rate Fairness Board may:

   i. Review the five-year rate forecast;

   ii. Hold one or more public hearings on annual rate recommendations before the Public Utilities Commission adopts rates;

   iii. Provide a report and recommendations to the Public Utilities Commission on the rate proposal; and

   iv. In connection with periodic rate studies, submit to the Public Utilities Commission rate policy recommendations for the Commission's consideration, including recommendations to reallocate costs among various retail utility customer classifications, subject to any outstanding bond requirements.

These provisions shall be effective January 3, 2003 for the setting of retail rates, fees and charges related to the clean water system. If the voters approve bonds for the Public Utilities Commission's capital program at the November 5, 2002 election then the provisions of this section shall take effect on July 2, 2006 for the setting of retail rates, fees and charges related to the water system. If the voters do not approve such bonds then this section will take effect on January 3, 2003.

(Added November 2002)

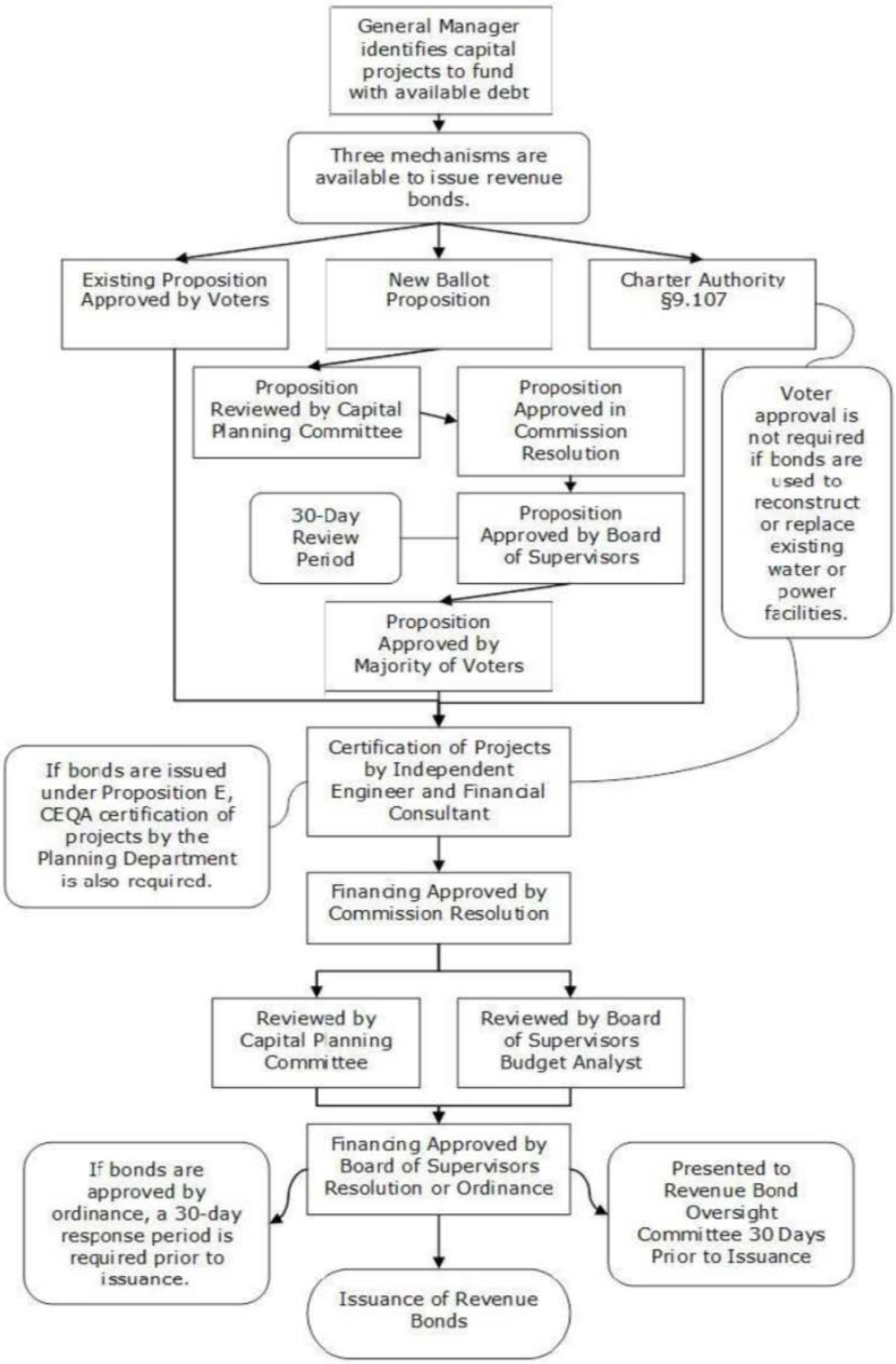
CONTRACTING AND PURCHASING (SF CHARTER SEC. 8B.127.)

Notwithstanding Charter Section 9.118 or any ordinance, the Public Utilities Commission shall have the sole authority to enter into agreements for the purchase of water; the sale of water to wholesale customers; and agreements necessary to implement Joint Powers Agreements with any wholesale water customer.

In order to promote labor stability and to ensure the Ten-Year Capital Plan is completed expeditiously and efficiently, the Public Utilities Commission is authorized, to the extent legally appropriate, to enter into project labor agreements, with appropriate Building Construction and Trades Councils, covering significant capital projects.

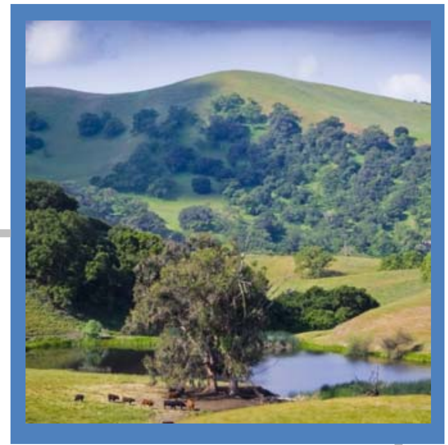
Chart F1. illustrates SFPUC/City & County of San Francisco debt management approval process.

Chart F1. Debt Management Approval Process[3]



[3] Does not include bond refunding, which are authorized pursuant to Section 9.109 of the Charter.

BUDGET SUMMARY



Funds Subject to Appropriation

The SFPUC is comprised of three Enterprises, Office of the General Manager, two support Bureaus and Infrastructure. The Enterprises are Water, Wastewater, and Power, the last of which is a component of Hetch Hetchy Water and Power. The Enterprises support the management, operations, facilities maintenance, and capital needs of each utility. The Business Services and External Affairs bureaus provide support and oversight services to the Enterprises. The Office of the General Manager, Business Services and External Affairs budgets are funded by the three Enterprises through an allocation model. Infrastructure provides the planning, design and construction services for Enterprise capital facilities; thus, the budget is funded through capital project appropriation.

The Water Enterprise The Water Enterprise collects, transmits, treats, and distributes pure drinking water to approximately 2.7 million people, including retail customers in the City and wholesale customers located in San Mateo, Santa Clara, and Alameda Counties. Approximately two-thirds of the water delivered by the Enterprise is to wholesale customers. Retail customers include residential, commercial, industrial, and governmental uses. The Enterprise recovers costs of service through user fees assessed based on water consumption which is collected by smart water meters. Wholesale customers include other cities and water districts, one private utility and one nonprofit university. Services to these customers are provided pursuant to the 25-year Water Supply Agreement (WSA) commencing July 1, 2009, establishing the basis for cost recovery and rates for wholesale water service.

The Wastewater Enterprise The Wastewater Enterprise was formally created after San Francisco voters approved a 1976 ballot proposition authorizing the City to issue $240.0 million in bonds for acquiring, constructing, improving, and financing improvements to the City's municipal sewage treatment and disposal system. The Enterprise collects, transports, treats, and discharges sanitary and stormwater flows known as combined sewage, generated within the City for the protection of public health and the bay and ocean environment. The Enterprise provides services on a contractual basis to municipal customers located outside the City limits, including the North San Mateo County Sanitation District, Bayshore Sanitary District, and the City of Brisbane. The Enterprise recovers cost of service in two ways: through user fees which are based on measured volume of water used by residential customers and through volume and strength charges of sanitary flow for commercial and industrial customers measured by meters and type of discharge. The Enterprise serves 163,589 retail accounts.

Hetch Hetchy Water and Power, Including CleanPowerSF The Power Enterprise is San Francisco's clean energy backbone and the source of our municipal power. Services include the collection and distribution of approximately 85.0 percent of the City's water supply and the associated electricity generation and transmission. Approximately 65.0 percent of the electricity generated by the Enterprise is used by the City's municipal customers including the San Francisco International Airport, San Francisco Municipal Transportation Agency, Recreation and Parks, the Port of San Francisco, San Francisco General Hospital, City Hall, streetlights and traffic signals, the Moscone Convention Center, and the SFPUC Water and Wastewater Enterprises. Most of the balance of electricity is sold to other municipal utility districts and the Western System Power Pool (WSPP). The Enterprise includes a system of water and power infrastructure including reservoirs, hydroelectric power plants, aqueducts, pipelines, and transmission lines conveying water over 170 miles and power more than 160 miles from the Sierra Nevada Mountains to customers in the City and portions of the surrounding San Francisco Bay Area.

CleanPowerSF is San Francisco's Community Choice Aggregation program. Community Choice Aggregation allows cities and counties to partner with their investor-owned utility

(PG&E in San Francisco) to deliver cleaner energy to residents and businesses. Under this program, PG&E continues to maintain the power grid, respond to outages and send customers their monthly bills. CleanPowerSF began delivering cleaner energy to customers in May 2016 and will expand until every eligible customer in San Francisco has been offered service. CleanPowerSF offers two products: Green and SuperGreen. Green initially contains a target of 43.0 percent renewable energy that meets California's strict Renewable Portfolio Standards (RPS). SuperGreen contains 100.0 percent RPS-eligible electricity.

There are different categories of Sources and Uses of Funds within the Enterprises, Bureaus, and Infrastructure funds. A list and descriptions of these sources and uses are in the "Navigating the SFPUC Budget" section.

Budget Summary

Table 1 shows the FY 2017-18 to FY 2019-20 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and budget variances between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19.

This table illustrates total budget for Sources and Uses for the three Enterprises for the FY 2017-18 to FY 2018-19 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and budget variances between FY 2018-19 and FY 2017-18, and between 2019-20 and FY 2018-19.

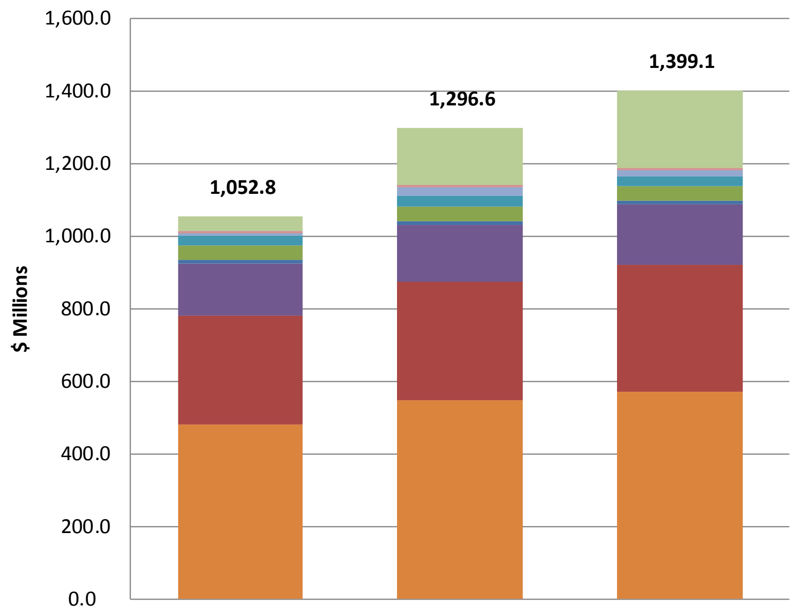
Table 1. SFPUC Sources and Uses of Funds

$ Millions	FY 2016-17	FY 2017-18		FY 2018-19	FY 2019-20	FY 2018-19 vs. FY 2017-18 Adopted Budget		FY 2019-20 vs. FY 2018-19 Adopted Budget	
Category	Audited Actual	Adopted Budget	FY 2017-18 Actual	Adopted Budget	Adopted Budget	Amount	%	Amount	%
SOURCES OF FUNDS									
Sale of Water	465.0	480.9	517.9	546.3	569.3	65.4	13.6%	22.9	4.2%
Sewer Service Charges	271.2	298.0	308.2	327.7	350.4	29.7	9.9%	22.7	6.9%
Sale of Electricity	120.4	143.7	122.4	157.8	166.2	14.1	9.8%	8.5	5.4%
Sale of Electricity-CCA	31.2	40.3	40.0	156.6	212.1	116.3	288.9%	55.5	35.4%
Sale of Natural Gas & Steam	9.1	11.3	9.7	10.2	10.9	(1.1)	-9.4%	0.7	6.4%
Fund Balance	-	7.0	6.2	24.4	16.0	17.4	248.3%	(8.4)	-34.3%
Other Non-Op Revenues	40.7	38.4	46.8	40.0	40.2	1.6	4.1%	0.2	0.6%
Federal Interest Subsidy	28.6	28.6	28.6	28.5	28.3	(0.1)	-0.4%	(0.2)	-0.7%
Interest Income	5.4	4.6	5.1	5.2	5.7	0.5	11.8%	0.5	10.2%
Total Sources of Funds	**971.7**	**1,052.8**	**1,084.8**	**1,296.6**	**1,399.1**	**243.8**	**23.2%**	**102.5**	**7.9%**
USES OF FUNDS									
Personnel	189.2	209.2	196.3	219.2	225.9	10.0	4.8%	6.7	3.1%
Overhead	43.0	90.6	85.0	94.0	95.4	3.4	3.8%	1.4	1.5%
Non-Personnel Services	102.1	143.5	131.5	256.1	307.2	112.6	78.5%	51.1	19.9%
Materials & Supplies	22.4	26.7	25.2	27.8	29.6	1.0	3.9%	1.9	6.7%
Equipment	4.3	4.4	2.1	7.5	7.3	3.2	73.2%	(0.3)	-3.4%
Debt Service	306.2	337.5	311.1	351.7	381.7	14.2	4.2%	30.1	8.6%
Services Of Other Depts	102.0	64.1	62.1	67.3	68.6	3.2	5.1%	1.3	2.0%
General Reserve	66.5	24.7	119.3	17.9	24.4	(6.8)	-27.5%	6.5	36.2%
Subtotal Expenditures	**835.7**	**900.5**	**932.5**	**1,041.4**	**1,140.1**	**140.9**	**15.6%**	**98.7**	**9.5%**
Revenue-Funded Capital	90.4	105.8	105.8	201.0	203.3	95.2	90.0%	2.3	1.1%
Programmatic Projects	45.5	46.6	46.6	54.2	55.7	7.7	16.5%	1.5	2.7%
Total Uses of Funds	**971.7**	**1,052.8**	**1,084.8**	**1,296.6**	**1,399.1**	**243.8**	**23.2%**	**102.5**	**7.9%**

Sources of Funds

Chart 1 shows the FY 2017-18 to FY 2019-20 budgeted Sources of Funds by revenue category.

Chart 1. FY 2017-18 to FY 2019-20 SFPUC Sources of Funds



	FY 2017-18	% of Total	FY 2018-19	% of Total	FY 2019-20	% of Total
Sale of Water	$ 480.9	45.7%	$ 546.3	42.1%	$ 569.3	40.7%
Sewer Service Charges	298.0	28.3%	327.7	25.3%	350.4	25.0%
Sale of Electricity	143.7	13.6%	157.8	12.2%	166.2	11.9%
Sale of Electricity-CCA	40.3	3.8%	156.6	12.1%	212.1	15.2%
Other Non-Op Revenues	38.4	3.6%	40.0	3.1%	40.2	2.9%
Federal Interest Subsidy	28.6	2.7%	28.5	2.2%	28.3	2.0%
Sale of Natural Gas & Steam	11.3	1.1%	10.2	0.8%	10.9	0.8%
Fund Balance	7.0	0.7%	24.4	1.9%	16.0	1.1%
Interest Income	4.6	0.4%	5.2	0.4%	5.7	0.4%
Total Sources of Funds	**$ 1,052.8**	**100.0%**	**$ 1,296.6**	**100.0%**	**$ 1,399.1**	**100.0%**

Summary

FY 2018-19 estimated revenues from Sale of Water, Sewer Service Charges, Sale of Electricity, Sale of Electricity-CCA, Fund Balance, Other Non-Operating Revenues, Federal Interest Subsidy, Sale of Natural Gas and Steam, and Interest Income are budgeted at $1,296.6 million. This represents a $243.8 million or a 23.2 percent increase from FY 2017-18. The increase includes $116.3 million for Sale of Electricity-CCA to reflect the proposed expansion of CleanPowerSF, San Francisco's Community Choice Aggregation (CCA) program to increase its customer base. Increased revenues for the remaining utilities, Sale of Water, Sewer Service Charges and Sale of Electricity are $109.2 resulting from projected utility rate increases. The remaining increase of $19.5 million in Fund Balance, and Interest Income is partially offset through reductions of $1.2 million in Federal Interest Subsidy from Build America Bonds capital financing.

FY 2019-20 projected revenues total $1,399.1 million, $102.5 million or a 7.9 percent increase from FY 2018-19. Increases in Sale of Electricity-CCA reflect the final expansion of CleanPower's customer base and increases for Sale of Water, Sewer Service Charges, and Sale of Electricity reflect rate increases. Increases in Natural Gas & Steam, Other Non-Operating Revenues, and Interest Income, are partially offset by reductions in Fund Balance and Federal Interest Subsidy.

Sale of Water

FY 2018-19 revenues from total Water Sales are budgeted at $546.3 million, a $65.4 million or 13.6 percent increase from the FY 2017-18 budget. Water sales revenue increased due to an increase in the budgeted consumption of water post-drought and a 9.0 percent Commission adopted retail rate increase.

FY 2019-20 Sale of Water revenues are budgeted at $569.3 million, a $22.9 million or 4.2 percent increase from the FY 2018-19 budget. The increase reflects an 8.0 percent retail customer rate increase adopted by the Commission in April 2018.

Sewer Service Charges

FY 2018-19 Sewer Service Charges are budgeted at $327.7 million, a $29.7 million or a 9.9 percent net increase from the FY 2017-18 budget and are based on a 7.0 percent increase in the sewer service retail rates adopted by the Commission in April 2018, which includes rates for single-family and multiple-family residential and non-residential customers.

FY 2019-20 Sewer Service Charges are budgeted at $350.4 million, a $22.7 million or 6.9 percent increase, consistent with adopted rates.

Sale of Electricity

FY 2018-19 Sale of Electricity is budgeted at $157.8 million, a $14.1 million or 9.8 percent increase from FY 2017-18 budget. The increase in revenues includes the addition of new retail power customers as well as rate and usage increases.

FY 2019-20 Sale of Electricity is budgeted at $166.2 million, an increase of $8.5 million or 5.4 percent from FY 2018-19 budget. The increases reflect approved customer rate increases.

Sale of Electricity-CCA

FY 2018-19 projected revenues from CleanPowerSF's Sale of Electricity-CCA are budgeted at $156.6 million a $116.3 million increase from FY 2017-18 budget. Sale of Electricity-CCA revenues are derived from selling greener energy at competitive rates to San Francisco residents and businesses who enrolled in the program. FY 2018-19 Sale Electricity-CCA revenues are based on estimated consumption by customers and reflect significant program expansion and customer growth.

FY 2019-20 Sale of Electricity is budgeted at $212.1 million, an increase of $55.5 million from FY 2018-19. The net change reflects the final program expansion to all eligible customers across San Francisco.

Fund Balance

FY 2018-19 Fund Balance as a source is budgeted at $24.4 million, or $17.4 million more than in FY 2017-18. Fund balance is used as a one-time source when projected uses exceed projected revenues and is incorporated into utility rate setting. See Appendix C Fund Balance Policy. The increase includes $8.5 million for Hetch Hetchy, $2.9 million for Water and $6.0 million for Wastewater.

FY 2019-20 Fund Balance as a source is budgeted at $16.0 million, a decrease of $8.4 million or 34.3 percent from FY 2018-19, reflecting increased utility rates.

Other Non-Operating Revenues

FY 2018-19 Other Non-Operating Revenues are budgeted at $40 million, $1.6 million or 4.1 percent more than in FY 2017-18. The change is driven by increases in Water Enterprise from services provided to other City departments. Non-Operating Revenues include revenues from property rentals, other City departments, miscellaneous services and water service installations.

FY 2019-20 Other Non-Operating Revenues total $40.2 million, a $0.2 million or a 0.6 percent increase from FY 2018-19.

Federal Interest Subsidy

The FY 2018-19 Federal Interest Subsidy is budgeted at $28.5 million, $0.1 million or 0.4 percent, less than in FY 2017-18. The SFPUC receives a subsidy payment from the Federal Government for a portion of borrowing costs on taxable bonds. The U.S. Treasury Department is estimated to provide a direct subsidy equal to 35.0 percent (prior to sequestration) of the interest payable for bonds issued as Build America Bonds per the American Recovery and Reinvestment Act (ARRA). However, this amount has been reduced in recent years due to sequestration, which is estimated to be 6.2 percent in FY 2018-19.

The FY 2019-20 Federal Interest Subsidy is budgeted at $28.3 million, $0.2 million less than in FY 2018-19.

Sale of Natural Gas and Steam (Pass-through)

FY 2018-19 Sale of Gas and Steam is budgeted at $10.2 million, based on PG&E and the California Department of General Services (DGS) retail rates and projected usage. Hetchy Power is responsible for processing and billing City departments for natural gas and steam. The revenue generated from natural gas and steam is passed-through at cost and ultimately has no impact on Hetch Hetchy's net revenues.

In FY 2019-20 the estimated revenue is $10.9 million, an increase of $0.7 million from the prior year. The change reflects projected rates and consumption.

Interest Income

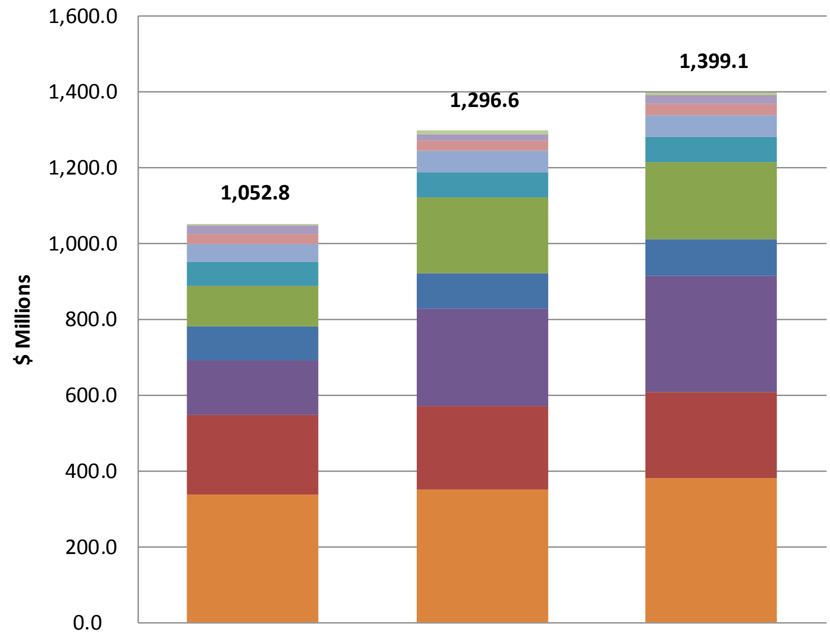
FY 2018-19 Interest Income is budgeted at $5.2 million, a $0.5 million or 11.8 percent increase from FY 2017-18 budget and is based on projected cash balance and interest rates in the County Investment Pool.

FY 2019-20 revenues from Interest Income is budgeted at $5.7 million, $0.5 million or 10.2 percent more than in FY 2018-19 due to higher projected cash balances.

Uses of Funds

Chart 2 shows the FY 2017-18 to FY 2019-20 budgeted Uses of Funds by expenditure category.

Chart 2. FY 2017-18 to FY 2019-20 SFPUC Uses of Funds



	FY 2017-18	% of Total	FY 2018-19	% of Total	FY 2019-20	% of Total
Debt Service	$ 337.5	32.1%	$ 351.7	27.1%	$ 381.7	27.3%
Personnel	209.2	19.9%	219.2	16.9%	225.9	16.1%
Non-Personnel Services	143.5	13.6%	256.1	19.8%	307.2	22.0%
Revenue-Funded Capital	105.8	10.1%	201.0	15.5%	203.3	14.5%
Overhead	90.6	8.6%	94.0	7.2%	95.4	6.8%
Service Of Other Depts	64.1	6.1%	67.3	5.2%	68.6	4.9%
Programmatic Projects	46.6	4.4%	54.2	4.2%	55.7	4.0%
Materials & Supplies	26.7	2.5%	27.8	2.1%	29.6	2.1%
General Reserve	24.7	2.3%	17.9	1.4%	24.4	1.7%
Equipment	4.4	0.4%	7.5	0.6%	7.3	0.5%
Total Uses of Funds	**$ 1,052.8**	**100.0%**	**$ 1,296.6**	**100.0%**	**$ 1,399.1**	**100.0%**

Summary

Total Uses of Funds for FY 2018-19 are $1,296.6 million, a $243.8 million or 23.2 percent increase from FY 2017-18. Spending categories are increasing by net of $250.6 million with the largest increase in Revenue-Funded Capital and Non-Personnel Services. The increase is partially offset by a $6.8 million decrease in General Reserve.

Total Uses of Funds for FY 2019-20 are $1,399.1 million, a $102.5 million or 7.9 percent increase from FY 2018-19. Spending categories are increasing by net of $102.8 million with the largest increase in Non-Personnel Services and Debt Service. The increase is partially offset by a $0.3 million decrease in Equipment.

Debt Service

FY 2018-19 Debt Service is budgeted at $351.7 million, a $14.2 million or 4.2 percent, increase from the FY 2017-18 budget. This budget is based on principal and interest payments on revenue bonds to finance the Water, Wastewater and Power Enterprise's capital programs. The increase funds the addition of debt services for Water Enterprise's 2017 Series A and B, offset by a reduction in Wastewater's 2016 Series A bonds and a Debt Service reduction for CleanPowerSF. Power Enterprise's Debt Service remained the same as in FY 2017-18.

FY 2018-19 Debt Service is budgeted at $381.7 million, a $30.1 million or 8.6 percent increase from the FY 2018-19 budget. The increase reflects scheduled debt service payments on revenue bonds financing for the Water and Wastewater Enterprises. Power Enterprise's Debt Service remained the same as in FY 2018-19.

Personnel

FY 2018-19 Personnel, labor and benefits, are budgeted at $219.2 million, a $10 million or 4.8 percent increase from the FY 2017-18 budget. The budget includes $151.3 million for salaries and $67.9 million for fringe benefits. The $7.6 million increase in salaries from FY 2017-18 includes: three percent Cost of Living Adjustments (COLA) increases as required by Memorandum of Understanding agreements for all Enterprises; position substitutions necessary to meet changing demands of the three Enterprises and new positions and temporary salaries funding increase to support CleanPowerSF's (CLP) program expansion. FY 2018-19 mandatory fringe benefits increase of $2.4 million from FY 2017-18 reflects adjustments to salaries and benefit rate adjustments for retirement and health services.

FY 2019-20 Personnel is budgeted at $225.9. million, a $6.7 million or 3.1 percent increase from the FY 2018-19 budget. The budget includes $155.1 million for salaries and $70.8 million for fringe benefits. The salaries increase of $3.9 million includes adjustments based on labor agreements, and new positions and temporary salaries funding increase to support CleanPowerSF's (CLP) expansion program. FY 2019-20 mandatory fringe benefits increase of $2.8 million from FY 2018-19 reflects, salary adjustments based on labor agreements and benefit rate adjustments for retirement and health services.

Services of Other Departments

FY 2018-19 Services of Other Departments is budgeted at $67.3 million, a $3.2 million or 5.1 percent increase from the FY 2017-18 budget. This budget is based on services provided to SFPUC by City departments. The increase mainly reflects COLA for services provided by other City departments.

FY 2019-20 Services of Other Departments is budgeted at $68.6 million, a $1.3 million or 2.0 percent increase from the FY 2018-19 budget based on projected cost of living adjustments.

Non-Personnel Services

FY 2018-19 Non-Personnel Services are budgeted at $256.1 million, a $112.6 million or 78.5 percent increase from the FY 2017-18 budget. The $112.6 million increase includes: $96.2 million in purchase of power mainly due to the projected expansion of CleanPower's customer base; $12.1 million in professional services to support planning/regulatory services, marketing/communication, data management, Electric Billing System Implementation, PG&E/transmission/energy contracts, federal litigation, and California Public Utilities Commission proceedings and state reporting requirements; and $4.3 million to fund watershed protection services required by the National Park Service Agreement as well as payments to Tuolumne County to rebuild the Visitors Center for Don Pedro Recreation Association.

FY 2019-20 Non-Personnel Services are budgeted at $307.2 million, a $51.1 million or 19.9 percent increase from the FY 2018-19 budget. The increase includes $50.4 mainly for CleanPowerSF's purchase of power and $0.7 million for payments to other governments.

Revenue-Funded Capital

FY 2018-19 Revenue-Funded Capital is budgeted at $201.0 million, a $95.2 million or 90.0 percent increase from the FY 2017-18 budget. This funding represents the revenue-funded portion of the total biennial capital program approved through a supplemental appropriation outside of the biennial operating budget process. Changes are discussed in the Enterprises' Capital Improvement Program (CIP) Sections.

FY 2019-20 Revenue-Funded Capital is budgeted at $203.3 million, a $2.3 million or 1.1 percent increase from FY 2018-19. Changes are discussed in the Enterprises' CIP sections.

Programmatic Projects

FY 2018-19 Programmatic Projects are budgeted at $54.2 million, a $7.7 million or 16.5 percent increase from the FY 2017-18 budget. This budget supports annual programs including facilities maintenance for the three Enterprises. Changes are discussed in the Enterprises' Capital Improvement Program Sections, under Programmatic Projects.

FY 2019-20 Programmatic Projects are budgeted at $55.7 million, $1.5 million or 2.7 percent more than in FY 2018-19. Changes are discussed in the Enterprises' Capital Improvement Program Sections, under Programmatic Projects.

Materials and Supplies

FY 2018-19 Materials and Supplies costs are budgeted at $27.8 million, $1.0 million or 3.9 percent more than in FY 2017-18. The budget funds materials and supplies to support the maintenance and operations of the Enterprises. The increase from FY 2017-18 is based on projected maintenance costs of the City's vast watershed and sewer system network and infrastructure, operations and maintenance of streetlights, telecommunications accessories as well as inflationary increases for water/sewer operations treatment chemicals.

FY 2019-20 Materials and Supplies are budgeted at $29.6 million, a $1.9 million or 6.7 percent increase from FY 2018-19. The increase reflects higher projected costs for chemicals, equipment and maintenance supplies.

General Reserve

The FY 2018-19 General Reserve budget is $17.9 million, $6.8 million less than the FY 2017-18 budget. The General Reserve is used to balance budgeted sources and uses, when budgeted revenues exceed budgeted expenditures. Use of General Reserve must be approved by the Mayor and Board of Supervisors. The decrease in the General Reserve primarily reflects an increase in purchase of power.

The FY 2019-20 the General Reserve budget is $24.4 million, a $6.5 million or 36.2 percent increase from the FY 2018-19 budget. The change reflects CleanPowerSF and Wastewater Enterprise revenues exceeding budgeted expenditures.

Equipment

FY 2018-19 Equipment is budgeted at $7.5 million, a $3.2 million or 72.3 percent increase from FY 2017-18. Equipment is defined as a unit having a value greater than $5,000 and a useful life of three years or more, such as vehicles, machinery and heavy equipment. The increase supports the SFPUC's vehicle replacement program for all the Enterprises and heavy equipment to support operating, maintenance and construction activities; further details are provided in the Enterprise budget sections.

FY 2019-20 Equipment is budgeted at $7.3 million, $0.3 million less or a 3.4 percent decrease from the FY 2018-19 budget, due primarily to elimination of one-time FY 2018-19 equipment funding.

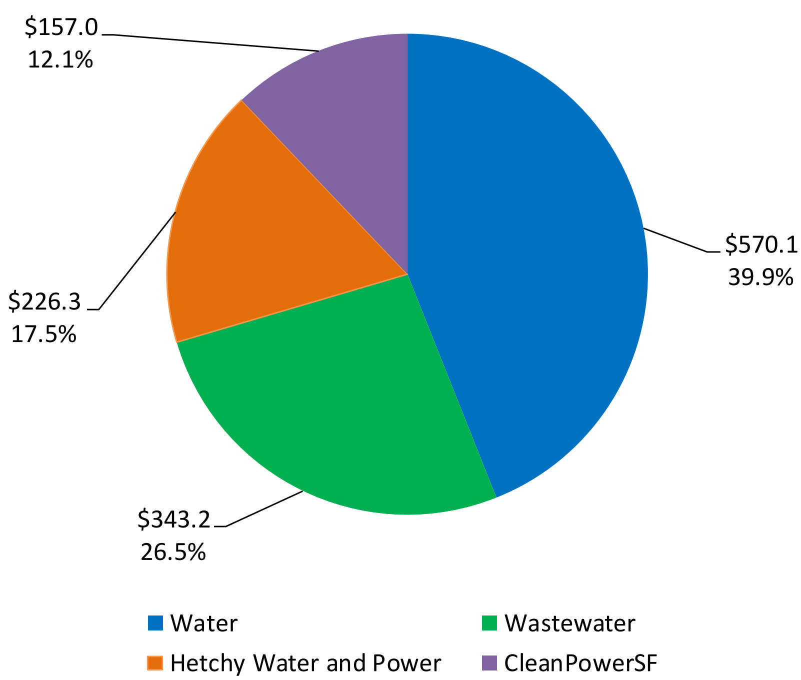
Overhead

FY 2018-19 Overhead is budgeted at $94.0 million, a $3.4 million or 3.8 percent increase from FY 2017-18. This budget funds the Enterprise's allocation of the cost of support services provided by the SFPUC Bureaus. The increase reflects adjustments to the Bureaus' budget, and an updated Bureaus allocation model.

FY 2019-20 Overhead is budgeted at $95.4 million, an increase of $1.4 million or 1.5 percent from the FY 2018-19 budget. The change reflects budget adjustments to the SFPUC Bureaus' budget.

Chart 3 displays the allocation of the total SFPUC adopted budget for FY 2018-19 by Enterprise.

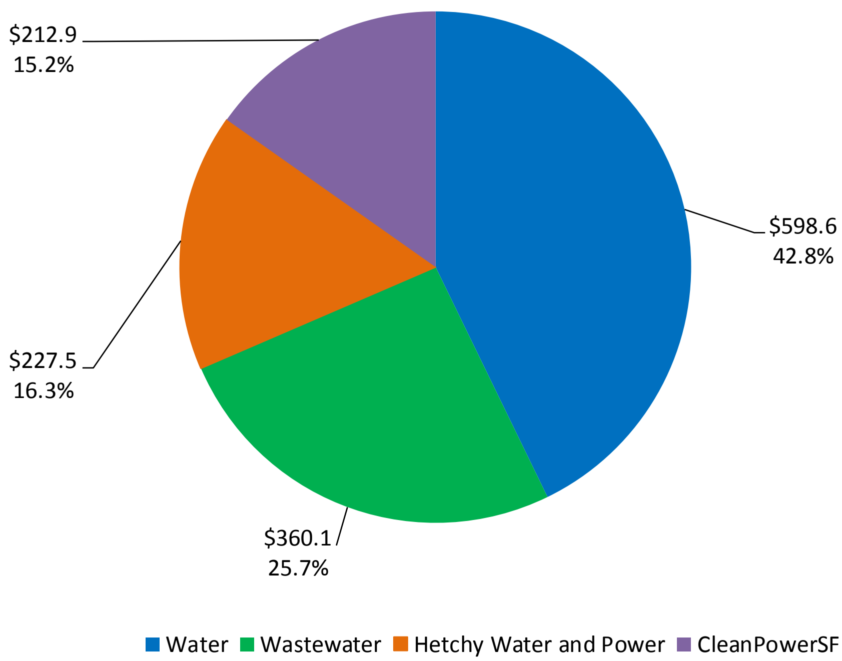
Chart 3. FY 2018-19 SFPUC Budget by Enterprise: $1,296.6 Million



The FY 2018-19 SFPUC budget totals $1,296.6 million, $243.8 million or 23.2 percent more than the FY 2017-18 approved budget of $1,052.8 million. The Water Enterprise budget is 39.9 percent, or slightly less than half of the entire SFPUC budget. The increase from FY 2017-18 includes 290.1 percent for CleanPowerSF due to the customer expansion purchase of power and program costs, 13.6 percent for the Water Enterprise due to debt service and revenue-funded capital/programmatic projects, 11.7 percent for the Wastewater Enterprise due to debt service and revenue-funded capital/programmatic projects requirements, and 11.1 percent for the Hetch Hetchy Water and Power due to revenue-funded/programmatic projects, purchase of power and professional services requirements. Refer to Table CP1 for CleanPowerSF, Table W1 for Water Enterprise, Table C1 for Wastewater Enterprise, and Table H1 for Hetch Hetchy.

Chart 4 displays the allocation of the total SFPUC adopted budget for FY 2019-20 by Enterprise.

Chart 4. FY 2019-20 SFPUC Budget by Enterprise: $1,399.1 Million



The FY 2019-20 SFPUC budget totals $1,399.1, million, a $102.5 million or 7.9 percent increase from of the FY 2018-19 approved budget of $1,296.6 million. The Water Enterprise budget is 42.8 percent of the entire SFPUC budget. The increase from FY 2018-19 includes increases of 35.6 percent for CleanPowerSF reflecting a continued growth in this program, 5.0 percent for the Water Enterprise, 4.9 percent for the Wastewater Enterprise and 0.5 percent for Hetch Hetchy Water and Power; refer to Table CP1 for CleanPowerSF, Table W1 for Water Enterprise, Table C1 for Wastewater Enterprise, and Table H1 for Hetch Hetchy.

Table 2 shows the FY 2017-18 to FY 2019-20 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and budget variances between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19 by Enterprise, by Division and Debt Service, Revenue-Funded Capital, Programmatic Projects and General Reserve.

Table 2. SFPUC Uses of Funds by Enterprise and Division

$ Millions Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Administration	60.2	65.4	60.5	65.7	67.0	0.3	0.5%	1.3	2.0%
City Distribution	36.2	39.7	40.5	44.5	44.2	4.8	12.2%	(0.3)	-0.8%
Water Quality	16.4	17.8	16.3	19.3	20.2	1.6	8.7%	0.9	4.6%
Water Supply & Treatment	48.5	50.8	51.3	53.5	54.3	2.7	5.3%	0.8	1.5%
Natural Resources	9.8	11.6	10.6	12.3	12.6	0.7	5.9%	0.3	2.2%
Water Resources	5.4	8.1	4.9	8.6	9.0	0.5	6.2%	0.4	4.8%
Debt Service	250.9	254.4	254.4	283.7	306.3	29.3	11.5%	22.6	8.0%
Revenue-Funded Capital	16.8	27.8	27.8	51.8	51.8	24.0	86.1%	0.0	0.0%
Programmatic Projects	23.2	24.4	24.4	30.6	33.2	6.2	25.3%	2.6	8.4%
General Reserve	19.1	1.6	57.0	0.0	0.0	(1.6)	-100.0%	0.0	0.0%
Total Water	**486.7**	**501.7**	**547.8**	**570.1**	**598.6**	**68.4**	**13.6%**	**28.5**	**5.0%**
Administration, Planning, & Regulatory	45.6	49.7	48.0	49.6	51.1	(0.0)	-0.1%	1.4	2.8%
Maintenance	24.9	28.1	25.6	29.5	29.5	1.4	5.0%	0.1	0.2%
Operations	39.4	42.3	40.0	42.9	44.0	0.6	1.3%	1.2	2.7%
Environmental Engineering	4.9	4.9	4.6	5.8	6.0	1.0	19.8%	0.2	3.0%
Collection Systems	29.5	32.2	31.4	32.3	33.0	0.2	0.5%	0.6	1.9%
Wastewater Labs	3.8	4.7	3.9	4.9	5.0	0.2	3.4%	0.1	1.8%
Debt Service	52.3	76.2	50.1	63.2	70.7	(13.0)	-17.1%	7.5	11.9%
Revenue-Funded Capital	36.8	45.0	45.0	106.8	113.0	61.8	137.3%	6.2	5.8%
Programmatic Projects	7.5	7.3	7.3	8.2	7.2	0.9	11.8%	(0.9)	-11.5%
General Reserve	35.9	16.9	61.5	0.0	0.6	(16.9)	-100.0%	0.6	100.0%
Total Wastewater	**280.6**	**307.3**	**317.6**	**343.2**	**360.1**	**35.9**	**11.7%**	**16.9**	**4.9%**
Power Administration	12.3	14.0	11.9	15.7	16.0	1.7	12.4%	0.3	1.9%
Energy Services	6.2	9.1	7.1	12.4	11.0	3.3	36.1%	(1.4)	-11.2%
Long Range Planning and Power Purchase	22.8	50.1	36.0	52.7	56.9	2.6	5.1%	4.2	7.9%
Light, Heat and Power	15.0	18.4	15.7	17.9	19.1	(0.5)	-2.7%	1.1	6.4%
Project Operations	55.2	58.7	55.6	64.9	66.2	6.3	10.7%	1.3	2.0%
Debt service	2.3	4.8	4.8	4.8	4.7	(0.0)	-0.9%	(0.0)	-0.9%
Revenue-Funded Capital	36.8	33.0	33.0	42.5	38.5	9.5	28.7%	(3.9)	-9.3%
Programmatic Projects	14.8	14.8	14.8	15.3	15.0	0.5	3.6%	(0.3)	-2.1%
General Reserve	7.6	0.6	0.0	0.0	0.0	(0.6)	-100.0%	0.0	0.0%
Total Hetch Hetchy Water and Power	**173.1**	**203.6**	**178.9**	**226.3**	**227.5**	**$ 22.7**	**11.1%**	**1.2**	**0.5%**
CleanPowerSF	27.3	34.7	39.6	139.1	188.9	104.4	300.7%	49.9	35.8%
General Reserve	4.0	5.6	0.9	17.9	23.7	12.3	221.1%	5.9	32.8%
Programmatic Projects	0.0	0.0	0.0	0.1	0.3	0.1	100.0%	0.2	170.0%
Total CleanPowerSF	**31.3**	**40.3**	**40.5**	**157.0**	**212.9**	**116.8**	**290.1%**	**55.9**	**35.6%**
Total SFPUC	**971.7**	**1,052.9**	**1,084.8**	**1,296.6**	**1,399.1**	**243.8**	**23.2%**	**102.5**	**7.9%**

The Water Enterprise FY 2018-19 adopted budget increased by $68.4 million or 13.6 percent compared to FY2017-18. The net change includes increases of $29.3 million in Debt Service, $24.0 million in Revenue-Funded Capital, $6.2 in Programmatic Projects, $4.8 million in City Distribution, $2.7 million in Water Supply and Treatment, $1.6 million in Water Quality, $1.4 million in Administration, Natural Resources and Water Resources, partially offset by a reduction of $1.6 million in General Reserve.

The FY 2018-19 Wastewater Enterprise budget increased by $35.9 million, or 11.7 percent, including $61.8 million in Revenue-Funded Capital, $1.4 million in Maintenance, $1.0 million in Environmental Engineering, and $1.6 million in Programmatic Projects, Operations, Collection Systems, and Wastewater Labs, Administration, Planning & Regulatory, partially offset by a reduction of $29.9 million in General Reserve and Debt Service.

Hetch Hetchy Water and Power budget increased by $22.7 million, or 11.1 percent, including $9.5 million in Revenue-Funded Capital, $6.3 million in Project Operations, $3.3 million in Energy Services, $2.6 million in Long Range Planning and Power Purchase and $2.1 million in Power Administration and Programmatic Projects, partially offset by a reduction of $1.1 million in General Reserve and Light, Heat and Power.

The FY 2018-19 CleanPowerSF Enterprise budget increased by $116.8 million, or 290.1 percent including $104.4 million for program expansion, $12.3 million in General Reserve and $0.1 million in Programmatic Projects.

The Water Enterprise FY 2019-20 adopted budget increased by $28.5 million or 5.0 percent compared to the FY 2018-19 budget, including $25.2 million in Revenue-Funded Capital and Programmatic Projects and a net increase of $3.3 million for the operating divisions and the Administration Division.

The FY 2019-20 Wastewater Enterprise budget increased by $16.9 million, or 4.9 percent. This includes a net increase of $13.4 million in Debt Service, Revenue-Funded Capital, Programmatic Projects, General Reserve and a $3.5 million increase for the operating divisions and the Administration Division.

The FY 2019-20 Hetch Hetchy Water and Power budget increased by $1.2 million, or 0.5 percent. This includes a net increase of $5.4 million for the operating division and the Administration Division, offset by a decrease of $4.2 million in Revenue-Funded Capital and Programmatic Projects.

The FY 2019-20 CleanPowerSF budget increased by $55.9 million or 35.6 percent. This includes $49.9 million for program expansion and $6.0 million in General Reserve and Programmatic Projects.

Table 3 show a breakdown of budgeted Sources and Uses of Funds for FY 2018-19 by Enterprise.

Table 3. FY 2018-19 SFPUC Sources and Uses of Funds by Enterprise

$ Millions	Water	Wastewater	Hetch Hetchy Water & Power	CleanPowerSF	Total
Sources of Funds					
Sale of Water	510.0	0.0	36.3	0.0	546.3
Federal Interest Subsidy	23.9	4.0	0.6	0.0	28.5
Sewer Service Charges	0.0	327.7	0.0	0.0	327.7
Sale of Electricity	0.0	0.0	157.8	0.0	157.8
Sale of Electicity-CCA	0.0	0.0	0.0	156.6	156.6
Sale of Natural Gas & Steam	0.0	0.0	10.2	0.0	10.2
Fund Balance	4.3	6.0	14.1	0.0	24.4
Other Non-Op Revenues	29.5	3.7	6.7	0.0	40.0
Interest Income	2.3	1.8	0.6	0.4	5.2
Total Sources of Funds	**570.1**	**343.2**	**226.3**	**157.0**	**1,296.6**
Uses of Funds					
Personnel	97.9	71.6	45.0	4.7	219.2
Overhead	46.8	28.4	16.8	2.0	94.0
Non-Personnel Services	17.8	18.4	90.2	129.6	256.1
Materials & Supplies	14.0	10.7	2.8	0.1	27.7
Equipment	4.7	1.8	1.0	0.0	7.5
Debt Service	283.7	63.2	4.8	0.0	351.7
Services Of Other Depts	22.7	34.1	7.9	2.6	67.3
General Reserve	0.0	0.0	0.0	17.9	17.9
Sub-total Expenditures	**487.7**	**228.2**	**168.5**	**156.9**	**1,041.3**
Revenue-Funded Capital	51.8	106.8	42.5	0.0	201.0
Programmatic Projects	30.6	8.2	15.3	0.1	54.2
Total Uses of Funds	**570.1**	**343.2**	**226.3**	**157.0**	**1,296.6**

The Enterprises derive their revenues from sale of water, electricity and sewer service charges. Water sales generate 89.5 percent of Water's revenues; sewer services charges generate 95.5 percent of Wastewater's total revenues; sale of electricity generate 69.7 percent of Hetch Hetchy's revenues and 99.7 percent of CleanPowerSF's total revenues.

Water's major expenses are in Debt Service and Personnel at 67.0 percent; Wastewater's major expenses are in Revenue-Funded Capital, Debt Service, Personnel and Debt Service at 70.4 percent; Hetchy Hetch Water and Power's are in Personnel and Non-Personnel at 59.8 percent; and for CleanPowerSF major the major expense is in purchase of Power (Non-Personnel) at 82.5 percent.

Table 4 show a breakdown of budgeted Sources and Uses of Funds for FY 2019-20 by Enterprise.

Table 4. FY 2019-20 SFPUC Sources and Uses of Funds by Enterprise

$ Millions	Water	Wastewater	Hetch Hetchy Water & Power	CleanPowerSF	Total
Sources of Funds					
Sale of Water	531.7	0.0	37.5	0.0	569.3
Federal Interest Subsidy	23.8	4.0	0.5	0.0	28.3
Sewer Service Charges	0.0	350.4	0.0	0.0	350.4
Sale of Electricity	0.0	0.0	166.2	0.0	166.2
Sale of Elecricity-CCA	0.0	0.0	0.0	212.1	212.1
Sale of Natural Gas & Steam	0.0	0.0	10.9	0.0	10.9
Fund Balance	11.1	0.0	4.9	0.0	16.0
Other Non-Op Revenues	29.8	3.7	6.8	0.0	40.2
Interest Income	2.2	2.0	0.6	0.8	5.7
Total Sources of Funds	**598.6**	**360.1**	**227.5**	**212.9**	**1,399.1**
Uses of Funds					
Personnel	99.2	73.4	46.7	6.5	225.9
Overhead	47.5	28.8	17.0	2.0	95.4
Non-Personnel Services	18.3	18.7	93.0	177.1	307.2
Materials & Supplies	15.1	11.2	3.2	0.2	29.6
Equipment	4.1	1.8	1.3	0.0	7.3
Debt Service	306.3	70.7	4.8	0.0	381.7
Services Of Other Depts	23.0	34.6	8.0	3.1	68.6
General Reserve	0.0	0.6	0.0	23.7	24.4
Sub-total Expenditures	**513.6**	**239.9**	**174.0**	**212.6**	**1,140.1**
Revenue-Funded Capital	51.8	113.0	38.5	0.0	203.3
Programmatic Projects	33.2	7.2	15.0	0.3	55.7
Total Uses of Funds	**598.6**	**360.1**	**227.5**	**212.9**	**1,399.1**

Major sources of funds from FY 2018-19 to FY 2019-20 remain consistent with only slight changes. Water sales generate 88.8 percent of Water's revenues; sewer services charges generate 97.3 percent of Wastewater's total revenues; sale of electricity generates 73.1 percent of Hetch Hetchy's revenues and 99.6 percent of CleanPowerSF total revenues.

Water's major expenses are in Debt Service and Personnel at 67.8 percent; Wastewater's major expenses are in Revenue-Funded Capital, Debt Service and Personnel and Debt Service at 71.4 percent; Hetchy Hetch Water and Power's are in purchase of power (Non-Personnel), Revenue-Funded Capital/Programmatic Projects at 64.4 percent; and for CleanPowerSF major the major expense is in purchase of power (Non-Personnel) at 83.2 percent.

Growth by Budget Categories

Increased power sales and increased retail water rates and sewer service charges result in higher revenues across all three Enterprises. CleanPowerSF continues to grow, with 108,000 customers and a plan to enroll more by the end in FY 2018-19 resulting in growth of Non-Personnel Services to purchase power. Additionally, CleanPowerSF has more revenue for General Reserve increases of 221.6 percent in 2018-19 and 32.8 percent in

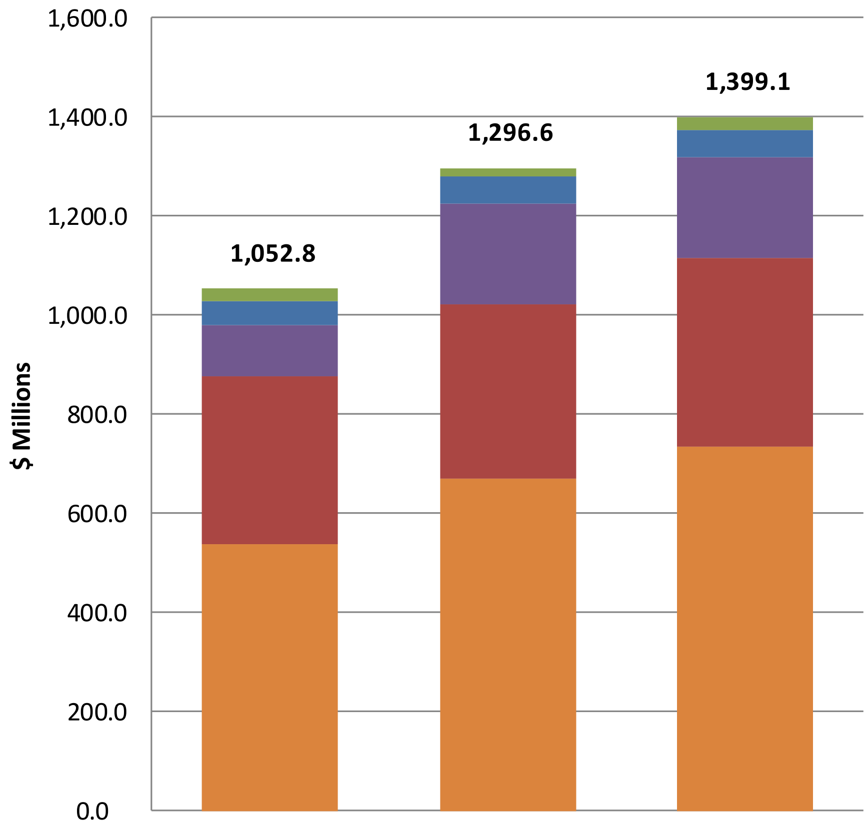
FY 2019-20. Across Water, Wastewater and Power Enterprises are increased allocations to debt, revenue-funded capital and programmatic projects reflecting the continued capital investments in facilities and existing infrastructure.

In 2018-19, Water increased Debt Service costs by 11.5 percent, Revenue Funded Capital spending by 86.1 percent and Programmatic Projects spending by 25.3 percent. The increase for the City Distribution Division of 12.2 percent was made to administer the large increase in revenue-funded capital projects reflecting water delivery infrastructure replacement within San Francisco. Wastewater increase in Revenue-Funded Capital is 137.3 percent to support treatment and collection system rehabilitation and renewal, collection system spot repair and condition assessments. Programmatic projects spending increased 11.8 percent for Ocean Beach and the Southeast community facility projects. The 19.8 percent increase in Environmental Engineering reflects delivery of the increased revenue funded capital projects. Increases in the Hetch Hetchy budget also reflect the continued investments in capital with 28.7 percent in Revenue Funded Capital and a 10.7 percent increase in Project Operations.

In FY 2019-20 Water Debt Service increased by 8.0 percent. Programmatic Projects increased by 8.4 percent including increases of $2.6 million for: on-going environmental compliance, SFPUC Headquarters debt service payment, investment in Treasure Island upgrades and youth employment. Wastewater Debt Service in FY 2019-20 is $70.7 million, an increase of 11.9 percent over FY 2018-19. The Revenue-Funded Capital for Wastewater increases to $113.0 or 5.8 percent over the large increase in the previous budget.

Chart 5 displays the budget growth from FY 2017-18 to FY 2019-20 by major categories.

Chart 5. SFPUC Uses Budget Growth from FY 2017-18 to FY 2019-20



	Adopted FY 2017-18	Adopted FY 2018-19	% Change	Adopted FY 2019-20	% Change
Operations and Maintenance	$ 538.3	$ 671.8	24.8%	$ 734.0	9.3%
Debt Service	337.5	351.7	4.2%	381.7	8.6%
Revenue-Funded Capital	105.8	201.0	90.0%	203.3	1.1%
Programmatic Projects	46.6	54.2	16.5%	55.7	2.7%
General Reserve	24.7	17.9	-27.5%	24.4	36.3%
Total Uses of Funds	**$ 1,052.8**	**$ 1,296.6**	**23.2%**	**$ 1,399.1**	**7.9%**

Chart 5 shows that Revenue-Funded Capital is the largest increase across the SFPUC, consistent with the individual Enterprise increases already highlighted. Operations and Maintenance is the second largest increase including the additional effort to manage revenue-funded capital programs, new equipment, and increased energy purchases. The decrease in the General Reserve reflects the increase of other costs across the Operating budgets. The budget continues to grow by 7.9 percent in FY 2019-20 due to Debt Service and the full range of Operations and Maintenance increase.

Fund Balance

The City and County of San Francisco and the SFPUC are legally required to balance their budgets each year. The San Francisco City Charter requires that proposed budgets be balanced such that the proposed expenditures of each fund do not exceed the projected revenues and available Fund Balance of that Enterprise. When actual spending is determined at the end of fiscal year, the net of actual expenditures and revenues is applied to fund balance. The reverse is true as well, if actual expenditures are greater than revenues, the difference is funded by use of fund balance.

Table 5 displays changes to fund balance for FY 2018-19 by Enterprise.

Table 5. FY 2018-19 SFPUC Beginning and Ending Available Fund Balance

$ Millions	FY 2018-19				
	All Funds	Water	Wastewater	Hetch Hetchy Water & Power	CleanPowerSF
Beginning Available Fund Balance, July 1, 2018	377.5	172.6	144.7	51.3	8.9
Sources					
Sale of Water	546.3	510.0	0.0	36.3	0.0
Federal Interest Subsidy	28.5	23.9	4.0	0.6	0.0
Sewer Service Charges	327.7	0.0	327.7	0.0	0.0
Sale of Electricity	157.8	0.0	0.0	157.8	0.0
Sale of Electricity-CCA	156.6	0.0	0.0	0.0	156.6
Sale of Natural Gas & Steam	10.2	0.0	0.0	10.2	0.0
Fund Balance	24.4	4.3	6.0	14.1	0.0
Other Non-Op Revenues	40.0	29.5	3.7	6.7	0.0
Interest Income	5.2	2.3	1.8	0.6	0.4
Total Sources	**1,296.6**	**570.1**	**343.2**	**226.3**	**157.0**
Uses					
Operations and Maintenance	661.6	204.0	165.1	153.5	139.1
Natural Gas & Steam	10.2	0.0	0.0	10.2	0.0
Debt Service	351.7	283.7	63.2	4.8	0.0
General Reserve	17.9	0.0	0.0	0.0	17.9
Revenue-Funded Capital	201.0	51.8	106.8	42.5	-
Programmatic Projects	54.2	30.6	8.2	15.3	0.1
Total Uses	**1,296.6**	**570.1**	**343.2**	**226.3**	**157.0**
Use of Avaliable Fund Balance	(24.4)	(4.3)	(6.0)	(14.1)	(0.0)
Planned Unspent General Reserve	17.9	0.0	0.0	0.0	17.9
Ending Available Fund Balance, June 30, 2019	**371.0**	**168.3**	**138.7**	**37.2**	**26.8**

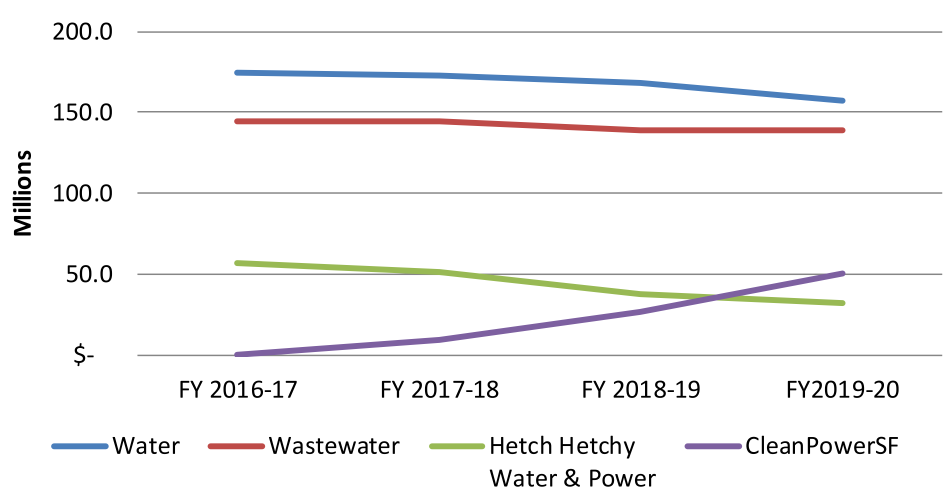
Table 6 displays changes to fund balance for FY 2019-20 by Enterprise.

Table 6. FY 2019-20 SFPUC Beginning and Ending Available Fund Balance

$ Millions	FY 2019-20				
	All Funds	Water	Wastewater	Hetch Hetchy Water & Power	CleanPowerSF
Beginning Available Fund Balance, July 1, 2019	371.0	168.3	138.7	37.2	26.8
Sources					
Sale of Water	569.3	531.7	0.0	37.5	0.0
Federal Interest Subsidy	28.3	23.8	4.0	0.5	0.0
Sewer Service Charges	350.4	0.0	350.4	0.0	0.0
Sale of Electricity	166.2	0.0	0.0	166.2	0.0
Sale of Electricity-CCA	212.1	0.0	0.0	0.0	212.1
Sale of Natural Gas & Steam	10.9	0.0	0.0	10.9	0.0
Fund Balance	16.0	11.1	0.0	4.9	0.0
Other Non-Op Revenues	40.2	29.8	3.7	6.8	0.0
Interest Income	5.7	2.2	2.0	0.6	0.8
Total Sources	**1,399.1**	**598.6**	**360.1**	**227.5**	**212.9**
Uses					
Operations and Maintenance	723.1	207.3	168.5	158.3	188.9
Natural Gas & Steam	10.9	-	-	10.9	-
Debt Service	381.7	306.3	70.7	4.8	0.0
General Reserve	24.4	0.0	0.6	0.0	23.7
Revenue-Funded Capital	203.3	51.8	113.0	38.5	-
Programmatic Projects	55.7	33.2	7.2	15.0	0.3
Total Uses	**1,399.1**	**598.6**	**360.1**	**227.5**	**212.9**
Use of Available Fund Balance	(16.0)	(11.1)	(0.0)	(4.9)	(0.0)
Planned Unspent General Reserve	24.4	0.0	0.6	0.0	23.7
Ending Available Fund Balance, June 30, 2020	**379.3**	**157.2**	**139.3**	**32.3**	**50.5**

Chart 6 displays the Ending Available Fund Balance trend for FY 2016-17 to FY 2019-20. FY 2016-17 and FY 2017-18 reflect the actual ending fund balance for each fiscal year and FY 2018-19 and FY 2019-20 reflect the projected ending fund balance based on the approved budgets.

Chart 6. FY 2016-17 to FY 2019-20 SFPUC Ending Available Fund Balance Trend



Authorized and Funded Full-Time Equivalents (FTEs)

The SFPUC uses a full-time equivalent (FTE) ratio to develop a budget for positions. The FTE ratio is calculated based on an employee working 80 hours per two-week pay period, for a full year. FTEs apply to both operating and project-funded positions.

Table 7 provides a total organization count of FTEs by position and by type: permanent, temporary, project or infrastructure permanent position for FY 2016-17 to FY 2019-20 for the entire SFPUC.

Table 7. SFPUC Authorized and Funded Full-Time Equivalents (FTEs)

Position Type	FY 2016-17 Adopted Budget	FY 2017-18 Adopted Budget	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18	FY 2019-20 vs. FY 2018-19
Permanent Positions	1,591.69	1,604.32	1,602.55	1,615.31	(1.77)	12.76
Temporary Positions	45.27	43.81	73.88	73.47	30.07	(0.41)
Subtotal Operating-Funded	**1,636.96**	**1,648.13**	**1,676.43**	**1,688.78**	**28.30**	**12.35**
Project-Funded	261.74	276.05	297.44	306.35	21.39	8.91
Subtotal	**1,898.70**	**1,924.18**	**1,973.87**	**1,995.13**	**49.69**	**21.26**
Infrastructure Permanent Positions	385.00	385.00	380.00	380.00	(5.00)	-
Total SFPUC	**2,283.70**	**2,309.18**	**2,353.87**	**2,375.13**	**44.69**	**21.26**

As noted above in Table 7, the authorized and funded full-time equivalent (FTE) operating budget, project-funded, and temporary positions for FY 2018-19 are subtotaled at 1,973.87, an increase of 49.69 FTEs from FY 2017-18. The net increase includes an increase of 30.07 in temporary FTE positions and 21.39 in project-funded FTEs offset by a reduction of 1.77 in permanent FTEs.

FY 2018-19 Permanent Positions decreased by 1.77 FTEs, from 1,604.32 in FY 2017-18 to 1,602.55 FTEs in FY 2018-19. The Permanent Positions net decrease includes four new positions for CleanPowerSF to reflect program expansion; reduction of four operating positions in the Water Enterprise, and adjustments to salary savings to adjust for vacancies.

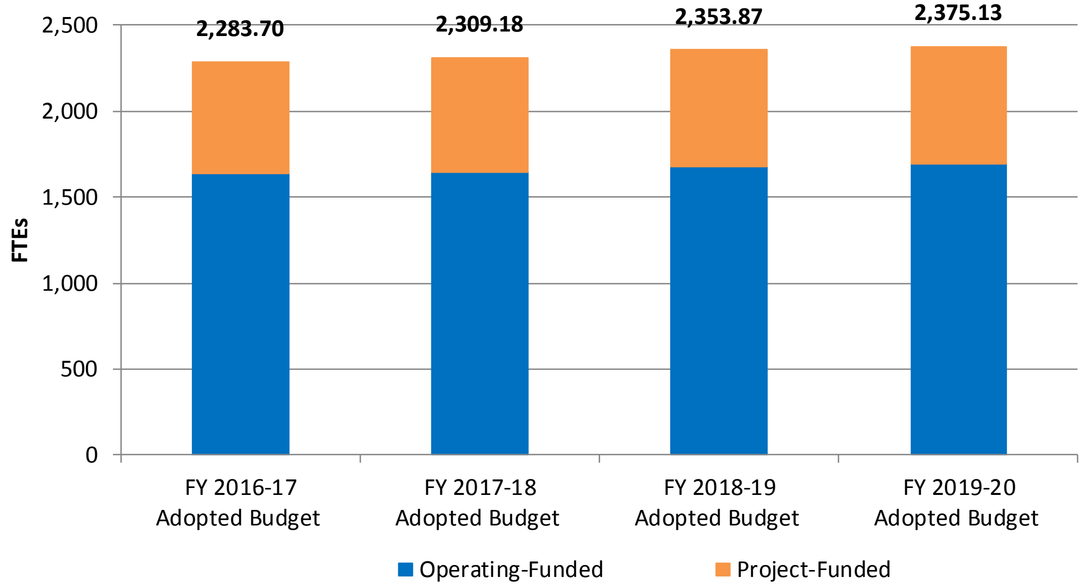
FY 2018-19 Temporary Positions change primarily mostly reflects an increase of 23.23 FTEs in CleanPowerSF to reflect the customer growth plan. Other increases in Hetch Hetchy and Water Enterprise Temporary Positions are offset by a reduction in Wastewater Enterprise to reflect projection in temporary staffing needs for operations and maintenance activities.

FY 2018-19 Project-Funded positions increase includes; annualization of FY 2017-18 new positions in Wastewater Enterprise and Hetch Hetchy, 11 new positions in the Water Enterprise for its capital program, and six new positions in Hetch Hetchy to support information technology and vegetation management activities.

FY 2019-20 FTEs total 1,995.13, an increase of 21.26 FTEs from FY 2018-19. Permanent Positions increase includes the annualization of FY 2018-19 new positions, seven new positions in CleanPowerSF and adjustments to salary savings. Project-Funded positions, increase includes annualization of partially-funded FY 2018-19 new positions. Infrastructure's position count did not change.

Chart 7 illustrates the trend of operating and project-funded FTEs from FY 2016-17 to FY 2019-20.

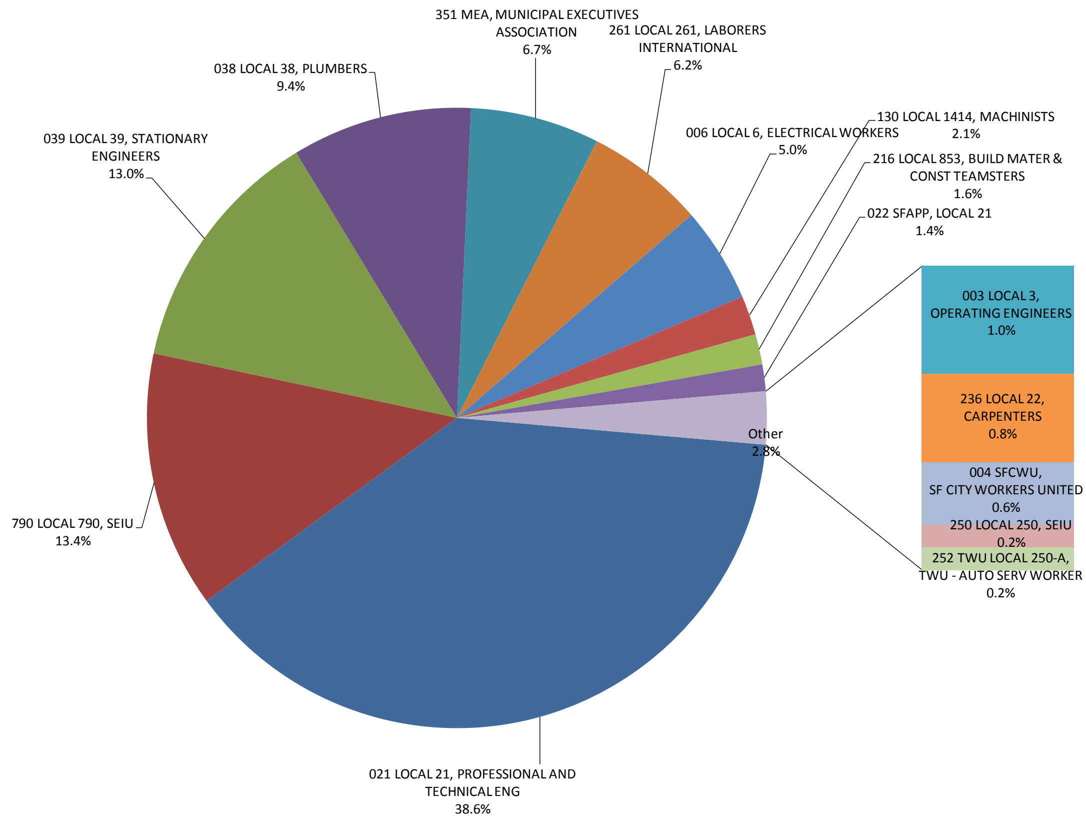
Chart 7. SFPUC Operating and Project FTEs Trend



The breakdown of FTEs by Enterprise and CleanPowerSF can be found in the individual budget sections of this document. Chart 7 shows slight increases in FTEs from FY 2016-17 to FY 2017-18 and slightly higher increases from FY 2018-19 to FY 2019-20 in operating-funded and project-funded FTEs. The increase in operating-funded FTEs is primarily due to permanent and temporary salary FTE increases in CleanPowerSF. The FTE increase in project-funded positions is due to new positions in the Water Enterprise and Hetch Hetchy Water.

Chart 8 shows the percentage of total SFPUC appropriated FTEs represented by various unions for FY 2018-19.

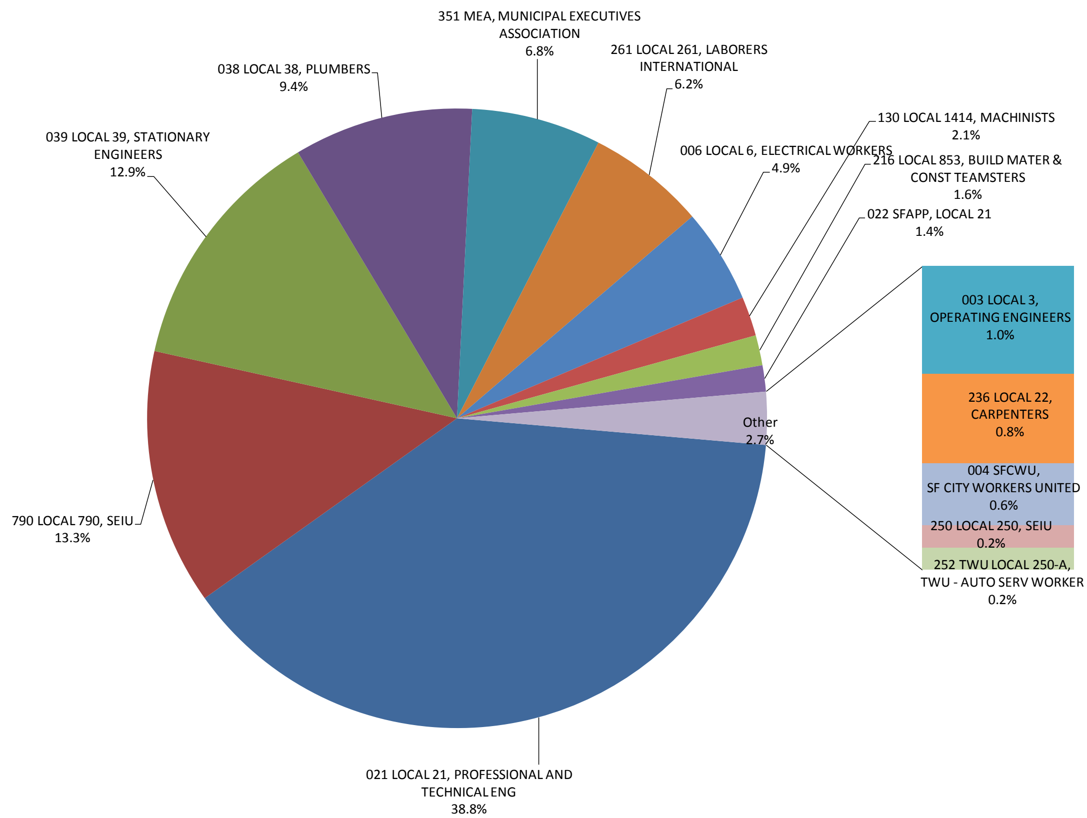
Chart 8. SFPUC FY 2018-19 Percentage of Positions by Union



In FY 2018-19 three unions represent the majority or 65.0 percent of authorized SFPUC positions: 38.6 percent represented by Local 21, Professional and Technical Engineering, 13.4 percent represented by Local 790, Service Employees International Union (SEIU), and 13.0 percent represented by Local 39, Stationary Engineers.

Chart 9 shows the percentage of total SFPUC appropriated FTEs represented by various unions for FY 2019-20.

Chart 9. SFPUC FY 2019-20 Percentage of Positions by Union



In FY 2019-20 three unions represent the majority or 65.0 percent of authorized SFPUC positions: 38.8 percent represented by Local 21, Professional and Technical Engineering, 13.0 percent represented by Local 790, Service Employees International Union (SEIU), and 13.3 percent represented by Local 39, Stationary Engineers. The trend is consistent with FY2018-19 percentage of position by union.

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WATER ENTERPRISE

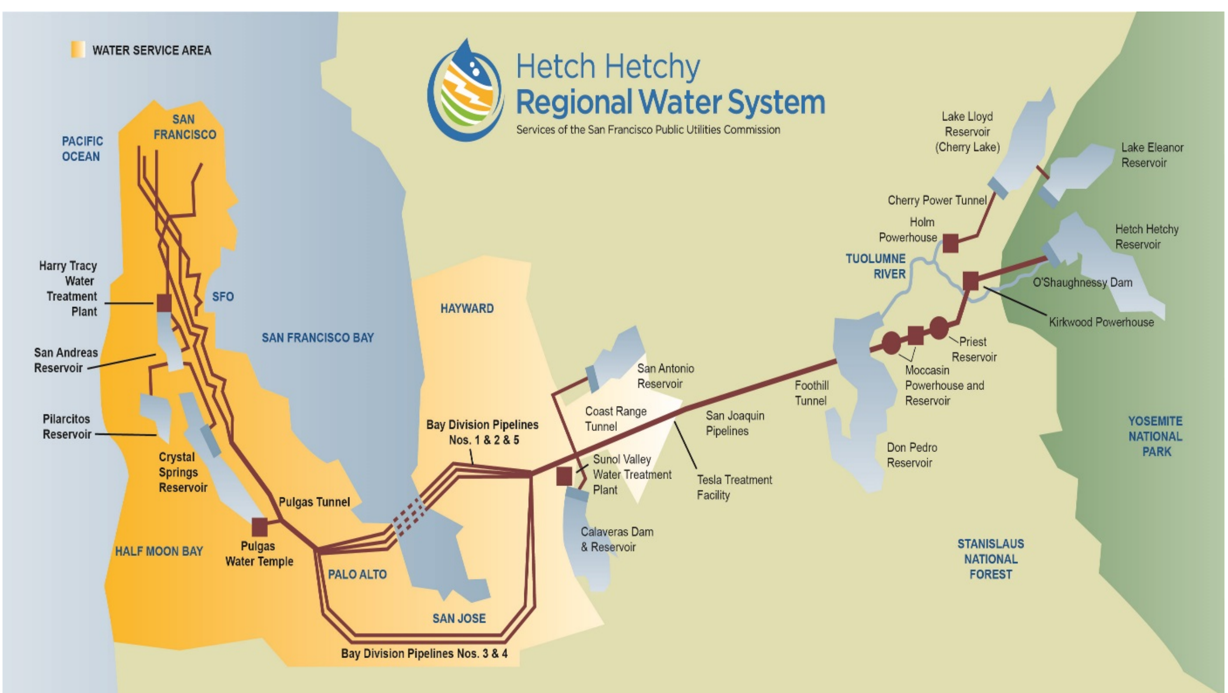
Mission, Roles, and Responsibilities

The San Francisco Public Utilities Commission operates the facilities of its Water Enterprise to optimize the reliability and quality of its water deliveries. The SFPUC is making significant Water Enterprise infrastructure capital investments, designed to maximize the Water Enterprise's ability to deliver water sufficient to meet the needs of its customers following the occurrence of a major seismic event or during an extended period of drought.

The SFPUC serves as the retail water supplier for the City of San Francisco and is responsible for water deliveries to residents and businesses within the City limits, as well as to a number of retail customers outside of the City limits. The SFPUC sells water to 27 Wholesale Customer entities in San Mateo, Alameda and Santa Clara Counties under the Water Supply Agreement (WSA) and related individual contractual agreements. Collectively, except for the Cordilleras Mutual Water Company, the Wholesale Customers are represented by BAWSCA, which is a public agency separate and apart from the 27 Wholesale Customers. Altogether, 2.7 million people rely on water supplied by the Water Enterprise. The Water Enterprise consists of over 389 miles of pipeline, over 74 miles of tunnels, 11 reservoirs, five pump stations, and three water treatment plants located outside of the City (Regional System) and over 1,235 miles of pipeline, 11 reservoirs, eight storage tanks, 24 pump stations, eight hydropneumatic stations and 17 chlorination stations located within the City limits.

The Regional Water System draws approximately 85 percent of its water from the Upper Tuolumne River Watershed, collected in Hetch Hetchy Reservoir in Yosemite National Park, feeding a single aqueduct system, delivering water 167 miles by gravity to Bay Area reservoirs and customers. The remaining 15 percent of our water supply is drawn from local surface waters in the Alameda and Peninsula watersheds. Starting in April 2017, one million gallons a day of groundwater is pumped from the westside of San Francisco and blended with the regional water supplies.

Map of Regional Water System



Budget Summary

Table W1 shows the FY 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table W1 shows budgeted revenues from the Sale of Water increasing from FY 2017-18 to FY 2018-19 by $64.9 million or 13.6 percent resulting from an average 9 percent rate increase. Water revenues from FY 2018-19 to FY 2019-20 reflects a 4.2 percent increase, from an average 8 percent rate increase. Uses of funds for FY 2018-19 are increasing by $68.4 million or 13.6 percent compared to FY 2017-18 due to an increase in debt service, capital/revenue and programmatic project spending. Uses for FY 2019-20 are increasing by $28.5 million or 5.0 percent compared to FY 2018-19. Changes in sources and uses are further discussed in the following sections.

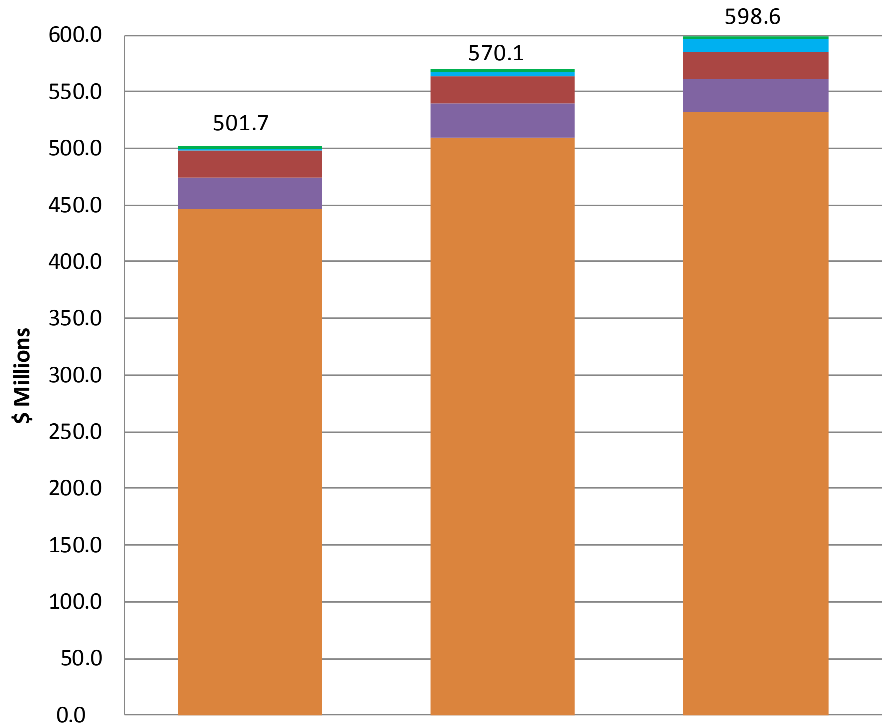
Table W1. Water Enterprise Sources and Uses of Funds

$ Millions						FY 2018-19 vs. FY 2017-18 Adopted Budget		FY 2019-20 vs. FY 2018-19 Adopted Budget	
Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	Amount	%	Amount	%
SOURCES OF FUNDS									
Sale of Water	464.6	478.7	517.1	543.6	566.3	64.9	13.6%	22.7	4.2%
Less Water Costs to Hetchy	(34.6)	(32.6)	(32.6)	(33.6)	(34.6)	(1.0)	3.0%	(1.0)	3.0%
Fund Balance	0.0	1.5	0.0	4.3	11.1	2.9	197.4%	6.8	157.2%
Federal Interest Subsidy	24.1	24.0	24.0	23.9	23.8	(0.1)	-0.4%	(0.2)	-0.7%
Other Non-Op Revenues	30.4	28.3	37.5	29.5	29.8	1.2	4.4%	0.2	0.8%
Interest Income	2.2	1.8	1.8	2.3	2.2	0.5	24.9%	(0.1)	-2.5%
Total Sources of Funds	**486.7**	**501.7**	**547.8**	**570.1**	**598.6**	**68.4**	**13.6%**	**28.5**	**5.0%**
USES OF FUNDS									
Personnel	86.1	93.5	91.1	97.9	99.2	4.3	4.6%	1.4	1.4%
Non-Personnel Services	14.0	16.5	14.7	17.8	18.3	1.3	7.9%	0.5	2.8%
Materials & Supplies	11.9	13.6	13.7	14.0	15.1	0.4	3.2%	1.1	7.5%
Equipment	2.2	3.0	1.3	4.7	4.1	1.7	55.5%	(0.6)	-13.0%
Overhead	41.9	45.7	42.5	46.8	47.5	1.2	2.6%	0.7	1.5%
Debt Service	250.9	254.4	254.4	283.7	306.3	29.3	11.5%	22.6	8.0%
Services Of Other Depts	20.6	21.0	20.9	22.7	23.0	1.6	7.6%	0.4	1.6%
General Reserve	19.1	1.6	57.0	0.0	0.0	(1.6)	-100.0%	0.0	0.0%
Revenue-Funded Capital	16.8	27.8	27.8	51.8	51.8	24.0	86.1%	0.0	0.0%
Programmatic Projects	23.2	24.4	24.4	30.6	33.2	6.2	25.3%	2.6	8.4%
Total Uses of Funds	**486.7**	**501.7**	**547.8**	**570.1**	**598.6**	**68.4**	**13.6%**	**28.5**	**5.0%**

Sources of Funds

Chart W1 shows the FY 2017-18, 2018-19 and FY 2019-20 budgeted Sources of Funds by revenue category. Table W1 shows the FY 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Chart W1. FY 2017-18 to FY 2019-20 Water Enterprise Sources of Funds



	FY 2017-18	% of Total	FY 2018-19	% of Total	FY 2019-20	% of Total
Sale of Water	$ 446.1	88.9%	$ 510.0	89.5%	$ 531.7	88.8%
Other Non-Op Revenues	28.3	5.6%	29.5	5.2%	29.8	5.0%
Federal Interest Subsidy	24.0	4.8%	23.9	4.2%	23.8	4.0%
Fund Balance	1.5	0.3%	4.3	0.8%	11.1	1.9%
Interest Income	1.8	0.4%	2.3	0.4%	2.2	0.4%
Total Sources of Funds	**$ 501.7**	**100.0%**	**$ 570.1**	**100.0%**	**$ 598.6**	**100.0%**

Summary

Estimated revenues for FY 2018-19 from the Sale of Water, Federal Interest Subsidy, Other Non-Operating Interest, Fund Balance and Interest Income are $570.1 million, a $68.4 million or 13.6 percent increase from FY 2017-18. The net increase reflects a $63.9 million increase in net Water Sales due to a 9 percent rate increase, a $2.9 million increase in the use of Fund Balance, a $1.7 million increase in Other Non-Operating Revenue and Interest Income, offset by a $0.1 million decrease in the Federal Interest Subsidy.

Estimated revenues for FY 2019-20 from the Sale of Water, Federal Interest Subsidy, Other Non-Operating Revenues, Fund Balance and Interest Income are $598.6 million, $28.5 million or 5.0 percent increase over FY 2018-19. The net increase reflects a $21.7 million increase in net Water Sales, a $6.8 million increase in the use of Fund Balance and a $0.2 million increase in Other Non-Operating Revenue, offset by a $0.2 million decrease in the Federal Interest Subsidy and a $0.1 million decrease in Interest Income.

Sale of Water

Gross water sales for FY 2018-19 are budgeted at $543.6 million including $510.0 million of direct sales, see Chart W1, and $33.6 million of water transfer sales shown under Hetchy Water, see Hetchy Water and Power, Chart H1. Net water sales revenue is 89.5 percent of total sources of funds. In FY 2019-20 water sales are budgeted at $531.7 million, net of the $34.6 million budgeted under Hetchy Water. Net water sales revenue is 88.8 percent of total sources of funds. Water sales reflect rates adopted by the Commission in May 2018 for retail customer classes, including single-family and multiple-family residential and non-residential customers.

Other Non-Operating Revenues

FY 2018-19 non-operating revenues total $29.5 million, 5.2 percent of total sources, including $12.7 million from property rentals; $5.6 million in other miscellaneous services; $5.1 million for service installations; $4.1 million recovery from Infrastructure, a payment on their share of the cost for the SFPUC Headquarters building costs; and $2.0 million in services from other City departments. The $1.2 million increase from the prior year is primarily services from other City departments. The FY 2019-20 revenues are budgeted at $29.8 million which is 5.0 percent of total sources.

Fund Balance

Use of Fund Balance totals $4.3 million or 0.8 percent of total sources and is appropriated to support the Water Enterprise operating budget for FY 2018-19. In FY 2019-20, fund balance increased by $6.8 million to $11.1 million or 1.9 percent of sources. This planned use of fund balance is associated with the SFPUC Fund Balance Policy and retail customer rate-setting.

Federal Interest Subsidy

The FY 2018-19 budget for Federal Interest Subsidy is $23.9 million or 4.2 percent of total sources. The SFPUC receives a subsidy payment from the Federal Government for a portion of borrowing costs on previously issued taxable bonds. The U.S. Treasury Department is estimated to provide a direct subsidy equal to 32.7 percent (net of sequestration) of the interest payable for bonds issued as Build America Bonds per the American Recovery and Reinvestment Act (ARRA). Sequestration is estimated to be 6.2 percent in FY 2018-19 and represents a reduction to the subsidy payment from the Federal Government. A portion of the Water Enterprise's outstanding bonds qualify under this subsidy program. FY 2019-20 Subsidy is budgeted at $23.8 million, 4.0 percent of total sources.

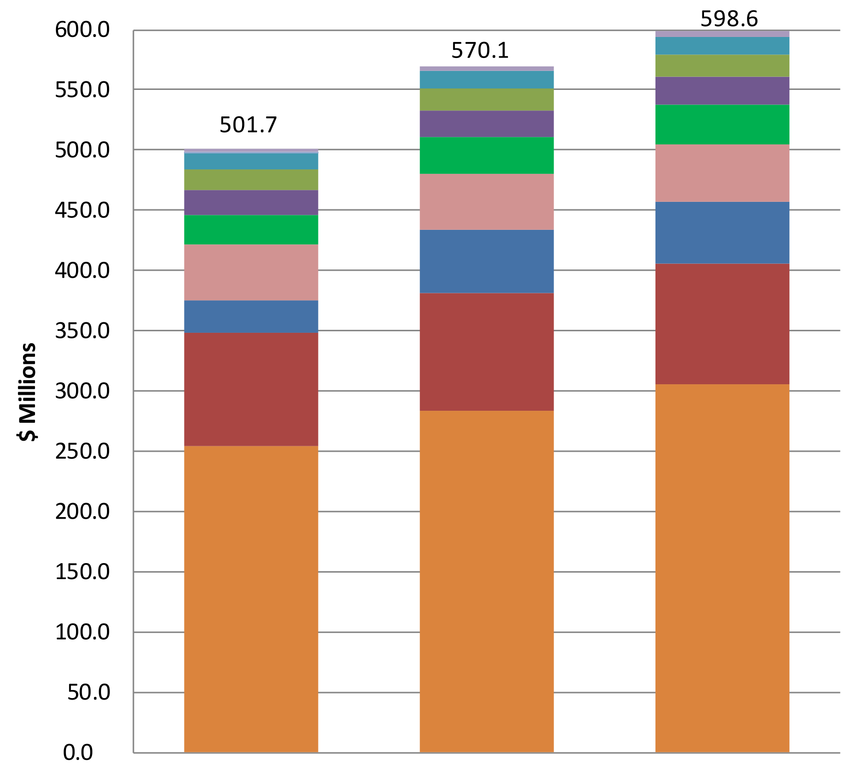
Interest Income

FY 2018-19 Interest Income is budgeted at $2.3 million and is based on the projected cash balance and interest rates on the County Investment Pool. Interest income for FY 2018-19 is projected to be $0.5 million more than the FY 2017-18 budget. The FY 2019-20 interest income is projected to be $2.2 million, a decrease of $0.1 million from FY 2018-19.

Uses of Funds

Chart W2 shows the budgeted Uses of Funds by expenditure category from FY 2017-18 through FY 2019-20. Table W1 (page 74) shows the FY 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Chart W2. FY 2017-18 to FY 2019-20 Water Enterprise Uses of Funds



	FY 2017-18	% of Total	FY 2018-19	% of Total	FY 2019-20	% of Total
Debt Service	$ 254.4	50.7%	$ 283.7	49.8%	$ 306.3	51.2%
Personnel	93.5	18.6%	97.9	17.2%	99.2	16.6%
Revenue-Funded Capital	27.8	5.5%	51.8	9.1%	51.8	8.7%
Overhead	45.7	9.1%	46.8	8.2%	47.5	7.9%
Programmatic Projects	24.4	4.9%	30.6	5.4%	33.2	5.5%
Services Of Other Depts	21.0	4.2%	22.7	4.0%	23.0	3.8%
Non-Personnel Services	16.5	3.3%	17.8	3.1%	18.3	3.1%
Materials & Supplies	13.6	2.7%	14.0	2.5%	15.1	2.5%
Equipment	3.0	0.6%	4.7	0.8%	4.1	0.7%
General Reserve	1.6	0.3%	0.0	0.0%	0.0	0.0%
Total Uses of Funds	**$ 501.7**	**100.0%**	**$ 570.1**	**100.0%**	**$ 598.6**	**100.0%**

Summary

The major increases from FY 2017-18 through FY 2019-20 are in debt service and revenue funded capital spending.

The Enterprise estimated uses for FY 2018-19 total $570.1 million, see Chart W2 and Table W1. This is a $68.4 million increase or 68.4 percent from FY 2017-18. The net increase is mainly due to the increase in debt service and capital/revenue reserve spending.

The FY 2019-20 budget totals $598.6 million, see Chart W2 and Table W1. This is a $28.5 million increase or 5.0 percent from FY 2018-19 mainly due to increased spending in debt service and programmatic projects.

Debt Service

The FY 2018-19 Debt Service is budgeted at $283.7 million based on principal and interest scheduled payments on revenue bonds to finance Water System Improvement Program (WSIP) and other Water Enterprise capital programs as well as the lease payment of the SFPUC's headquarters partially offset by Infrastructure's expense recovery. The budget reflects an increase of approximately $29.3 million, or 11.5 percent, from the FY 2017-18 adopted budget of $254.4 million, the increase is primarily due to increased principal amortization on the Series 1991A, 2009A, 2010D, 2012D, 2015A, 2017D and 2017G revenue bonds.

The FY 2019-20 Debt Service is budgeted at $306.3 million based on principal and interest scheduled payments on revenue bonds to finance Water System Improvement Program (WSIP) and other Water Enterprise capital programs as well as the lease payment of the SFPUC's headquarters partially offset by Infrastructure's expense recovery. The budget reflects an increase of approximately $22.6 million, or 8.0 percent, from the FY 2018-19 adopted budget. The increase is primarily due to increased principal amortization on the Series 2009A, 2009B, 2010A, 2010D, 2010F, 2011B, 2011C, 2012D, 2015A, and 2016B revenue bonds.

Personnel

The FY 2018-19 Personnel budget is $97.9 million, comprised of $67.2 million for salaries and $30.7 million for fringe benefits. The net increase of $4.3 million or 4.6 percent from the FY 2017-18 budget reflects cost of living adjustments required under various labor agreements, as well as increases in retirement and health benefit costs.

The FY 2019-20 Personnel budget is $99.2 million, includes $67.6 million for salaries and $31.6 million for fringe benefits. The net increase of $1.4 million or 1.4 percent from FY 2018-19 budget primarily results from a $0.9 million increase for fringe benefits mainly associated with retirement benefits.

Services of Other Departments

The FY 2018-19 Services of Other Departments budget is $22.7 million, an increase of $1.6 million or 7.6 percent over the FY 2017-18 approved budget. The net increase reflects a $1.2 million increase in general support provided by Public Works Department (DPW), a $0.2 million increase in gas and electricity services, a $0.1 million increase in Worker's Compensation costs, a $0.1 million increase in medical services provided by Health Department, a $0.2 million increase in reproduction and architectural services, offset by $0.1 million reduction in telecommunication services and $0.1 million of general Real Estate services.

The FY 2019-20 Services of Other Departments budget is $23.0 million, an increase of $0.3 million or 1.6 percent over the FY 2018-19 approved budget. The increase reflects increased gas and electricity costs.

Revenue-Funded Capital

The FY 2018-19 Revenue-Funded Capital budget is $51.8 million, which funds the revenue or cash portion of the capital program. The $24.0 million or 86.1 percent increase from FY 2017-18 represents both increased spending as well as shifting to cash funding from debt financing for the local water conveyance and regional long-term monitoring programs.

The FY 2019-20 Revenue-Funded Capital is budgeted at $51.8 million, no change from FY 2018-19.

Programmatic Projects

The FY 2018-19 Programmatic Project budget increased from $24.4 million in FY 2017-18 to $30.6 million. This $6.2 million or 25.3 percent increase supports mitigation and monitoring activities of the regional water supply system including the new groundwater program and watersheds.

The FY 2019-20 Programmatic Project budget increased from $30.6 million in FY 2018-19 to $33.2 million. This $2.6 million, 5.0 percent increase is primarily for the regional water supply system mitigation and monitoring program.

Non-Personnel Services

The FY 2018-19 Non-Personnel Services budget is $17.8 million, a $1.3 million increase or 7.9 percent from the FY 2017-18 approved budget. The net increase mainly reflects a $0.8 million from an increase in new leased property, $0.3 million increase from contractual obligations and $0.2 million increase from the City Grants Program for water conservation fixtures.

The FY 2019-20 Non-Personnel Services budget is $18.3 million, a $0.5 million increase or 2.8 percent from the FY 2018-19 approved budget. The increase reflects a $0.3 million increase in maintenance of equipment and a $0.2 million increase from the City Grants Program.

Material and Supplies

The FY 2018-19 Materials and Supplies budget is $14.0 million, a $0.4 million increase or 3.2 percent from the FY 2017-18 approved budget. The net increase reflects a $0.2 increase in maintenance supplies and $0.2 million from miscellaneous materials and supplies.

The FY 2019-20 Materials and Supplies budget is $15.1 million, a $1.1 million increase or 7.5 percent from the FY 2018-19 approved budget. This reflects an inflationary cost increase to support operations.

General Reserve

The FY 2017-18 General Reserve has been eliminated over the 2-year budget period.

Equipment

The FY 2018-19 Equipment budget is $4.7 million, an increase of $1.7 million or 55.5 percent from the FY 2017-18 budget. The increase is primarily to support the local conveyance system and construction safety.

There is a $0.6 million decrease, or 13 percent in the Equipment budget from FY 2018-19 to FY 2019-20.

Authorized and Funded Full-Time Equivalents (FTEs)

Table W2 shows total full-time equivalents (FTEs) operating budget, project funded, and temporary positions for FY 2016-17 to FY 2019-20.

Table W2. Water Enterprise Authorized and Funded Full-Time Equivalents (FTEs)

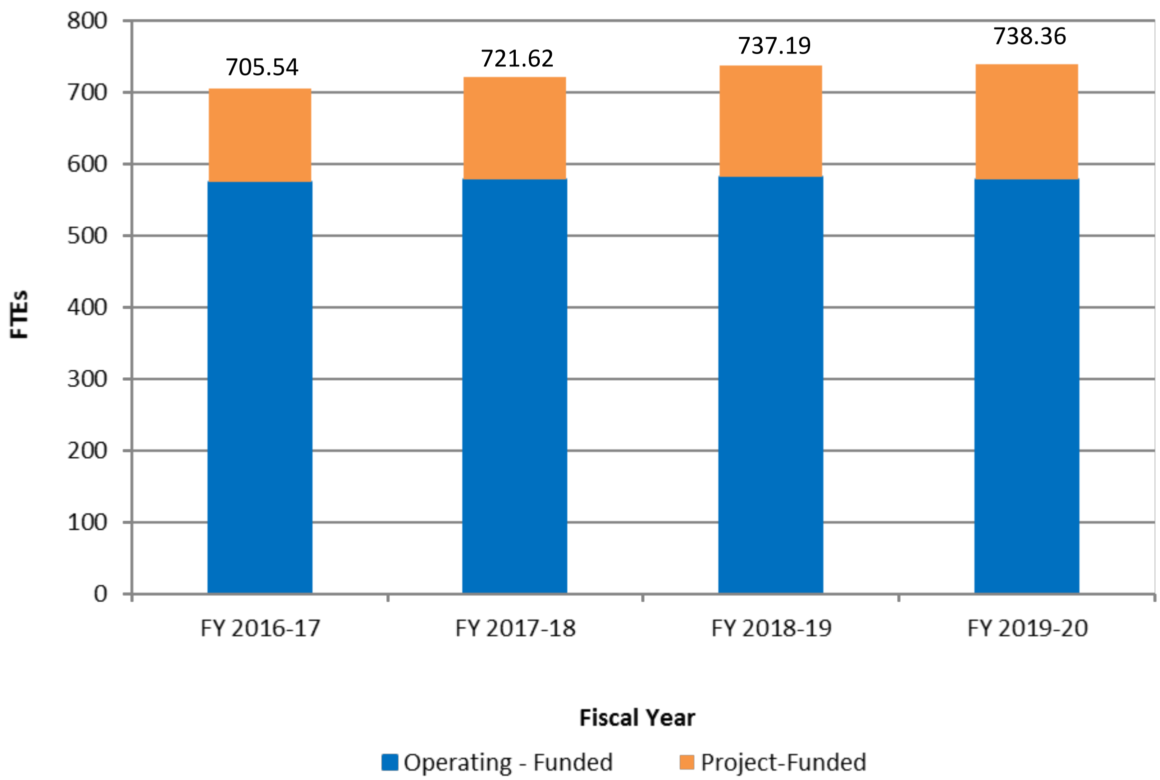
Position Type	FY 2016-17 Adopted Budget	FY 2017-18 Adopted Budget	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18	FY 2019-20 vs. FY 2018-19
Permanent Positions	565.81	569.92	570.05	569.93	0.13	(0.12)
Temporary Positions	9.03	8.69	10.67	7.89	1.98	(2.78)
Subtotal Operating - Funded	**574.84**	**578.61**	**580.72**	**577.82**	**2.11**	**(2.90)**
Project-Funded Positions	130.70	143.01	156.47	160.54	13.46	4.07
Total Positions	**705.54**	**721.62**	**737.19**	**738.36**	**15.57**	**1.17**

As noted in Table W2, the total authorized and funded full-time equivalents (FTEs) operating budget, project-funded and temporary positions for FY 2018-19 is 737.19 FTEs, an increase of 15.57 FTEs from FY 2017-18. The net change reflects: eleven new project-funded positions to support CIP Construction and Coordination, New Development Project support, New Service Connection Process Improvement and Potable Metering; elimination of four long-term vacant positions; three reassignments from the Bureaus; an increase in temporary salaries FTEs; and adjustments for attrition.

The FY 2019-20 FTE count is increased by 1.17 FTEs because of two new project-funded positions supporting Construction Coordination. Other changes include the annualization of eleven project-funded positions approved in FY 2018-19; a decrease in temporary positions; and adjustments for attrition. Chart W3 shows the operating budget and project–funded positions four-year trend.

Chart W3 shows the operating and project-funded positions four-year trend.

Chart W3. Water Enterprise Operating and Project FTEs Trend



Four-Year Approved Rates and Charges

Rates and Charges

San Francisco City Charter Rate Requirements

The City Charter (Sections 8B.125) establishes a number of goals and objectives for the setting of retail water rates. A summary of the major goals and objectives include:

- Provide sufficient revenues for the operation, maintenance and repair of the Enterprise consistent with good utility practice;
- Provide sufficient revenues to improve or maintain financial condition and bond ratings at or above levels equivalent to highly-rated utilities of each Enterprise;
- Meet requirements and covenants under all bond indentures;

- Set rates based on costs of service;
- Investigate and develop capacity fees for new development;
- Investigate and develop rate-based conservation incentives; and
- Investigate and develop affordability programs for low-income customers.

Rate Making Principles

In addition to the City Charter requirements, the SFPUC develops its rates following the below principles. These principles are outlined in the Ratepayer Assurance Policy, which was updated in September 2017. These principles, together with the San Francisco Charter requirements and other legal considerations, provide a basis for evaluating rate alternatives and selecting a preferred rate structure. The principles include:

Revenue Sufficiency. The Commission will aim to establish rates sufficient to cover the full cost of all SFPUC activities.

Environmental Sustainability. The Commission will aim to establish rates in a manner that values environmental sustainability and preserves the natural resources entrusted to the SFPUC's care.

Affordability. The Commission will consider SFPUC service affordability for all its customers. Prudent operating and capital planning ties annual spending to system demand and intergenerational equity, enabling financial engineering and reducing costly emergency expenditures.

Predictability. The Commission will aim to establish rates designed to minimize bill fluctuations, enabling ratepayers to plan ahead for their personal finances.

Simplicity. The Commission will aim to establish rates that are easy for ratepayers to understand.

Appendix C of this document provides more information about the SFPUC Ratepayer Assurance Policy.

SFPUC 2018 Water and Wastewater Cost of Service Study

As required by the City Charter (Sections 8B.125), the SFPUC must complete a cost of service study by an independent consultant at least once every five years. The most recent cost of service study was completed in 2018. The findings and recommendations of the independent cost of service study, entitled *SFPUC 2018 Water and Wastewater Cost of Service Study,* were reviewed and approved by the SFPUC Commission on April 10, 2018. In addition to the rate making principles listed above, the SFPUC has a goal that the average combined water and sewer bill,does not exceed 2.5 percent of the median household income in San Francisco. This affordability index is consistent with the Federal Environmental Protection Agency guideline for utility cost affordability. The 4-year rate package, adopted by the Commission in April 2018, included retail water and wastewater rates for FY 2018-19 through FY 2021-22 as well as water and wastewater capacity charges, connection fees, and miscellaneous charges.

Throughout the rate-setting process, SFPUC staff worked closely with the Rate Fairness Board during the development of rates to follow rate making principles and meet Charter and Commission objectives. During this rate-setting cycle, the Rate Fairness Board met eleven times, between May 2017 and March 2018, to evaluate staff proposals and to assess their impacts on customers. The final rates package adopted by the SFPUC Commission in April 2018 addresses Ratepayer Assurance Policy principles and objectives established by the Commission and reflected priorities contained in the Water Enterprise FY 2018-19 and FY 2019-20 budgets, as approved by the Commission in February 2018.

SFPUC staff also participated in an extensive public outreach program, reaching out to over 400 organizations to describe SFPUC services, explain why rate increases are needed and the impact of the rate increases on monthly bills. Over 50 community presentations were delivered to organizations representing a wide spectrum of community, environmental, business, labor and other interests. Outreach was also made through the SFPUC's website, which includes tools for customers to estimate bill impacts based on their current usage. In compliance with California's Proposition 218 which requires proposed rates be publicized through specific mailings, the proposed rates were mailed more than 45 days prior to the April 10, 2018 hearing to approximately 238,000 ratepayers and property owners; in response, the SFPUC received approximately 194 formal protest letters. Through the rate adoption, the Commission affirmed that the SFPUC met all requirements of the City Charter and Proposition 218.

Adopted Retail Water Rates

The SFPUC's water rate structure consists to two components: 1) a fixed monthly service charge based on meter size and 2) a variable volumetric rate which is based on water volumetric charges derived from metered water usage. Certain costs such as meter reading and customer billing are equal for all customers and are included in the monthly service charge as a fixed cost per account. Other costs such as meter maintenance and replacement are a function of meter size. While also fixed in type, these costs are included in the monthly service charge and are higher for larger metered accounts. Other costs are highly correlated to volume usage and are a part of the variable cost portion of the bill.

Fixed Monthly Service Charges

SFPUC rates include a monthly service charge applicable to all retail classes of service. The Table W3 below reflects the retail fixed monthly service charge based upon meter size.

Volumetric Water Rates

Water volumetric charges are based on metered water usage. The Table W3 reflects water rates per Ccf units (where 1 Ccf or 100 cubic feet equals 748 gallons of water) Residential water rates have two tiers. The second tier is a higher unit rate to reflect the additional costs needed to reliably serve high-volume users.

The overall average annual rate increase adopted for retail water rates in FY 2018-19 is 9%, FY 2019-20 is 8%, and FY 2020-21 and FY 2021-22 is 7%. The SFPUC approved four years of rate increases and Table W3 below shows adopted rate increases through FY 2021-22.

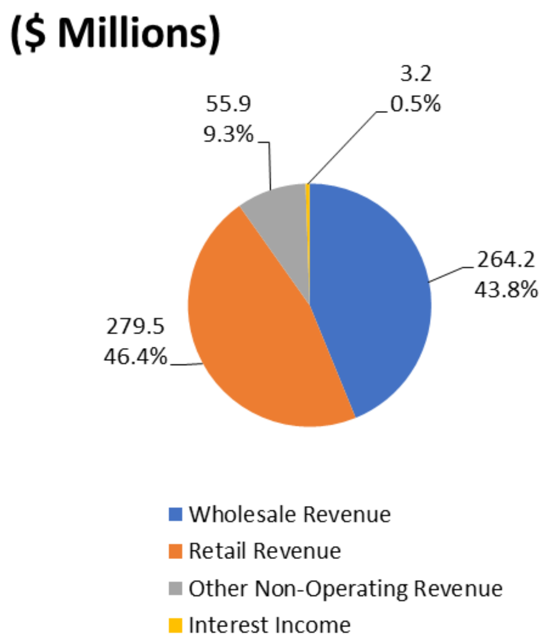
Table W3. 4 Year Rate Schedule Fixed and Volumetric Residential and Commercial

$ Cost Components	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Monthly Service Charge				
5/8 in	12.30	13.28	14.19	15.17
3/4 in	15.76	17.01	18.18	19.43
1 in	22.67	24.47	26.15	27.95
1-1/2 in	39.94	43.12	46.07	49.25
2 in	60.67	65.50	69.98	74.81
3 in	115.95	125.18	133.74	142.97
4 in	178.14	192.32	205.47	219.65
6 in	350.89	378.82	404.72	432.65
8 in	558.19	602.62	643.82	688.25
10 in	869.14	938.32	1,002.47	1,071.65
12 in	1,491.04	1,609.72	1,719.77	1,838.45
16 in	2,596.64	2,803.32	2,994.97	3,201.65
Volumetric Charge				
Single Family Residential				
First 4 Ccf/Month	7.10	7.85	8.68	9.60
All Additional	9.10	9.61	10.15	10.71
Multiple Family Residential				
First 3 Ccf/Month	7.22	7.94	8.73	9.60
All Additional	9.26	9.73	10.23	10.76
Non-Residential - All units of water	8.43	9.14	9.81	10.55
Raw Water - All units of water	0.76	0.82	0.88	0.95

Revenue Sources

The Water Enterprise receives revenues from sales of water to retail customers in San Francisco and suburban areas and to wholesale customers under the terms of a long-term Water Supply Agreement. Interest income earned on the investment of available cash balances and other miscellaneous activities are additional sources of revenue. Chart W4 illustrates the proportion of projected revenues received from each source in FY 2018-2019.

Chart W4. FY 2018-19 Water Enterprise Projected Sources of Revenues



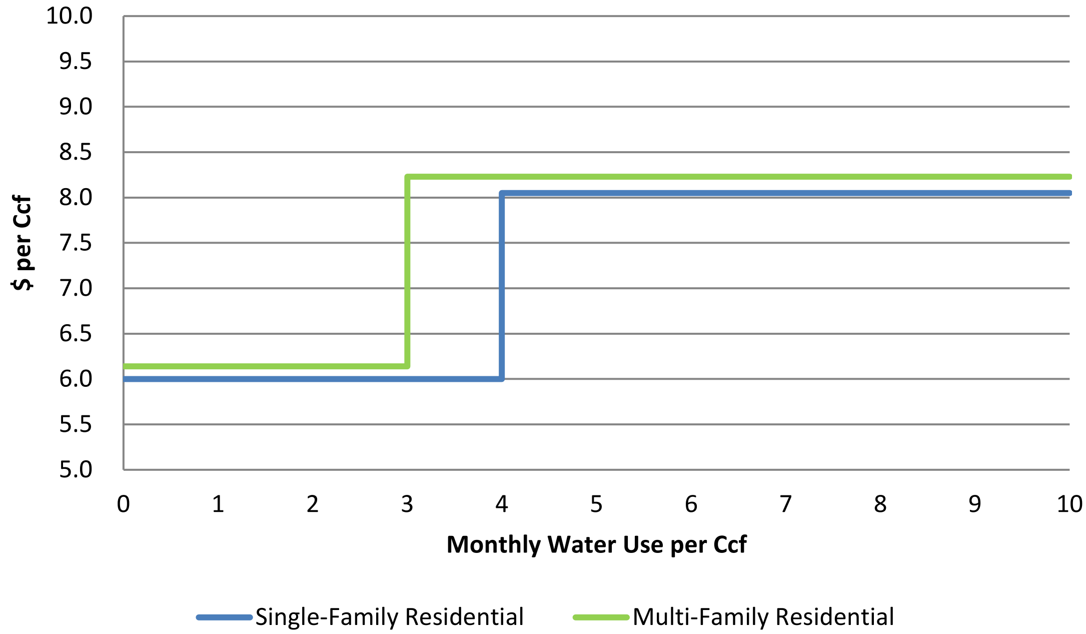
Rates within San Francisco
W-1A Single-Family Residential
W-1B Multiple-Family Residential
W-1C Commerical/Industrial
W-2 Private Fire Service
W-3A Municipal Use
W-4 Docks and Shipping Supply
W-5 Builders and Contractors
Rates outside San Francisco
W-21 Single-Family Residential
W-22 Private Fire Service
W-24 Untreated Water
W-25 Wholesale Use / Contract
W-31 Multiple-Family Residential, Commercial, Industrial, and General Use
W-33 Public Use

Source: SFPUC FY 2018-19 10 Year Financial Plan, Adopted February 2018

Retail Water Sales

In FY 2018-19, retail water sales are projected to be $279.5 million. There are seven rate schedules applicable to retail water sales in San Francisco. Schedule W-1A is applicable to water sales to single-family residential customers and Schedule W-1B is applicable to multiple-family residential customers. Both rate schedules consist of a monthly service charge based on meter size and a two-tier volumetric charge (see Chart W5). For single-family residential customers, the first tier is applicable to the first 4 Ccf of use per month. The second tier is applicable to all additional use. For multiple-family residential customers, the first tier is applicable to the first 3 Ccf of use per month per dwelling unit. The second tier is applicable to all additional use. Schedule W-1C is applicable to commercial, industrial, and other general uses. It includes a monthly service charge based on meter size and a uniform commodity charge. Schedule W-2 is applicable to private fire protection. Schedule W-3A is applicable to public uses and the charges for this rate are identical to Schedule W-1C. Schedule W-4 is applicable to shipping service where water is not provided through a regular service connection. Schedule W-5 is applicable to builders and contractors who receive service from a fire hydrant or other un-metered sources. There are six additional rates applicable to retail water sales outside San Francisco. One of these (W-24 Untreated Water) is available to customers who provide all facilities necessary to take non-potable water directly from reservoirs. Chart W5 shows the Two-Tier Residential Rate Structure.

Chart W5. FY 2018-19 Water Enterprise Two-Tier Residential Rate Structure



The two-tiered residential rate structure is intended to encourage water conservation because the water becomes more expensive as volume use increases. This rate approach is consistent with California Urban Water Conservation Council's Best Practices Memorandum of Understanding and the California Water Conservation Act of 2009.

City Retail Rates

Most customers are billed under schedules W-1A Single-Family, W-1B Multi-Family or W-1C Commercial/Industrial. The schedules include monthly service charges based on meter size and commodity charges applicable to all water use. For FY 2018-19, the monthly service charges have a range based on meter sizes from a five-eighth inch diameter meter to a 16-inch diameter meter (See table W3). As noted in Table W3 and Chart W5, single-family residential customers pay a lower rate for the first 4 Ccf monthly and higher rate for all additional water use.

Multi-family residential customers pay a lower rate for the first 3 Ccf monthly and a higher rate for all additional water use. The block feature for multi- family customers calculates the usage allowance in the first tier by the number of dwelling units. For example, a multi-family account with 5 dwelling units would be billed at tier-1 rate for first 15 Ccf of monthly use (3 Ccf/Dwelling Unit x 5 Dwelling Units).

Although single-family and multi-family residential customers have similar usage characteristics, the differences in the use falling in each tier requires that each class have its own rate in order to recover each class's proportionate share of costs. This is consistent with Proposition 218 passed by voters in 1996 where property-related fees and charges may not exceed the cost required to provide the property-related service. The higher charge for tier-2 water reflects the higher cost associated with the SFPUC's seasonal peak wherein summer use is higher than winter use. In addition to tying back to cost of service, tiered rates provide a conservation incentive and promote affordability by charging a lower rate for the first tier of use.

Non-residential customers pay a uniform volumetric rate as specified in Table W3. Because of the different usage characteristics exhibited by non-residential customers, particularly with respect to the quantity of water used.

In addition to the general use rates, there are rates applicable to private fire service (Schedule W-2), to public uses (Schedules W-3A), to docks and shipping (Schedule W-4), and to builders and contractors (Schedule W-5). In FY 2018-19, each of these schedules has monthly service charges and volumetric rates that differ from those shown on

Schedule W-1C, with exception of private fire service which continues to charge Schedule W-1C for applicable volumetric use.

Suburban Retail Rates

There are four rate schedules applicable to suburban retail water service. Schedule W-21 is a general use rate applicable to residential use. Schedule W-31 is applicable to commercial, industrial and other general uses. Schedule W-22 is applicable to private fire protection. Schedule W-24 is applicable to non-potable water service. Suburban areas covered by retail water services include Alameda, Santa Clara and San Mateo counties.

Wholesale Water Sales

The Water Enterprise also provides wholesale water service to 27 wholesale customers, which consist of 24 municipalities and water districts, one private utility, one non-profit university and one mutual water association located in Alameda, Santa Clara and San Mateo counties. Total projected wholesale revenues in FY 2018-19 are $264.2 million, and $264.9 million in FY 2019-20.

The SFPUC provides water service to wholesale customers as described by the 25-year Water Supply Agreement (WSA) effective July 1, 2009. Wholesale customers pay a proportionate share of regional system operating expenses, debt service on bonds sold to finance regional improvements, and other regional system improvements funded from current revenues.

The wholesale rate structure consists of a monthly service charge based on meter size and type and a uniform volume charge, see Table W4. The volume charge portion of the wholesale rate represents approximately 98% of total wholesale revenues received by the Water Enterprise. Consequently, estimating water sales volumes is a key component in the rate-setting process. Projected sales based on historical averages and demand studies have been used for calculating revenues under existing rates, allocating costs, and determining the required rate adjustment percentage. For FY 2018-19, there was no change in the monthly service charges applicable to wholesale water sales and no change in the volume charge mainly due to revenue overcollection in the prior year. The WSA requires the rate be calculated and set annually and include a “true-up” between prior-year revenues and expenses. Table W4 shows the approved wholesale water rates.

Table W4. FY 2018-19 Approved Wholesale Water Rates

$ Monthly Service Charge	Approved Rates Disc/Compound Meters	Crest Meters	Magnetic Meters	Turbine Meters
5/8 in	$ 11			
3/4 in	18			
1 in	30			
1-1/2 in	43			
2 in	79			
3 in	158			
4 in	318	$ 353		$ 577
6 in	476	685		1,256
8 in	635	1,335	$ 2,265	1,875
10 in	793	1,732		3,391
12 in	953	1,840	5,159	
16 in	1,270	5,628		7,215
18 in		6,133		
20 in		6,349		
Volume Charge Ccf	4.10			

Interest Income and Other Income

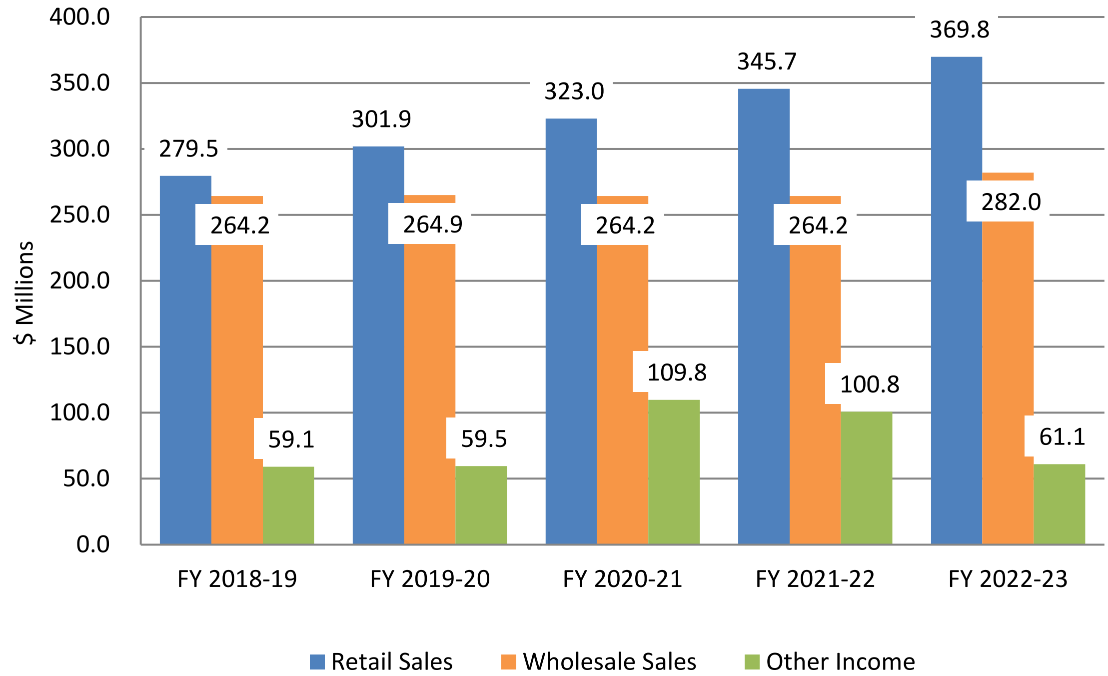
The Water Enterprise earns interest income from the investment of available funds. Interest income on unrestricted cash assets may be used to meet any purpose of the Enterprise, whereas earnings associated with restricted assets have spending restrictions. Interest income earned from the investment of monies in restricted funds such as bond reserves may only be used for that fund and are not available to meet day-to-day operating expenses. In the FY 2018-19 budget, it is anticipated that investment income earned from unrestricted funds will be $2.3 million. This projection is based on an estimated investment yields made by the City Treasurer and projected cash balances.

The Water Enterprise derives additional income from rents and permit fees for secondary uses of its watershed lands and pipeline right-of-way. The Water Enterprise has long-term leases that allow portions of its Peninsula watersheds to be used for golf courses and for land adjacent to our Sunol Headquarters to be mined for gravel. Typical uses of pipeline rights-of-way are parking and landscaping for adjoining properties. The Water Enterprise receives other income from custom work, reimbursements for service installations and meter relocations done at the customer's request, miscellaneous service charges and other fees. The income from interest income and other income are projected to total these uses is projected to be $59.1 million in FY 2018-2019 and are projected to average $78.1 million annually through FY 2022-23.

Total Sources

Estimates of revenues under existing rates are based on an analysis of the number of customers and the corresponding water volumes used by those customers. Chart W6 shows projected revenues with the approved rate increases through FY 2021-22. Over the five years from FY 2018-19 to FY 2022-23, income from retail sales and other income increases by $92.4 million, while revenue from wholesale water increases by $17.8 million. The total increase in income over the five-year period is estimated to be $110 million.

Chart W6. Water Enterprise Revenues by Source, FY 2018-19 through FY 2022-23



Source: SFPUC FY 2018-2019 10 Year Financial Plan, Adopted February 2018

Miscellaneous Fees and Charges

In addition to rates for water service, the Water Enterprise also imposes a variety of fees and charges related to the provision of water service (see Table W5). These fees and charges include new account fees, late payment penalties, service and meter relocation charges and so forth. The cost for each service has been reviewed and adjustments to miscellaneous fees and charges have been made in FY 2018-19 in accordance with the rate study. Table W5 provides a summary of miscellaneous billing and customer service fees and charges. A comprehensive list of all miscellaneous fees and charges can be found at www.sfwater.org/rates.

Table W5. FY 2018-19 Miscellaneous Service Fees

Service Fee	Current Charge as of 07/01/2018
Late Payment Penalty	0.5% per 30 days (or fraction thereof) on the amount owed
Return Check Charge	$50
Pending Shutoff Notice	$50
Broken Lock Penalty	$20
Meter Test	$374
Lien Fee	Set by Administrative Code
Manual Meter-Reading Fee	$20 per month
Lead Test Fee	$25 per sample

The Water Enterprise charges for service and meter relocations and for changes in meter size made at the customer's request. Services include meter testing, shut-offs, turn-ons and manual meter readings.

Capacity Charges

The SFPUC imposes a capacity charge on any retail customer requesting a new connection to the water distribution system or requiring additional capacity as a result of any addition, improvement, modification or change in use of an existing connection to the water distribution system. The capacity charge as of July 1, 2018, is $1,821 per equivalent 5/8-inch meter. The capacity charge is adjusted on July 1 of each year by the annual change in the 20 City Average Construction Cost Index published by ENR Magazine. Capacity charge revenues are dependent upon economic growth and development and are used to support renewal and replacement capital projects as funds are available, consequently capacity charges are not a source of funds in the Water Enterprise operating budget.

Summary of Projected Expenses

The Water Enterprise's annual operating budget includes operation and maintenance costs, debt service on revenue bonds used to finance capital improvements, and repair and replacement costs funded from current revenues. It is critical to understand the current budget and projected expenditures to ensure the cost of service will be covered by future revenues. Chart W7 shows projected expenses for FY 2018-19 through FY 2022-23.

Operation and Maintenance Expenses

Operation and maintenance expenses include personnel costs, material and supplies, power and energy, and services of the other City Departments including SFPUC Bureaus. The projected operating and maintenance costs to operate the water system in FY 2018-19 is $237 million. The operation and maintenance expense forecast assumes that WSIP projects start-up and integration into the water system will not materially increase costs. The forecast assumes there will be no changes in regulations or operating procedures that could impact operating expenses.

Debt Service & Lease Payments

Debt service includes principal and interest payments on senior lien revenue bonds used to finance water system improvements. In addition to debt service payments on existing long-term debt, the Water Enterprise utilizes its $500 million commercial paper program (CP) to meet interim expenditure and encumbrance needs relating to various capital projects. The Water Enterprise has $25 million and $15 million of taxable and tax-exempt Commercial Paper Notes outstanding, respectively, as of June 30, 2018, secured and payable from Net Revenues on a subordinate basis to the payment of debt service on revenue bonds. Table W6 shows Water Enterprise's Outstanding Parity Revenue Bonds as of June 30, 2018.

Table W6. Outstanding Water Enterprise Parity Revenue Bonds

$ Thousands Series	Original Par	Outstanding Par: 06-30-18
1991 A	70,145	7,100
2006 A	507,815	-
2006 B Refunding	110,065	-
2006 C Refunding	48,730	-
2009 A	412,000	16,885
2009 B	412,000	14,910
2010 AB	474,665	399,225
2010 C	14,040	-
2010 D Refunding	31,365	21,915
2010 D New Money	71,360	41,820
2010 E New Money	344,200	344,200
2010 F	180,960	27,100
2010 G	351,470	351,470
2011A	602,715	322,480
2011B	28,975	18,315
2011C	33,595	19,475
2011D Refunding	55,465	19,135
2012A	591,610	459,455
2012B	16,520	16,520
2012C Refunding	93,750	78,035
2012D Refunding	24,040	24,040
2015A Refunding	429,600	429,600
2016A Refunding	763,005	763,005
2016B Refunding	130,815	110,880
2016C	259,350	253,885
2017A	121,140	121,140
2017B	147,725	147,725
2017C	70,675	70,675
2017D	350,305	350,305
2017E	48,890	48,890
2017F	8,705	8,705
2017G	34,280	34,280
Total Outstanding		**4,521,170**

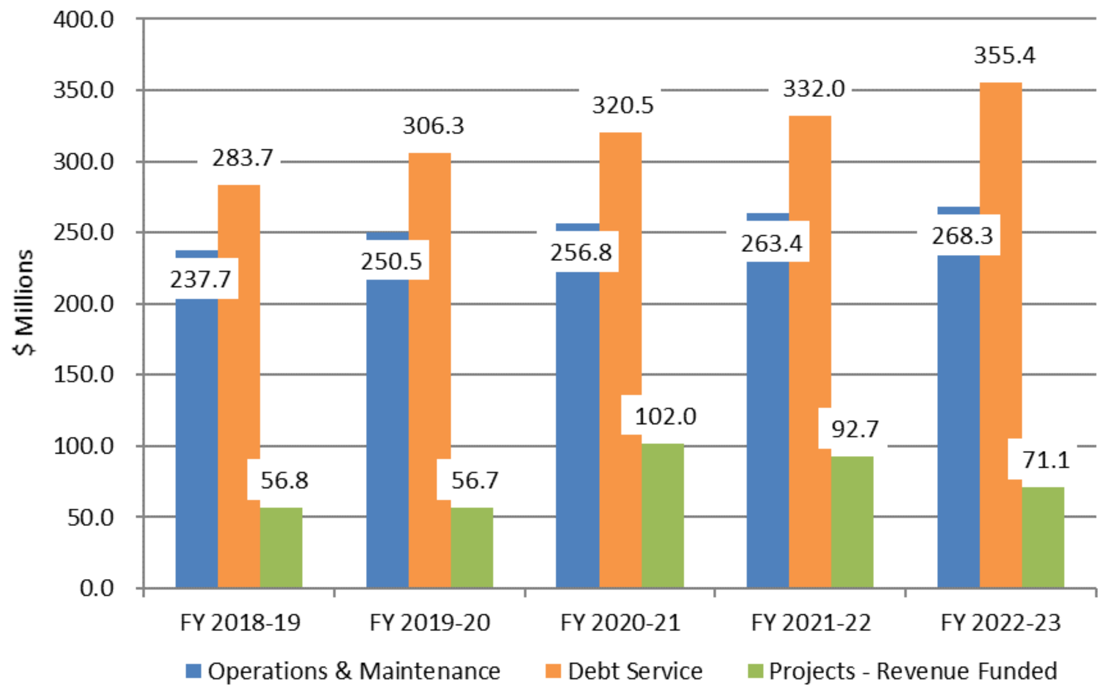
Future debt funding needs to support the remainder of WSIP as well as other projects in the Water Capital Improvement Plan total approximately $764 million for FY 2018-19 through FY 2022-23. The repayment of principal and interest on these future debt issues has been incorporated into the Commission's approved rates through FY 2021-22 as well as projected rates through FY 2027-28.

Revenue-Funded Capital

Revenue-funded capital expenditures may include minor construction projects, major maintenance and rehabilitation projects, planning studies, and preliminary engineering analysis for major capital improvements. The projected funding averages $75.8 million per year over the next five years; see Chart W7.

Summary of Projected Expenses

Chart W7. Water Enterprise Budgeted and Projected Operating Expenses FY 2018-19 to FY 2022-23



Source: SFPUC FY 2018-19 10 Year Financial Plan, Adopted February 2018

Over the five years FY 2018-19 through FY 2022-23, debt service and operations & maintenance costs are the enterprise's major expenses. Operations & maintenance expenses are projected to increase 12.9 percent over the five-year projection period and debt service costs are projected to increase 25.3 percent over the same projection period. Overall, total expenses are projected to increase 19.7 percent from FY 2018-19 through FY 2022-23 reflecting increased debt service for bonds issued to fund water capital improvements as well as increased operations as a result of integrating new or upgraded facilities into existing ones.

Revenue Requirement

The annual expenditures for operation and maintenance, debt service and revenue-funded capital make up the Water Enterprise's revenue requirement. However, to determine the revenue requirement for rate purposes, the income derived from interest, rents and other miscellaneous sources are deducted from the total revenue requirement. Operating surpluses from prior years can be included in the calculation of net revenue requirement. The net revenue requirement represents the amount to be recovered through water sales revenues.

To develop the projected retail cost responsibility, the projected wholesale revenue requirement (WRR) and other operating and non-operating revenues are deducted from total expenditures. The WRR represents the wholesale water customers' proportionate share of operation and maintenance expense, debt service, and annual appropriations for revenue-funded capital improvements. The wholesale revenue requirement has been calculated based on projected expenditures and in accordance with the adopted Water Supply Agreement. Finally, the application of available fund balance, if any, is deducted from the retail revenue requirement. The available fund balance, if adequate, can be used to offset any funding shortfall assigned to retail customers in lieu of raising rates.

Water Enterprise Capital Improvement Program (CIP)

The Water Enterprise of the San Francisco Public Utilities Commission is responsible for the distribution of high quality water to San Francisco and Bay Area Customers. The Enterprise operates and maintains facilities listed in Table W7.

Table W7. Facilities Maintained by the Water Enterprise

	Regional Water System	In-City Distribution System
Pipelines	389 miles	1,235 miles
Tunnels	74 miles	None
Pump Stations	5	24
Reservoirs	11	11
Treatment Plants	3	None
Water Tanks	None	8

The Water Distribution System consists of three Regional Water Systems: the Hetch Hetchy System; the Regional Water System (East Bay), Regional Water System (Peninsula/West Bay) and the Local Water distribution which includes an In-City Distribution System.

- **Hetch Hetchy System:** Water is diverted from Hetch Hetchy Reservoir into a series of tunnels and aqueducts from the Sierra Nevada to the San Joaquin Pipelines that cross the San Joaquin Valley to the Coast Range Tunnel which connects to the Alameda system at the Alameda East Portal.
- **Regional Water System (East Bay):** This includes two reservoirs, San Antonio Reservoir and Calaveras Reservoir, which collect water from the upper Alameda and San Antonio Creek watersheds in Alameda County plus conveyance facilities connecting the Hetch Hetchy System and Alameda water sources to the Peninsula System. These conveyance facilities include pipelines known as the Alameda Siphons that connect the Coast Range Tunnel to the Irvington Tunnel.
- **Regional Water System (Peninsula/West Bay):** This includes conveyance facilities connecting the Bay Division Pipelines to the In-City Distribution System and to other SFPUC customers on the Peninsula. Three reservoirs, Crystal Springs, San Andreas, and Pilarcitos collect runoff from the San Mateo Creek and Pilarcitos watersheds. Water from these reservoirs serves all wholesale customers, including the Coastwide County Water District.
- **In-City Distribution System:** The City's retail water supply is delivered to the City in several major pipelines. Two pipelines provide water to the eastside of the In-City Distribution System and three pipelines serve the west side of the In-City Distribution System. The "In-City Distribution System" delivers water to homes and businesses in the City. Several major pipelines convey water from the Peninsula System to the City. The San Francisco Groundwater Supply Project blends waters pumped from the Westside Basin Aquifer with Hetchy Regional System water stored in the Sunset and Sutro reservoirs in San Francisco; this blended water is delivered within the City.

Water Enterprise Ten-Year Capital Plan

The adopted capital plan estimates for the Water Enterprise total approximately $1.7 billion over the next ten years. These investments, divided between regional and local needs, are shown on Table W8. Identified capital needs will be financed with a combination of water revenue bonds and Water Enterprise revenues along with general obligation bonds for the Auxiliary Water System. Project timelines may be adjusted to match available funding. The table also shows the estimated number of jobs per year that this ten-year program is projected to create.

Table W8. Water Enterprise Ten-Year Capital Plan

$ Thousands Program/Project	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-28	Plan Total
Spending Plan							
Regional Costs							
Water Treatment Program	15,314	14,533	105,538	2,014	1,914	10,036	149,349
Water Transmission Program	39,965	45,055	42,345	11,640	12,440	160,158	311,603
Water Supply & Storage Program	15,382	7,050	20,032	44,580	41,530	87,727	216,301
Watersheds & Land Management	11,076	12,521	5,119	4,924	4,457	14,911	53,008
Communication & Monitoring Program	950	500	500	500	500	3,580	6,530
Buildings and Grounds Programs	35,586	33,545	8,104	2,713	2,737	11,573	94,258
WSIP Augmentation - Regional	62,000	0	0	0	0	0	62,000
Regional Total	**180,273**	**113,204**	**181,638**	**66,371**	**63,578**	**287,985**	**893,049**
Local Costs							
Water Conveyance /Distribution System	63,568	68,177	68,095	68,920	70,412	314,300	653,472
Buildings & Grounds Improvements	2,701	200	1,000	13,000	26,000	0	42,901
Systems Monitoring & Control	200	209	218	228	239	1,363	2,457
Local Tanks/ Reservoir Improvements	10,175	3,175	2,300	200	0	0	15,850
Pump Station Improvements	932	2,250	17,500	600	0	0	21,282
Recycled Water Projects- Westside/Other	6,500	500	700	0	0	0	7,700
Local Total	**84,076**	**74,511**	**89,813**	**82,949**	**96,650**	**315,663**	**743,662**
Auxiliary Water System	0	0	50,000	40,000	0	0	90,000
Total Regional & Local	**264,349**	**187,715**	**321,451**	**189,320**	**160,228**	**603,648**	**1,726,711**
Sources							
Water Revenue	51,804	51,804	47,055	47,584	62,909	392,817	653,973
Water Bonds	210,778	134,400	272,842	140,216	95,799	203,047	1,057,082
General Obligation Bonds	0	0	50,000	40,000	0	15,062	105,062
Capacity Fee	1,767	1,511	1,554	1,520	1,520	7,784	15,656
Total	**264,349**	**187,715**	**321,451**	**189,320**	**160,228**	**603,648**	**1,726,711**
Total San Francisco Jobs/Year	2,358	1,674	2,867	1,689	1,429	5,385	15,402

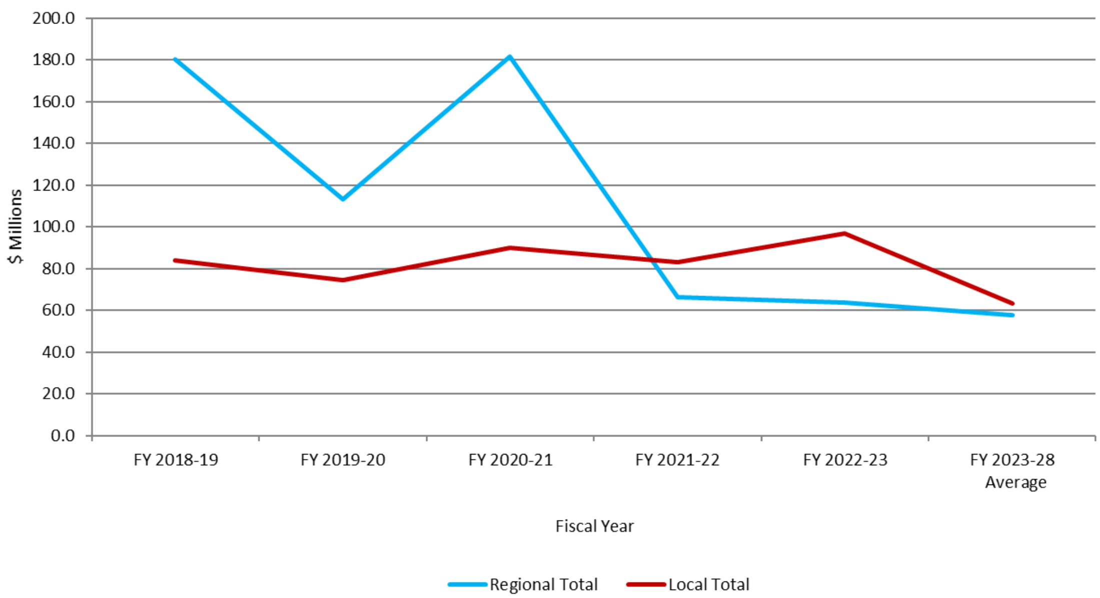
The SFPUC is required by City Charter to develop an annual Ten-Year Capital Plan. Reliability of water supply and delivery of high quality water are the most critical objectives of the Water Enterprise. The purpose of the capital investment is to extend the useful life of the infrastructure and provide continued reliable operation of the system components. Therefore, understanding the long-term capital needs of the system and determining how to finance these capital needs are essential to the mission of the SFPUC.

The Ten-Year Capital Plan is updated every year by SFPUC staff and approved by the Commission. The Ten-Year Capital Plan informs and guides managers, policy makers, elected officials and the public by providing the proposed long-term capital program, projects and investment. The Ten-Year Capital Plan also guides the development of the Ten-Year Financial Plan and associated rate implications of the planned capital spending. The Ten-Year Capital Plan guides the biennial capital budget development. As the budget process progresses through the Spring and final adoption in the Summer, the updated Capital Improvement Programs (CIPs) are revised forming the biennial capital budget. Consequently, even though the annual CIPs are based on the Ten-Year Capital Plan, they do not always match by project or dollar amount.

The Ten-Year Capital Plan is a plan that guides long-term decision making and development of the biennial capital budgets. The Ten-Year Capital Plan is updated each year by the SFPUC and approved by the Commission. The plan helps inform and guide managers, policy makers, elected officials and the public by providing the proposed long-term capital program and guides the Ten-Year Financial Plan and the retail rate analysis completed every four years. As the budget process progresses through the Spring and into final adoption in the Summer, the annual CIPs can be revised forming the biennial capital budget. Consequently, even though the annual capital budgets are based on the Ten-Year Capital Plan, they do not always match by project or dollar amount.

Table W8 and Chart W8 show that regional spending will decline over the next several years from $180.3 million in FY 2018-19 to an average of $57.6 million per fiscal year in the final five years of the Ten-Year Plan. Local Water improvement costs over the same five-year period, FY 2023 to FY2028, average $63.1 million per year. Chart W8 shows the Water Enterprise's capital budget trend over ten years.

Chart W8. Water Enterprise Ten-Year Capital Plan Trend



SFPUC's Water Enterprise uses the annual updates to the Ten-Year Capital Plan to ensure projects and investments are in place to safeguard adopted levels of service are maintained. To update the Ten-Year Capital Plan, the Water Enterprise relies on the latest information including asset condition assessments, master plan updates, review of levels of service objectives, and financial data (revenue requirement, project expenditures and cash flow).

Regional Water

As shown in Table W8, the Regional Water Ten-Year Capital Plan is $893.0 million for the following projects:

Regional Water Treatment Program, $149.3 million

This program includes major upgrades to the Sunol Valley and Harry Tracy Water Treatment Plants. Projects are identified through condition assessments, operation staff review, level of service and feasibility studies and alternative analysis at each plant. Projects include upgrades of chemical dosage, flow monitoring, valve and pump replacement and chemical handling upgrades. New projects include installation of ozone generators and power activate carbine units to address long term taste and odor issues at the Sunol Valley Plant.

Regional Water Transmission Program, $311.6 million

This program will provide upgrades to the Transmission System including pipeline inspection and repairs, valve replacements, metering upgrades, corrosion protection to extend the useful life of the pipelines, pump station upgrades and vault upgrades.

As part of the pipeline improvement program, funding is included to monitor, strengthen and replace older pipeline to achieve higher level performance and reliability. Also included is funding to replace or slip line up to 10 miles of pipeline in densely populated areas.

Regional Water Supply & Storage Program, $216.3 million

This program includes upgrades to structures to meet State Division of Safety of Dams requirements including geotechnical work and installation of monitoring systems, and regional desalination project. The automated data acquisition system, part of the monitoring system, will provide timely, accurate data related to inspections at various dams.

The program also includes the Daly City Recycled Water Expansion Project providing 3.4 MGD recycled water to customers of the Regional Water System to help offset groundwater pumping in the Westside Basin.

Regional Watersheds & Land Management, $53.0 million

This program supports projects that improve and/or protect the water quality and/or ecological resources impacted by the siting and operation of the SFPUC facilities. Projects include the repair, replacement, maintenance, or construction of roads, fences, or trails, the acquisition of easements and/or fee title of properties, (within the Pilarcitos Creek, San Mateo Creek, or Alameda Creek watersheds), and other ecosystem restoration or public access, recreation, and education projects.

The Long-Term Monitoring and Permit Program provides resources to comply with terms and conditions in state and federal permits associated with construction and operation and maintenance of the PUC Water System.

Regional Communications & Monitoring Program, $6.5 million

This project will provide much needed redundant emergency communication capability and increased bandwidth for security data transfer. Specifically, the development of a microwave backbone to link the entire SFPUC Regional water system from the Hetch Hetchy Dam site in Yosemite to the rest of the SFPUC sites (San Francisco, San Mateo, Santa Clara and Alameda counties).

Regional Buildings & Grounds Programs, $94.3 million

The program provides funding for major improvements to the Sunol and Millbrae Yards.

Sunol Yard improvements include replacement structures with LEED Facilities for maintenance shops and equipment storage, new fueling center and administration building, re-surfacing of yard, and demolition of six dilapidated structures. The project includes funding for the Sunol Watershed Center that includes exhibits, classrooms, event gathering space, outdoor picnic and play areas, trails and gardens representing the watershed.

Millbrae Yard improvements include a new administration building to consolidate the Water and Wastewater laboratory, maintenance shop, and equipment storage, demolition of large unused abandoned building, new parking lot, and new vehicle wash site. The upgrades address occupational safety, reliability and functional regulatory compliance.

Regional WSIP Augmentation, $62.0 million

Funding additional Water System Improvement Program (WSIP) work at the Regional Groundwater, Alameda Creek and Calaveras Dam projects and the WSIP close out project

Local Water

As shown in Table W8, the Local Water Ten-Year Capital Plan is $743.7 million for the following projects:

Local Water Conveyance / Distribution System, $653.5 million

Includes funding to install, replace and renew distribution system pipelines and service connections for the 1,230 miles of drinking water mains in San Francisco and meet customer level of service goals for uninterrupted service. The increased investment is needed to improve annual replacement rate to 15 miles per year to minimize main breaks.

Improvements include replacement, rehabilitation, re-lining, and cathodic protection of all pipe categories to extend or renew pipeline useful life.

Additional projects include the Sunset Pipeline/Potable Auxiliary Water Supply System (AWSS), Automated Water Meter Program, New Services Connection Program and Town of Sunol Pipeline projects.

Local Buildings & Grounds Improvements, $42.9 million

This provides funding for capital improvements at City Distribution Division (CDD) facilities and structures. Projects include a new fueling station, yard improvements to address health and safety issues and security, a comprehensive arc flash and electrical hazard study and construction of a seismically reliable building for CDD's communications and control systems.

Additional funding is included for full replacement of the Newcome Yard facilities to address, life safety standards for seismic events, building code requirements and facilities that are past useful life.

System Monitoring and Control, $2.5 million

This project provides improvements to facilities that control and monitor San Francisco's water distribution system. Facilities include enhancements to the System Control and Data Acquisition (SCADA) for remote monitoring of pressure, flow, and valve position status at key locations throughout the distribution system. This program will also fund installation of fiber optic communications to critical facilities and security installations not completed under WSIP.

Local Tanks/Reservoir Improvements, $15.9 million

Provides long-term funding for renewal and rehabilitation of water storage reservoirs and tanks, within the San Francisco Distribution System. Projects included seismic upgrades to the College Hill Reservoir Outlet, Merced Manor concrete wall and roof reinforcements and Lombard Reservoir geotechnical improvements to stabilize the northeast slope of the reservoir to mitigate potential failure during major rain events.

Local Pump Station Improvements, $21.3 million

Project provides long term funding for renewal and rehabilitation of the water pump stations and hydro-pneumatic tanks that boost water pressure within the distribution system. The plan also includes funding to rebuild the McLaren Park pump station.

San Francisco Westside Recycled Water Project, $7.7 million

This project includes all facilities to generate and deliver 2 MGD of recycled water for irrigation use in the western end of San Francisco. The project includes a new recycled water treatment facility consisting of membrane filtration, reverse osmosis, and ultraviolet light disinfection; a 1.1-million-gallon storage reservoir; distribution pumping facilities; and 5 to 6 miles of new pipelines.

Auxiliary Water Supply System (AWSS)

The AWSS is an auxiliary water supply for firefighting. The water that is stored and supplied is not intended for consumption and so a user fee is not assessed. The funding for this program is from City and County of San Francisco's General Fund. The 2010 Earthquake Safety and Emergency Response (ESER) bond approved by voters, provided the initial funding for repairs to the AWSS to increase the earthquake safety response capacity of the Fire Department following a major earthquake and during multiple-alarm fires from other causes.

In June 2014, San Francisco voters approved Proposition A – the Earthquake Safety and Emergency Response Bond 2014 (ESER 2014) for $400 million. ESER 2014 will pay for repairs that will allow San Francisco to quickly respond to a major earthquake or disaster and it included $51.4 million for the AWSS.

The AWSS capital plan includes $90.0 million for the retrofit, improvements or replacement of existing firefighting pipes and tunnels, construct new or retrofit existing cisterns, and improve and seismically upgrade two pump stations, two storage tanks, and the primary reservoir. The project will be funded through the issuance of City of San Francisco General Obligation Bonds.

FY 2018-19 and FY 2019-20 Capital Budget

Table W9 shows the Water Enterprise's capital budget for FY 2017-18, FY 2018-19 and FY 2019-20 by major programs. The capital budget includes continuing capital investments for the Regional and Local Programs/Project along with nonrecurring capital expenditures for the WSIP Augmentation Projects in FY 2018-19 at $62.0 million and the San Francisco Westside Recycle Water Project in FY 2018-19 at $6.5 million and in FY 2019-20 at $0.5 million. The Regional Program shows a shifting of funds from the WSIP to the annual Renewal and Replacement programs such as the Water Transmission which increases from $21.6 million in FY 2017-18 to $40.0 million and $45.1 million in FY 2018-19 and FY 2019-20 respectively. In the Local Costs Program/Project the major investment continues to be for the Local Water Conveyance and Distribution System.

The majority of the capital budget is funded from Water Bonds, (FY 2018-19 $222.7 million, FY 2019-20 $153.6 million) Table W9 below shows revenue funding increasing to $51.8 million in both FY 2018-19 and FY 2019-20 as compared to the $27.8 million in FY 2017-18. The SFPUC will fund a major portion of the local water conveyance/distribution system program with water revenues and represents a funding shift from debt funding for local projects. This is consistent with SFPUC Capital Financing Policy targeting 15 to 30 percent of total capital plans funded with revenues. See Capital Financing Policy, Appendix H.

Table W9. Water Enterprise Capital Budget by Major Program

$ Millions Program/Project	FY 2017-18 Adopted Budget	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget
Regional Costs			
Water Treatment Program	3.9	15.3	14.5
Water Transmission Program	21.6	40.0	45.1
Water Supply & Storage Program	6.9	15.4	7.1
Watersheds & Land Management	2.0	11.1	12.5
Communication & Monitoring Program	1.0	1.0	0.5
Buildings and Grounds Programs	6.2	35.6	33.5
WSIP Augmentation - Regional	27.0	62.0	0.0
Regional Total	**68.6**	**180.3**	**113.2**
Local Costs			
Local Water Conveyance /Distribution System	57.1	63.6	68.2
Buildings & Grounds Improvements	1.0	2.7	0.2
Systems Monitoring & Control	0.5	0.2	0.2
Local tanks/Reservoir Improvements	2.0	10.2	3.2
Pump Station Improvements	0.0	0.9	2.3
Westside Recycled Water Projects/Other	6.5	6.5	0.5
Local Total	**67.1**	**84.1**	**74.5**
Financing Cost	13.6	27.8	19.2
Total Regional & Local	**149.3**	**292.2**	**206.9**
Sources			
Water Revenue	27.8	51.8	51.8
Water Bonds	120.5	222.7	153.6
Water Bonds - Reallocation	0.0	16.0	0.0
Capacity Fee	1.0	1.8	1.5
Total Sources	**149.3**	**292.2**	**206.9**

The capital budget includes Regional and Local Water Enterprise projects along with nonrecurring capital expenditures for the WSIP Augmentation Project and the San Francisco Westside Recycle Water Project. The capital budget for FY 2018-19 and FY 2019-20 totals $499.1 million.

FY 2018-19

As shown in Table W9, the FY 2018-19 Water Enterprise CIP of $292.2 million, which included financing costs, increased $142.9 million from the FY 2017-18 approved CIP of $149.3 million.

In FY 2019-20, the annual CIP is $206.9 million, a decrease of $85.3 million from FY 2018-19.

Major projects in the Water Enterprise FY 2018-19 CIP include:

Regional Water Projects

Renewal and Replacement Projects (Recurring)

- $15.3 million for Water Treatment Program including and major improvements to the Sunol Valley Water Treatment Plant (SVWTP) and Harry Tracy Water Treatment Plant (HTWTP) to achieve a higher level of performance and reliability and the SVWTP new Ozone and Power activated Carbon Units Projects.

- $40.0 million for the Water Transmission Program including pipeline inspections, seismic monitoring, vault upgrades, metering upgrades, pump station upgrades and corrosion control protection projects. Increased funding to $22.3 million for the Pipeline Improvement Program has been added to fund various projects in the Regional Water system.
- $15.4 million for Water Supply & Storage Program supporting additional geotechnical monitoring and analysis for structural upgrades at various dam locations and funding for the Purified Water Project to identify opportunities for direct and indirect potable water use and repairs to the Merced Manor reservoir roof structure.
- $11.1 million for Watersheds & Land Management which supports capital projects that improve and/or protect the water quality and/or ecological resources impacted by the operations of the SFPUC water system. Projects include the repair, replacement and maintenance of roads, fences, or trails and the acquisition of easements or properties to meet these purposes.
- $0.5 million for Communication & Monitoring Program including developing a microwave radio communication system to link the SFPUC Regional water system from the Hetch Hetchy Dam in Yosemite to other SPUC sites (San Francisco, San Mateo, Santa Clara and Alameda counties) and ongoing upgrades to the water supply security infrastructure.
- $35.6 million for Buildings & Grounds Programs for the Sunol and Millbrae Yards including replacement structures for maintenance shops and equipment storage, new fueling center and administration building, re-surfacing of yard, and demolition of dilapidated structures. The work addresses occupational safety, reliability and functional regulatory compliance. Includes funding for the Sunol Watershed Center providing exhibits, classrooms, event gathering space, outdoor picnic and play areas, trails and gardens representing the watershed.

Capital Enhancements – (Non-recurring)

- $62.0 million funding additional Water System Improvement Program (WSIP) work at the Regional Groundwater, Alameda Creek and Calaveras Dam projects and the WSIP close out projects.

Local Water Projects

Renewal and Replacement Projects – (Recurring)

- $63.6 million for the Local Water Conveyance and Distribution program to fund the management of all linear assets in the local water distribution system. Project to install, replace, and renew pipelines and service connections for the 1,230-mile drinking water distribution system in San Francisco with the goal of replacing 15 miles per year to minimize main breaks and meet customer level of service goals for uninterrupted service. Includes funding for new Sunset Potable and Town of Sunol Pipeline Projects.
- $2.7 million for Local Buildings & Grounds Improvements to fund capital improvements at all City Distribution Division (CDD) facilities and structures including replacing the current fueling station, yard improvements and a comprehensive arc flash and electrical hazard study of the electrical distribution systems.
- $0.2 million for System Monitoring and Control including improvements to the System Control and Data Acquisition (SCADA) for remote monitoring of pressure, flow, and valve position status at key locations throughout the distribution system and security system upgrades to improve safety and reliability.
- $10.2 million for Local Tanks/Reservoir provides long-term funding for renewal and rehabilitation of water storage reservoirs and tanks including funds to rebuild McLaren Park pump station

- $0.9 million Pump Stations Improvements provides long-term funding for renewal and rehabilitation of major water pump stations and hydronuematic tanks that boost pressure to the San Francisco Distribution System.

Capital Enhancements – Non-recurring

- $6.5 million San Francisco Westside Recycled Water Project which includes all facilities to generate and deliver 2 MGD of recycled water for irrigation use in the western end of San Francisco. The project includes a new recycled water treatment facility consisting of membrane filtration, reverse osmosis, and ultraviolet light disinfection; a 1.1-million-gallon storage reservoir; distribution pumping facilities; and 5 to 6 miles of new pipelines.

Included in the FY 2018-19 budget is $27.8 million of financing costs.

FY 2019-20

As shown on Table W9, the Water Enterprise FY 2019-20 Capital Budget totals $206.9 million: $66.7 million for Regional Water Treatment, Transmission, and Supply and Storage Program projects, $12.5 million for Watershed/Rights-of-Way Management, $0.5 million for Communication and Monitoring Programs and $33.5 million for Buildings and Grounds Programs.

The Local Water budget includes $68.2 million for water conveyance/distribution, $0.2 million for buildings and grounds improvements, $0.2 million for System Monitoring and Control, $3.2 million for water storage facilities, $2.3 million for pump station improvements and $0.5 million for San Francisco Westside Recycled Water Project.

Included in the FY 2019-20 budget is $19.2 million of financing costs.

Water Programmatic Projects

Table W10 shows the Water Enterprise Programmatic Projects, for FY 2017-18, FY 2018-19, and FY 2019-20, by major programs. Programmatic projects are annually appropriated projects in support of routine maintenance of programs most of which were initiated in support of the capital program. These programmatic projects include monitoring, mitigation, watershed protection, community benefits, and the Water Enterprise share of lease payment and operation of the SFPUC headquarters at 525 Golden Gate Avenue.

Table W10. Water Enterprise Programmatic Projects

$ Millions Program/Project	FY 2017-18 Adopted Budget	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget
Regional Costs			
Natural Resource Planning	0.5	0.0	0.0
WSIP-Related Mitigation & Monitoring	3.1	6.6	11.2
Watershed Structures	0.0	1.2	1.2
Water Resource Planning and Development	0.0	0.3	0.3
Watershed Protection	0.7	0.6	0.5
Total Regional	**4.3**	**8.7**	**13.2**
Local Costs			
Landscape Conservation Program	1.5	2.0	2.0
AWSS Maintenance	1.5	0.5	0.5
Community Benefits-Water	0.7	2.0	1.0
Treasure Island Facilities Maintenance	1.2	1.3	1.3
Youth Employment Program	1.3	1.3	1.3
Retrofit Grant Program	0.6	1.1	0.6
525 Golden Gate - Operations and Maintenance	3.7	5.3	4.1
525 Golden Gate - Lease Payment	9.2	9.2	9.2
Total Local	**19.7**	**22.6**	**20.0**
Total Regional & Local	**24.0**	**31.3**	**33.2**
Sources			
Infrastructure - Recovery Capital	3.7	4.1	3.8
Federal Bond Interest Subsidy	1.9	2.0	2.0
Water Enterprise Revenue	18.4	25.2	27.5
Total Sources	**24.0**	**31.3**	**33.2**

FY 2018-19

The Water Enterprise Programmatic Project budget increased from $24.0 million in FY 2017-18 to $31.3 million in FY 2018-19. This increase is a largely a result of the addition of the costs for the WSIP related mitigation and monitoring mandates in compliance with state and federal permits and an increase to the operations and maintenance costs of SFPUC's headquarters at 525 Golden Gate Avenue.

FY 2019-20

The Water Enterprise Programmatic Project budget increased in FY 2019-20 due to additional funding need for the WSIP mitigation and monitoring programs.

Water Enterprise Ten-Year Financial Plan

Table W11 shows the Water Enterprise Ten-Year Financial Plan, from FY 2018-19 to FY 2027-28

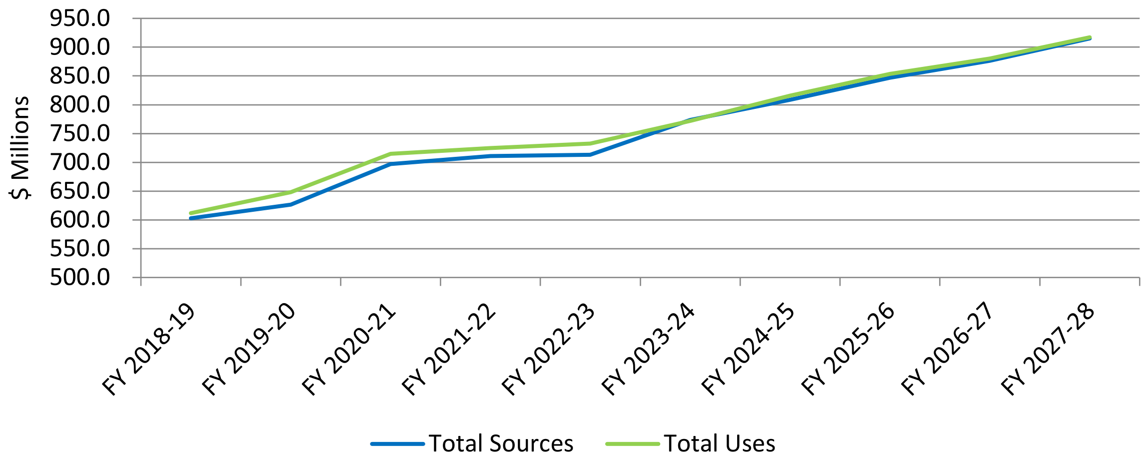
Table W11. Water Enterprise Ten-Year Financial Plan

$ Millions	FY 2017-18 Forecast	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	FY 2027-28
Beginning Operating Fund Balance	**174.2**	**223.9**	**222.9**	**202.5**	**188.3**	**175.4**	**157.7**	**162.6**	**157.0**	**153.4**	**152.1**
Sources											
Retail Water Sales	256.5	279.5	301.9	323.0	345.7	369.8	395.7	415.5	436.3	453.7	471.9
Wholesale Share of Operating Costs	109.0	109.3	111.9	112.9	113.0	117.7	129.1	135.1	138.6	142.6	146.0
Wholesale Share of Capital & Debt	155.2	154.9	153.0	151.3	151.3	164.3	187.3	195.7	209.9	217.4	234.0
Wholesale Water Sales	264.2	264.2	264.9	264.2	264.2	282.0	316.4	330.8	348.5	359.9	380.0
Other Miscellaneous Income	96.2	59.1	59.5	109.8	100.8	61.1	61.6	62.1	62.3	62.9	63.3
Total Sources	**616.9**	**602.9**	**626.3**	**697.1**	**710.7**	**712.9**	**773.8**	**808.4**	**847.1**	**876.6**	**915.2**
Uses											
Operations & Maintenance	219.5	237.7	250.5	256.8	263.4	268.3	276.2	285.7	293.8	302.0	310.4
Hetchy Transfer	32.6	33.6	34.6	35.6	36.7	37.8	38.9	40.1	41.3	42.5	43.8
Debt Service	256.0	283.7	306.3	320.5	332.0	355.4	383.7	399.9	422.1	439.0	451.2
Projects - Revenue Funded	59.0	56.8	56.7	102.0	92.7	71.1	72.9	90.1	96.3	96.4	111.8
Total Uses	**567.1**	**611.7**	**648.0**	**715.0**	**724.8**	**732.5**	**771.7**	**815.9**	**853.5**	**880.0**	**917.1**
Net Revenues	**49.7**	**(8.9)**	**(21.7)**	**(17.9)**	**(14.1)**	**(19.6)**	**2.0**	**(7.5)**	**(6.3)**	**(3.4)**	**(2.0)**
Ending Fund Balance	**223.9**	**215.0**	**201.2**	**184.6**	**174.2**	**155.8**	**159.7**	**155.1**	**150.6**	**150.0**	**150.2**
Revenue Requirement Impact (Retail)	**7.0%**	**9.0%**	**8.0%**	**7.0%**	**7.0%**	**7.0%**	**7.0%**	**5.0%**	**5.0%**	**4.0%**	**4.0%**
Revenue Requirement Impact (Wholesale)	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**7.6%**	**12.5%**	**4.2%**	**5.4%**	**3.1%**	**5.7%**
Fund Balance as % of Expenses	**89%**	**82%**	**71%**	**64%**	**58%**	**52%**	**52%**	**48%**	**46%**	**44%**	**43%**
Debt Service Coverage (Current)	**1.33**	**1.18**	**1.13**	**1.12**	**1.13**	**1.15**	**1.20**	**1.21**	**1.22**	**1.22**	**1.25**
Debt Service Coverage (Indenture)	**2.00**	**1.97**	**1.85**	**1.75**	**1.69**	**1.65**	**1.62**	**1.62**	**1.59**	**1.57**	**1.59**
Revenue-Funded % of Capital	**35%**										

**SFPUC FY 2018-2019 10 Year Financial Plan, Adopted February 2018*

Chart W9 provides the Ten-year Financial Plan trend of sources and uses through FY 2027-28

Chart W9. Water Enterprise Ten-Year Financial Plan Sources & Uses Trend



Source: SFPUC FY 2018-2019 10 Year Financial Plan, Adopted February 2018

The SFPUC's Water Enterprise Ten-Year Financial Plan as required by City and County of San Francisco Charter Section 8B.123, includes a ten-year financial summary (FY 2018-19 through FY 2027-28) describing projected sources and uses, resulting fund balances and associated financial reserve ratios. This planning document supports the development of the Ten-Year Capital Plan, water rates and the biennial budget. The revenue and cost estimates should be viewed as indications of expected trends given certain expenditure, receipt, and financing assumptions. These assumptions are based on current Board of Supervisors' and Commission policies, goals, and objectives representing management's best estimates.

Rates and Charges

In April 2018, the Commission approved average retail water rate changes of 9.0 percent for FY 2018-19, 8 percent for FY 2019-20 and 7 percent for FY 2020-21 and FY 2021-22. Projected average annual retail water rates are 5.3 percent through the end of the projection period. Wholesale water rates are managed through a 25-year Water Supply Agreement (WSA), with no rate increase in FY 2018-19 and no rate increase projected through FY 2021-22 and then average annual rate increases of 6.4 percent annually through the end of the projection period. Wholesale rates are adjusted annually, with no rate changes due to revenue overcollection from increased water sales. These rate changes are necessary to continue funding vital capital improvements along with providing additional resources to the annual Repair and Replacement program.

Sources of Funds

The Water Enterprise provides water to 2.7 million people in San Francisco, Santa Clara, Alameda and San Mateo counties. Water Enterprise customers are grouped into retail and wholesale service categories. The retail customer category is further divided into in-city and suburban customers. Customers within each sub-category are then grouped into revenue classes based on their service characteristics. The wholesale customer category consists of only one revenue class – wholesale resale with long-term contract. Total sources are projected to grow from $602.9 million in FY 2018-19 to $915.2 million by FY 2027-28.

- Retail water sales revenues are projected to increase from $279.5 million in FY 2018-19 to $471.9 million over the ten-year period. This increase assumes zero growth in annual consumption with population growth being offset by conservation and other water saving measures.

- Wholesale customers' water sales, representing about forty percent of the Enterprise revenues and two-thirds of water deliveries, are forecasted to increase from revenues from $264.2 million in FY 2018-19, to $380 million over the ten-year period. This increase assumes no growth in water consumption.
- Other income includes interest income on fund balances along with rents and miscellaneous income. These revenues are assumed to average approximately at $70.2 million over the ten years and are mainly derived from interest earnings on fund balances, rents and permit fees for secondary uses of its watershed lands and pipeline rights-of-way.

Uses of Funds

In the absence of more specific forecast data, the Ten-Year Financial Plan includes a general 3.0 percent annual growth assumption for operations and maintenance costs.

The annual operating budget includes operation and maintenance costs, debt service on revenue bonds used to finance capital improvements, and repair and replacement costs funded from current revenues. Debt Service in FY 2018-19 is the largest component of the Water Enterprise's expenses at 46.4 percent and is projected to increase to 49 percent of expenditures at the end of the ten-year period. Total expenditures are projected to increase from $611.7 million in FY 2018-19 to $917.1 million by FY 2027-28.

- Operations and Maintenance costs include salaries and fringe benefits, material and supplies, power and energy, and services of the other City departments including SFPUC Bureaus. The cost of operating the water system in FY 2018-19 is projected to be $237.7 million; increasing to $310.4 million by FY 2027-28. As projects in the WSIP are completed and placed into service, we project no increase to operation and maintenance expenses associated with the new facilities beyond the forecast shown in this report of 3.0 percent annual growth assumption. In addition, the forecast assumes there will be no changes in regulations or operating procedures that could impact operating expenses.
- Debt Service costs includes principal and interest payments on revenue bonds used to finance system improvements. Future debt service cost projections assume the issuance of new debt to fund WSIP and non-WSIP Water Enterprise capital projects. The plan reflects debt service costs increasing from $283.7 million in FY 2018-19 to $451.2 million by FY 2027-28. The actual timing and size of bond sales may vary depending on construction timing.
- Revenue-Funded Capital Project spending is projected to average $84.7 million annually over the ten-year projection period. Projects include minor construction projects, major maintenance and rehabilitation projects, planning studies, and preliminary engineering analysis for major capital improvements.

Debt Financing of Capital Needs

The Capital and Financial Plans assume significant debt financing of capital needs over the next ten-year period. The WSIP, approximately 96% complete as of June 30, 2018, will require $4.845 billion in total financing for the program, authorized by the voters under Propositions A and E in November 2002.

The Plan assumes a financing strategy that utilizes short-term financing via the existing Commercial Paper (CP) program to calibrate financing needs with project spending. Long-term (30-year) 5 percent fixed rate debt issuance is assumed to periodically refund the CP program. The CP program facilitates short-term financing typically at lower interest rates than longer term debt, which minimizes costs. The authorized CP program for the Water Enterprise is $500.0 million. As of June 30, 2018, the Enterprise had $40.3 million in commercial paper notes outstanding and $4.626 billion of water revenue bonds have been issued to finance the $4.787 billion WSIP and other Water Enterprise capital improvements, exclusive of any loan agreements. The remaining capital financing for WSIP will occur periodically through the scheduled completion of the program in 2021.

Financial Ratios

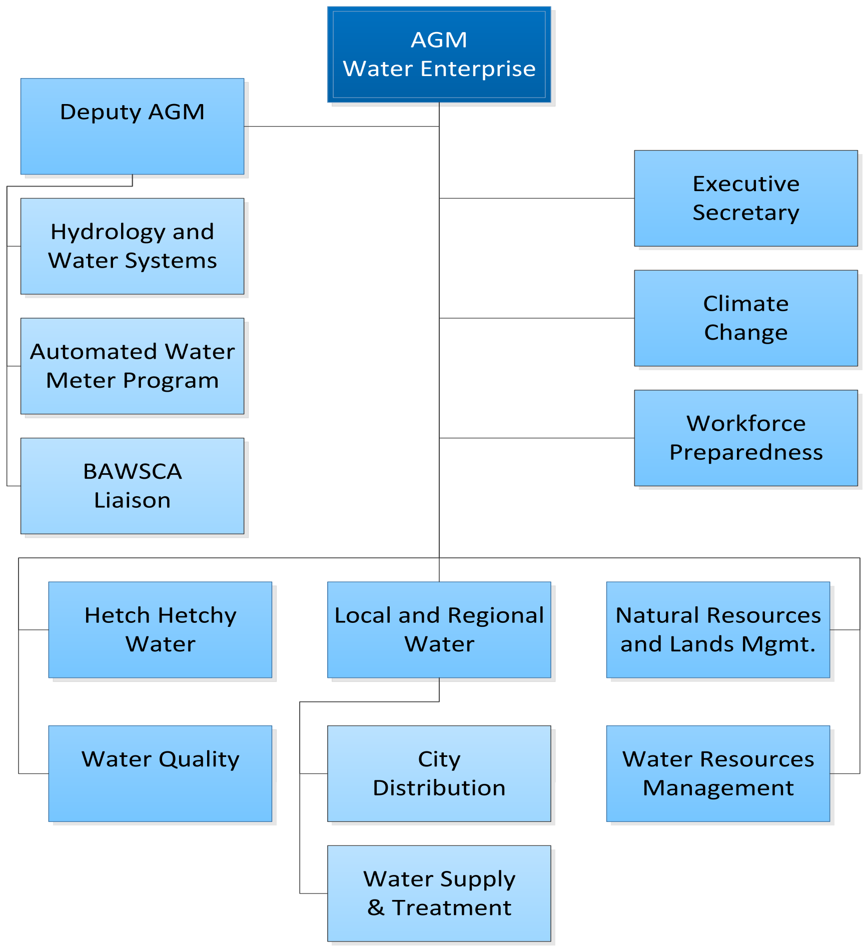
Consistent with SFPUC strengthened Debt Service Coverage Policy, adopted in March 2017, it is the financial objective of the SFPUC to maintain a minimum revenue bond coverage ratio of 1.35 times on an indenture basis and 1.10 times on a current operations basis; the latter does not include available fund balances. Over the ten-year period, the Water Enterprise indenture coverage ranges from 1.97 to 1.59 times. On a current basis, the coverage ratio is projected to exceed the 1.00 minimum with a range from 1.25 to 1.12 times coverage.

Fund Balances and Reserves

As the Ten-Year Financial Plan indicates, the Water Enterprise’s ending fund balance will decline to $150.2 million at the end of the ten-year projection period. The use of fund balance for capital projects over the 10-year period balances the need to maintain infrastructure with rate increases and conforms to strengthened SFPUC Fund Balance Policy adopted in 2017.

Departmental Section

Water Enterprise Organization Chart



Water Performance Trends

In FY 2011-12 the SFPUC adopted a Strategic Sustainability Plan (SSP) to provides the SFPUC with a system for planning, managing, and evaluating SFPUC-wide performance that takes into account the long-term economic, environmental, and social impacts of its business activities. Starting in FY 2012-14 through FY 2015-16 specific key performance measures from the SSP has been used to determine trends in performance for Water and the other Enterprises. In May 2016, the SFPUC adopted the **2020 Strategic Plan** developed by the Executive Team; to reaffirm our overall strategic direction, identify key priorities and serve as a roadmap for the SFPUC to ensure we meet the challenges ahead and continue to deliver reliable water, power and sewer services. Through this process of reaffirming the Mission and Vision, the SFPUC also reviewed and expanded upon the utilities' values. The Goals and Objectives in Table W12 included in the plan focus on accomplishments to achieve by 2020 and to ensure that objectives are met while the organization strives to implement capital programs, diversify the water and energy portfolio and ensure triple bottom line sustainability.

Table W12 2020 Strategic Plan Goals and Goals Descriptions

2020 Strategic Goals	Goal Descriptions
Reliable Service and Assets	We provide reliable service and value to our customers by optimizing the operations, maintenance, and replacement of all assets in the most cost-effective manner.
Organizational Excellence	We are a high performing organization focused on efficiency, effectiveness and accountability across the organization.
Effective Workforce	We attract, retain, and develop an effective workforce, reflective and supportive of our communities, that consistently delivers high quality services to stakeholders.
Financial Sustainability	We assure financial integrity and sustainability, meeting today's operating and capital investment needs while managing risk and long-term affordability for the future.
Stakeholder and Community Interest	We foster trust and engagement with our customers, employees, and the communities we serve through open and timely communication and education.
Environmental Stewardship	We sustainably manage the resources entrusted to our care to ensure environmental and community health.

Each Goal in the **2020 Strategic Plan** has one or more Executive Champions who have worked across the SFPUC to develop Performance Measure including target and baseline metrics. Additionally, each Goal has key elements on which the Goal Champion have chosen to base the performance measures. In May 2018, the performance measures for each goal for the **2020 Strategic Plan** were finalized. Table W13 provides a performance measures for the Water Enterprise for FY 2018-19 and FY 2019-20.

Over the last two years since the adoption of the **2020 Strategic Plan**, the performance measures for Water were part of SSP and could be associated with the goals of the **2020 Strategic Plan**. Appendix F provides the performance measure and targets applied across the SFPUC for FY 2016-17 and FY 2017-18 and reported to the Controller and the Mayor.

As shown in Appendix F there are some trends for the Water Enterprise that can be noted:

- The percentage of apprentice labor hours for WSIP Project Labor Agreements for service territory residents has exceeded continued at a high level exceeding the target of 50 percent;
    - FY 2016-17 was 73 percent
    - FY 2017-18 was 72 percent
- The amount of gallons per capita per day (gpcpd) sold to San Francisco residents which indicates the effectiveness of the water conservation programs and the response to drought communication has continued to be lower than the 50 gpcpd target;
    - FY 2016-17 40.78 gpcpd
    - FY 2017-18 41.51 gpcpd

- The preventative maintenance (PM) ratio which measures the actual maintenance as a ratio to the planned/required maintenance. The target is 90 percent and Water has achieved this, the performance is;
    - FY 2016-17 90.46 percent
    - FY 2017-18 91.36 percent
- Drinking water quality compliance is measured by percent of days in full compliance with drinking water quality standards. The target is 100 percent the performance is;
    - FY 2016-17 100 percent
    - FY 2017-18 100 percent.

Table W13. Water Enterprise Performance Measures, Targets and Responsible Organization for FY 2018-19 and FY 2019-20.

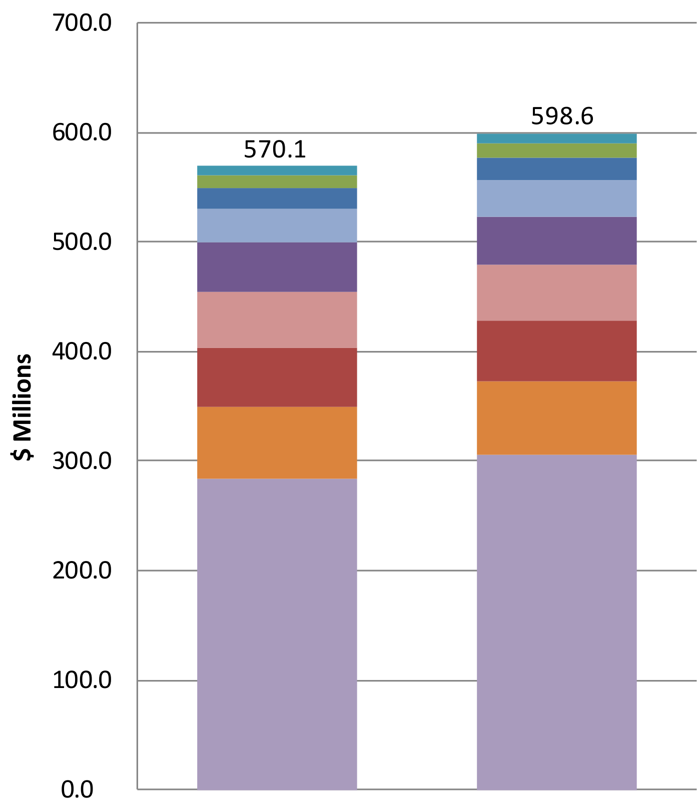
Goal	Performance Measurement	Target/Baseline	Responsible Division
Reliable Service and Assets	Percent of in-city connections without water for more than 4 hours due to an unplanned outage.	<0.1%	City Distribution Division
Reliable Service and Assets	Number of wholesale customer interruptions in the delivery of hi-quality water resulting from planned maintenance shutdowns	0	Water Supply and Treatment
Reliable Service and Assets	Percent of AWSS critical valves exercised every 2 years	100%	City Distribution Division
Reliable Service and Assets	Develop baseline security standards for existing and future assets	100% by June 30, 2019	Enterprise-wide
Reliable Service and Assets	System renewal and replacement rates for In-City water distribution mains a. Priority mains b. Overall	a. 15 miles/year b. 1.25%	City Distribution Division
Reliable Service and Assets	Publish a State of the System Report	First report in 2020 and then biennial thereafter	Enterprise-wide
Organizational Excellence	Percent overtime as a percent of base salary -year over year	16%	Enterprise-wide
Organizational Excellence	Percent of audit recommendations closed within 6 months of publication	85%	Enterprise-wide

Goal	Performance Measurement	Target/Baseline	Responsible Division
Stakeholder and Community Interests	Percent of retail customers rating the SFPUC as good or better on a customer survey	90%	Enterprise and SFPUC-wide
Stakeholder and Community Interests	Average response time to customer inquiries that are received via 311	2 business hours of initial contact	Enterprise-wide but mostly City Distribution and Water Quality
Stakeholder and Community Interests	Response rate to the Employee Engagement Survey	70% of employees participate 80% of the manager with access to team results create and complete at least one action plan	Enterprise-wide
Environmental Stewardship	Average water used by residential sources in gallons per capita per day (gpcpd)	50 gpcpd	Enterprise-wide
Environmental Stewardship	Total water supplied by alternative sources to system as a whole (percent)	Baseline 2013 and increase at 3.4% per year	Enterprise-wide
Environmental Stewardship	Water quality impact-related incidents	0	Enterprise-wide

Divisions

The Water Enterprise is comprised of the following six Divisions: Water Administration, City Distribution Division (CDD), Water Quality Division, Water Supply and Treatment (WS&T), Natural Resources, and Water Resources. Chart W10 shows the FY 2018-19 and FY 2019-20 operating budgets by Division. The chart also includes budget information on Enterprise-wide categories including debt service, general reserve, programmatic and capital/revenue reserve.

Chart W10. FY 2018-19 and FY 2019-20 Water Enterprise Uses of Funds by Division and Other Categories



	FY 2018-19	% of Total	FY 2019-20	% of Total
Debt Service	$ 283.7	49.8%	$ 306.3	51.2%
Water Administration	65.7	11.5%	67.0	11.2%
Water Supply & Treatment	53.5	9.4%	54.3	9.1%
Revenue-Funded Capital	51.8	9.1%	51.8	8.7%
City Distribution	44.5	7.8%	44.2	7.4%
Programmatic Projects	30.6	5.4%	33.2	5.5%
Water Quality	19.3	3.4%	20.2	3.4%
Natural Resources	12.3	2.2%	12.6	2.1%
Water Resources	8.6	1.5%	9.0	1.5%
Grand Total	**$ 570.1**	**100.0%**	**$ 598.6**	**100.0%**

Table W14 shows the FY 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2017-18 and FY 2018-19 and between FY 2018-19 and FY 2019-20, for all Water Divisions, including debt service, general reserve, programmatic and capital/revenue reserve.

Table W14. Water Enterprise Uses of Funds by Division and Other Categories

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Administration	60.2	65.4	60.5	65.7	67.0	0.3	0.5%	1.3	2.0%
Debt Service	250.9	254.4	254.4	283.7	306.3	29.3	11.5%	22.6	8.0%
City Distribution	36.2	39.7	40.5	44.5	44.2	4.8	12.2%	(0.3)	-0.8%
Water Quality	16.4	17.8	16.3	19.3	20.2	1.6	8.7%	0.9	4.6%
Water Supply & Treatment	48.5	50.8	51.3	53.5	54.3	2.7	5.3%	0.8	1.5%
Natural Resources	9.8	11.6	10.6	12.3	12.6	0.7	5.9%	0.3	2.2%
Water Resources	5.4	8.1	4.9	8.6	9.0	0.5	6.2%	0.4	4.8%
Programmatic Projects	23.2	24.4	24.4	30.6	33.2	6.2	25.3%	2.6	8.4%
General Reserve	19.1	1.6	57.0	0.0	0.0	(1.6)	-100.0%	0.0	0.0%
Revenue-Funded Capital	16.8	27.8	27.8	51.8	51.8	24.0	86.1%	0.0	0.0%
Water Total	**486.7**	**501.7**	**547.8**	**570.1**	**598.6**	**68.4**	**13.6%**	**28.5**	**5.0%**

Water Administration

The Administrative Division provides direction and administrative support to the Water Enterprise.

The budget funds Enterprise-wide expenses including debt service, travel/training, memberships and administrative services from other City departments.

Budget Summary

Table W15 shows the FY 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2017-18 and FY 2018-19 and between FY 2018-19 and FY 2019-20.

Table W15. Water Administration Budget Summary, including Debt Service

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	5,707,728	7,550,274	6,462,809	7,787,604	7,983,148	237,330	3.1%	195,544	2.5%
Non-Personnel Services	2,802,979	1,771,217	1,846,700	1,818,604	2,051,225	47,387	2.7%	232,621	12.8%
Overhead	41,923,147	45,652,903	42,455,116	46,835,338	47,537,428	1,182,435	2.6%	702,090	1.5%
Materials & Supplies	48,931	37,239	64,932	37,239	37,239	0	0.0%	0	0.0%
Equipment	47,304	1,455,000	0	90,000	90,000	(1,365,000)	-93.8%	0	0.0%
Debt Service	250,924,005	254,397,658	254,397,658	283,692,300	306,282,521	29,294,642	11.5%	22,590,221	8.0%
Services Of Other Departments	9,658,364	8,892,299	9,654,594	9,090,224	9,290,299	197,925	2.2%	200,075	2.2%
Water Total	**311,112,458**	**319,756,590**	**314,881,809**	**349,351,309**	**373,271,860**	**29,594,719**	**9.3%**	**23,920,551**	**6.8%**

Reasons for Changes, FY 2017-18 to FY 2018-19

The following describes FY 2017-18 and FY 2018-19 budget category variances greater than ten percent.

- **Equipment -** Reflects one-time funding for equipment.
- **Debt Service –** Reflects projected increases in debt principle and interest payments.

Reasons for Changes, FY 2018-19 to FY 2019-20

- **Non-Personnel Services -** Reflects new funding for the radio system maintenance.

City Distribution Division (CDD)

The City Distribution Division (CDD) distributes high quality treated water to San Francisco customers. On average, approximately 70 million gallons of water a day are delivered to nearly 900,000 people in San Francisco. CDD maintains the water distribution system within the City, which consists of 11 reservoirs, 24 pumping stations, 8 water tanks, a network of 1,235 miles of pipeline and 12,000 water valves. CDD also operates and maintains the Auxiliary Water Supply System (AWSS) which includes 120 miles of high-pressure pipelines, two pump stations, approximately 200 cisterns and 3 reservoirs.

Budget Summary

Table W16 shows the FY 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2017-18 and FY 2018-19 and between FY 2018-19 and FY 2019-20.

Table W16. City Distribution Division (CDD) Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	25,907,360	29,218,793	27,957,590	30,568,228	30,987,979	1,349,435	4.6%	419,751	1.4%
Non-Personnel Services	1,511,492	1,878,286	3,479,259	2,584,113	2,578,863	705,827	37.6%	(5,250)	-0.2%
Materials & Supplies	2,594,173	2,582,713	3,485,316	2,768,652	3,265,213	185,939	7.2%	496,561	17.9%
Equipment	1,173,135	655,410	648,715	3,341,956	1,990,362	2,686,546	409.9%	(1,351,594)	-40.4%
Services Of Other Departments	5,062,894	5,355,662	4,971,074	5,266,610	5,358,116	(89,052)	-1.7%	91,506	1.7%
Water Total	**36,249,054**	**39,690,864**	**40,541,954**	**44,529,559**	**44,180,533**	**4,838,695**	**12.2%**	**(349,026)**	**-0.8%**

Reasons for Changes, FY 2017-18 to FY 2018-19

- **Non-Personnel Services** – Increase reflects leasing of warehouse space at 1980 Oakdale.
- **Equipment** – Increase reflects one-time funding for construction safety and ergonomic equipment.

Reasons for Changes, FY 2018-19 to FY 2019-20

- **Materials & Supplies –** Increase reflects funding for construction and maintenance supplies.
- **Equipment** – Decrease reflects one-time funding for construction safety and ergonomic equipment.

Water Quality Division (WQD)

The Water Quality Division (WQD) mission is to ensure that the SFPUC complies with all current and future water quality regulations and customer expectations through: sample collection; field and laboratory analyses; process engineering; applied research; inspections; quality control/assurance programs; regulatory liaison and reporting; and on-site support to source/treatment/distribution operations. In addition, the WQD's mission includes analysis of discharges (into the sewer system, Bay and Ocean) for the Wastewater Enterprise, and treatment performance samples, assessing environmental impacts, recommending/overseeing any necessary mitigation, and responding to and resolving customer inquiries about the quality of drinking and receiving waters.

Budget Summary

Table W17 shows the FY 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2017-18 and FY 2018-19 and between FY 2018-19 and FY 2019-20.

Table W17. Water Quality Division (WQD) Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	12,628,519	12,539,070	12,214,282	13,621,341	13,694,975	1,082,271	8.6%	73,634	0.5%
Non-Personnel Services	2,673,442	3,672,983	2,591,824	3,631,500	3,441,837	(41,483)	-1.1%	(189,663)	-5.2%
Materials & Supplies	1,058,256	1,400,220	1,136,355	1,585,026	1,509,884	184,806	13.2%	(75,142)	-4.7%
Equipment	69,148	174,646	315,094	386,175	1,486,000	211,529	121.1%	1,099,825	284.8%
Services Of Other Departments	5,856	2,576	42,109	119,438	107,467	116,862	4536.6%	(11,971)	-10.0%
Water Total	**16,435,221**	**17,789,495**	**16,299,664**	**19,343,480**	**20,240,163**	**1,553,985**	**8.7%**	**896,683**	**4.6%**

Reasons for Changes, FY 2017-18 to FY 2018-19

- **Materials & Supplies** – Reflects an increase in maintenance supplies, parts and consumables for the safe, effective operation of the laboratory.
- **Equipment** - Reflects an increase for laboratory equipment and vehicles.
- **Services of Other Departments –** Reflects an increase in power services to the Rollins Road facility.

Reasons for Changes, FY 2018-19 to FY 2019-20

- **Equipment** - Decrease reflects one-time funding for laboratory equipment.
- **Services of Other Departments –** Reflects a decrease in reproduction services.

Water Supply & Treatment Division (WS&T)

The Water Supply & Treatment Division manages the SFPUC's Regional Water System in the Bay Area and delivers high quality water to the supply reservoirs in the City and County of San Francisco as well as to wholesale customers in Santa Clara, Alameda, and San Mateo counties with supplies derived from watersheds in Yosemite National Park (Hetch Hetchy), Alameda County, and the Peninsula. WS&T operates and maintains three major water treatment plants, 389 miles of pipelines and tunnels, associated right-of-way, five pump stations, 2 corporation yards, and five Bay Area reservoirs.

Budget Summary

Table W18 shows the FY 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2017-18 and FY 2018-19 and between FY 2018-19 and FY 2019-20.

Table W18. Water Supply and Treatment Division Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	30,612,555	30,290,695	31,914,703	31,418,260	31,775,136	1,127,565	3.7%	356,876	1.1%
Non-Personnel Services	4,017,701	4,652,266	4,521,994	4,706,139	4,831,864	53,873	1.2%	125,725	2.7%
Materials & Supplies	7,678,946	8,825,606	8,593,512	8,946,367	9,553,854	120,761	1.4%	607,487	6.8%
Equipment	575,419	514,291	218,655	574,317	203,765	60,026	11.7%	(370,552)	-64.5%
Services Of Other Departments	5,610,507	6,561,282	6,057,280	7,885,547	7,958,318	1,324,265	20.2%	72,771	0.9%
Water Total	**48,495,128**	**50,844,140**	**51,306,144**	**53,530,630**	**54,322,937**	**2,686,490**	**5.3%**	**792,307**	**1.5%**

Reasons for Changes, FY 2017-18 to FY 2018-19

- **Equipment** – Reflects an increase for equipment to support the Division's facilities.
- **Services of Other Departments** – Reflects an increase in services from various City departments.

Reasons for Changes, FY 2018-19 to FY 2019-20

- **Equipment** - Decrease reflects removal of one-time funding for equipment.

Natural Resources Division

The Natural Resources Division is responsible for federal and state environmental compliance for the Hetch Hetchy Regional Water System and approximately 60,000 acres of watershed lands and 210-miles of ROW in the Bay Area. The Natural Resources Division is also responsible for biological monitoring of the significant ecological resources in the Tuolumne River, Alameda Creek, San Mateo Creek, and Pilarcitos Creek watersheds, and management of the Bay Area watershed and Right of Way lands, including annual fire risk reduction activities, daily patrols, and operations and maintenance of the roads, gates, fences, and mitigation sites.

Budget Summary

Table W19 shows the FY 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2017-18 and FY 2018-19 and between FY 2018-19 and FY 2019-20.

Table W19. Natural Resources Division Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	8,055,769	9,840,531	9,081,436	10,322,475	10,650,680	481,944	4.9%	328,205	3.2%
Non-Personnel Services	972,612	1,072,107	967,965	1,160,118	1,071,177	88,011	8.2%	(88,941)	-7.7%
Materials & Supplies	371,283	369,456	384,739	418,950	443,000	49,494	13.4%	24,050	5.7%
Equipment	361,565	242,000	145,943	305,002	312,311	63,002	26.0%	7,309	2.4%
Services Of Other Departments	38,198	94,265	34,655	94,265	94,265	0	0.0%	0	0.0%
Water Total	**9,799,427**	**11,618,359**	**10,614,738**	**12,300,810**	**12,571,433**	**682,451**	**5.9%**	**270,623**	**2.2%**

Reasons for Changes, FY 2017-18 to FY 2018-19

- **Materials & Supplies** – Reflects an increase in laboratory supplies to support watershed activities.
- **Equipment** - Reflects an increase in field equipment to support operational watershed activities.

Reasons for Changes, FY 2018-19 to FY 2019-20

There were no major changes in FY 2019-20.

Water Resources Division

The Water Resources Division conducts water supply planning studies and implements projects to develop additional water supplies from groundwater, recycled water, conservation, desalination, groundwater dewatering and other alternate water sources. These services are developed on a local and regional level. The Water Resources Division coordinates with bureaus and divisions within the SFPUC, other City departments, Bay Area Water Supply and Conservation Agency (BAWSCA), and SFPUC member agencies, and the public in the development and implementation of these water supply planning studies and projects.

Budget Summary

Table W20 shows the FY 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2017-18 and FY 2018-19 and between FY 2018-19 and FY 2019-20.

Table W20. Water Resources Division Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	3,163,302	4,088,196	3,464,804	4,154,743	4,136,182	66,547	1.6%	(18,561)	-0.4%
Non-Personnel Services	1,948,337	3,453,781	1,260,829	3,908,121	4,329,077	454,340	13.2%	420,956	10.8%
Materials & Supplies	82,533	383,508	63,691	276,856	282,154	(106,652)	-27.8%	5,298	1.9%
Equipment	0	0	0	32,383	33,678	32,383	0.0%	1,295	0.0%
Services Of Other Departments	157,707	140,778	139,504	194,157	194,472	53,379	37.9%	315	0.2%
Water Total	**5,351,879**	**8,066,263**	**4,928,828**	**8,566,260**	**8,975,563**	**499,997**	**6.2%**	**409,303**	**4.8%**

Reasons for Changes, FY 2017-18 to FY 2018-19

- **Non-Personnel Services** – Reflects an increase in water conservation rebate programs and new groundwater projects.
- **Materials & Supplies –** Reflects a decrease in water-efficient conservation devices.
- **Services of Other Departments –** Reflects an increase in water conservation programs through the Department of Environment.

Reasons for Changes, FY 2018-19 to FY 2019-20

- **Non-Personnel Services** – Reflects an increase in water conservation rebate programs and new groundwater projects.

WASTEWATER ENTERPRISE

Mission, Roles, and Responsibilities

The Wastewater Enterprise provides sewage and stormwater collection, conveyance and treatment services through the operation of combined sewage and stormwater system. The sanitary wastewater and stormwater services extend across eight distinct urban watersheds, with one all-weather wastewater treatment plant with two effluent discharge outfall locations, and one wet-weather treatment plant with one effluent outfall location serving the North Shore, Channel, Islais, Sunnydale, and Yosemite urban watersheds with effluent outfalls to the San Francisco Bay (the "Bayside Watersheds'') and a separate all-weather wastewater treatment plant serving the Richmond, Sunset, and Lake Merced urban watersheds with an effluent outfall to the Pacific Ocean (the "Westside Watersheds"). The combined system also has 36 nearshore overflow outfall locations around the perimeter of the City.

Of an estimated total combined wastewater flow of 40 billion gallons per year throughout the entire system, aggregating all watersheds, approximately 34 billion gallons per year receive full secondary treatment, 4.5 billion gallons per year receive primary or decant treatment and are discharged to deep-water outfalls, and 1.5 billion gallons per year receive the equivalent to wet weather primary treatment and are discharged through nearshore outfalls. There all nearly 1,000 miles of sewers and 29 pump stations in the San Francisco sewer system.

Map of Combined Sewer System

The Wastewater Enterprise serves residential, commercial and industrial users, making up a daytime "population equivalent" of approximately 1,143,547 people in 2017. The service area of the Wastewater Enterprise encompasses - approximately 29,773 acres and includes residents of San Francisco (City) and of northern San Mateo County through long-term contracts with three municipal sewer service providers: North San Mateo County Sanitation District, the Bayshore Sanitary District and the City of Brisbane (collectively, the "Municipal Customers''). The SFPUC also currently provides waste treatment service on Treasure Island pursuant to contract, and after redevelopment expects to expand its service area to include Treasure Island.

As of June 2018, SFPUC has 163,976 active retail wastewater accounts. Of these, over 90 percent are residential accounts, with the remainder being commercial, industrial, or municipal. Major non-residential customer categories include retail, offices, restaurants, and services, which together account for 50 percent of non-residential customers.

Budget Summary

Table C1 shows the FY 2017-18 to FY 2019-20 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and budget variances between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19.

The increases in the Sources of Funds reflect the 7.0 percent rate increased for Sewer Service Charges approved in April 2018. The increase in Use of Funds mainly reflects the increases in Revenue–Funded Capital spending by 137.3 percent in FY 2018-19 and 5.8 percent in FY 2019-20. The increase in both Sources and Uses of Funds reflect capital project investments for the Wastewater Enterprise.

Table C1. Wastewater Enterprise Sources and Uses of Funds

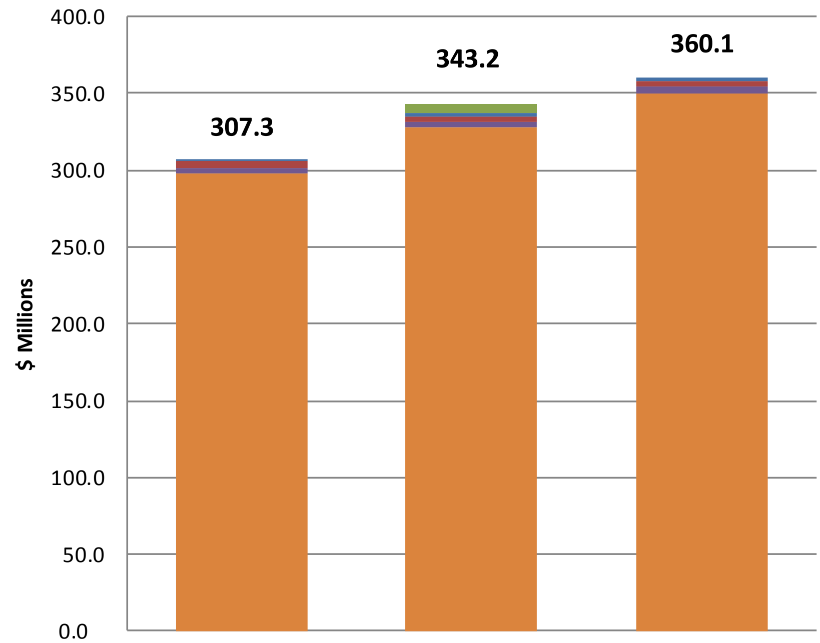
$ Millions	FY 2016-17	FY 2017-18		FY 2018-19	FY 2019-20	FY 2018-19 vs. FY 2017-18		FY 2019-20 vs. FY 2018-19	
	Audited	Adopted	FY 2017-18	Adopted	Adopted	Adopted Budget		Adopted Budget	
Expenditure Category	Actual	Budget	Actual	Budget	Budget	Amount	%	Amount	%
SOURCES OF FUNDS									
Sewer Service Charges	271.2	298.0	308.2	327.7	350.4	29.7	9.9%	22.7	6.9%
Federal Interest Subsidy	4.0	4.0	4.0	4.0	4.0	0.0	0.2%	0.0	0.0%
Other Non-Op Revenues	3.9	3.8	4.0	3.7	3.7	(0.1)	-1.4%	(0.0)	-0.9%
Interest Income	1.5	1.5	1.5	1.8	2.0	0.3	23.1%	0.2	9.1%
Fund Balance	0.0	0.0	0.0	6.0	0.0	6.0	100.0%	(6.0)	-100.0%
Total Sources of Funds	**280.6**	**307.3**	**317.6**	**343.2**	**360.1**	**35.9**	**11.7%**	**16.9**	**4.9%**
USES OF FUNDS									
Personnel	65.1	70.2	66.0	71.6	73.4	1.4	2.1%	1.8	2.6%
Non-Personnel Services	14.3	17.3	17.3	18.4	18.7	1.1	6.6%	0.3	1.5%
Materials & Supplies	8.1	10.4	9.0	10.7	11.2	0.3	3.3%	0.5	4.2%
Overhead	0.0	28.7	26.5	28.4	28.8	(0.3)	-1.1%	0.4	1.6%
Equipment	0.9	0.9	0.5	1.8	1.8	0.9	92.9%	0.0	2.2%
Debt Service	52.3	76.2	50.1	63.2	70.7	(13.0)	-17.1%	7.5	11.9%
Services Of Other Depts	59.7	34.4	34.3	34.1	34.6	(0.3)	-0.8%	0.5	1.5%
General Reserve	35.9	16.9	61.5	0.0	0.6	(16.9)	-100.0%	0.6	100.0%
Revenue–Funded Capital	36.8	45.0	45.0	106.8	113.0	61.8	137.3%	6.2	5.8%
Programmatic Projects	7.5	7.3	7.3	8.2	7.2	0.9	11.8%	(0.9)	-11.5%
Total Uses of Funds	**280.6**	**307.3**	**317.6**	**343.2**	**360.1**	**35.9**	**11.7%**	**16.9**	**4.9%**

Sources of Funds

Chart C1 shows the FY 2017-18 to FY 2019-20 budgeted Sources of Funds by revenue category.

The Wastewater Enterprise is dependent upon the Sewer Service Charge revenue and the user fees paid by the system customers. Other revenue sources combined are less than 5 percent of the total Sources of Funds.

Chart C1. FY 2017-18 to FY 2019-20 Wastewater Enterprise Sources of Funds



	FY 2017-18	% of Total	FY 2018-19	% of Total	FY 2019-20	% of Total
Sewer Service Charges	$ 298.0	97.0%	$ 327.7	95.5%	$ 350.4	97.3%
Federal Interest Subsidy	4.0	1.3%	4.0	1.2%	4.0	1.1%
Other Non-Op Revenues	3.8	1.2%	3.7	1.1%	3.7	1.0%
Interest Income	1.5	0.5%	1.8	0.5%	2.0	0.6%
Fund Balance	0.0	0.0%	6.0	1.7%	0.0	0.0%
Total Sources of Funds	**$ 307.3**	**100.0%**	**$ 343.2**	**100.0%**	**$ 360.1**	**100.0%**

Summary

Estimated revenues for FY 2018-19 from Sewer Service Charges, Federal Interest Subsidy, Other Non-Operating Revenues, and Interest Income are projected at $343.2 million, a $35.9 million increase, or 11.7 percent from FY 2017-18. The net increase from FY 2017-18 revenues reflects an increase of $29.7 million in Sewer Service Charges, $6.0 million in Fund Balance, and $0.3 million increase in Interest Income, offset by a decrease of $0.1 million in Other Non-Operating Revenues.

Estimated revenues for FY 2019-20 are projected at $360.1 million. The $16.9 million increase includes $22.7 million in Sewer Service Charges and $0.2 million in Interest Income offset by a decrease of $6.0 million in use of Fund Balance.

Sewer Service Charges

Sewer Service Charge revenues, which are based on customer water consumption, flow factor, strength charges and approved rates, are budgeted at $327.7 million in FY 2018-19, and $350.4 million in FY 2019-20. Sewer service rates were adopted by the Commission in April 2018 and include rates for single-family and multiple-family residential and non-residential customers. The $29.7 million, or 9.9 percent increase from FY 2017-18 to FY 2018-19 and $22.7 million, or 6.9 percent increase from FY 2018-19 to FY 2019-20, are consistent with the approved rates. See the Wastewater Enterprise Approved Rates Section for more detail.

Other Non-Operating Revenues

Other Non-Operating Revenues are budgeted at $3.7 million in FY 2018-19, a reduction of 1.4 percent and in FY 2019-20 the budget does not change. This includes a $2.2 million recovery from Infrastructure, an allocation to capital projects representing their share of the cost for the SFPUC Headquarters building costs.

Federal Interest Subsidy

The SFPUC receives a subsidy payment from the Federal Government for a portion of borrowing costs on previously issued taxable bonds. The U.S. Treasury Department is estimated to provide a direct subsidy equal to 35.0 percent (prior to sequestration) of the interest payable for bonds issued as Build America Bonds per the American Recovery and Reinvestment Act (ARRA). A portion of the Wastewater Enterprise's outstanding bonds qualify under this subsidy program. Sequestration is estimated to be 6.2 percent in FY 2018-19 and represents a reduction to the subsidy payment from the Federal Government. The Federal Interest Subsidy in FY 2018-19 and FY 2019-20 is budgeted at $4.0 million; the same as in FY 2017-18.

Interest Income

Interest Income revenues are budgeted at $1.8 million in FY 2018-19. Interest income is based on the projected cash balance and interest rates on the County Investment Pool. Interest revenues are projected to be $0.3 million, or 23.1 percent more than in FY 2017-18 due to both higher estimated interest rates and larger cash balance in the investment pool.

In FY 2019-20, Interest Income is projected to be $2.0 million or $0.2 million, or 9.1 percent more than FY 2018-19. The increase reflects a higher projected interest rates and cash balance in the investment pool.

Fund Balance

The Fund Balance is used on a one-time, planned basis to balance budgeted sources and uses when budget expenditures exceed budgeted revenues. FY 2018-19 use of Fund Balance is budgeted at $6.0 million which is 100 percent increase as fund balance was not used in FY 2017-18. The increase mainly reflects funding needs for the Revenue-Funded Capital.

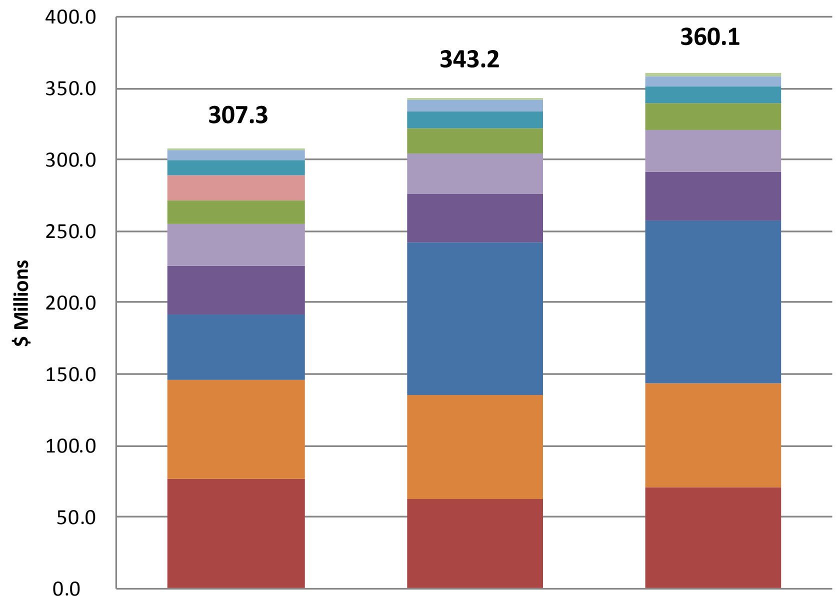
The FY 2019-20 Fund Balance has been eliminated due to budgeted revenues exceeding budgeted expenses.

Uses of Funds

Chart C2 shows the FY 2017-18 to FY 2019-20 budgeted Uses of Funds by expenditure category.

The largest change in Uses of Funds as a percentage of the total budget from FY 2017-18 to FY 2019-20 is Revenue-Funded Capital increasing from 14.6 to 31.4 percent of the total, Debt Service decreasing from 24.8 to 19.6 percent, and the General Reserve decreasing from 5.5 to 0.2 percent. The remaining categories are consistent from FY 2017-18 through FY 2019-20.

Chart C2. FY 2017-18 to FY 2019-20 Wastewater Enterprise Uses of Funds



	FY 2017-18	% of Total	FY 2018-19	% of Total	FY 2019-20	% of Total
Debt Service	$ 76.2	24.8%	$ 63.2	18.4%	$ 70.7	19.6%
Personnel	70.2	22.8%	71.6	20.9%	73.4	20.4%
Revenue-Funded Capital	45.0	14.6%	106.8	31.1%	113.0	31.4%
Services Of Other Depts	34.4	11.2%	34.1	9.9%	34.6	9.6%
Overhead	28.7	9.3%	28.4	8.3%	28.8	8.0%
Non-Personnel Services	17.3	5.6%	18.4	5.4%	18.7	5.2%
General Reserve	16.9	5.5%	0.0	0.0%	0.6	0.2%
Materials & Supplies	10.4	3.4%	10.7	3.1%	11.2	3.1%
Programmatic Projects	7.3	2.4%	8.2	2.4%	7.2	2.0%
Equipment	0.9	0.2%	1.8	0.5%	1.8	0.5%
Total Uses of Funds	**$ 307.3**	**100.0%**	**$ 343.2**	**100.0%**	**$ 360.1**	**100.0%**

Summary

The Wastewater Enterprise's FY 2018-19 Uses of Funds are $343.2 million, a $35.9 million increase, or 11.7 percent, from FY 2017-18. It includes $63.2 million for Debt Service; $71.6 million for Personnel; $106.8 million for Revenue-Funded Capital; $34.1 million for Services of Other Departments; $28.4 million for Overhead; $18.4 million for Non-Personnel Services; and $20.7 million for Materials and Supplies, Programmatic Projects and Equipment. The net increase of $35.9 million from FY 2017-18 reflects increases of $61.8 million in Revenue–Funded Capital, $1.4 million in Personnel, $1.1 million in Non-Personnel Services, $0.9 million in Programmatic Projects, and $1.2 million in Equipment and Materials and Supplies offset by a decrease of $16.9 million in General Reserve, $13.0 million in Debt Service and $0.6 million for Overhead and Services of Other Departments.

The Wastewater Enterprise's FY 2019-20 Uses of Funds are $360.1 million, a $16.9 million increase or 4.9 percent from FY 2018-19. It includes $70.7 million in Debt Service; $73.4 million in Personnel; $113.0 million in Revenue-Funded Capital; $34.6 million in Services of Other Departments; $28.8 million in Overhead; $18.7 million for Non-Personnel Services; $11.2 million in Materials and Supplies and $9.6 million for General Reserve, Programmatic Projects, and Equipment. The net increase of $16.9 million from FY 2018-19 reflects increases of $7.5 million in Debt Service, $6.2 million in Revenue–Funded Capital, $1.8 million in Personnel, and $2.4 million in General Reserve, Materials and Supplies, Services of Other Departments, Overhead, and Non-Personnel Services offset by a decrease of $1.0 million in Programmatic Projects.

Debt Service

The FY 2018-19 Debt Service budget is $63.2 million based on principal and interest payments on outstanding senior-lien revenue bonds issued to fund the Sewer System Improvement Program (SSIP), other Wastewater Capital Improvement Projects, and the lease payment of the SFPUC's headquarters (partially offset by Infrastructure expense recovery). This amount reflects a $13.0 million reduction or 17.1 percent from FY 2017-18 adopted budget of $76.2 million due to lower than budgeted debt service from the Wastewater 2016 Series A bonds.

The FY 2019-20 Debt Service budget is $70.7 million, a $7.5 million or 11.9 percent increase from the FY 2018-19 budget. The increase is due to higher 2016 Series A and B revenue bonds debt service costs as well as planned interest payments for Bond Anticipation Notes (BANs) to be issued in April 2019.

Personnel

The FY 2018-19 Personnel budget is $71.6 million a $1.2 million or 2.1 percent increase from FY 2017-18. The budget includes $49.1 million for salaries and $22.5 million for fringe benefits, a net overall increase of $1.4 million or 2.0 percent as compared to prior year. The increase in salaries of $0.9 million from FY 2017-18 includes: salary adjustments based on labor agreements and the substitution of nine positions to meet demands of the Enterprise offset by the conversion of one operating position to project-funded.

Mandatory Fringe Benefits are budgeted at $22.5 million and includes funding for retirement and healthcare costs. This budget is determined by salaries and headcount for healthcare, retirement and social security costs. The net increase of $0.5 million from the FY 2017-18 budget reflects adjustments to salaries, retirement and health benefit rates.

The 2019-20 Personnel budget is $73.4 million, a $1.8 million increase, or 2.5 percent from FY 2018-19. The increase includes: a $0.9 million increase in salaries resulting from adjustments to labor agreements and a $0.9 million increase in fringe benefit costs resulting from higher retirement rates.

Revenue-Funded Capital

The FY 2018-19 Revenue-Funded Capital budget is $106.8 million, a $61.8 million or 72.8 percent increase from FY 2017-18. This budget represents the policy to move the Renewal and Replacement (R&R) program to a revenue or cash basis rather than debt funding. The approved capital program funding the R&R portion of the Wastewater's Capital Program is allocated to the collection system and treatment plant (including pump station and outfall) improvements.

The FY 2019-20 Revenue-Funded Capital budget is $113.0 million, a $6.2 million increase, or 5.8 percent, from FY 2018-19. The increase is consistent with the policy to revenue fund the R&R program.

Services of Other Departments

The FY 2018-19 Services of Other Departments budget is $34.1 million to support services provided by other City departments to the Wastewater Enterprise. These services include City-wide dispatch, City Attorney services, sewer cleaning, facilities maintenance, and fleet maintenance among other services. The net $0.3 million or 0.8 percent reduction from FY 2017-18 reflects a decrease in planned engineering support offset by an increase in power, facilities maintenance and technology infrastructure costs.

The FY 2019-20 Services of Other Departments budget is $34.6 million, a $0.5 million 1.5 percent increase from FY 2018-19. The increase primarily reflects an increase in power costs.

Overhead

The Overhead budget funds the Wastewater Enterprise's share of support services provided by the SFPUC Bureaus, including the General Manager, Business Services, and External Affairs. The FY 2018-19 Overhead budget is $28.4 million, a reduction of $0.3 million, or 1.0 percent, from FY 2017-18. The overhead rate is based on SFPUC's 2018 Indirect Cost Study.

The FY 2019-20 Overhead budget is $28.8 million, a $0.4 million, or 1.4 percent increase from FY 2018-19. The increase reflects adjustments to the SFPUC Bureaus FY 2019-20 budget.

Non-Personnel Services

The FY 2018-19 Non-Personnel Services budget is $18.4 million and funds services for the Enterprise including equipment and facility maintenance, travel, training, memberships, utilities, professional services, and rent. The increase of $1.1 million, or 6.4 percent, from the FY 2017-18 budget funds increases in professional services to support planning and regulatory services.

The FY 2019-20 Non-Personnel Services budget is $18.7 million, an increase of $0.3 million, or 1.6 percent, from FY 2018-19. The increase funds expected fees associated with the Bay Area Clean Water Agencies (BACWA), a joint powers agency, formed under the California Government Code by the five largest wastewater treatment agencies in the San Francisco Bay Area. BACWA is dedicated to working with members, state and federal regulatory agencies, and non-governmental organizations to improve and enhance the San Francisco Bay environment.

General Reserve

The General Reserve balances budgeted fund sources and uses when budget revenues exceed budgeted expenditures. The FY 2018-19 budgeted expenses exceed budgeted revenues and so a General Reserve was not needed.

The FY 2019-20 General Reserve budget is $0.6 million, an increase of $0.6 million from FY 2018-19 due to budgeted revenue exceeding budgeted expenses.

Materials and Supplies

The FY 2018-19 Materials and Supplies budget is $10.7 million and funds materials and supplies, including equipment maintenance supplies, sewage treatment supplies, office and safety supplies, fuel and software licenses. The increase of $0.3 million, or 2.9 percent, from FY 2017-18 reflects projected costs needed for the maintenance of the City's vast sewer system network and infrastructure.

The FY 2019-20 Materials and Supplies budget is $11.2 million, an increase of $0.5 million or 4.7 percent from FY 2018-19. The increase reflects projected inflationary increases for equipment and maintenance supplies.

Programmatic Projects

FY 2018-19 Programmatic Projects are budgeted at $8.2 million to support facilities maintenance programs. The $0.9 million or 12.3 percent increase from FY 2017-18 reflects increased funding for the Community Benefits Program, including workforce development, low impact design programs such as the sidewalk garden grants and green infrastructure development programs.

FY 2019-20 Programmatic Projects are budgeted at $7.2 million, a decrease of $1.0 million or 12.2 percent from FY 2018-19. The decrease reflects removal of prior year one-time costs associated with the Community Benefits Program.

Equipment

The FY 2018-19 and FY 2019-20 Equipment budget is $1.8 million. This budget funds equipment required to support the Enterprise's operations. The $0.9 million, or 92.9 percent increase from FY 2017-18 reflects the cost to replace one biosolid centrifuge and the addition of several large maintenance vehicles.

Authorized and Funded Full-Time Equivalents (FTEs)

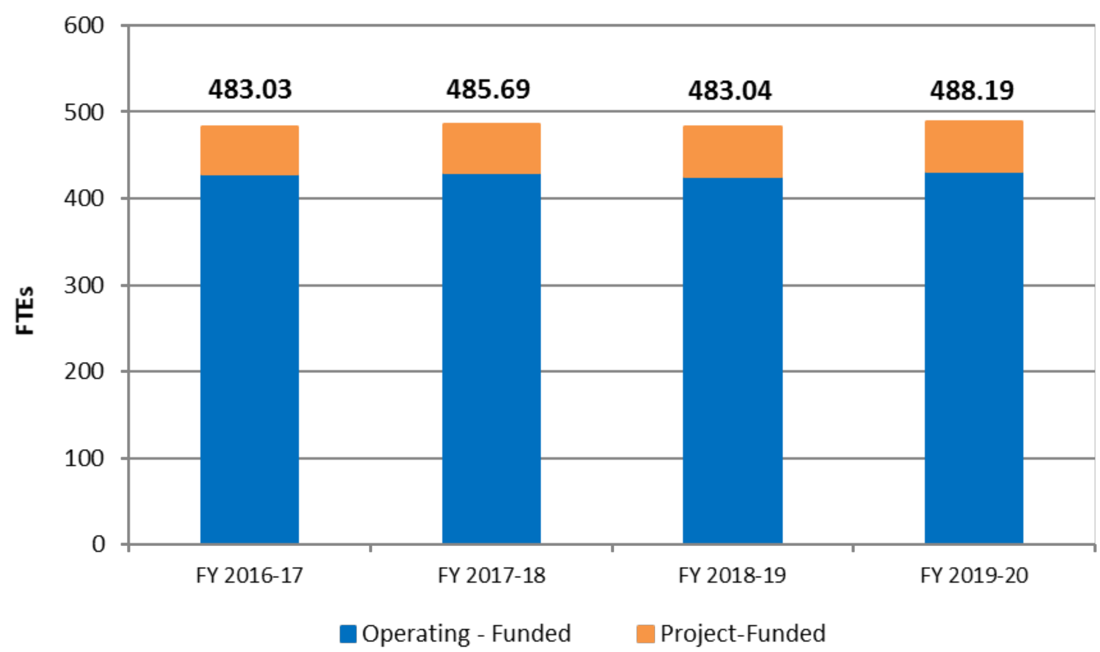
Table C2 shows a breakdown of positions by position type for FY 2016-17 to FY 2019-20.

Table C2. Wastewater Enterprise Authorized and Funded Full-Time Equivalents (FTEs)

Position Type	FY 2016-17 Adopted Budget	FY 2017-18 Adopted Budget	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs FY 2017-18 Adopted Budget	FY 2019-20 vs FY 2018-19 Adopted Budget
Permanent Positions	423.98	426.00	422.22	426.53	(3.78)	4.31
Temporary Positions	3.55	3.42	3.32	4.16	(0.10)	0.84
Subtotal Operating Budget-Funded	**427.53**	**429.42**	**425.54**	**430.69**	**(3.88)**	**5.15**
Project-Funded Positions	55.50	56.27	57.50	57.50	1.23	0.0
Total Positions	**483.03**	**485.69**	**483.04**	**488.19**	**(2.65)**	**5.15**

Chart C3 shows the operating budget and project–funded positions four-year trend.

Chart C3. Wastewater Enterprise Operating and Project FTEs Trend



As noted above in Table C2, the Wastewater Enterprise full-time equivalent (FTE) operating, project-funded, and temporary positions for FY 2018-19 is 483.04 FTEs, a 2.65 FTE decrease from FY 2017-18. Chart C3, illustrates the trend of the number of operating and project-funded FTEs from FY 2016-17 to FY 2019-20. FY 2018-19 permanent positions decreased by 3.78 FTEs, from 426.00 in FY 2017-18 to 422.22 FTEs in FY 2018-19. The net Permanent Position decrease includes: a 2.78 FTE increase in salary savings to adjust for vacancies and the conversion of one position, an Associate Engineer, to project funding.

The number of temporary positions from FY 2017-18 to FY 2018-19 decreased by 0.10 FTEs, from 3.42 FTEs in FY 2017-18 to 3.32 FTEs in FY 2018-19 resulting from a slight reduction in temporary salaries funding.

Project-funded positions increased by 1.23 FTEs from FY 2017-18 to FY 2018-19, from 56.27 FTEs in FY 2017-18 to 57.50 FTEs in FY 2018-19. The increase reflects the conversion of one position, an Associate Engineer, from the Operating Budget and the annualization of one Utility Specialist.

The FY 2019-20 Wastewater Enterprise FTE count increased by 5.15 FTEs from FY 2018-19 based on adjustments to salary savings to reflect the projected vacancy rate and adjustments to temporary salaries.

Four-Year Approved Rates and Charges

Rates and Charges

San Francisco City Charter Requirements

In addition to Federal and State guidelines, the City Charter (Sections 8B.125) establishes goals and objectives for the setting of retail sewer rates. A summary of the major goals and objectives appears below:

- Provide sufficient revenues for the operation, maintenance and repair of the Enterprise consistent with good utility practice;
- Provide sufficient revenues to improve or maintain financial condition and bond ratings at or above levels equivalent to highly-rated utilities of each Enterprise;
- Meet requirements and covenants under all bond indentures;
- Set rates based on cost of service;
- Investigate and develop capacity fees for new development;
- Investigate and develop rate-based conservation incentives;
- Investigate and develop affordability programs for low-income customers.

Rate Making Principles

In addition to the City Charter requirements, the SFPUC develops its rates following the below principles. These principles are outlined in the Ratepayer Assurance Policy, which was updated in September 2017. These principles, together with the San Francisco Charter requirements and other legal considerations, provide a basis for evaluating rate alternatives and selecting a preferred rate structure. The principles include:

- **Revenue Sufficiency.** The Commission will aim to establish rates sufficient to cover the full cost of all SFPUC activities.
- **Environmental Sustainability.** The Commission will aim to establish rates in a manner that values environmental sustainability and preserves the natural resources entrusted to the SFPUC's care.
- **Affordability.** The Commission will consider SFPUC service affordability for all its customers. Prudent operating and capital planning ties annual spending to system demand and intergenerational equity, enabling financial engineering and reducing costly emergency expenditures.
- **Predictability.** The Commission will aim to establish rates designed to minimize bill fluctuations, enabling ratepayers to plan for their personal finances.
- **Simplicity.** The Commission will aim to establish rates that are easy for ratepayers to understand.

Appendix C of this budget document provides more information about the SFPUC Ratepayer Assurance Policy.

SFPUC 2018 Water and Wastewater Cost of Service Study

As required by the City Charter (Sections 8B.125), the SFPUC must complete a cost of service study by an independent consultant at least once every five years. The most recent cost of service study was completed in 2018. The findings and recommendations of the independent cost of service study, entitled *SFPUC 2018 Water and Wastewater Cost of Service Study,* were reviewed and adopted by the Commission on April 10, 2018. In addition to the rate making principles listed above, the SFPUC has set an affordability goal so that the average combined water and sewer bill does not exceed 2.5 percent of the median household income in San Francisco. This affordability index is consistent with the Federal Environmental Protection Agency guideline for utility cost affordability. The four-year rate package, adopted by the Commission in April 2018, included retail water and wastewater rates for FY 2018-19 through FY 2021-22 as well as water and wastewater capacity charges, connection fees, and miscellaneous charges.

Throughout the rate-setting process, SFPUC staff worked closely with the Rate Fairness Board during the development of rates to follow rate making principles and meet Charter and Commission policy objectives. During this rate-setting cycle, the Rate Fairness Board met eleven times, between May 2017 and March 2018, to evaluate staff proposals and to assess their impacts on customers. The final rates package adopted the Commission in April 2018 addresses Ratepayer Assurance Policy principles and objectives established by the Commission and reflected priorities contained in the Water Enterprise FY 2018-19 and FY 2019-20 budgets, as approved by the Commission in February 2018.

SFPUC staff also participated in an extensive public outreach program, reaching out to over 400 organizations to describe SFPUC services, explain why rate increases are needed and the impact of the rate increases on monthly bills. Over 50 community presentations were delivered to organizations representing a wide spectrum of community, environmental, business, labor and other interests. Outreach was also made through the SFPUC's website, which includes tools for customers to estimate bill impacts based on their current usage. In compliance with California's Proposition 218 which requires proposed rates be publicized through specific mailings, the proposed rates were mailed more than 45 days prior to the April 10, 2018 hearing to approximately 238,000 ratepayers and property owners; in response, the SFPUC received approximately 194 formal protest letters. Through the rate adoption, the Commission affirmed that the SFPUC met all requirements of the City Charter and Proposition 218.

Adopted Wastewater Rates

Fixed Monthly Service Charge

SFPUC implemented a new fixed monthly service charge for all wastewater customers in FY 2018-19 as noted in table C3, consistent with the recommendations from the *SFPUC 2018 Water and Wastewater Cost of Service Study*. Certain costs such as meter reading and customer billing are equal for all customers and are included in the monthly service charge as a fixed cost per account.

Residential Rate Structure

Single-family residential customers and multi-family Wastewater customers are separated into separate classes, reflecting the usage characteristic of each group of residential customers. Separate classes ensure each customer group pays their share of costs.

Non-Residential Rate Structure

Non-residential customers pay rates based on the unit costs of volume, oil and grease (O/G), total suspended solids (TSS), and chemical oxygen demand (COD), which are discharged to the collection system. The later three components are means of measuring the pollutant loading of a customer's discharge. Pollutant loadings are identified through individual sampling of significant dischargers or are based on a standard strength for dischargers engaged in the same or similar business activity.

Table C3 shows unit costs for the approved rates through FY 2021-22, and an illustrative rate based on normal strength sewage.

Table C3. Summary of Approved Wastewater Rates

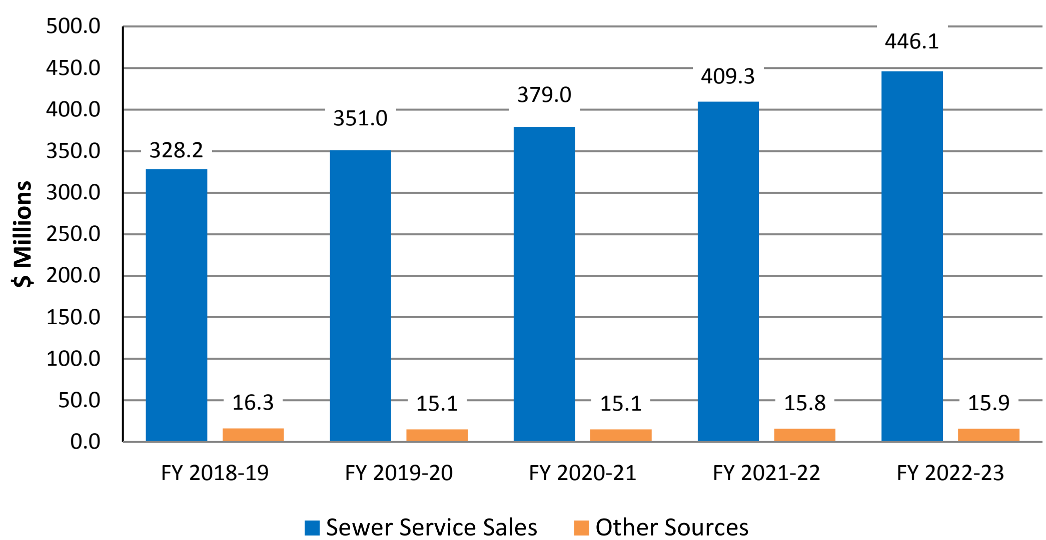
$ Cost Components	Approved Rates FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Monthly Service Charge				
For all customers	0.98	2.19	3.60	5.21
Single Family Residential				
For all discharge units	13.06	13.88	14.89	15.97
Multi-Family Residential				
For all discharge units	13.06	13.88	14.89	15.97
Non-Residential				
Volume per Ccf	7.84	8.29	8.86	9.46
COD per lb.	0.52	0.56	0.60	0.65
SS per lb.	1.32	1.41	1.53	1.65
O/G per lb.	1.33	1.42	1.54	1.66

Revenue Sources

As an Enterprise department, the Wastewater Enterprise is required to generate sufficient revenues to fund its annual budget and to comply with the conditions of Federal grants, State loans, and bond covenants. The Enterprise derives its revenues from sewer service charges, interest income, and other non-operating income. Sewer service charges produce the clear majority of total revenues received.

Chart C4 shows the Wastewater Enterprises Revenue by Source over a five-year period.

Chart C4 – Wastewater Enterprise Budgeted and Projected Revenues for FY 2018-19 to FY 2022-23



Source: SFPUC FY 2018-2019 Ten-Year Financial Plan, Adopted February 2018

Sewer Service Charges

Prior to 1977, the City funded sewer service costs principally from property taxes, supplemented by a flat fee per connection. Since 1977, the sewer service charge has been the Wastewater Enterprise's primary source of revenue to fund operations. As a recipient of Federal and State grants and a borrower under the State Revolving Fund

(SRF) loan program, and under Proposition 218, the City is required to adopt sewer service charges based on each customer class's proportional use of the sewage system and to establish a dedicated source of revenues to pay for operating the system. The use of the sewage system is determined by actual water consumed, which is measured by the Water Enterprise's water meters. For single family residential customers, sewer charges assume an effluent rate of 90 percent of water consumed, and 95 percent for multi-family customers. Total sewer service sales are projected at $328 million in FY 2018-19, $21.1 million higher than prior year actuals. FY 2019-20 Sewer Service Charges are projected at $350.9 million, a $22.9 million increase consistent with adopted rates. Revenues are projected to increase to $409.2 million by FY 2021-22, based on adopted rate increases.

Residential

The sewer service charges applicable to residential service in FY 2018-19 includes a fixed monthly service charge and a uniform single tier residential wastewater rate for volumetric usage. For single-family residential customers, sewer charges assume a flow factor of 90.0 percent of water used indoors, and multiple-family residential customers receive a flow factor of 95.0 percent. There is no adjustment for vacant units in multi-family dwellings.

Non-Residential

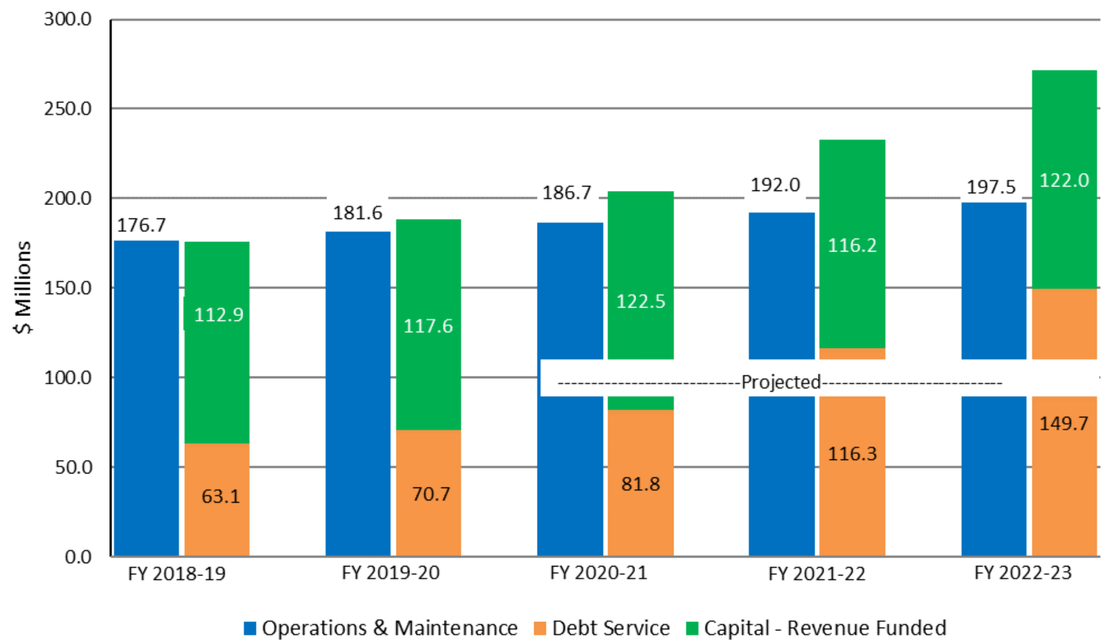
For non-residential customers, the sewer service charge includes a fixed monthly service charge and a volumetric charge calculated based on the volume of wastewater discharged and the pounds of pollutants contained in that discharge. For non-residential customers, sewer charges assume a flow factor of 90 percent of water consumed. The charges for customers with sampled discharges are billed based on their specific waste characteristics. Other customers are billed based on the standard waste characteristics for their respective business activity. A customer or business activity that discharges high-strength wastes is charged a higher rate than a customer or business activity that discharges wastes like residential customers. In addition to the costs shared with residential customers, all non-residential customers are responsible for the costs of the Wastewater Enterprise's pretreatment program. The pretreatment program monitors customers with high-strength wastes to ensure prohibited substances are not discharged to the sewage system. Therefore, non-residential customers cover these costs and residential customers do not bear any cost responsibility for the pretreatment program.

Summary of Projected Expenses

Operations and maintenance costs are the largest Wastewater Enterprise expense category; however, debt service and revenue funded capital combined are projected to surpass operations and maintenance expenditures in FY 2019-20 due to investment in the multi-billion-dollar Sewer System Improvement Program (SSIP). Debt Service is forecast to grow by 137.0 percent between FY 2018-19 and FY 2022-23 due to investment in SSIP. The SSIP is focused on reliability, resiliency, flood minimization, essential seismic upgrades, and the renewal and replacement of infrastructure that is beyond its useful life. These investments are essential for the protection of public health and the environment, including protection of the San Francisco Bay and the Pacific Ocean. Revenue funded capital spending more than doubled in FY 2018-19 budget compared to prior year actuals and is projected to grow 8.0 percent over the five-year projection horizon. This represents a policy decision to optimize the value and reliability of assets, including hundreds of miles of smaller sewers, by annually increasing the Renewal and Replacement (R&R) funding. Due to the nature of wastewater operations, which rely on personnel, chemicals, and electricity, these multi-billion-dollar capital investments are not expected to reduce the annual operating budgets. As the Wastewater Enterprise brings new capital assets on-line, the impact on future operating budgets will be further refined.

Chart C5 shows projected expenses for FY 2018-19 to FY 2022-23.

Chart C5. Wastewater Enterprise Projected Operating Expenses for FY 2018-19 to FY 2022-23



*Source: SFPUC FY 2018-2019 Ten-Year Financial Plan, Adopted February 2018

Operations and Maintenance Expenses

Operations and Maintenance expenses are projected to be $176.7 million in FY 2018-19 and $181.6 million in FY 2019-20, a 1.9 percent increase. Expenses are projected to increase by 3 percent annually for FY 2020-21 to FY 2022-23.

Debt Service and Lease Payments

Debt service includes principal and interest payments on senior lien revenue bonds used to finance system improvements and Wastewater Enterprise's share of indebtedness for the SFPUC 525 Golden Gate Headquarters Building. As of June 30, 2018, the Wastewater Enterprise had $965.5 million of principal outstanding, as listed in Table C4.

In addition to debt service payments on existing long-term debt, the Wastewater Enterprise utilizes its $750 million commercial paper program (CP) to meet interim expenditure and encumbrance needs relating to various capital projects. As of June 30, 2018, the Wastewater Enterprise had $263 million of tax-exempt Commercial Paper Notes outstanding, all of which are secured by and payable from Net Revenues on a subordinate basis to the payment of debt service on revenue bonds.

Table C4 shows Wastewater Enterprise's Outstanding Revenue Bonds and Certificates of Participation (COP).

Table C4. Outstanding Wastewater Enterprise Revenue Bonds and Certificates of Participation (COP)

$ Thousands Series	Original Par	Outstanding as of 06-30-18
2010A (Refunding)	47,050	32,820
2010B (New Money)	192,515	192,515
2013A (Refunding)	193,400	71,930
2013B (New Money)	331,585	331,585
2016A (New Money)	240,580	240,580
2016B(New Money)	67,820	67,820
525 Golden Gate COPs*	31,690	28,203
Total Outstanding		**$ 965,453**

* Amount shown represents the Wastewater Enterprise's share of indebtedness

Future debt issuances to fund SSIP capital projects are expected to total approximately $3.4 billion for FY 2018-19 through FY 2022-23. The repayment of principal and interest on these future debt issuances has been incorporated into the Commission's approved rates through FY 2021-22 as well as projected rates through FY 2027-28.

Revenue-Funded Capital

Revenue-funded capital project spending, averaging $118.2 million per year, from FY 2018-19 to FY 2022-23, is included in the Ten-Year Capital Plan. These levels of revenue funded capital spending have increased compared to historical prior levels, reflecting the SFPUC's commitment to fund the R&R portion of the capital plan with a greater amount of revenue funding, consistent with SFPUC Capital Financing Policy targeting 15 to 30 percent of total capital plans funded with revenues. See SFPUC Capital Financing Policy, Appendix H.

Revenue Requirement

The annual expenditures for operations and maintenance, debt service, and renewal and replacement make up the revenue requirement of the Wastewater Enterprise. The income derived from interest and non-operating income is subtracted from the annual revenue requirement to determine the net revenue requirement to be met from sewer service charges. Rates have been approved through FY 2021-22 and a cost of service study has been completed in 2018 as required at least every five years by the City Charter.

Wastewater Enterprise Capital Improvement Program (CIP)

The Wastewater Enterprise is responsible for the operations, maintenance, capital improvements and repair/replacement of the following wastewater facilities and assets:

- Four Water Pollution Control Plants including: Southeast Treatment Plant, Oceanside Treatment Plant, North Point Wet Weather Facility, and Treasure Island Treatment Plant;
- Twenty-Nine Pump Stations, including those in Mission Bay, in San Francisco; twenty-eight sanitary pump stations on Treasure and Yerba Buena Islands and six stormwater pump stations on Treasure Island;
- Nine Transport/Storage Facilities with 199 million gallons of capacity for combined sewage;
- Three Bay and one Ocean Outfall off San Francisco;
- One Bay Outfall off Treasure Island;
- Thirty-Six Combined Sewer Discharge Structures in San Francisco;
- Fifty stormwater outfalls on Treasure and Yerba Buena Islands;
- Nine hundred and ninety-three miles of Sewers, Tunnels, Force Mains and Transport/Storage facilities;
- Two chemical feed stations for odor control in San Francisco;
- Six continuous deflective separation (CSD) units for stormwater management in San Francisco;
- One corporation yard dedicated for Sewer Operations deployment, storage, repair of equipment and training; and
- One Southeast Community Facility in San Francisco.

San Francisco dry-weather wastewater is treated by two main treatment plants, Southeast and Oceanside, with a combined dry-weather design capacity of 107 MGD. During wet-weather, three plants, Southeast, Oceanside and North Point Facility, with a peak design capacity of 465 MGD, treat the combined sanitary and stormwater flows which are called "combined sewage". Wastewater generated at Treasure Island is treated at the Treasure Island facility with a dry-weather capacity of 2 MGD. The treatment plants are:

- **North Point Wet Weather Facility**: The North Point Wet Weather Facility has been in operation since 1951. The facility provides primary-level treatment and disinfection of combined sewage collected in the north part of the City during rainstorms. The facility has a treatment capacity of 150 MGD. Treated combined sewage is discharged approximately 800 feet into the San Francisco Bay. In a typical year, the North Point Wet-Weather Facility treats about 1.3 billion gallons of combined sewage.
- **Southeast Treatment Plant**: The Southeast Treatment Plant was built in 1952 and has been expanded several times since. The Plant treats an average dry-weather flow of approximately 58 MGD and discharges into the San Francisco Bay through an 810-foot-long pipe. The Plant has a peak wet-weather capacity of 250 MGD which is discharged through both the 810-foot-long pipe into the Bay and an auxiliary wet-weather-only outfall into Islais Creek. In a typical year, the Southeast Treatment Plant treats about 25 billion gallons of combined sewage.
- **Oceanside Treatment Plant**: Completed in 1993, the Oceanside Treatment Plant treats an average dry-weather flow of approximately 16 MGD and has a total capacity of 65 MGD during wet-weather. It treats wastewater from the west side of the City. Treated wastewater is discharged from the plant to the Pacific Ocean through the Southwest Ocean Outfall 4.5 miles offshore. In a typical year, the Oceanside Treatment Plant treats approximately 6.6 billion gallons of combined

sewage. In 2004, the Oceanside Plant was awarded the U.S. Environmental Protection Agency's "Plant of the Year" Award over similar-sized treatment plants around the nation and in 2014 the Plant received the National Association of Clean Water Agencies Platinum Award for 18 consecutive years of compliance.

- **Treasure Island Treatment Plant**: The San Francisco Public Utilities Commission (SFPUC), under a 1997 Cooperative Agreement between the U.S. Navy, agreed to operate and maintain the utility systems at Treasure Island, including the Treasure Island Plant, while the Navy retains ownership of all the utility systems. The Plant provides secondary treatment of wastewater from facilities on Treasure Island and Yerba Buena Island. It serves a population of approximately 2,400 and has a design capacity of 2 MGD; daily influent flows measured between December 2005 and June 2009 ranged between 0.35 and 0.50 MGD.

Wastewater Enterprise Ten-Year Capital Plan

This Plan includes $4.0 billion of the SSIP program including the completion of the $3.0 billion Phase I and the initiation of the Phase II which will continue beyond this Ten-Year Plan. The Plan also includes significant increases in the R&R program and essential investments in other Wastewater Facilities and Infrastructure including, Treasure Island, Ocean Beach and the Southeast Community Facility.

Table C5 shows the Wastewater Enterprise Ten-Year Capital Plan projected over a ten-year period.

Table C5. Wastewater Enterprise Ten-Year Capital Plan

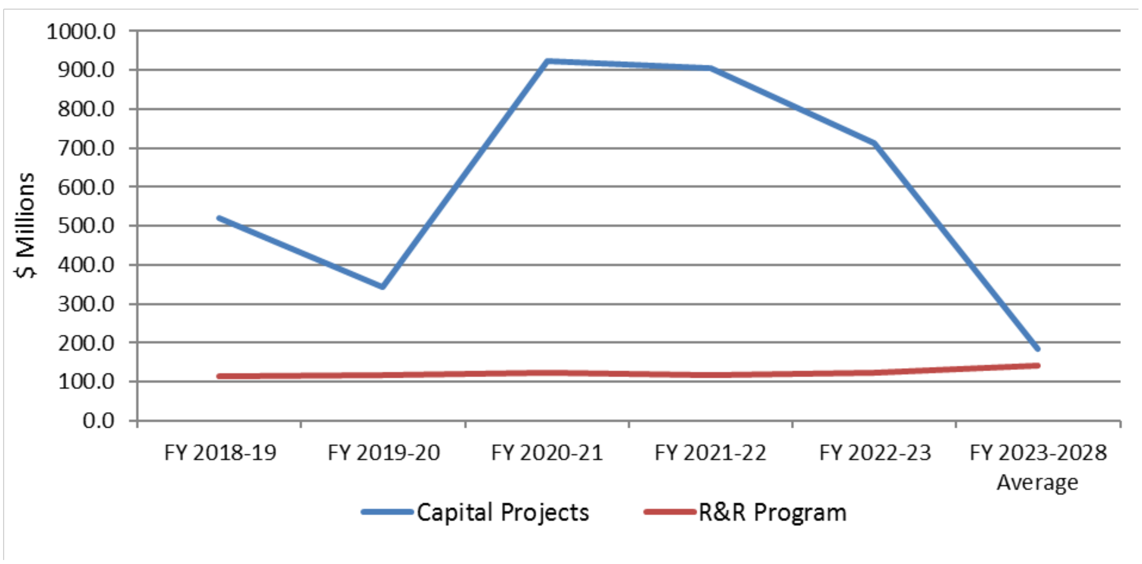
$ Thousands Program/Project	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-28	Plan Total
Spending Plan							
Sewer System Improvement Program							
Program Wide Management	16,500	16,590	16,500	16,500	12,500	59,642	138,232
Land Reuse	483	0	0	0	0	0	483
Treatment Facilities	341,199	169,109	365,055	346,460	291,874	388,760	1,902,457
Sewer/Collection System	29,473	69,285	323,069	395,717	293,436	150,038	1,261,018
Stormwater Management/Flood Control	45,377	40,456	187,631	47,853	98,782	284,661	704,761
Total SSIP	**433,032**	**295,440**	**892,254**	**806,530**	**696,593**	**883,102**	**4,006,951**
Renewal and Replacement							
Collection System - Condition Assessment	3,443	3,563	3,685	3,809	3,942	21,947	40,389
Collection System - Sewer Improvements	62,299	64,790	67,382	70,077	73,582	426,911	765,041
Collection System - Spot Sewer	22,844	23,757	24,708	14,280	14,994	86,997	187,580
Collection System - Salt Water Intrusion	1,179	1,219	1,262	1,306	1,351	4,347	10,664
Treatment Plant Improvements	23,000	24,150	25,358	26,625	27,957	162,202	289,292
Total R&R	**112,765**	**117,479**	**122,395**	**116,097**	**121,826**	**702,404**	**1,292,966**
Treasure Island - New Wastewater Treatment Facility	6,373	23,957	13,000	0	0	0	43,330
Wastewater Facilities & Infrastructure							
Ocean Beach Protection	8,150	5,381	2,987	95,568	4,299	0	116,384
Islais Creek Crossing	5,000	15,000	0	0	0	0	20,000
Southeast Outfall Condition Assessment & Rehab	1,056	1,099	11,142	1,188	1,236	18,054	33,775
SWOO Condition Assessment & Rehab	0	0	914	951	10,989	16,977	29,830
Southeast Community Center Improvements	66,000	3,500	3,500	0	0	0	73,000
Total Wastewater Facilities & Infrastructure	**80,206**	**24,980**	**18,543**	**97,706**	**16,524**	**35,031**	**272,990**
Total Wastewater	**632,376**	**461,856**	**1,046,192**	**1,020,334**	**834,942**	**1,620,537**	**5,616,236**
Sources							
Revenue	106,765	112,979	117,895	111,597	117,326	679,904	1,246,466
Revenue Bonds	519,611	344,377	923,797	904,237	713,116	918,133	4,323,271
Capacity Fee	6,000	4,500	4,500	4,500	4,500	22,500	46,500
Total	**632,376**	**461,856**	**1,046,192**	**1,020,334**	**834,942**	**1,620,537**	**5,616,236**
Total San Francisco Jobs/Year	**5,641**	**4,120**	**9,332**	**9,101**	**7,448**	**14,455**	**50,097**

The SFPUC is required to develop a Ten-Year Capital Plan by City Charter (Sec.8B.123). Safe and reliable wastewater service which protects the public health and the water environment of the San Francisco Bay and Ocean are the most critical objectives of the Wastewater Enterprise. The purpose of the capital investment is to extend the useful life of the infrastructure and provide continued reliable and compliant operation of the system components. Therefore, understanding the long-term capital needs of the system and determining how to finance these capital needs are essential to the mission of the SFPUC.

The Ten-Year Capital Plan is updated every year by SFPUC staff and approved by the Commission. The Ten-Year Capital Plan informs and guides managers, policy makers, elected officials and the public by providing the proposed long-term capital program, projects and investment. The Ten-Year Capital Plan also guides the development of the Ten-Year Financial Plan and associated rate implications of the planned capital spending. The Ten-Year Capital Plan guides the biennial capital budget development. As the budget process progresses through the Spring and into final adoption in the Summer, the annual Capital Improvement Programs (CIPs) can be revised forming the biennial capital budget. Consequently, even though the annual capital budgets are based on the Ten-Year Capital Plan, they do not always match by project or dollar amount.

Chart C6 shows the Wastewater Enterprise Ten-Year Capital Plan Trend over a ten-year period, from FY 2018-19 to FY 2027-28.

Chart C6. Wastewater Enterprise Ten-Year Capital Plan Trend



The Ten-Year Capital Plan includes the Renewal and Replacement (R&R) program, which is revenue-financed, Sewer System Improvement Program (SSIP), and improvements to other Wastewater Facilities and Infrastructure which are debt financed.

Capital Program

The Ten-Year Capital Plan (Table C5 and Chart C6) shows total project costs for the Wastewater Enterprise of approximately $5.6 billion of which $4.0 billion is for the SSIP, the remainder is for R&R and other Wastewater Facilities and Infrastructure. Capital investments during the ten-year period are in the following areas:

- Program Management, $ 138.2 million;
- Land Reuse, $0.5 million;
- Treatment Facilities, $1,902.5 million;
- Sewer/Collection System, $1,216.0 million;
- Stormwater Management/Flood Control, $704.8 million;

- Renewal and Replacement, $1,293.0 million;
- Treasure Island, $43.3 million;
- Wastewater facilities & Infrastructure, $273.0 million;

Sewer System Improvement Program (SSIP), $4.2 billion

The San Francisco Public Utilities Commission endorsed a $6.9 billion Sewer System Improvement Program (SSIP) to help the Wastewater Enterprise meet the SFPUC goals and levels of service for operational reliability, regulatory compliance, effective stormwater management, community benefits, climate change adaptation, economic and environmental sustainability and ratepayer affordability. The SSIP is being implemented in three phases over the next 18 years. In April 2018, the Commission approved a new budget and schedule for the SSIP. Phase 1 increased from $2.9 billion to $3.0 billion.

The SSIP evaluated the current treatment and collection system to provide a long-term strategy for wastewater and stormwater management to ensure reliability and resilience. The SSIP is based on a comprehensive planning effort that: (1) outlines a long-term strategy for San Francisco's wastewater and stormwater management; (2) addresses specific system deficiencies, aging infrastructure, and future operational and repair/replacement needs; and (3) provides a roadmap for future capital improvement programs, ensuring reliable service meeting all regulatory requirements. The SSIP will be implemented over an 18-year timeframe, a portion of which is addressed in the Ten-Year Capital Plan.

The adopted Ten-Year Capital Plan anticipates approximately $4.0 billion of investments in the SSIP, focusing on projects in the following categories:

- Program-Wide Efforts: $138.2 million – the SSIP is a series of capital improvement projects focused on improving the wastewater system to meet the present and future needs of the City. The Program-Wide Management Project will support the SSIP implementation, providing condition assessments (facility inspections), project definition and prioritization, public outreach and education, analysis of the impacts of climate change, sustainability evaluation, and general program management (program controls, change control, constructability). The initial focus will be on scope optimization and program implementation of the $3.0 billion SSIP Phase 1; and the continued development of programmatic schedules, construction cost estimates; and rates and cash flow projections for the SSIP.

- Land Reuse $0.5 million – this program addresses long-term planning and ongoing needs for physical space to support SSIP projects by upgrade and/or replacing aging infrastructure. Over the next ten years, multiple construction projects have been planned at SEP to upgrade and/or replace aging infrastructure. Each of these potential projects will require staging areas as well as secured space for physical storage of equipment. Space is also required for large scale physical modeling to test equipment for collection system facilities projects prior to installation.

- Treatment Facilities: $1,902.5 million - projects include the Bayside Biosolids (Digester) Project which funds the planning, design and construction of a new digester and solids facility to be located in the southeast area of San Francisco, improvements to the combined sewer transport storage and near shore combined sewer discharge structures, major improvements to: the liquid treatment at the Southeast Water Pollution Control Plant; the North Point Wet Weather Facility; North Shore Pump Station and associated outfalls, and the Oceanside Water Pollution Control Plant, Westside Pump Station and Westside Force Main.

- Sewer/Collection System: $1,261.0 million – includes the proposed Central Bayside System Improvement Project to provide system enhancements to the Channel Drainage Basin and needed redundancy for the existing 66-inch Channel Force Main, hydraulic improvements to sewers/pump stations, and improvements to stormwater management through elements of both grey and green infrastructure. Also provides funding for replacement of existing sewers to increase hydraulic capacity, transportation/storage and combined sewer discharge structures, pump stations and force mains.

- Stormwater Management/Flood Control: $704.8 million

  - Drainage Basins - In Phase I of the SSIP, SFPUC will build, monitor and evaluate the effectiveness of eight green infrastructure projects to minimize stormwater impacts throughout San Francisco's eight urban watersheds. Green Infrastructure (GI) improvements will sustainably augment the collection system for the management of stormwater flows. These projects will support the levels of service goals to minimize flooding, provide benefits to impacted communities and achieve economic and environmental sustainability. Ancillary benefits from GI projects may include: reduction of energy use (reduced pumping and treatment), potable water conservation, groundwater recharge, and improved community aesthetics.

  - Flood Resilience - This group of projects will address combined sewer flooding caused by heavy rain. The primary planning effort is comprised of two major components: (1) an infrastructure component that identifies capital improvement priorities to reduce flood risk City-wide, and (2) of flood risk reduction measures including things like providing financial incentives to property owners to flood proof their properties, amending the Building Code, providing options for affordable flood insurance, and enhancing City-wide coordination for storm response.

  - Green Infrastructure - Includes construction of green infrastructure to use permeable surfaces and engineered subsurface systems to manage stormwater. One important goal of SSIP is to use peak flow attenuation (slowing stormwater) and volume reduction (on-site management of stormwater). Most of the projects will be in the rights-of-way and sometimes include: sidewalk bulb-outs, vegetation, permeable sidewalks and parking spaces, subsurface stormwater storage, and on-site reuse of stormwater for irrigation.

  - Green Infrastructure Stormwater Management Grant Program – This project provides financial incentives through stormwater management agreements with property owners to construct and maintain green infrastructure on large parcels. Managing stormwater onsite reduces flow into the public right of ways and subsequently into the collection system and treatment plants for discharge.

Renewal and Replacement (R&R) Program

The Wastewater R&R program includes two major categories: sewer replacements and treatment facilities.

Collection System, $1,003.7 million

- Condition Assessment Project – Includes cleaning and inspection of small and large diameter sewers, and collection system discharge/overflow structures. The results of the inspection program will inform the R&R Spot Repair and Collection System Sewer Improvements Program, as well as the SSIP regarding needed sewer repairs. This project will assist with the on-going gathering of data necessary for the Wastewater Enterprise Collection Systems Asset Management Program.
- Sewer Replacement/Improvement Program – This program maintains the existing functionality of the sewage collection system and includes planned and emergency repairs and replacement of structurally inadequate sewers. Failure of the collection system will reduce the City's ability to handle and dispose of wastewater and stormwater which can lead to public health, safety and environmental risks and non-compliance with State discharge permits . Projects are identified utilizing an asset management approach which factors in physical condition, age, location, risk, public safety, paving schedule and other factors. The estimated annual cost for sewer replacement beginning in FY 2018-19 is approximately $62.3 million. This amount increases to $94.0 million by FY 2027-28 to replace 15 miles of sewer per year.
- Collection System Spot Sewer Repair Project – This project provides as-needed contingency-based repairs of existing sewer pipes for a city block or less in length. FY 2018-19 and FY 2019-20 budgets are approximately $22.8 million and $23.8 million respectively, which is projected to repair approximately 700 individual spot sewer locations per fiscal year, to meet the targeted levels of service goals. It is anticipated that this base rate of spot repair will continue for the next several years and would ultimately decrease as the overall R&R program continues to be implemented.
- Salt Water Intrusion – The R&R Program Collection System Salt Water Intrusion projects will reduce salt water intrusion into the sewer system. Salt water not only corrodes the pipes and concrete of the system, if it reaches the treatment plant in large quantities, it can harm or kill the biological secondary treatment process which in turn will render the treatment plant useless, cause discharge permit violations and harm receiving water quality. Collection system salt water intrusion projects are identified as part of the ongoing Collection System Asset Management Program (CSAMP). Projects will consist of sewer pipeline joint sealing work. FY 2018-19 and FY 2019-20 budgets are approximately $1.2 million and $1.2 million, respectively.

Treatment Plants, $289.3 million

The Treatment Plant Improvement program helps maintain the capacity and reliable performance of the Wastewater treatment facilities owned and operated by the Wastewater Enterprise. This is a continuing annual program to extend the useful life of Wastewater treatment assets including transport/storage boxes, discharge structures, pump stations, force mains, tunnels and treatment plants/facilities.

The projects are prioritized based upon regulatory compliance, condition assessments, operation staff recommendations and Level of Service goals which were formally adopted as part of the SSIP. The completion of projects under the Treatment Plant Improvement program will increase reliability and efficiency of Wastewater Enterprise facilities and will ensure that the performance of the treatment facilities meets the established levels of service. The estimated annual cost for the treatment plant renewal program, beginning in FY 2018-19, is $23.0 million, increasing to $35.7 million by FY 2025-26.

Treasure Island Capital Improvement, $43.3 million

On October 1, 1997, concurrent with the operational closure of the Treasure Island Naval Station, the City entered into a Cooperative Agreement with the U.S. Navy in which the City agreed to take responsibility for caretaker services on Treasure Island and Yerba Buena Island. Based on this agreement, the SFPUC provides utility operations and maintenance services for the wastewater and stormwater systems. This project provides continued funding for a new tertiary two-million gallon per day wastewater treatment facility for the Treasure Island/Yerba Buena Island service area to replace the existing, aged facility. The new treatment facility will include influent screening, a combined primary/secondary treatment process, anaerobic sludge digestion, sludge dewatering and truck load-out, disinfection, odor control, and tertiary treatment.

Wastewater Facilities and Infrastructure, $273.0 million

- Ocean Beach Protection Process: $116.4 million - This project is to develop comprehensive shoreline management and protection plan in partnership with relevant stakeholders and regulatory agencies and to establish a long-term solution to the erosion issues along Ocean Beach. This long-term solution is necessary to protect the integrity of critical wastewater assets that were planned, built, permitted and constructed to protect public health and the environment. These assets include the Lake Merced Transport/Storage facility, the Westside Pump Station and the Oceanside Treatment Plant which are threatened by sea level rise, and erosion at Ocean Beach
- Islais Creek Crossing: $20.0 million – This project includes improvements to Islais Creek crossing of the effluent pipelines and modifications to the Booster Pump Station at Islais Creek. The project addresses the compromised section of the effluent discharge outfall into the San Francisco Bay.
- Southeast Outfall Condition Assessment: $33.8 million – This project includes the condition assessment of the outfall and needed repairs. The Southeast Outfall pipeline conveys treated effluent from the Southeast Plant to the San Francisco Bay. The condition assessment will determine if the pipeline from the onshore force main to offshore outfall can provide reliable service until the offshore outfall is replaced. Funding for rehabilitation is include in the project if determined necessary by the assessment.
- Southwest Ocean Outfall Condition Assessment: $29.8 million – The Southwest Ocean Outfall is a 12 foot-interior diameter outfall carrying effluent from the Oceanside Plant and the Westside Transport/Pump Station; discharging up to 4.5 miles off Ocean Beach. The outfall went online in 1986. The condition assessment will determine what the remaining useful life of the outfall is.
- Southeast Community Center Improvements: $73.0 million – This project focuses on evaluating and improving the functional and operational reliability of the existing Southeast Community Facility by providing infrastructure improvements. The project improvements include efficiency upgrades, building envelope repairs, tenant space reconfigurations and consolidations, structural/seismic, life/safety, and accessibility upgrades.

Table C6 shows the Wastewater Enterprise's Capital Budget for FY 2017-18, FY 2018-19, and FY 2019-20, by major program

Table C6. Wastewater Enterprise Capital Budget by Major Program

$ Millions Program/Project	FY 2017-18 Adopted Budget	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget
Cost			
Sewer System Improvement Program			
Program Wide Management	6.0	16.5	16.6
Land Reuse	0.0	0.5	0.0
Treatment Facilities	573.0	341.2	169.1
Sewer/Collection System	70.3	29.5	69.3
Stormwater Management/Flood Control	21.2	45.4	40.5
Total SSIP	**670.6**	**433.0**	**295.4**
Renewal and Replacement			
Collection System - Condition Assessment	3.3	3.4	3.6
Collection System - Sewer Improvements	59.9	62.3	64.8
Collection System - Spot Sewer	22.0	22.8	23.8
Collection System - Salt Water Intrusion	1.1	1.2	1.2
Treatment Plant Improvements	14.4	23.0	24.2
Total R&R	**100.7**	**112.8**	**117.5**
Treasure Island - Wastewater Treatment Facility	20.5	6.4	24.0
Wastewater Facilities & Infrastructure			
Ocean Beach Protection	4.0	8.1	5.4
Islais Creek Crossing	10.0	5.0	15.0
Southeast Outfall Condition Assessment & Rehab	0.0	1.1	1.1
Southeast Community Center Improvements	5.0	66.0	3.5
Total Wastewater Facilities & Infrastructure	**19.0**	**80.2**	**25.0**
Financing Cost	91.6	74.2	49.2
Total Cost	**902.3**	**706.6**	**511.1**
Sources			
Revenue	45.0	106.8	113.0
Revenue Bonds	854.8	593.8	393.6
Capacity Fee	2.5	6.0	4.5
Total Sources	**902.3**	**706.6**	**511.1**

FY 2018-19 and FY 2019-20 Capital Budget

The Wastewater FY 2018-19 and FY 2019-20 Capital Budget is $1,217.7 million.

The capital budget includes continuing Renewal and Replacement (R&R) Projects for the Collection System Sewer R&R, spot sewer repair and Treatment Plant Facilities Improvements and significant non-recurring capital expenditures for the Sewer System Improvement Program (SSIP), Treasure Island and other Wastewater Facilities and Infrastructure. The budget is funded by a combination of Wastewater Enterprise revenues, Wastewater revenue bonds and capacity fees.

FY 2018-19

The Wastewater Enterprise's Capital Improvement Program (CIP) for FY 2018-19 is $706.6 million and includes $632.4 million for Wastewater Capital Projects and $74.2 million for financing cost. The FY 2018-19 Wastewater Enterprise CIP including financing cost is $195.7 million less than the FY 2017-18 approved CIP. The decrease is the result of the April 2018 budget and schedule update that shifted SSIP costs outside of the two-year capital budget request to FY 2021 and FY 2022.

Major projects in the CIP include:

Capital Enhancements included in the SSIP

- $16.5 million for SSIP Program-Wide Management – Budget to fund SSIP management and implementation including project definition and prioritization, public outreach and education, analysis of the impacts of climate change, sustainability evaluation, and general program controls and management
- $0.5 million for Land Reuse program, this program addresses long-term planning and ongoing needs for physical space to support SSIP projects. By upgrading and/or replacing aging infrastructure. Over the next ten years, multiple construction projects have been planned at Southeast Plant to upgrade and/or replace aging infrastructure. Each of these potential projects will require staging areas as well as secured space for physical storage of equipment. Space is also required for large scale physical modeling to test equipment for collection system facilities projects prior to installation.
- $341.2 million for SSIP Treatment Facilities including the annual funding to plan, design and construction of a new digester and solids handling facility replacing the existing facility at the Southeast Plant (with a total project cost of $1.27 billion), major improvements to the North Point Facility, North Shore Pump Station, and associated outfalls (with a total project cost of $408.6 million, and improvements to the Oceanside Water Pollution Control Plant with total project cost of $398.7 million).
- $29.5 million for Sewer/Collection System projects including enhancements the Central Bayside System Improvement Project (with a total cost of $846.4 million), Interdepartmental sewer projects done in coordination with other City departments such as the Municipal Transportation Agency (MTA) or the Department of Public Works (DPW) $227.1 million total costs, and improvements to the systems Pump Stations and Force Mains.
- $45.4 million for Stormwater Management/Flood Control projects, Green Infrastructure Projects to provided sustainable alternatives to the collection system management of stormwater flows and Flood Resiliency projects that address combined sewer flooding caused by heavy rain in neighborhoods that are identified as having multiple flood event in recent years.

Renewal and Replacement Projects (Recurring)

- $89.8 million for Collection System R&R projects including sewer condition assessments which support the Collection System Asset Management program, spot sewer repairs (repair that cover less than one block) and planned/emergency projects to repair/replace 15 miles of structurally inadequate sewers to maintain the existing functionality of the collection system.

- $23.0 million for Treatment Plant R&R program to maintain the capacity and reliable performance of the wastewater treatment facilities. Includes repairs to Transport/Storage Boxes, Pump Stations, Force Mains, Tunnels and Treatment Plants prioritized by condition assessments, regulatory compliance, staff recommendations and level of service goals.

Capital Enhancements Non-SSIP

- $8.1 million for Ocean Beach Protection Project, which facilitates the planning and development of the long-term shoreline protection measures along Ocean Beach in the effort to protect the integrity of critical Wastewater assets including the Lake Merced Transport/Storage facility, the Westside Pump Station and the Oceanside Treatment Plant all of which are at risk with sea level rise and beach erosion.
- $5.0 million for Islais Creek Crossing, which will rehabilitate pipelines and modify the effluent pump station at Islais Creek to ensure compliance with regulatory requirements and increase reliability.
- $1.1 million for the Southeast Outfall Condition Assessment to determine the condition and repairs, if necessary, to the pipeline between the force main and the offshore outfall to assure the Southeast Plant and Bay Outfall remain operational and regulatory compliant.
- $66.0 million for Southeast Community Center Improvements, to evaluate and implement improvement to the functional and operational reliability of the existing Southeast Community Facility including energy efficiency, seismic/structural, life/safety and accessibility. In addition to the main building, the greenhouses and surrounding areas are included as part of the project.

FY 2019-20

The CIP total for FY 2019-20 is $511.1 million. It includes funding for: SSIP Program-Wide Management, $16.6 million; SSIP Treatment Facilities, $169.1 million; SSIP Sewer/Collection System, $69.3 million; SSIP Flood Control Program, $40.5 million; Collection System R&R, $93.3 million; Treatment Plan Improvement R&R, $24.2 million; Ocean Beach Protection Project, $5.4 million; Islais Creek Crossing, $15.0 million; Southeast Outfall Condition Assessment, $1.1 million; Southeast Community Center Improvements, $3.5 million.

Wastewater Programmatic Projects

Table C7 shows The Wastewater Enterprise Programmatic Projects, for FY 2017-18, FY 2018-19, and FY 2019-20, by major programs. Programmatic projects are annually appropriated projects in support of routine maintenance of facilities programs most of which were initiated in support of the capital program.

Table C7. Wastewater Enterprise Programmatic Projects

$ Millions Program/Project	FY 2017-18 Adopted Budget	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget
Cost			
Treasure Island Facilities Maintenance	1.3	1.4	1.4
Low Impact Development	0.7	0.7	0.7
Youth Employment Project	0.7	0.7	0.7
Community Benefits - Wastewater	1.0	1.5	0.8
525 Golden Gate - Operations & Maintenance	1.1	1.6	1.3
525 Golden Gate - Lease Payments	2.4	2.4	2.4
Total Cost	**7.2**	**8.3**	**7.2**
Sources			
Infrastructure - Recovery Capital (O&M)	0.2	0.3	0.3
Infrastructure - Recovery Capital (Lease)	1.9	1.9	1.9
Federal Bond Interest Subsidy	0.5	0.5	0.5
Revenue	4.6	5.6	4.6
Total Sources	**7.2**	**8.3**	**7.2**

FY 2018-19

The Wastewater Enterprise Programmatic Project budget increased $1.1 million from the prior year in FY 2018-19 to $8.3 million to fund the $1.5 million Community Benefits Program, and additional $1.6 million one-time maintenance for the 525 Golden Gate Building.

Wastewater Enterprise Programmatic Projects fund facilities maintenance activities at Treasure Island and the SFPUC 525 Golden Gate Headquarters Building, Youth Employment Programs and the Community Benefits Program responsible for implementing policies and guiding our efforts to be a good neighbor to all lives or neighborhoods that are directly affected by wastewater operations.

FY 2019-20

The Wastewater Enterprise Programmatic Project budget for FY 2019-20 decreased by $1.1 million to $7.2 million, and fund projects like those in FY 2018-19.

Wastewater Enterprise Ten–Year Financial Plan

Table C8 shows Wastewater Enterprise Ten-Year Financial Plan, from 2018-19 to FY 2027-28.

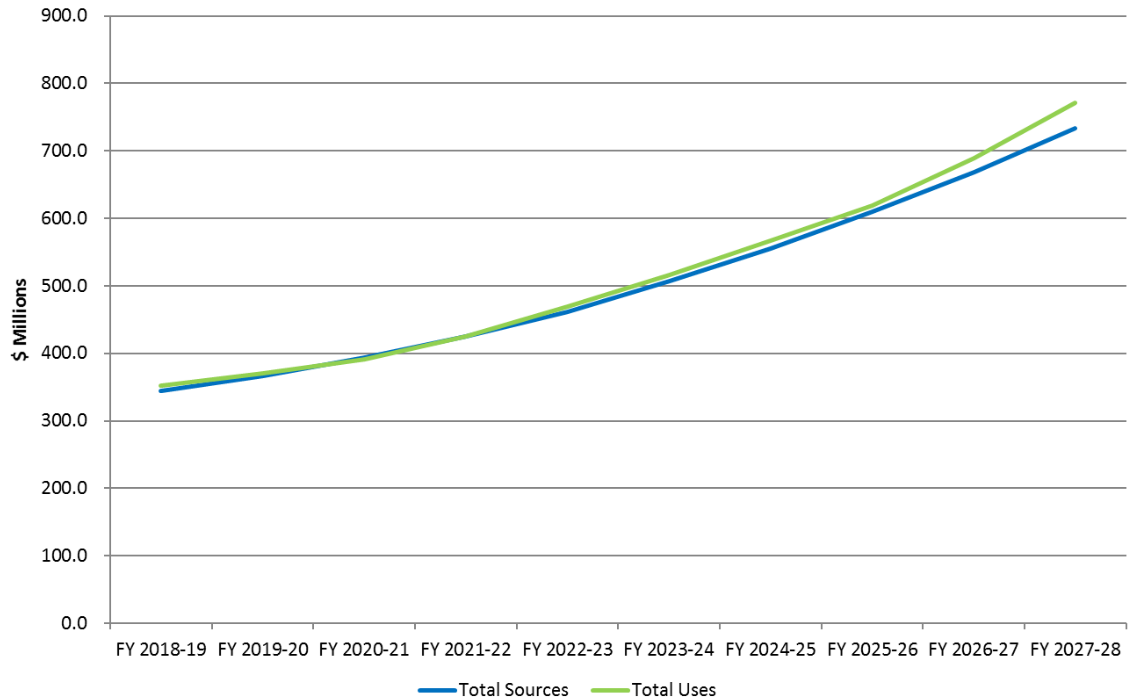
Table C8. Wastewater Enterprise Ten-Year Financial Plan

$ Millions	Projected FY 2017-2018	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	FY 2027-28
Beginning Operating Fund Balance	**$ 144.7**	**$ 198.8**	**$ 190.5**	**$ 186.8**	**$ 189.8**	**$ 190.4**	**$ 183.3**	**$ 174.6**	**$ 163.5**	**$ 153.2**	**$ 132.1**
Sources											
Sewer Service Charges	306.0	328.0	350.9	378.9	409.2	446.1	490.7	539.8	593.7	653.2	718.6
Interest Income	1.5	2.8	3.0	3.0	3.7	3.7	4.0	3.8	3.6	3.6	3.1
Federal Bond Interest Subsidy	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.7	3.5	3.4	3.2
Other Miscellaneous Income	10.3	9.7	8.1	8.2	8.2	8.3	8.3	8.4	8.4	8.5	8.6
Total Sources	**$ 321.8**	**$ 344.5**	**$ 366.1**	**$ 394.1**	**$ 425.1**	**$ 462.0**	**$ 506.9**	**$ 555.7**	**$ 609.3**	**$ 668.7**	**$ 733.5**
Uses											
Operations & Maintenance	168.8	176.7	181.6	186.7	192.0	197.5	203.1	208.8	214.6	220.7	226.9
Debt Service	50.5	63.1	70.7	81.8	116.3	149.7	184.6	223.7	264.0	322.8	390.2
Revenue-Funded Projects	47.5	112.9	117.6	122.5	116.2	122.0	128.0	134.3	140.9	146.3	153.6
Total Uses	**$ 266.8**	**$ 352.7**	**$ 369.8**	**$ 391.0**	**$ 424.5**	**$ 469.1**	**$ 515.6**	**$ 566.8**	**$ 619.6**	**$ 689.8**	**$ 770.7**
Net Revenues	**$ 55.0**	**$ (8.3)**	**$ (3.7)**	**$ 3.0**	**$ 0.6**	**$ (7.1)**	**$ (8.7)**	**$ (11.1)**	**$ (10.3)**	**$ (21.1)**	**$ (37.2)**
Ending Fund Balance	**$ 199.8**	**$ 190.5**	**$ 186.8**	**$ 189.8**	**$ 190.4**	**$ 183.3**	**$ 174.6**	**$ 163.5**	**$ 153.2**	**$ 132.1**	**$ 94.9**
Revenue Requirement Impact	**11.0%**	**7.0%**	**7.0%**	**8.0%**	**8.0%**	**9.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**
Fund Balance as % of Op. Expenses	**117.8%**	**107.8%**	**102.9%**	**101.7%**	**99.2%**	**92.8%**	**86.0%**	**78.3%**	**71.4%**	**59.9%**	**41.8%**
Debt Service Coverage (Current)	**3.02**	**2.66**	**2.61**	**2.54**	**2.01**	**1.77**	**1.65**	**1.55**	**1.49**	**1.39**	**1.30**
Debt Service Coverage (Indenture)	**5.89**	**5.90**	**5.65**	**4.82**	**3.64**	**3.04**	**2.64**	**2.33**	**2.11**	**1.86**	**1.63**
Revenue-Funded % of Capital	**23.0%**										

*SFPUC FY 2018-2019 Ten-Year Financial Plan, Adopted February 2018

Chart C7 provides the Wastewater Enterprise Ten-Year Financial Plan Trend of Sources and Uses from FY 2018-19 to FY 2027-28

Chart C7. Wastewater Enterprise Ten-Year Financial Plan, Sources and Uses Trend



Source: SFPUC FY 2018-19 Ten-Year Financial Plan. Adopted February 2018

The SFPUC's Ten-Year Financial Plan as required by City and County of San Francisco Charter Section 8B.123, includes a ten-year financial summary (FY 2018-19 through FY 2027-28), describing projected sources and uses, resulting fund balances and associated financial reserve ratios. This planning document supports the development of the Ten-Year Capital Plan, water and power utility rates and the biennial budget. The revenue and cost estimates should be viewed as indications of expected trends, given certain expenditure, receipt, and financing assumptions. These assumptions are based on current Board of Supervisors' and Commission policies, goals, and objectives representing management's best estimates.

Rates and Charges

In April 2018, the Commission approved average sewer service rate increases of 7 percent for FY 2018-19 and FY 2019-20 and 8 percent for FY 2020-21 and FY 2021-22. Projected average annual sewer service rate changes are 9.8 percent from FY 2022-23 through the end of the Ten-Year Financial Plan. These are the projected rate changes needed to fund the Wastewater Capital Improvement Program (CIP) to construct new digesters at the Southeast Plant, provide other treatment plant improvements, and better manage stormwater.

Sources of Funds

The Wastewater Enterprise serves a population of approximately 870,887 within San Francisco and adjacent communities. Customers are grouped into two classes: residential and non-residential. Grouping customers with similar wastewater characteristics into classes allows the Enterprise to allocate costs responsibility to each class based on their respective volumes and strengths. Within each class, subgroups have been established to facilitate rate analysis and rate administration. Total sources excluding bond proceeds are expected to increase from $344.5 million to $733.5 million over the ten-year period.

- Sewer service charges are projected to increase from $328.2 million in FY 2018-19 to $718.6 million by FY 2027-28. The City has adopted sewer service charges through FY 2021-22, based on each customer class's proportional use of the sewage system and to establish a dedicated source of revenues to pay for operating the system.
- Interest Income on Fund Balances is projected to average $3.4 million annually over the ten-year period.
- Other miscellaneous income is projected to average $8.5 million annually over the ten-year period.

Uses of Funds

The Ten-Year Financial Plan includes projections of 3 percent annual growth for operations and maintenance costs, and 5 percent annual escalation in revenue-funded capital costs.

The Ten-Year Financial Plan includes operation and maintenance costs, renewal and replacement costs for existing equipment and facilities, and debt service on bonds and loans used to finance capital improvements. Operations and maintenance costs, currently the largest expense component, make up half of projected FY 2018-19 total expenses, but will decrease at the end of the projection period as debt service costs increase. Total expenditures are forecasted to more than double from $352.7 million to $770.7 million over the period.

- Operations and Maintenance costs include personnel costs, material and supplies, treatment chemicals, power and energy, sludge disposal, and services of other City departments (including the SFPUC Bureaus). FY 2018-19 projections to operate the water pollution control system are $176.7 million, increasing to $226.9 million by FY 2027-28. Most of these costs are fixed in nature and associated with running a 24/7 operation.
- Debt Service includes principal and interest payments on revenue bonds used to finance system improvements and are projected to increase from $63.5 million to $390.2 million over the ten-year period. The increase towards the end of the forecast period results from estimated debt service expense associated with the early years of the SSIP, currently in project development.
- Revenue-Funded Capital Projects are used to fund major maintenance and routine additions and improvements to sewers, pumping stations, outfalls and treatment plants. As a recipient of State and Federal grants under the Clean Water Act, the Enterprise is required to include annual funding for repairs and replacement as a part of its annual revenue requirement. Annual revenue funding of capital is projected to increase from prior year actuals and average annual spending is $129.4 million over the ten-year period. The increase in this spending is consistent with Commission adopted Capital Financing Policy that targets a minimum 15 percent to 30 percent of the capital budget to be funded with current revenues.

Debt Financing of Capital Needs

The Ten-Year Capital Plan largely assumes debt financing of capital needs over the next ten-year period. The SSIP will require significant debt financing as authorized under Proposition E approved by voters in 2002.

The SFPUC Plan assumes a financing strategy that utilizes short-term financing via the existing commercial paper (CP) program to calibrate financing needs with project spending. Long-term (30-year), 5 percent fixed-rate debt issuance is assumed to periodically refund the CP program. The CP program facilitates short-term financing, typically at lower interest rates than longer term debt, which minimizes costs. The authorized CP program for the Enterprise is $750 million, as of June 30, 2018. In addition, the SFPUC has secured nearly $1 billion in low-interest loans including: $103.5 million in Clean Water State Revolving Funds (SRF) loans for our SSIP projects; $186.0 million from SRF and the California state grants for water projects for our Westside Water Recycling project; and $699.0 million Water Infrastructure Finance and Innovation Act (WIFIA) loan from the United States Environmental Protection Agency for our Biosolids Digester Facility project.

Financial Ratios

Consistent with SFPUC strengthened Debt Service Coverage Policy, adopted in March 2017, it is the financial objective of the SFPUC to maintain a minimum revenue bond coverage ratio of 1.35 times on an indenture basis and 1.10 times on a current operations basis; the latter does not include available fund balances. Over the ten-year period, the Wastewater Enterprise indenture coverage ranges from 5.90 to 1.63. On a current basis, the coverage ratio is projected to exceed the 1.00 minimum with a range from 2.66 to 1.30 times coverage.

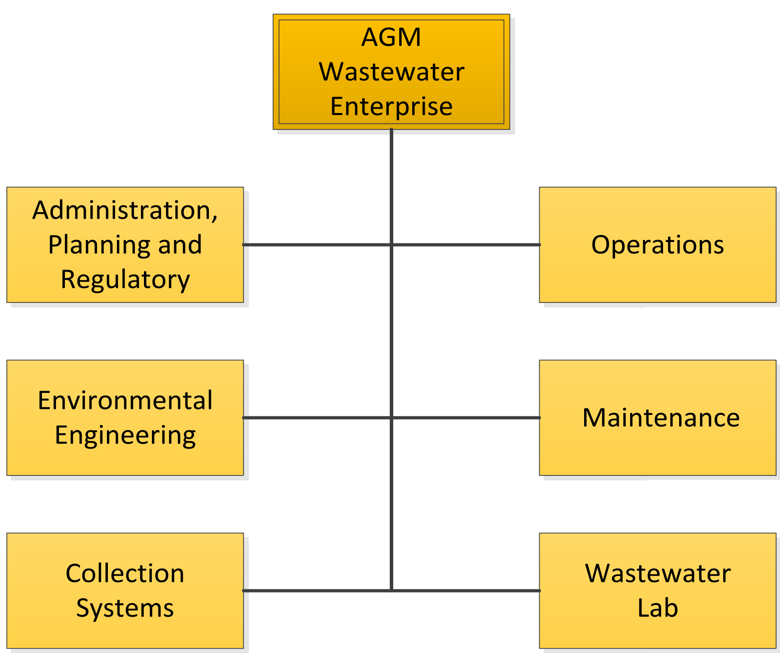
Fund Balances and Reserves

Ending fund balance is projected to decline to $132.1 million at the end of the ten-year projection period for the Wastewater Enterprise. The decline in fund balance is a result of growing expenditures from debt service and revenue funded capital spending and a decision to utilize accumulated reserves to fund these expenditures. Fund balance levels are still projected to conform to the strengthened SFPUC Fund Balance Policy, adopted in 2017.

Departmental Section

Wastewater Enterprise Organization Chart

This organizational chart reflects the budget structure of the Wastewater Enterprise.



Wastewater Performance Trends

In FY 2011-12 the SFPUC adopted a Strategic Sustainability Plan (SSP) that provides the SFPUC a system for planning, managing, and evaluating SFPUC-wide performance with consideration for the long-term economic, environmental, and social impacts of its business activities. Starting in FY 2012-13 through FY 2015-16 specific key performance measures from the SSP have been used to determine trends in performance for Wastewater and the other Enterprises. In May 2016, the SFPUC adopted the **2020 Strategic Plan** developed by the Executive Team to reaffirm the overall strategic direction, identify key priorities and serve as a roadmap for the SFPUC to ensure it meets the challenges ahead and continues to deliver reliable water, power and sewer services. Through this process of reaffirming the Mission and Vision, the SFPUC also reviewed and expanded upon the its values. The Goals and Objectives in Table C9 included in the plan focus on accomplishments to be achieved by 2020 and to ensure that objectives are met while the organization strives to implement capital programs, diversify the water and energy portfolio and ensure triple bottom line sustainability.

Table C9. 2020 Strategic Plan Goals and Goals Descriptions

2020 Strategic Goals	Goal Descriptions
Reliable Service and Assets	We provide reliable service and value to our customers by optimizing the operations, maintenance, and replacement of all assets in the most cost-effective manner.
Organizational Excellence	We are a high performing organization focused on efficiency, effectiveness and accountability across the organization.
Effective Workforce	We attract, retain, and develop an effective workforce, reflective and supportive of our communities, that consistently delivers high quality services to stakeholders.
Financial Sustainability	We assure financial integrity and sustainability, meeting today's operating and capital investment needs while managing risk and long-term affordability for the future.
Stakeholder and Community Interest	We foster trust and engagement with our customers, employees, and the communities we serve through open and timely communication and education.
Environmental Stewardship	We sustainably manage the resources entrusted to our care to ensure environmental and community health.

Each Goal in the **2020 Strategic Plan** has one or more Executive Champions who have worked across the SFPUC to develop Performance Measures including target and baseline metrics. Additionally, each Goal has key elements on which the Goal Champions have chosen to base the performance measures. In May 2018, the performance measures for each goal for the **2020 Strategic Plan** were finalized. Table C10 provides performance measures for the Wastewater Enterprise for FY 2018-19 and FY 2019-20.

Over the last two years since the adoption of the **2020 Strategic Plan**, the performance measures for Wastewater were consistent with SSP and could be associated with the goals of the **2020 Strategic Plan**. Appendix F provides the performance measure and targets applied across the SFPUC for FY 2016-17 and FY 2017-18 and reported to the Controller and the Mayor.

As shown in Appendix F there are some trends for the Wastewater Enterprise that can be noted:

- System renewal and replacement rate for Wastewater collection system; target is 15 miles per year
    - FY 2016-17, 17.10 miles
    - FY 2017-18, 16.10 miles

- Percentage of Biosolids (the residual, semi-solid material left from the sewer treatment process) going to beneficial reuse; target is 100 percent
  - FY 2016-17, 100 percent
  - FY 2017-18, 100 percent
- Number of unauthorized discharges from the combined sewer system; target is zero
  - FY 2016-17, 3 unauthorized discharges
  - FY 2017-18, 4 unauthorized discharges

Table C10. Wastewater Enterprise Performance Measure, Target and Responsible Organization for FY 2018-19 and FY 2019-20

Goal	Performance Measurement	Target/Baseline	Responsible Organization
Reliable Service and Assets	Percent dry-weather main sewer overflows per 100 miles of main sewer	4%	Collection System Division
Reliable Service and Assets	Develop baseline security standards for existing and future assets	100% by June 30, 2019	Enterprise-wide
Reliable Service and Assets	System renewal and replacement rates for wastewater sewers a. Priority mains b. Overall	a. 15 miles/year b. 1.5%	Collection System Division
Reliable Service and Assets	Publish a State of the System Report	First report in 2020 and then biennial thereafter	Enterprise-wide
Organizational Excellence	Percent overtime as a percent of base salary -year over year	16%	Enterprise-wide
Organizational Excellence	Percent of audit recommendations closed within 6 months of publication	85%	Enterprise-wide
Stakeholder and Community Interests	Percent of retail customers rating the SFPUC as good or better on a customer survey	90%	Enterprise and SFPUC-wide
Stakeholder and Community Interests	Average response time to customer inquiries that are received via 311	TBD in first year of collecting data	Collection System Division
Stakeholder and Community Interests	Response rate to the Employee Engagement Survey	70% of employees participate 80% of the manager with access to team results create and complete at least one action plan	Enterprise-wide
Environmental Stewardship	Amount of biosolids going to beneficial uses (percent)	100%	Treatment OEM and Business Services
Environmental Stewardship	Amount of biogas going to beneficial uses (percent)	75%	Treatment OEM
Environmental Stewardship	Annual number of incidents of NPDES permit noncompliance	0	Enterprise-wide
Environmental Stewardship	Gallons of stormwater removed from the combined sewer system	1.6 million gallons by 2020 and 500 million gallons by 2032	Enterprise-wide and SFPUC-wide

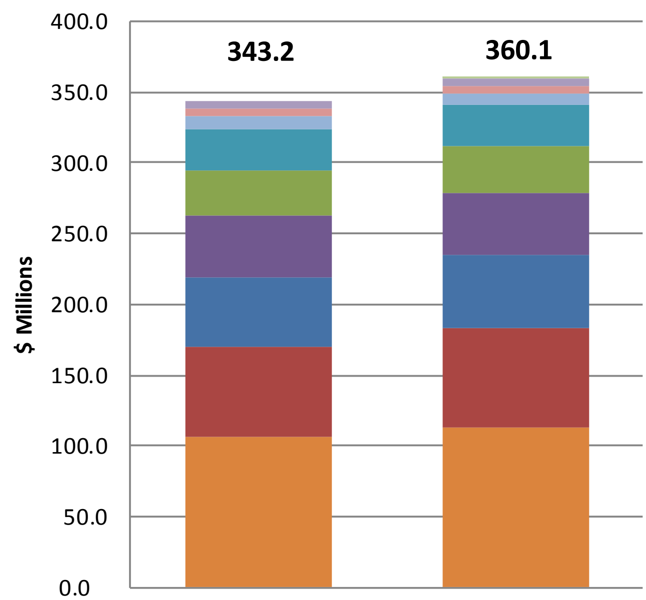
Divisions

The Wastewater Enterprise is comprised of six Divisions: Wastewater Administration, Planning and Regulatory, Maintenance, Operations, Environmental Engineering, Collection Systems, and Wastewater Laboratory.

Chart C8 shows the FY 2018-19 and FY 2019-20 budgets by Wastewater Divisions. The chart also shows budget information for Enterprise level categories including debt service, programmatic projects, and Revenue–Funded Capital.

The significant change from FY 2018-19 to FY 2019-20 is a 11.9 percent increase in debt service and a 5.8 percent increase in Revenue–Funded Capital offset by a 12.2 percent decrease in Programmatic Projects. The other categories are relatively flat from one year to the next.

Chart C8. FY 2018-19 and FY 2019-20 Wastewater Enterprise Uses of Funds by Division and Other Categories



	FY 2018-19	% of Total	FY 2019-20	% of Total
Revenue–Funded Capital	$ 106.8	31.1%	$ 113.0	31.4%
Debt Service	63.2	18.4%	70.7	19.6%
Administration, Planning & Regulatory	49.6	14.5%	51.1	14.2%
Operations	42.9	12.5%	44.0	12.2%
Collection Systems	32.3	9.4%	33.0	9.2%
Maintenance	29.5	8.6%	29.5	8.2%
Programmatic Projects	8.2	2.4%	7.2	2.0%
Environmental Engineering	5.8	1.7%	6.0	1.7%
Laboratory	4.9	1.4%	5.0	1.4%
General Reserve	0.0	0.0%	0.6	0.2%
Total Uses of Funds	**$ 343.2**	**100.0%**	**$ 360.1**	**100.0%**

The FY 2018-19 Wastewater Enterprise budget includes: $49.6 million for Administration, Planning and Regulatory, $42.9 million for Operations, $32.3 million for Collection Systems, $29.5 million for Maintenance, $5.8 million for Environmental Engineering and $4.9 million for the Laboratory Division. Enterprise level categories include Revenue–Funded Capital at $106.8 million, Debt Service at $63.2 million, and Programmatic Projects at $8.2 million.

The FY 2019-20 Wastewater Enterprise budget includes: $51.1 million for Administration, Planning and Regulatory, $44.0 million for Operations, $33.0 million for Collection Systems, $29.5 million for Maintenance, $6.0 million for Environmental Engineering and $5.0 million for the Laboratory Division. Enterprise level categories include Revenue–Funded Capital at $113.0 million, Debt Service at $70.7 million, Programmatic Projects at $7.2 million, and General Reserve at $0.6 million.

Budget Summary

Table C11 shows the FY 2017-18 to FY 2019-20 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and budget variances between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19 for all Wastewater Divisions. The table also shows budget information for Enterprise level categories including debt service, programmatic projects, and Revenue–Funded Capital.

Table C11. Wastewater Enterprise Uses of Funds by Division and Other Categories

$ Millions Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Administration, Planning & Regulatory	45.6	49.7	48.0	49.6	51.1	(0.1)	-0.1%	1.5	2.8%
Maintenance	24.9	28.1	25.7	29.5	29.5	1.4	5.0%	0.0	0.2%
Operations	39.4	42.3	40.0	42.9	44.0	0.6	1.3%	1.1	2.7%
Environmental Engineering	4.9	4.9	4.6	5.8	6.0	0.9	19.8%	0.2	3.0%
Collection Systems	29.5	32.2	31.4	32.3	33.0	0.1	0.5%	0.7	1.9%
Laboratory	3.8	4.7	3.9	4.9	5.0	0.2	3.4%	0.1	100
Debt Service	52.3	76.2	50.1	63.2	70.7	(13.0)	-17.1%	7.5	11.9%
General Reserve	35.9	16.9	61.5	0.0	0.6	(16.9)	-100.0%	0.6	100.0%
Revenue–Funded Capital	36.8	45.0	45.0	106.8	113.0	61.8	137.3%	6.2	5.8%
Programmatic Projects	7.5	7.3	7.3	8.2	7.2	0.9	11.8%	(1.0)	-11.5%
Wastewater Total	**280.6**	**307.3**	**317.6**	**343.2**	**360.1**	**35.9**	**11.7%**	**16.9**	**4.9%**

Administration, Planning and Regulatory

The Administration, Planning and Regulatory Division are responsible for providing direction to the Wastewater operating divisions. The Division supports all administrative functions of the Enterprise including budget, procurement, contracting and personnel matters. The Division is committed to maintaining and supporting a diverse workforce and offering the opportunity for advancement within the organization.

The Administration, Planning and Regulatory Division activities include financial administration, environmental and sustainability planning, regulatory compliance, biosolids resource planning and compliance, and policy developments. Other responsibilities include developing and implementing the Asset Management Program, Urban Watershed management, and Workforce Development. The areas of these responsibilities are divided as follows:

- The Regulatory Compliance group is responsible for providing information and support regarding environmental compliance impacts, occupational health and safety risks, and biosolids management impacts for all of Wastewater's activities.
- The Asset Management group is responsible for developing, implementing and managing Wastewater in a manner consistent with industry best practices in asset management, to achieve consistent regulatory compliance, defensible risk management, and cost-effective delivery of services to customers.
- The Urban Watershed Management group is responsible for developing, implementing and managing stormwater policy, protocols, and projects. In addition, the group performs project review and enforcement in the City's separate storm and sanitary areas to ensure that developments have adequate stormwater control measures necessary for compliance with regulatory permit requirements.
- The Workforce Development group is responsible for recruiting, developing and retaining a motivated, diverse, highly qualified, and supported workforce, to ensure effective services today and in the future.

Budget Summary

Table C12 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table C12. Administration, Planning and Regulatory Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	FY 2018-19 vs. FY 2017-18 Adopted Budget %	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	FY 2019-20 vs. FY 2018-19 Adopted Budget %
Personnel	9,745,739	10,528,736	9,128,960	10,503,923	10,994,957	(24,813)	-0.2%	491,034	4.7%
Non-Personnel Services	4,557,849	5,272,343	6,879,202	5,491,090	5,854,458	218,747	4.1%	363,368	6.6%
Materials & Supplies	127,846	254,232	64,085	248,007	248,007	(6,225)	-2.4%	0	0.0%
Debt Service	52,253,751	76,190,411	50,112,558	63,166,787	70,690,359	(13,023,624)	-17.1%	7,523,572	11.9%
Overhead	0	28,705,578	26,472,908	28,376,468	28,819,978	(329,110)	-1.1%	443,510	1.6%
Services Of Other Depts	31,205,505	4,921,205	5,497,928	5,042,519	5,143,359	121,314	2.5%	100,840	2.0%
Total	**97,890,690**	**125,872,505**	**98,155,641**	**112,828,794**	**121,751,118**	**(13,043,711)**	**-10.4%**	**8,922,324**	**7.9%**

Reasons for Changes – FY 2017-18 to FY 2018-19

The following describes FY 2017-18 and FY 2018-19 budget category variances greater than ten percent.

- **Debt Service** – Reflects lower debt service costs associated with the Wastewater 2016 Series A Bonds.

Reasons for Changes – FY 2018-19 to FY 2019-20

The following describes FY 2018-19 and FY 2019-20 budget category variances that are greater than ten percent.

- **Debt Service** – Reflects an increase primarily due to interest payments budgeted for Bond Anticipation Notes (BANs).

Maintenance

The Maintenance Division is responsible for repairs and improvements to Wastewater's process equipment and facilities. These support treatment at the four treatment facilities, conveyance, and pumping, to allow Wastewater to meet permit standards efficiently and effectively.

Conveyance and pumping requires maintaining a network of 27 pump stations in San Francisco designed to move combined sewage/runoff flows to treatment plants, storage/transport boxes, and outfalls. During wet-weather, pumping facilities transport up to 660 MGD. The Division also maintains 29 pump stations on Treasure Island. The entire system consists of more than 900 pumps and related supporting assets including motors, valves, tanks and pipes.

Treatment and conveyance maintenance activities focus on preventative maintenance, repairs, and overhaul work.

Budget Summary

Table C13 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table C13. Maintenance Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	17,877,157	19,800,361	17,507,601	20,038,886	20,294,253	238,525	1.2%	255,367	1.3%
Non-Personnel Services	1,643,243	2,465,997	1,691,853	2,369,298	2,243,918	(96,699)	-3.9%	(125,380)	-5.3%
Materials & Supplies	2,416,320	2,573,170	2,720,149	2,846,343	2,894,361	273,173	10.6%	48,018	1.7%
Equipment	0	53,909	192,041	921,724	758,781	867,815	1609.8%	(162,943)	-17.7%
Services Of Other Depts	2,941,042	3,172,463	3,551,430	3,306,775	3,341,874	134,312	4.2%	35,099	1.1%
Total	**24,877,762**	**28,065,900**	**25,663,075**	**29,483,026**	**29,533,187**	**1,417,126**	**5.0%**	**50,161**	**0.2%**

Reasons for Changes – FY 2017-18 to FY 2018-19

- **Materials and Supplies** – Reflects the projected needs to support the maintenance of three treatment plants, eight major pump stations and 12 minor pump stations.
- **Equipment** – Reflects the one-time funding for the replacement of one thirty-five-year-old biosolid centrifuge at the Southeast Treatment Plant, one submersible sewage pump at the Westside Pump Station and funding to support the replacement of four vehicles and three electric carts.

Reasons for Changes – FY 2018-19 to FY 2019-20

- **Equipment** – Reflects funding to replace a second submersible sewage pump at the Westside Pump Station and funding for the replacement of three vehicles, two electric carts, and two forklifts to support the modernization of the Maintenance Division motor pool.

Operations

The Operations Division is responsible for the 24/7 operation of the Wastewater Enterprise's treatment facilities, pump stations and effluent outfalls. The Operations Division's primary mission is to protect public health and the environment by treating an average daily flow of 80 million gallons of wastewater, equal to 26.3 billion gallons a year. The Operations Division treats all combined sewage, 660 MGD during peak wet weather while meeting all the regulatory standards and discharge requirements.

Wastewater treatment is performed at four different locations: Southeast Treatment Plant, Treasure Island Treatment Plant, Oceanside Treatment Plant, and North Point Wet-Weather Facility. Wastewater treatment includes pre-treatment, primary treatment, secondary treatment, disinfection, solids treatment, and odor control. The Southeast Treatment Plant treats 75 percent of dry-weather wastewater, or 58 MGD, and can process up to 250 MGD of combined sewage during the rainy season. Oceanside treats a dry-weather average flow of 16 MGD with a total capacity of 65 MGD and with the Westside Transport system, can process up to 195 MGD of combined sewage during wet weather. Treasure Island treats less than 1 MGD with a peak capacity of 2 MDG. The North Point Wet-Weather Facility provides primary-level treatment of wastewater collected in the north part of the City during storms, with a treatment capacity of 150 MGD of combined sewage. Treatments plants and pump stations operate 365 days per year, 24-hour per day.

Budget Summary

Table C14 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table C14. Operations Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	18,473,392	18,365,191	18,834,527	18,388,785	18,943,722	23,594	0.1%	554,937	3.0%
Non-Personnel Services	5,156,807	6,300,671	5,596,770	6,300,671	6,350,671	0	0.0%	50,000	0.8%
Materials & Supplies	4,840,054	6,689,503	5,271,019	6,648,157	6,827,390	(41,346)	-0.6%	179,233	2.7%
Equipment	40,838	0	0	45,803	83,470	45,803	100.0%	37,667	82.2%
Services Of Other Depts	10,883,691	10,958,727	10,269,224	11,481,645	11,825,175	522,918	4.8%	343,530	3.0%
Total	**39,394,782**	**42,314,092**	**39,971,540**	**42,865,061**	**44,030,428**	**550,969**	**1.3%**	**1,165,367**	**2.7%**

Reasons for Changes – FY 2017-18 to FY 2018-19

- **Equipment** – Reflects funding to replace one vehicle to support the modernization of the Operations Division motor pool.

Reasons for Changes – FY 2018-19 to FY 2019-20

- **Equipment** – Reflects funding to replace two vehicles to support the modernization of the Operations Division motor pool.

Environmental Engineering

The Environmental Engineering Division is responsible for providing engineering services to the Wastewater Enterprise in four core service areas: wastewater process support, maintenance and mechanical engineering, design, and planning and coordination of large capital projects and master planning. These services allow Wastewater to maintain and improve the efficiency and reliability of wastewater collection and treatment to ensure the public's safety and welfare, environmental protection, and regulatory compliance.

Environmental Engineering support services include process design, design review, design/construction coordination, research and pilot testing, process performance optimization and troubleshooting, and regulatory supports services.

- Maintenance support services include vibration monitoring, equipment failure troubleshooting, and developing, procurement specifications, and service contracts.
- Design support services include design and contract preparation for small to medium-size projects (approximately $5M), updating as-built records, document management and archiving, asset management support, and other drafting, documentation and technical services.
- Planning and Compliance support services include the development and implementation of the SSIP Program, and compliance with special studies, reports and analyses as required by NPDES permits.

Budget Summary

Table C15 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table C15. Environmental Engineering Budget Summary

$	FY 2016-17	FY 2017-18		FY 2018-19	FY 2019-20	FY 2018-19 vs. FY 2017-18		FY 2019-20 vs. FY 2018-19	
	Audited	Adopted	FY 2017-18	Adopted	Adopted	Adopted Budget		Adopted Budget	
Expenditure Category	Actual	Budget	Actual	Budget	Budget	Amount	%	Amount	%
Personnel	4,842,588	4,834,010	4,600,913	5,799,796	5,976,984	965,786	20.0%	177,188	3.1%
Non-Personnel Services	26,221	29,455	14,628	29,455	29,455	0	0.0%	0	0.0%
Materials & Supplies	45,109	7,706	28,020	7,706	7,706	0	0.0%	0	0.0%
Total	**4,913,918**	**4,871,171**	**4,643,560**	**5,836,957**	**6,014,145**	**965,786**	**19.8%**	**177,188**	**3.0%**

Reasons for Changes – FY 2017-18 to FY 2018-19

- **Personnel**– Reflects the reassignment of three positions from the Collection Systems Division, one from the Administration, Planning and Regulatory Division, one position substitution and related fringe benefits.

Reasons for Changes – FY 2018-19 to FY 2019-20

There were no major changes to the FY 2019-20 adopted budget.

Collection Systems

The Collection System Division is responsible for collecting and transporting an average daily flow of 80 MGD and up to 660 MGD during peak wet weather of wastewater to treatment plants that support one million residents, business and visitors. Sewage reaches the treatment plants through a conveyance system that starts with side sewers that connect public or private property to local public sewers in the streets.

Proper operation and regular maintenance of the sewer system is a result of the Sewer Collection Systems' preventive maintenance program. Preventive maintenance occurs year-round and includes cleaning and condition assessment. The program keeps all sewers on a regular maintenance cycle to ensure that lines are in good working order and free of debris, this minimizing their potential to clog and malfunction. In addition to the pipelines, the collection system contains 19,500 catch basins and 25,000 manholes. Activities within this program include cleaning, inspection, and repair of sewers; responding to public service requests; control of odors in the sewers system; and hydraulic analysis and modeling. To support regulatory compliance in the wastewater system, both pretreatment and pollution prevention (P2) programs are implemented to focus on contaminant reduction activities for residential, commercial, and industrial dischargers. The major P2 programs include: street sweeping, control discharge of fats, oils and grease (FOG) into the sewers, mercury reduction, pesticides/integrated pest management, and stormwater P2 program to control construction runoff which carries pollutant to surface waters.

Budget Summary

Table C16 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table C16. Collection Systems Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	10,789,539	12,297,683	12,221,538	12,410,547	12,711,896	112,864	0.9%	301,349	2.4%
Non-Personnel Services	2,897,027	3,138,011	3,185,206	4,152,646	4,152,646	1,014,635	32.3%	0	0.0%
Materials & Supplies	560,503	686,197	735,944	773,053	872,854	86,856	12.7%	99,801	12.9%
Equipment	569,919	744,992	253,581	755,120	945,778	10,128	1.4%	190,658	25.2%
Services Of Other Depts	14,724,713	15,317,768	15,041,659	14,260,073	14,280,103	(1,057,695)	-6.9%	20,030	0.1%
Total	**29,541,701**	**32,184,651**	**31,437,927**	**32,351,439**	**32,963,277**	**166,788**	**0.5%**	**611,838**	**1.9%**

Reasons for Changes – FY 2017-18 to FY 2018-19

- **Non-Personnel Services** – Reflects professional services and third-party vendor support needed to meet compliance with the Environmental Protection Agency.
- **Materials and Supplies** – Increase from FY 2017-18 is to fund traffic control signage and sandbags for flood control.

Reasons for Changes – FY 2018-19 to FY 2019-20

- **Materials and Supplies** – Reflects projected needs to support video inspection of storm and water combined sewers.
- **Equipment** – Reflects equipment needs for the Collection Systems Division including a vacuum tanker truck to support the SFGreasecycle program which provides free grease collection services to over 800 San Francisco food service establishments to minimize the amount of fats, oils, and grease (FOG) discharged to the sewer system.

Laboratory

The Laboratory Division consists of a network of full-service, state-certified laboratories that provide quality analytical and advisory services through advanced measurement science and standards. The Division is responsible for analytical testing for real-time wastewater process control, regulatory compliance, and industrial source control purposes. In addition, the Division provides technical consulting on the interpretation of analytical data for Wastewater staff, regulatory compliance report generation for SFPUC, National Pollution Discharge Elimination System (NPDES) permits, and interfacing with regulatory agencies concerning analytical data issues. The Division also actively participates in special projects with analytical applications. Staff operates from three laboratory facilities located at the Southeast, Oceanside and Treasure Island Treatment Plants.

Budget Summary

Table C17 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table C17. Laboratory Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	3,362,008	4,329,890	3,660,529	4,455,675	4,509,360	125,785	2.9%	53,685	1.2%
Non-Personnel Services	49,438	98,133	71,967	102,673	109,673	4,540	4.6%	7,000	6.8%
Materials & Supplies	154,640	173,255	172,130	261,669	315,022	88,414	51.0%	53,353	20.4%
Equipment	272,079	131,243	25,680	71,275	44,896	(59,968)	-45.7%	(26,379)	-37.0%
Total	**3,838,165**	**4,732,521**	**3,930,307**	**4,891,292**	**4,978,951**	**158,771**	**0.0%**	**87,659**	**0.0%**

Reasons for Changes – FY 2017-18 to FY 2018-19

- **Materials and Supplies** – Reflects an increase for laboratory supplies needed to conduct routine and specialized analysis.
- **Equipment** – Decrease reflects one-time funding for the purchase of an Automated Multi-Chemistry Discrete Analyzer used for regulatory compliance in accordance with National Pollutant Discharge Elimination System (NPDES). This equipment was included in FY 2017-18 budget.

Reasons for Changes – FY 2018-19 to FY 2019-20

- **Materials and Supplies** – Reflects an increase for laboratory supplies needed to conduct routine and specialized analysis.
- **Equipment** – Decrease reflects one-time funding for the purchase of one Accelerated Solvent Extractor used for regulatory compliance in accordance with National Pollutant Discharge Elimination System (NPDES).

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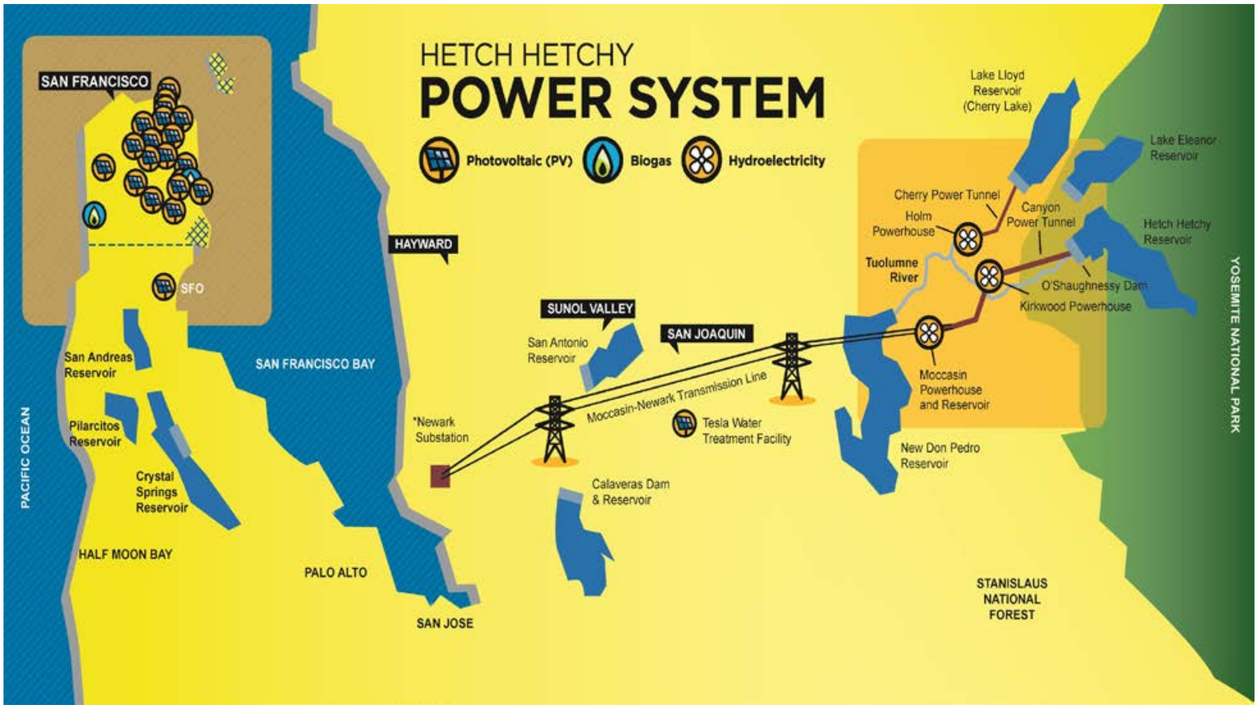
HETCH HETCHY WATER & POWER, INCLUDING THE POWER ENTERPRISE

Hetch Hetchy Water and Power is comprised of two components: Hetchy Water, which operates and maintains the Hetch Hetchy Project, and Hetch Hetchy Power (known and referred to as the Power Enterprise), which is responsible for all SFPUC power utility commercial transactions and in-City power operations. The Hetch Hetchy Project provides both water for distribution through the Water Enterprise and hydroelectric power to municipal and other customers through the Power Enterprise. A number of facilities in the Hetch Hetchy Project are joint assets used for both water conveyance and power generation and transmission, benefiting both Hetch Hetchy Water and the Power Enterprise. All power sale revenues are allocated to the Power Enterprise. Operating and capital costs benefitting Power and 55 percent of operating and capital costs that jointly benefit Hetch Hetchy Water and Power are allocated to the Power Enterprise. Operating and capital costs benefitting Hetch Hetchy Water and 45 percent of operating and capital costs jointly benefitting Hetch Hetchy Water and the Power Enterprise are allocated to the Water Enterprise.

Thru the Hetch Hetchy Project, the Water Enterprise impounds and delivers, to the Water Enterprise, water for approximately 2.7 million Bay Area residents and, in an average year, generates more than 1,600,000 MWh of clean, renewable electricity which the Power Enterprise uses to serve its customers.

Map of Hetch Hetchy Power System



Hetchy Water

Mission, Roles, and Responsibilities

Hetchy Water's mission is to operate as an efficient, reliable water and power supplier, in a manner that values environmental and community interests and sustains the resources entrusted to our care. Hetchy Water delivers high quality water to SFPUC customers while optimizing the generation of clean hydropower as water is transported through the system. Hetchy Water is responsible for the operation, maintenance and improvement of water, power and joint facilities to ensure safe and reliable operations and service delivery while meeting regulatory requirements. Hetchy Water also maintains land and properties consistent with public health, watershed values and neighborhood concerns, and promotes diversity, health, safety and professional development of its employees.

Power Enterprise

Mission, Roles and Responsibilities

The core business of the Power Enterprise is to provide reliable supplies of electric power to meet the electricity needs of the City and County of San Francisco's municipal and retail customers, and to satisfy the municipal loads consistent with Federal law.

The Power Enterprise's portfolio consists of hydroelectric generation, on-site solar at SFPUC and other City facilities, generation using bio-methane produced at SFPUC Wastewater's treatment facilities, and third-party purchases. Consistent with its commitment to the development of cleaner and greener power, and to address environmental concerns and community objectives, Power Enterprise continues to evaluate and expand its existing resource base to include additional renewables, distributed generation, demand management, and energy efficiency programs. As part of its mission and core functions, Power provides reliable energy services at reasonable cost to customers, with attention to environmental effects and community concern.

Budget Summary

Table H1 below shows the Hetch Hetchy Water and Power budget increasing by 11.1 percent between FY 2017-18 and FY 2018-19 and a slight increase between FY 2018-19 and FY 2019-20 of 0.5 percent. Table H1 includes the FY 2017-18 to FY 2019-20 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and budget variances between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19.

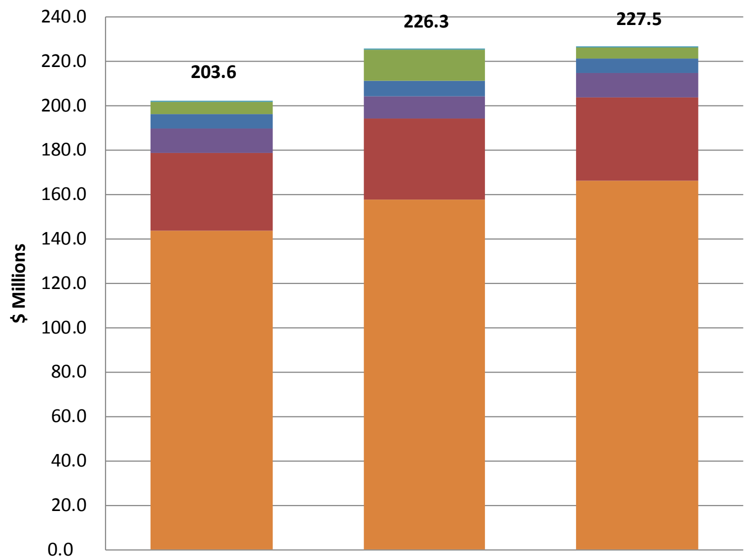
Table H1. Hetch Hetchy Water and Power Sources and Uses of Funds

$ Millions						FY 2018-19 vs. FY 2017-18 Adopted Budget		FY 2019-20 vs. FY 2018-19 Adopted Budget	
Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	Amount	%	Amount	%
SOURCES OF FUNDS									
Sale of Water	35.0	34.9	33.4	36.3	37.5	1.4	4.2%	1.2	3.4%
Sale of Electricity	120.4	143.7	122.4	157.8	166.2	14.1	9.8%	8.5	5.4%
Sale of Natural Gas & Steam (Pass-through)	9.1	11.3	9.7	10.2	10.9	(1.1)	-9.4%	0.6	6.3%
Fund Balance	0.0	5.5	6.2	14.1	4.9	8.5	153.6%	(9.2)	-65.1%
Other Non-Op Revenues	6.4	6.3	5.3	6.7	6.8	0.4	5.8%	0.1	1.3%
Interest Income	1.6	1.3	1.3	0.6	0.6	(0.7)	-52.7%	(0.0)	-1.2%
Federal Interest Subsidy	0.5	0.6	0.6	0.6	0.5	(0.0)	-4.9%	(0.0)	-7.3%
Total Sources of Funds	**173.1**	**203.6**	**178.9**	**226.3**	**227.5**	**22.7**	**11.1%**	**1.2**	**0.5%**
USES OF FUNDS									
Personnel	36.9	43.3	37.9	45.0	46.7	1.7	3.9%	1.8	3.9%
Overhead	0.0	14.7	14.8	16.8	17.0	2.1	14.0%	0.3	1.6%
Non-Personnel Services	50.1	81.9	65.5	90.2	93.0	8.3	10.2%	2.8	3.1%
Materials & Supplies	2.4	2.7	2.4	2.8	3.2	0.1	4.9%	0.3	10.9%
Equipment	1.2	0.4	0.3	1.0	1.3	0.6	166.9%	0.3	31.3%
Debt Service	2.3	4.8	4.8	4.8	4.8	(0.0)	-0.7%	(0.0)	-0.9%
Services Of Other Depts	20.9	7.4	5.3	7.9	8.0	0.5	6.4%	0.1	0.9%
General Reserve	7.6	0.6	0.0	0.0	0.0	(0.6)	-100.0%	0.0	0.0%
Revenue-Funded Capital	36.8	33.0	33.0	42.5	38.5	9.5	28.7%	(3.9)	-9.3%
Programmatic Projects	14.8	14.8	14.8	15.3	15.0	0.5	3.6%	(0.3)	-2.1%
Total Uses of Funds	**173.1**	**203.6**	**178.9**	**226.3**	**227.5**	**22.7**	**11.1%**	**1.2**	**0.5%**

Sources of Funds

The Sale of Electricity and the Sale of Water continues to be the main Sources of Funds in FY 2018-19 and FY 2019-20, accounting for 85.7 percent in FY 2018-19 and 89.6 percent in FY 2019-20 of the Total Sources of Funds. The use of Fund Balance increased in FY 2018-19 and reduced in FY 2019-20 to slightly less than in FY 2017-18. As shown in Chart H1 and discussed below, the overall change in FY 2018-19 Sources of Funds from FY 2017-18 is 11.1 percent and in FY 2019-20 from FY 2018-19 is 0.5 percent. Reasons for these changes are explained on the next page. Chart H1 shows the FY 2017-18 to FY 2019-20 budgeted Sources of Funds by revenue category.

Chart H1. FY 2017-18 to FY 2019-20 Hetch Hetchy Water and Power Sources of Funds



	FY 2017-18	% of Total	FY 2018-19	% of Total	FY 2019-20	% of Total
Sale of Electricity	$ 143.7	70.6%	$ 157.8	69.7%	$ 166.2	73.1%
Sale of Water	34.9	17.1%	36.3	16.0%	37.5	16.5%
Sale of Natural Gas & Steam (Pass-through)	11.3	5.6%	10.2	4.5%	10.9	4.8%
Other Non-Op Revenues	6.3	3.1%	6.7	3.0%	6.8	3.0%
Fund Balance	5.5	2.7%	14.1	6.2%	4.9	2.2%
Interest Income	1.3	0.6%	0.6	0.3%	0.6	0.3%
Federal Interest Subsidy	0.6	0.3%	0.6	0.3%	0.5	0.2%
Total Sources of Funds	**$ 203.6**	**100.0%**	**$ 226.3**	**100.0%**	**$ 227.5**	**100.0%**

Summary

Estimated revenues for FY 2018-19 for Sale of Electricity, Sale of Water, Sale of Natural Gas and Steam, Other Non-Operating Revenues, Fund Balance, Interest Income and Federal Interest Subsidy are $226.3 million, $22.7 million or 11.1 percent more than FY 2017-18 revenues. Changes from the FY 2017-18 budget include increases in the Sale of Electricity of $14.1 million or 9.8 percent, and Sale of Water, Other Non-Operating Revenues and use of Fund Balance of $10.3 million, offset by a $1.7 million reduction in Sale of Natural Gas & Steam, Interest Income and Federal Interest Subsidy.

Estimated revenues for FY 2019-20 are $227.5 million, $1.2 million or 0.5 percent more than FY 2018-19 estimated revenues. Changes from FY 2018-19 include increases for Sale of Electricity of $8.5 million or 5.4 percent, Sale of Water, Sale of Natural Gas & Steam, and Other Non-Operating Revenues of $1.9 million are offset by a 9.2 million reduction in the Use of Fund Balance.

Sale of Electricity

FY 2018-19 Sale of Electricity is budgeted at $157.8 million, which is $14.1 million or 9.8 percent more than FY 2017-18. The increase is mainly due planned rate increases and growth in projected retail customers.

- $120.4 million is projected municipal power sales (General Use and Enterprise ratepaying municipal customers) driven by rates, and projected power usage adjusted for new facilities and energy efficiency measures.
- $22.1 million is projected estimated from wholesale customers, Modesto Irrigation District (MID), Turlock Irrigation District (TID), the Western Systems Power Pool (WSPP) and miscellaneous customers including the Riverbank Redevelopment Authority and Caltrans. WSPP revenue estimates are based on Power's available excess power and projected market rates. Estimated revenues from miscellaneous customers are based on rates specified by contract and projected electric usage.
- $11.7 million in revenues is projected from retail power sales – an increase over prior year reflecting growth in the retail customer base customers, particularly the increase in large retail customers that have transferred as customers to the Enterprise from PG&E
- $3.6 million is estimated from electric sales to the Treasure Island tenants. The increase of $0.3 million from the FY 2017-18 budget reflects updated rates and consumption projections for FY 2018-19.

FY 2019-20 Sale of Electricity is budgeted at $166.2 million, an increase of $8.5 million or 5.4 percent from FY 2018-19. The net increase reflects projected consumption and rates for municipal customers as well as additional growth in retail consumption.

Sale of Water

FY 2018-19 Sale of Water is budgeted at $36.3 million an increase of $1.4 million or 4.2 percent from FY 2017-18. The estimated revenues include $33.6 million from the Sale of Water to the Water Enterprise (shown as an offset in the Table W1), the balance of $2.7 million is from water sales to Lawrence Livermore Labs and Groveland based on applicable rates and projected consumption.

FY 2019-20 revenues from the Sale of Water are $37.5 million, an increase of $1.2 million from FY 2018-19. The budget includes $34.6 million from the Sale of Water to the Water Enterprise and $2.9 million from water sales to Lawrence Livermore Labs and Groveland.

Fund Balance

FY 2018-19 use of Fund Balance is budgeted at $14.1 million an increase of 153.6 percent over FY 2017-18 to balance the sources of funds with use.

FY 2019-20 use of Fund Balance is budgeted at $4.9 million, a reduction of $9.2 million or 65.1 percent reduction due to increased Sale of Electricity revenues and a decrease in Revenue-Funded Capital.

Sale of Gas and Steam (Pass-through)

FY 2018-19 Sale of Gas and Steam is budgeted at $10.2 million, $1.1 million less over FY 2017-18. The budget is based on PG&E and the California Department of General Services (DGS) retail rates and projected usage. Power is responsible for processing and billing City departments for natural gas and steam. The revenue generated from natural gas and steam is a pass-through and ultimately has no impact on Hetch Hetchy's operating revenues.

In FY 2019-20 the estimated revenue is $10.9 million, a slight increase of $0.6 million from FY 2018-19. The change reflects projected rates and consumption.

Other Non-Operating Revenues

FY 2018-19 Other Non-Operating Revenues are budgeted at $6.7 million and includes: $2.0 million payment from the Transbay Cable Project as a condition of the operational license issued by the City and County of San Francisco; $1.4 million from the San Francisco International Airport and its tenants, CleanPowerSF, and Water Enterprise for miscellaneous services provided by Hetch Hetchy based on projected costs of labor and materials; $1.8 million from Treasure Island for utility and other services provided to Treasure Island Development Authority (TIDA) and $1.5 million from property rents, a recovery from Infrastructure for their share of the cost of the SFPUC Headquarters, and other miscellaneous income.

The FY 2019-20 budget is $6.8 million, $0.1 million more than in FY 2018-19.

Federal Interest Subsidy

FY 2018-19 Federal Interest Subsidy is budgeted at $0.6 million; the same as in FY 2017-18 budget. The SFPUC receives a subsidy payment from the Federal Government for a portion of their borrowing costs on taxable bonds. The U.S. Treasury Department is estimated to provide a direct subsidy equal to 35.0 percent (prior to sequestration) of the interest payable for bonds issued as Build America Bonds per the American Recovery and Reinvestment Act (ARRA).

FY 2019-20 Federal Interest Subsidy is budgeted at $0.6 million, the same as in FY 2018-19.

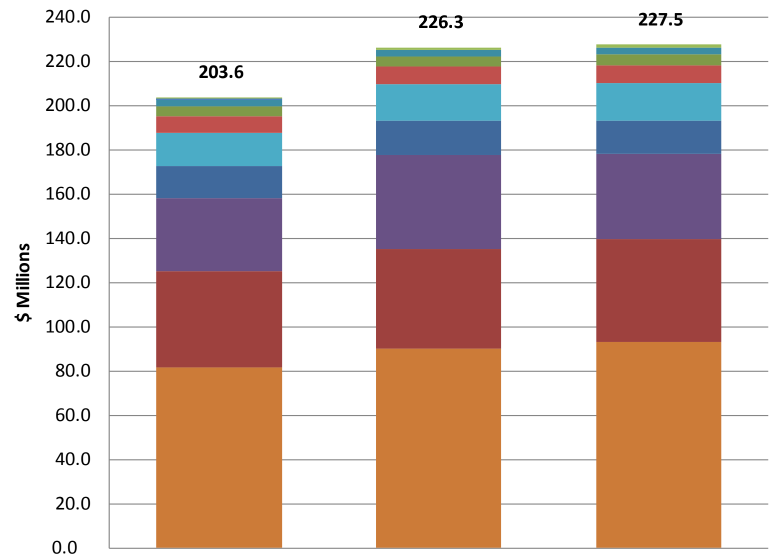
Interest Income

FY 2018-19 Interest Income is budgeted at $0.6 million, no change from FY 2017-18. The budget is based on the projected cash balance and interest rates on the County Investment Pool.

FY 2019-20 Interest Income is budgeted to remain the same at $0.6 million.

Uses of Funds

Chart H2. FY 2017-18 to FY 2019-20 Hetch Hetchy Water and Power Uses of Funds



		FY 2017-18	% of Total		FY 2018-19	% of Total		FY 2019-20	% of Total
Non-Personnel Services	$	81.9	40.2%	$	90.2	39.9%	$	93.0	40.9%
Personnel		43.3	21.3%		45.0	19.9%		46.7	20.5%
Revenue-Funded Capital		33.0	16.2%		42.5	18.8%		38.5	16.9%
Programmatic Projects		14.8	7.3%		15.3	6.8%		15.0	6.6%
Overhead		14.7	7.2%		16.8	7.4%		17.0	7.5%
Services Of Other Depts		7.4	3.6%		7.9	3.5%		8.0	3.5%
Debt Service		4.8	2.4%		4.8	2.1%		4.8	2.1%
Materials & Supplies		2.7	1.3%		2.8	1.3%		3.2	1.4%
General Reserve		0.6	0.3%		0.0	0.0%		0.0	0.0%
Equipment		0.4	0.2%		1.0	0.4%		1.3	0.6%
Total Uses of Funds	**$**	**203.6**	**100.0%**	**$**	**226.3**	**100.0%**	**$**	**227.5**	**100.0%**

Summary

Chart H2 shows the FY 2017-18 to FY 2019-20 budgeted Uses of Funds by expenditure category.

Total Uses of Funds for FY 2018-19 are $226.3 million, $22.7 million or 11.1 percent more than in FY 2017-18. The FY 2018-19 Uses of Funds include $90.2 million for Non-Personnel Services, $45.0 million for Personnel, $42.5 million for Revenue-Funded Capital, $16.8 million for Overhead, $15.3 million for Programmatic Projects, $7.9 million for Services of Other Departments, $4.8 million for Debt Service and $3.8 million in Materials & Supplies and Equipment. Changes from the FY 2017-18 budget include increases of, $13.8 million in Non-Personnel Services, Personnel, Programmatic Projects, Overhead, Services of Other Departments, Materials and Supplies, and Equipment, $9.5 million in Revenue-Funded Capital offset by reductions of $0.6 million in General Reserve and Debt Service.

Total Uses of Funds for FY 2019-20 are $227.5 million, $1.2 million or 0.5 percent more than in FY 2018-19. The FY 2019-20 Uses of Funds include $93.0 million for Non-Personnel Services, $46.7 million for Personnel, $38.5 million for Revenue-Funded Capital, $17.0 million for Overhead, $15.0 million for Programmatic Projects, $8.0 million for Services of Other Departments, $4.8 million for Debt Service, and $4.5 million for Materials and Supplies and Equipment. Changes from FY 2018-19 include increases of $5.4 million in Non-Personnel Services, Personnel, Overhead, Services of Other Departments, Materials and Supplies, and Equipment offset by decreases of $4.2 million in Revenue-Funded Capital and Programmatic Projects.

Non-Personnel Services

FY 2018-19 Non-Personnel Services is budgeted at $90.2 million and is based on projected spending levels for various services provided to Hetch Hetchy Water and Power. The Non-Personnel Services budget includes funding for purchase of power, transmission and distribution, natural gas and steam, professional services, facilities and equipment maintenance, taxes licenses and permits and other miscellaneous services. The net change is $8.3 million, or 10.2 percent more compared to the FY 2017-18 budget. The major changes include increases in: 1) professional services, to fund Electric Billing System Software Implementation support services and for City Attorney services to manage contracts covering PG&E, federal litigation, transmission/energy contracts, California Public Utilities Commission proceedings and state reporting requirements, 2) payments to the National Park Service for watershed protection services as stipulated in the National Park Service Agreement 3) payments to Tuolumne County to rebuild the Visitors Center for Don Pedro Recreation Association (DPRA), destroyed by fire in 2016 and 4) power purchases from the Western System Power Pool (WSPP) which supplements the City's load obligations that cannot be met by Hetchy generation. Estimates for power generation are based on normal hydrological conditions. Energy prices are projected from industry standard price indices.

FY 2019-20 Non-Personnel Services is budgeted at $93.0 million, a $2.8 million or a 3.1 percent net increase from FY 2018-19. The increase adjusts the purchase of power and transmission budgets (based on maintenance and operating changes, updated energy prices based on forward energy curves and historical CAISO charges) and rate adjustments. The increase is offset by the elimination of professional services funding for the Integrated Resource Plan Development.

Personnel

FY 2018-19 Personnel costs is budgeted at $45.0 million, including $31.0 million for salaries and $14.0 million for fringe benefits. The net salaries increase of $1.2 million over the FY 2017-18 salaries budget reflects position substitutions, and salary adjustments based on labor agreements. FY 2018-19 Mandatory Fringe Benefits are budgeted at $14.0 million. The net increase of $0.5 million over the FY 2017-18 budget reflects increases to salaries and benefit rate adjustments for retirement and health services.

FY 2019-20 Personnel costs is budgeted at $46.7 million including $32.2 million for salaries and $14.5 million for fringe benefits. The $1.2 million salaries increase from FY 2018-19 funds salaries adjustments based on labor agreements. FY 2019-20 Mandatory Fringe Benefits is budgeted at $14.5 million. The net increase of $0.6 million from FY 2018-19 reflects adjustments to salaries based on labor agreements and in premium pay to continue to support reliability and workforce planning and benefit rate adjustments for retirement and health services.

Revenue-Funded Capital

FY 2018-19 Revenue-Funded Capital budget is $42.5 million. The budget funds the revenue portion of the capital program approved and funded through an annual supplemental appropriation. The $9.5 million, or 28.7 percent increase from the FY 2017-18 budget reflects SFPUC efforts to upgrade the aging upcountry (Sierra Nevada mountains and foothills) water and power facilities. The budget also funds power transmission and distribution improvements intended to improve the ability to serve new and existing customers.

FY 2019-20 Revenue-Funded Capital budget is $38.5 million, $3.9 million or 9.3 percent less than in FY 2018-19.

Programmatic Projects

FY 2018-19 Programmatic Projects are budgeted at $15.3 million, a $0.5 million or 3.6 percent increase from FY 2017-18. The increase is mostly due to a one-time increase in the maintenance costs for the SFPUC headquarters building at 525 Golden Gate Avenue.

FY 2019-20 Programmatic Projects are budgeted at $15.0 million, $0.3 million or 2.1 percent less than in FY 2018-19.

Overhead

The FY 2018-19 Overhead budget is $16.8 million, $2.1 million or 14.0 percent more than in FY 2017-18. The Overhead budget funds Hetch Hetchy's allocation of support services provided by the SFPUC Bureaus, including General Manager, Business Services, and External Affairs. The overhead rate is based on SFPUC's 2018 Indirect Cost Study. The increase reflects adjustments to the Bureaus' budget and allocation rate adjustments resulting from the 2018 Indirect Cost Study.

The FY 2019-20 Overhead budget is $17.0 million, $0.3 million or 1.6 percent more than in FY 2018-19. The increase reflects adjustments the Bureaus' budget and rate adjustments resulting from the 2018 Indirect Cost Study.

Services of Other Departments

FY 2018-19 Services of Other Departments is budgeted at $7.9 million percent and is based on the projected costs of services provided by other City departments to Hetch Hetchy. The $0.5 million, or 6.4 percent increase from FY 2017-18 funds projected utility and technology support service costs.

The FY 2019-20 Services of Other Departments budget is $8.0 million, a $0.1 million or 0.9 percent increase from FY 2018-19 to fund increases in projected worker's compensation and technology service costs.

Debt Service

FY 2018-19 Debt Service is budgeted at $4.8 million; the same as in FY 2017-18. The budget is based on principal and interest on Power Revenue bonds to fund Power's capital program and Clean Renewable Energy Bonds, New Clean Renewable Energy Bonds (CREBs and NCREBs), Qualified Energy Conservation Bonds (QEBCs) and lease payment of the SFPUC's headquarters. There is no change from the FY2017-18 budget.

FY 2019-20 Debt Service is budgeted at $4.8 million. There is no change from the FY 2018-19 budget.

Materials and Supplies

FY 2018-19 Materials and Supplies are budgeted at $2.8 million or $0.1 million or 4.9 percent more than in FY 2017-18. The budget is based on projected cost and usage for operations and maintenance materials and supplies requirements. The increase from FY 2017-18 reflects projected costs for street light maintenance supplies.

FY 2019-20 Materials and Supplies are budgeted at $3.2 million or $0.3 million or 10.9 percent more than the FY 2018-19 budget based on projected costs for building maintenance supplies for upcountry facilities.

General Reserve

The FY2018-19 General Reserve budget is eliminated, resulting in a $0.6 million reduction from FY 2017-18. The General Reserve is used to balance budgeted sources and uses of funds, when budgeted revenues exceed budgeted expenditures.

FY 2019-20 General Reserve remains at zero.

Equipment

FY 2018-19 Equipment is budgeted at $1.0 million, a $0.6 million or 166.9 percent increase from FY 2017-18. The budget funds equipment required to operate and maintain the overall system consisting of dams, reservoirs, water and power transmission lines, streetlights and power generation facilities. The increase from FY 2017-18 is based on SFPUC's Vehicle Replacement Plan and projected heavy and other field equipment needs.

FY 2019-20 Equipment is budgeted at $1.3 million, a $0.3 million or 31.3 percent increase from the FY 2017-18 budget. The increase reflects projected vehicle and field equipment needs for FY 2019-20 for upcountry equipment requirements, offset by a reduction in street light equipment needs.

Table H2. Hetch Hetchy Water and Power Uses of Funds by Section and Other Categories

$ Millions						FY 2018-19 vs. FY 2017-18 Adopted Budget		FY 2018-19 vs. FY 2019-20 Adopted Budget	
Section	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	Amount	%	Amount	%
Power Administration	12.3	14.0	11.9	15.7	16.0	1.7	12.1%	0.3	2.2%
Energy Services	6.2	9.1	7.1	12.4	11.0	3.3	36.1%	(1.4)	-11.2%
Long Range Planning and Power Purchase	22.8	50.1	36.0	52.7	56.9	2.6	5.2%	4.2	7.9%
Light, Heat and Power	15.0	18.4	15.7	17.9	19.1	(0.5)	-2.7%	1.1	6.4%
Project Operations	55.2	58.7	55.6	64.9	66.2	6.3	10.7%	1.3	2.0%
Debt Service	2.3	4.8	4.8	4.8	4.7	(0.0)	-0.9%	(0.0)	-0.9%
Revenue-Funded Capital	36.8	33.0	33.0	42.5	38.5	9.5	28.7%	(3.9)	-9.3%
Programmatic Projects	14.8	14.8	14.8	15.3	15.0	0.5	3.6%	(0.3)	-2.1%
General Reserve	7.6	0.6	0.0	0.0	0.0	(0.6)	-100.0%	-	0.0%
Hetch Hetchy Total	**173.1**	**203.6**	**178.9**	**226.3**	**227.5**	**22.7**	**11.1%**	**1.2**	**0.5%**

Table H2 shows the FY 2017-18 to FY 2019-20 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and the budget variances between FY 2018-19 and FY 2017-18, and between FY 2018-19 and FY 2019-20 for all Hetch Hetchy Water and Power Sections.

Another way to examine the use of the Hetch Hetchy Water and Power revenues is to review how the budget is allocated to functional categories. Project Operations is the largest budgeted category for uses of funds: in FY 2018-19 at $64.9 million and $66.2 million FY 2019-20; followed by Long Range Planning and Power Purchases at $52.7 million in FY 2018-19 and $56.9 million in FY 2019-20 and Revenue-Funded Capital at $42.5 million FY 2018-19 and decreasing to $38.5 million in FY 2019-20.

Authorized and Funded Full-Time Equivalents (FTEs)

Table H3. Hetch Hetchy Water and Power Authorized and Funded Full-Time Equivalents (FTEs)

Position Type	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2018-19 vs. FY 2017-18	FY 2019-20 vs. FY 2018-19
Permanent Positions	241.06	244.67	245.41	247.61	0.74	2.20
Temporary Positions	10.55	10.18	13.04	12.62	2.86	(0.42)
Operating-Funded	**251.61**	**254.85**	**258.45**	**260.23**	**3.60**	**1.78**
Project-Funded	63.54	64.77	67.62	71.31	2.85	3.69
Total Positions	**315.15**	**319.62**	**326.07**	**331.54**	**6.45**	**5.47**

Table H3 shows a breakdown of positions by position type for FY2016-17 to FY 2019-20.

As noted above in Table H3, the total funded full-time equivalent (FTE) operating, project-funded, and temporary positions for FY 2018-19 are 326.07 FTEs, a 6.45 FTE increase from FY 2017-18. In FY 2019-20 total funded FTEs total 331.45, a 5.47 FTE increase from FY 2018-19.

In FY 2018-19 the net change in the FTEs Permanent Positions count from FY 2017-18 includes conversion of three positions from project-funded to operating, offset by adjustments to salary savings to reflect scheduled hiring of vacant positions. The FTE increase in Temporary Positions results from an increase in funding to support staffing levels needs for operations and maintenance activities.

The FY 2018-19 net change for Project-Funded Positions FTEs count includes the annualization of one new FY 2017-18 position, six new positions to support information technology and vegetation management staffing to meet Western Electricity Coordinating Council/North American Electric Reliability Corporation compliance regulations, the reassignment of one position from Infrastructure, offset by the conversion of three project-funded positions to operating.

The FY 2019-20 FTE count increased by 5.47 FTEs from FY 2018-19 based on adjustments to salary savings to reflect the projected vacancy rate and an increase in temporary salaries to reflect changes to the temporary salaries budget.

Chart H3. Hetch Hetchy Water and Power Operating and Project FTEs Trend

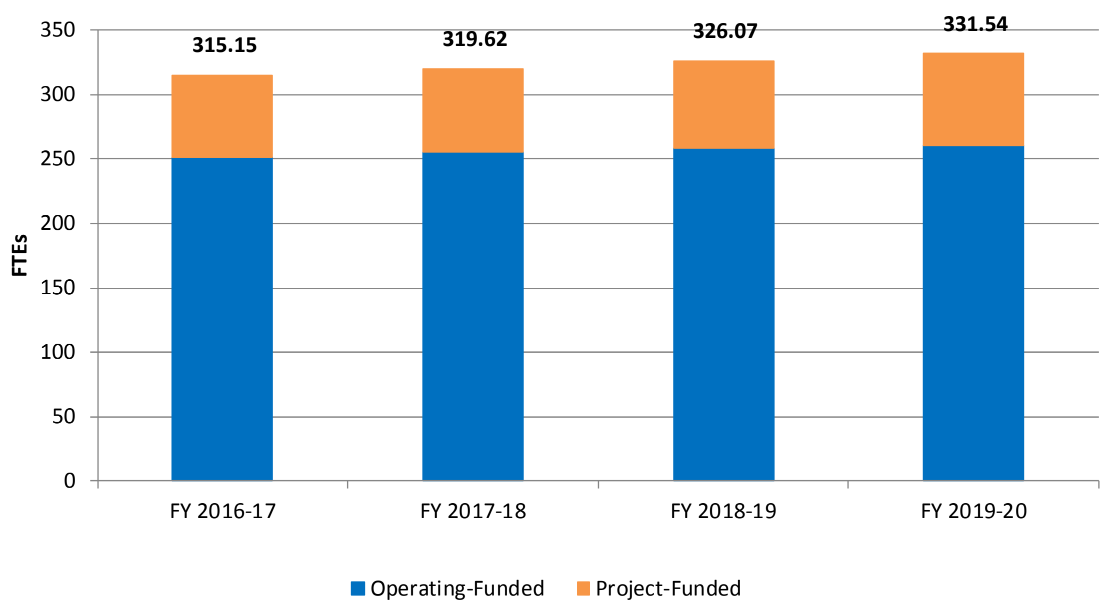


Chart H3 illustrates the trend of operating and project-funded FTEs from FY 2016-17 to FY 2019-20. The operating and project FTEs trend is relatively flat for FY 2016-17 through FY 2019-20.

Hetch Hetchy Water and Power Capital Improvement Program (CIP)

The Hetch Hetchy Water and Power is responsible for providing reliable, high quality water and electric energy to the City and other customers. It operates and maintains facilities to a high standard of safety and reliability and maximizes revenue opportunities within approved levels of risk.

Hetchy Water operates, maintains, and improves water and power facilities, smaller dams and reservoirs, water transmission systems, power generation facilities, and power transmission assets, including transmission lines to the Newark substation.

Power consists of hydroelectric generation, onsite solar at SFPUC and other City facilities, generation using bio-methane produced at SFPUC wastewater treatment facilities, and third-party purchases.

Hetch Hetchy Water and Power Ten-Year Capital Plan

The SFPUC is required by City Charter to develop and annually update a Ten-Year Capital Plan. The purpose of the plan is to describe SFPUC's capital investment as extending the useful life of the infrastructure and providing continued reliable operation of the system components.

Table H4 shows the Hetch Hetchy Water and Power Ten-Year Capital Plan by program and project. The table also shows the different sources of revenue that are expected to finance the CIP over the ten-years and the anticipated number of jobs created by this program.

The $1,280.5 million Ten-Year Capital Plan represents a consistent and growing investment over ten years with greater amount of funds allocated to the Power infrastructure. The plan includes increased funding for in-City Power Projects including the Bay Corridor Transmission Project providing for the design and construction of transmission and distribution facilities to serve new retail power customers. The Hetchy Water plan funds additional enhancements to the Water System including the new San Juaquin Pipeline Valve and Safety Improvement and Priest-Moccasin Water Transmission Line Projects.

Capital plan funding is projected to be $1,280.5 million resulting in a balanced plan.

Table H4. Hetch Hetchy Water and Power Ten-Year Capital Plan

$ Thousands Program/Project	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-28	Plan Total
Spending Plan							
Hetch Hetchy Power							
Streetlights	6,010	6,010	5,510	5,510	4,010	20,050	47,100
Renewable/Generation	1,000	1,000	1,000	1,000	1,000	5,000	10,000
Energy Efficiency	1,000	1,000	1,000	1,000	1,000	5,000	10,000
Redevelopment	13,669	9,521	10,149	9,899	7,049	22,590	72,878
Distribution Services for Retail Customers	39,820	46,500	19,583	19,583	19,583	86,266	231,335
Total Hetchy Power	**61,499**	**64,031**	**37,243**	**36,992**	**32,643**	**138,906**	**371,313**
Hetchy Water							
Water Infrastructure	13,357	26,834	17,342	74,877	36,694	83,264	252,368
Power Infrastructure	17,204	11,782	57,614	26,163	4,482	24,858	142,103
Joint Projects - Water Infrastructure 45%	15,632	33,593	32,439	30,085	32,447	87,434	231,629
Joint Projects - Power Infrastructure 55%	19,105	41,058	39,648	36,770	39,657	106,863	283,102
Total Hetchy Water	**65,298**	**113,266**	**147,043**	**167,895**	**113,280**	**302,419**	**909,201**
Total Hetchy Power & Water	**126,797**	**177,297**	**184,286**	**204,887**	**145,923**	**441,325**	**1,280,514**
Sources							
Revenue	42,469	38,521	26,839	26,554	22,168	85,897	242,446
Power Bonds	54,339	77,350	107,212	72,883	54,089	184,047	549,920
Water Bonds	28,989	60,427	49,781	104,962	69,141	168,122	481,421
Cap and Trade Auction Revenue	1,000	1,000	454	489	525	3,259	6,727
Total Revenues	**126,797**	**177,297**	**184,286**	**204,888**	**145,923**	**441,325**	**1,280,514**
Total San Francisco Jobs/Year	**1,131**	**1,581**	**1,644**	**1,828**	**1,302**	**3,937**	**11,422**

Table H4 and Chart H4 shows Hetch Hetchy Water and Power capital plan totaling $1,280.5 million.

The Ten-Year Capital Plan is updated every year by SFPUC staff and approved by the Commission. The Ten-Year Capital Plan informs and guides managers, policy makers, elected officials and the public by providing the proposed long-term capital program, projects and investment. The Ten-Year Capital Plan also guides the development of the Ten-Year Financial Plan and associated rate implications of the planned capital spending. The Ten-Year Capital Plan guides the biennial capital budget development. As the budget process progresses through the Spring and final adoption in the Summer, the updated Capital Improvement Programs (CIPs) are revised forming the biennial capital budget. Consequently, even though the annual CIPs are based on the Ten-Year Capital Plan, they do not always match by project or dollar amount.

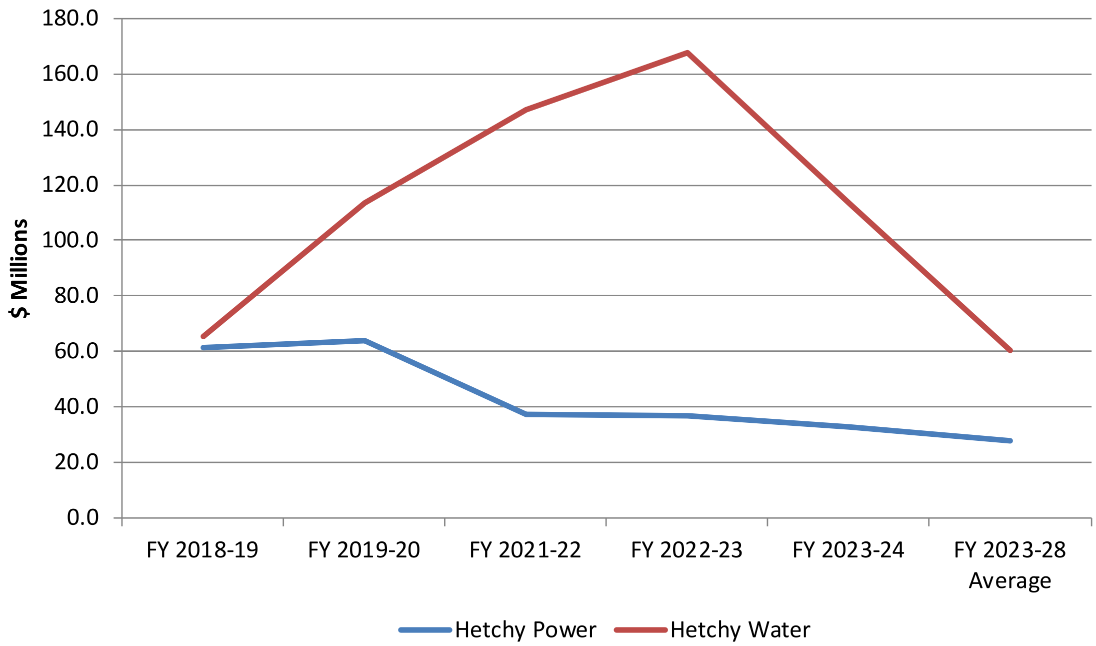
Hetchy's CIP is divided into two sections based on operations:

1. Power Enterprise Capital Program - The program undertakes projects both within the City of San Francisco as well as up-country and is financed by Power revenues, Cap and Trade Carbon auction revenues, and Power revenue bonds. The Power program includes the renewable generation and energy efficiency projects critical to attain greenhouse gas reductions and begin climate change mitigation. Also, there are transmission and distribution projects consistent with the City's goal of establishing the SFPUC role as the electric service provider to City facilities and development projects.

2. The Hetchy Water Capital Program - This program is financed by Water revenue bonds, Power revenue bonds and Power revenue; the Hetchy Water Renewal and Replacement budget includes Water Infrastructure, Power Infrastructure and Joint, Water (45%)/Power (55%) projects that are located up-country and managed by Hetchy Water.

Chart H4 shows Hetch Hetchy's capital budget trend over ten-years. These trend lines show a decrease for in-City Power Projects and funding for Hetchy Water increasing through FY 2022-23 for Water Infrastructure Projects.

Chart H4. Hetch Hetchy Water and Power Ten-Year Capital Plan Trend



Power Capital Program

The $371.3 million capital program is comprised of the following:

Streetlights, $47.1 million

Hetchy provides power to all of San Francisco's 44,528 streetlights and maintains the 25,509 streetlights owned by the City and funds the maintenance of the 19,019 streetlights owned by Pacific Gas & Electric (PG&E). The Plan includes $47.1 million over 10-years for upgrades to street lighting infrastructure.

The plan funds street lighting area improvements to correct inadequate lighting and provide safer street and pedestrian friendly environment, replace insufficient lighting through the conversion of high voltage series loop circuit into multiple standard voltage service and Lighting Emitting Diode (LED) lighting, holiday and festivity pole use, street and pedestrian poles assessment to determine the severity of pole deterioration, streetlight pole rehabilitation and replacement of transformer based poles as well as poles determined to need replacement by the pole assessment.

Renewable/Generation Power, $10.0 million

In accordance with City policies and directives to increase renewable energy and reduce greenhouse gases, Power is continuously developing and implementing new renewable generation resources. The Capital Plan proposes a series of small municipal and energy development projects including solar photovoltaic, solar thermal, biogas fuel cells, wind projects, and other renewable energy projects.

The Capital Plan provides funding for small renewable solar and hydroelectric projects. These projects inherently mitigate the impacts of climate change as they generate energy from renewable resources. The power generated from the Renewable/Generation projects will offset on-site power need at each project location.

Energy Efficiency, $10.0 million

Energy efficiency improvements are an important component of an electric utility's resource portfolio. These investments reduce facility operating costs and electric bills for customers, improve system functionality, and reduce the environmental impact of energy use. The plan proposes funding for lighting and mechanical system efficiency upgrades. These investments are consistent with state policies that place emphasis on energy efficiency and that support greenhouse gas reduction.

General Fund Departments – Funds energy efficiency investments in City facilities covering the planning, design and construction of energy efficiency projects for "direct install" projects, as well as technical assistance and project assistance for departments with their own capital funds. Energy retrofits include lighting, heating and ventilation, retro-commissioning, and energy management systems projects. The budget funds efficiency projects in municipal facilities for departments such as Police, Real Estate, Recreation & Parks, Municipal Transportation Agency, Yerba Buena Center, and Fine Arts departments.

Redevelopment, $72.9 million

Treasure Island

The Cooperative Agreement discussed in the Wastewater Enterprise's Renewal Program also requires the SFPUC to provide utility operations and maintenance services at Treasure Island and Yerba Buena Island for the electrical and natural gas utility systems. The SFPUC has developed a work plan for creating a public power utility on each of the islands.

The capital projects identified are required to support the future development electric load at Treasure and Yerba Buena Islands. The current planning for the development shows that the existing electrical overhead poles, lines, and substation are adequate to serve the first phase of development. At some point in the development, when the electric load approaches the design limit of the electric lines at approximately 10 megawatts, the lines will have to be upgraded and subsequently installed underground.

Alice Griffith/Candlestick Point

This project provides for the second phase of development at Hunters Point Shipyard, Candlestick Point, and the Alice Griffith Housing Complex. The Development Team comprised of the Office of Community Investment and Infrastructure and Developer will pay for the installation the required infrastructure and substructure required for the new 12-kV underground electrical distribution system. The SFPUC as the electric utility provider will install the conductors in the conduits, transformers, switches, and metering equipment required for the electric distribution system.

Transmission/Distribution $231.3 million

The Capital Plan provides funding for the design and construction of transmission and distribution facilities to serve new retail customers, installation of Intervening Facilities required under the new Wholesale Distribution Tariff and the development, administration, and incentive payments to new retail customers and improvements to the substation at San Francisco International Airport.

This project is consistent with San Francisco Administrative Code Section 99.3 establishing the SFPUC's role as the exclusive electric service provider for existing and new City facilities, and redevelopment and development projects.

Hetchy Water Capital Program

The $909.2 million Hetchy Water Capital Program is comprised of several programs. The proposed program costs will be financed with a combination of revenue bonds and power revenues.

Many Hetch Hetchy Water and Power facilities and system components are aging and/or have reached/exceeded their useful life. The condition of these facilities and equipment must be or has been assessed and proposed projects evaluated and prioritized based on risk (financial/criticality, safety and regulatory), efficiency of operations, and to provide a safe working environment for employees working in remote areas.

Water Infrastructure, $252.4 million

The Water Infrastructure R&R program will include concept, development, design and upgrades for operating, managing, and maintaining the Hetchy Water Infrastructure. In general, this includes water facilities from Hetch Hetchy Reservoir in Yosemite National Park to Alameda East located in Sunol and Newark in Alameda County. The new and upgraded systems will have increased coverage, capacity or reliability, or improve employee safety and/or operating efficiency for those projects.

R&R projects consist of continued rehabilitation to the San Joaquin Pipeline (SJPL) including evaluation and assessment of structural integrity, structural upgrade of the pipeline and other projects including pipeline cathodic protection, coating and lining. New projects in the plan include the SJPL Valve and Safety Improvement Project to extend the useful life and safety of Hetchy Water assets and the Priest-Moccasin Water Transmission Line Project to build a new pipeline system to bypass the Moccasin Powerhouse to ensure water delivery is not impacted by operations of the Powerhouse.

Power Infrastructure – $142.1 million

Power Infrastructure facilities and equipment have reached their life expectancy. Power generation will become less reliable if upgrades are not performed.

The Capital Plan provides funding for improvements at the Hetchy Powerhouses. Projects include upgrades to the powerhouse protection, control and monitoring systems and equipment replacement and upgrades. The plan includes a new powerhouse project, Moccasin Powerhouse and Generator Step-up Transformers (GSU) Rehabilitation to fund assets at the powerhouse (breakers, generators, switchgears, valves, etc.) that have exceeded their useful life to avoid unplanned outages and increase operational efficiency.

The Capital Plan also includes rehabilitation of transmission lines and distribution systems. Transmission improvements consist of reliability projects to address North American Electric Reliability (NERC) requirements. Typical projects include replacement of insulators, switches, tower infrastructure, grounding and protection. Also included are regulatory projects to achieve clearance mitigation and resolve clearance discrepancies and meet regulatory requirements along with the power system impact mitigation project to mitigate impacts on the City's electric system caused by interconnections with private developments.

The plan includes two new projects associated with dams and reservoirs for water storage and power generation. The Priest Reservoir Condition Assessment Project includes an assessment updating the stability of the dam with the results being used to determine any future capital upgrades The Cherry Elenore Pump Project will replace the pump at the reservoirs and upgrading systems.

Joint Projects – Water & Power Infrastructure, $514.7 million

These projects included assets that are jointly funded by Water (45%) and Power (55%) sources.

Communications - Projects provide upgrades of the communication systems elements to maintain pace with the changes in technology, and to maintain overall system reliability. The project will help to increase communications within the Moccasin compound.

Dams and Reservoirs - Projects to upgrade the Dams and Reservoirs to meet the Water Levels of Service and Power Operational Objectives. Funding is included for O'Shaughnessy Dam to improve the access and upgrade bulkhead, gate valves and drum gates, and Eleanor Dam to various degree of degradation including cracking, spalling of concrete, exposed rebar, leakage through the arch barrels, and erosion of the spillway concrete.

Mountain Tunnel – Project provides for evaluation of alternatives for the Mountain Tunnel facility and the design and construction of the preferred engineering alternative that will keep this vital component of the Hetch Hetchy Water and Power System in reliable service The Mountain Tunnel Project decreased from $620.6 to $211.1 million from the prior year's plan.

Roads and Bridges – Project to replace bridges as recommended in the condition assessment reports and the road improvements program for upkeep of access to numerous Hetch Hetchy Water and Power facilities.

Tunnels - Projects include the Canyon Tunnel-Hetchy Adit Rehabilitation for installation of a new reinforced concrete plug downstream of the existing plug. The new plug can be built while the Canyon Tunnel remains in service.

Utilities - Projects to maintain the power distribution system in a state of good repair consistent with utility best practices to ensure 24/7 power. Projects included load studies at Moccasin and remote locations, replacement of the failing systems with systems designed to meet current load requirements, back-up transformers (step down from generators) to ensure reliable water and power operations for Moccasin and remote sites.

Table H5 shows the Hetch Hetchy Water and Power Capital Budget for FY 2017-18, FY 2018-19 and FY 2019-20 by major programs.

Table H5. Hetch Hetchy Water and Power Capital Budget by Major Program

$ Millions Program/Project	FY 2017-18 Adopted Budget	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget
Hetchy Power Costs			
Streetlights	3.5	6.0	6.0
Transmission/Distribution	0.0	39.8	46.5
Renewable/Generation	1.1	1.0	1.0
Energy Efficiency	1.0	1.0	1.0
Redevelopment	7.1	13.7	9.5
Distribution Services for Retail Customers	20.0	0.0	0.0
Total Hetchy Power	**32.7**	**61.5**	**64.0**
Hetchy Water Costs			
Water Infrastructure	10.0	13.4	26.8
Power Infrastructure	15.8	17.2	11.8
Joint Projects - Water Infrastructure 45%	12.8	15.6	33.6
Joint Projects - Power Infrastructure 55%	15.6	19.1	41.1
Total Hetchy Water	**54.2**	**65.3**	**113.3**
Financing Cost - Hetchy Water	2.7	4.1	8.6
Financing Cost - Hetchy Power	3.4	9.6	13.6
Total Financing Costs	**6.2**	**13.7**	**22.3**
Total Hetchy Power & Water	**93.1**	**140.5**	**199.6**
Sources			
Revenue	33.0	42.5	38.5
Power Bonds	32.5	63.9	91.0
Water Bonds	25.5	33.1	69.1
Cap and Trade Auction Revenue	2.1	1.0	1.0
Total Sources	**93.1**	**140.5**	**199.6**

FY 2018-19 and FY 2019-20 Capital Budget

The FY 2018-19 and FY 2019-20 SFPUC Capital Budget is $140.5 million for projects and financing costs for Hetchy Water and Power.

Table H5 shows an overall increase in the FY 2018-19 Hetchy Water and Power Capital budget of $47.4 million. The Power Capital Budget increase from FY 2017-18 to FY 2018-19 by $28.8 million funds additional Transmission/Distribution Projects. The budget then increases $2.5 million from FY 2018-19 to FY 2019-20.

The Hetchy Water Capital budget increased $11.1 million from FY 2017-18 to FY 2018-19 for a total of $65.3 million. The budget increased $48.0 million from FY 2018-19 to 2019-20 to fund construction beginning on the Mountain Tunnel Project which is a joint Water and Power project.

FY 2018-19 Summary

The Hetchy Water and Power Capital budget for FY 2018-19 is $140.5 million and includes: $61.5 million for In-City Power projects $65.3 million for up-country Hetchy Water projects and $13.7 million for financing cost. The FY 2018-19 budget is funded by $42.5 million in Hetch Hetchy Water and Power revenues, $63.9 million from the issuance of Power Enterprise revenue bonds for projects considered Power or 55 percent of joint assets, $33.1 million from the issuance of Water Enterprise revenue bonds for projects considered Water or 45.0 percent of joint Water's assets, and $1.0 million from Cap and Trade Auction revenue. The projects are included in the SFPUC's Ten-Year Capital Plan which is part of the City and County of San Francisco's Ten-Year Capital Plan approved by the Board of Supervisors biannually.

This budget represents continued investment in upgrading and improving infrastructure to ensure reliability of power generation and water delivery. The budget grows the Power portfolio with continued investment in renewable sources and efficiency.

Power

Projects in the FY 2018-19 capital budget include:

- $6.0 million to fund the continued replacement/repair of streetlights, pull boxes, and conduit on an as needed basis and various streetlight improvements including holiday and special event street pole lighting, pedestrian streetlight assessments and improvements and lighting for the Van Ness Bus Rapid Transit Project.

- $39.8 million for Transmission /Distribution Improvements to provide for the design and construction of transmission and distribution facilities to serve new retail customers, installation of Intervening Facilities required under the new Wholesale Distribution Tariff and the development, administration, and incentive payments to new retail customers. Funding is also included for a new Substation at San Francisco International Airport to provide the SFPUC to serve the anticipated load increased at the airport.

- $1.0 million for Renewable/Generation projects such as small renewable (solar photovoltaic, solar thermal, wind, geothermal, fuel cells), small hydro (in-line turbines, turbines in existing pipelines, incremental hydro). Power generated from the Renewable/Generation projects will offset on-site power need at each project location.

- $1.0 million for Energy Efficiency Projects for General Fund departments. This project involves retrofitting the City buildings and other facilities to significantly improve operation and energy efficiency and enhance indoor air quality and occupant/public experience.

- $13.7 million for Redevelopment at Treasure Island, Alice Griffith and Candlestick Point.

- $1.9 million for Treasure Island to install a new underground 12 kilovolt (kV) distribution system at Treasure and Yerba Buena Island. The developer will pay for the installation of the new underground 12-kV electric distribution system while the SFPUC, as the electric utility provider, will be responsible for installing the conduit wires, transformers, switches, and metering equipment and connecting the existing electrical distribution system with the new system.

- $8.7 million for Alice Griffith/Candlestick Point to provide for the second phase of development at Hunters Point Shipyard, Candlestick Point, and the Alice Griffith Housing Complex. The Development Team comprised of the Office of Community Investment and Infrastructure and Developer will pay for the installation the required infrastructure and substructure required for the new 12-kV underground electrical distribution system. The SFPUC as the electric utility provider will install the conductors in the conduits, transformers, switches, and metering equipment required for the electric distribution system.
- $3.1 million for Transbay to provide electric service to the Transit Center by installing two 12-kilovolt (kV) electric circuits, 12-kV switchgear, transformers and other electrical equipment in agreement with the Transbay Joint Powers Authority.

Hetchy Water

Projects in the FY 2018-19 capital budget include:

- $13.4 million for Water Infrastructure projects to fund major improvements and maintenance activities involved with the water supply and delivery portion of the Hetch Hetchy Project. Funding is included for recurring repairs in different segments of the San Joaquin Pipeline. Work on the pipeline includes evaluation and assessment of structural integrity, structural upgrade of the pipeline and other projects including pipeline cathodic protection, coating and lining. New projects included the SJPL Valve and Safety Improvement Project to extend the useful life and safety of Hetchy Water assets and funding for a perimeter fence around the Moccasin reservoir.
- $17.2 million for Power Infrastructure Improvements including the transmission line clearance mitigation project to implement measures to resolve clearance discrepancies and meet regulatory requirements, and the power system impact mitigation project to mitigate impacts on the City's electric system caused by interconnection with private developments. Upgrades Power switchyard and substations and the Moccasin Powerhouse and GSU Rehabilitation project to fund upgrades to assets at the powerhouse (breakers, generators, switchgears, valves, etc.) that have exceeded their useful life to avoid unplanned outages and increase operational efficiency
- $34.7 million for Water's (45%) and Power's (55%) share of costs of joint asset property to support the infrastructure required for the operation and maintenance for both the Hetchy water and power systems including improvements to Moccasin facilities, road improvements, communications and security, the Mountain Tunnel Improvement Project including access/adit improvements and tunnel inspections and interim repairs.

FY 2019-20 Summary

Power

The Power FY 2019-20 Capital Budget is $64.0 million and includes $6.0 million to fund continued assessments and improvements to the SFPUC's streetlights, $46.5 million for Transmission/Distribution enhancements and upgrades, $1.0 million for investments in renewable generation projects, $1.0 million for energy efficiency projects for General Fund and departments and $9.5 million in redevelopment for the Treasure Island and Alice Griffith/Candlestick Point development projects.

Hetchy Water

The Hetchy Water FY 2019-20 Capital Budget is $113.3 million and includes $26.8 million for improvements to the water transmission system San Juaquin Pipeline and other water assets including starting the Priest-Moccasin Water Transmission Line project, $11.8 million for Power Infrastructure projects including powerhouse projects and transmission line clearance mitigation, $74.7 million for rehabilitation of joint (power/water) infrastructure projects including road improvements, dams and reservoirs, bridge replacements and beginning construction on the Mountain Tunnel Improvement Project.

Hetch Hetchy Water and Power Programmatic Projects

Table H6 shows Hetch Hetchy Water and Power Programmatic Projects, for FY 2017-18 to FY 2019-20, by major programs.

Table H6. Hetch Hetchy Water and Power Programmatic Projects

$ Millions Program/Project	FY 2017-18 Adopted Budget	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget
Hetchy Costs			
SF Electric Reliability - Trans Bay Cable Funding	2.0	2.0	2.0
Facilities Maintenance	2.5	2.5	2.6
WECC/NERC Compliance	3.7	3.7	3.7
WECC/NERC Transmission Line Clearance	0.2	0.2	0.2
Treasure Island Facilities Maintenance	3.3	3.5	3.6
Community Benefits - Water	0.4	0.5	0.3
Community Benefits - Power	0.6	0.6	0.4
Youth Employment Project	0.2	0.2	0.2
525 Golden Gate - Operations & Maintenance	0.7	1.0	0.8
525 Golden Gate - Lease Payments	1.2	1.2	1.2
Total Cost	**14.8**	**15.4**	**15.0**
Sources			
Infrastructure - Recovery Capital (O&M)	0.1	0.1	0.1
Infrastructure - Recovery Capital (Lease)	0.2	0.2	0.2
Federal Bond Interest Subsidy	0.3	0.3	0.3
Trans Bay Cable Payment	2.0	2.0	2.0
Revenue	11.7	12.8	12.4
Total Sources	**14.3**	**15.4**	**15.0**

The Hetch Hetchy Water and Power Programmatic Projects budget increases $1.1 million from FY 2017-18 to FY 2018-19 mostly due to a one-time increase in the maintenance costs for the 525 Golden Gate Avenue Building. The FY 2019-20 budget shows a decrease back to the annual continuing budget amount for this maintenance.

Hetch Hetchy Water and Power Ten-Year Financial Plan

Table H7 shows Hetch Hetchy Water and Power Ten-Year Financial Plan, from FY 2016-17 to FY 2025-26.

Table H7. Hetch Hetchy Water and Power Ten-Year Financial Plan

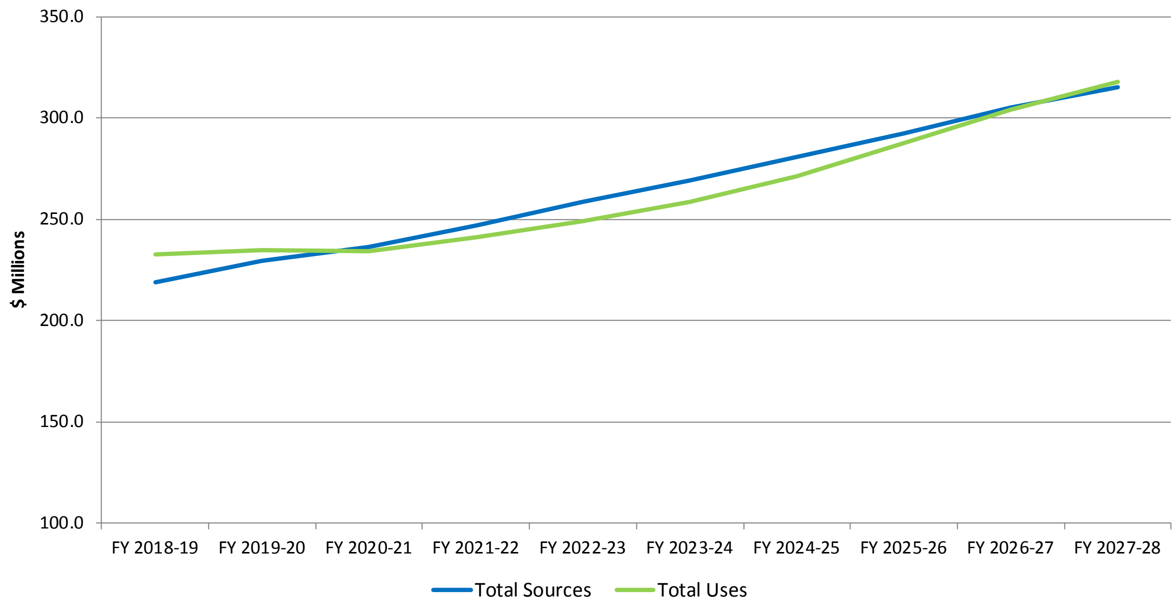
$ Millions	Projected FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Beginning Operating Fund Balance	**$ 49.6**	**$ 51.6**	**$ 37.9**	**$ 32.8**	**$ 34.6**	**$ 40.4**	**$ 50.2**	**$ 60.9**	**$ 70.3**	**$ 75.1**	**$ 76.2**
Sources											
Power Sales - Municipal General Fund Rates	28.6	35.2	37.7	40.1	42.2	44.3	46.4	48.5	50.7	52.8	54.9
Power Sales - Municipal Enterprise Rates	83.5	83.4	85.8	88.8	94.9	100.3	104.9	109.4	114.3	119.2	122.4
Power Sales - Retail	6.7	14.5	19.7	19.6	23.4	25.5	27.2	29.8	32.5	35.8	37.5
Power Sales - Wholesale	6.1	17.9	17.4	19.4	19.5	19.2	19.1	19.0	18.9	18.8	19.4
Natural Gas & Steam	11.3	12.5	12.5	12.8	13.2	13.6	14.0	14.4	14.9	15.3	15.8
Water Sales	1.2	2.7	2.9	3.1	3.4	3.6	3.8	3.9	4.1	4.3	4.5
Hetchy Transfer	32.6	33.6	34.6	35.6	36.7	37.8	38.9	40.1	41.3	42.5	43.8
Other Misc Income	16.1	19.0	19.0	16.7	13.9	14.2	14.8	15.3	15.8	16.4	16.7
Total Sources	**186.2**	**218.7**	**229.6**	**236.2**	**247.1**	**258.5**	**269.1**	**280.6**	**292.5**	**305.2**	**315.0**
Uses											
Operations & Maintenance	141.8	182.7	189.0	201.3	208.4	216.4	224.5	233.3	242.6	252.3	261.4
Revenue-Funded Projects	39.3	44.9	41.0	28.8	28.6	24.3	20.6	19.4	19.4	19.2	19.2
Debt Service	4.8	4.8	4.7	4.2	4.3	8.1	13.3	18.6	25.7	32.6	37.1
Total Uses	**185.9**	**232.4**	**234.7**	**234.3**	**241.3**	**248.7**	**258.4**	**271.2**	**287.7**	**304.0**	**317.7**
Net Revenues	**0.2**	**(13.7)**	**(5.1)**	**1.8**	**5.8**	**9.8**	**10.7**	**9.4**	**4.8**	**1.2**	**(2.8)**
Ending Fund Balance	**49.8**	**37.9**	**32.8**	**34.6**	**40.4**	**50.2**	**60.9**	**70.3**	**75.1**	**76.2**	**73.5**
Fund Balance as % of Operating Expense	**49%**	**30%**	**25%**	**25%**	**28%**	**33%**	**39%**	**43%**	**45%**	**44%**	**41%**
Debt Service Coverage (Current)	**28.75**	**33.84**	**30.58**	**25.19**	**26.32**	**12.58**	**7.72**	**6.17**	**4.86**	**4.05**	**3.56**
Debt Service Coverage (Indenture)	**7.34**	**7.38**	**8.55**	**7.52**	**9.04**	**5.25**	**3.35**	**2.56**	**1.95**	**1.63**	**1.44**
Revenue-Funded % of Capital	**31%**										

**SFPUC FY 2018-2019 10 Year Financial Plan, Adopted February 2018*

The SFPUC develops annual updates to the Ten-Year Financial Plan and Ten-Year Capital Plan. As noted in Table H7 Hetchy is shifting more capital funding from cash to revenue bond over the next 10 years.

Chart H5 provides the Ten-Year Financial Plan trend, sources and uses through FY 2027-28.

Chart H5. Hetch Hetchy Water and Power Ten-Year Financial Plan Trend Sources and Uses



Source: SFPUC FY 2018-2019 Ten-Year Financial Plan, Adopted February 2018

The SFPUC's Ten-Year Financial Plan as required by City and County of San Francisco Charter Section 8B.123, includes a ten-year financial summary (FY 2018-19 through FY 2027-28), describing projected sources and uses, resulting fund balances and associated financial reserve ratios. This is a planning document intended to inform the development of the Ten-Year Capital Plan, water and power utility rates and the biennial budget. The revenue and cost estimates should be viewed as indications of expected trends, given certain expenditure, receipt, and financing assumptions. These assumptions are based on current Board of Supervisors' and Commission policies, goals, and objectives representing management's best estimates.

Rates and Charges

Hetch Hetchy Water and Power charges for services related to the storage and delivery of water, as well as generating and delivering electricity to contractual and municipal customers. Transfers from the Water Enterprise support water operating and maintenance costs and are based on projected Hetchy water expenses. As determined by an analysis of water-allocated Hetchy expenses, the fund transfer in FY 2018-19 and FY 2019-20 is projected to be $33.6 and $34.6 million, respectively. Beginning in FY 2018-19 the fund transfer from the Water Enterprise is projected to increase as associated operating and capital costs increase at their respective 3 percent and 5 percent annual rates. For municipal power services, Enterprise department customers generally pay rates based on the projected PG&E equivalent rate based on customer class. General Fund department customers generally pay subsidized rates referred to as General Use (GUSE) rates. Non-municipal retail customers pay a rate at a discount to the PG&E equivalent rate.

The Power Enterprise completed a charter-required, independent cost of service study in April 2016 informing power rate setting for FY 2016-17 through and FY 2019-20.

Based on the results of the study, in May 2018, the Commission approved a 0.5 cent per kWh increase per year in GUSE rates for the years FY 2018-19 and FY 2019-20 as well as the consolidation of all GUSE rates into a single rate. For non-municipal retail customers in redevelopment areas, the Commission approved rates which were set to be below PG&E equivalent rates.

Total monthly services charges are calculated using the total rates shown in the rate schedule (www.sfwater.org), based on monthly meter readings.

Sources of Funds

Hetch Hetchy Water and Power operates the Hetch Hetchy Reservoir, the main source of water for the Hetch Hetchy system and is responsible for generating, transmitting and distributing electricity to City and County of San Francisco customers. The Power Enterprise operates and maintains power transmission and generation facilities, buys and sells electric power, provides energy conservation and renewable resource solutions to City departments and maintains approximately 25,000 City-owned streetlights as well as providing the power and required funding for approximately 19,000 streetlights operated by PG&E. Total sources are forecast to increase from $218.7 million in FY 2018-19 to $315.0 million by FY 2025-26.

- Power Sales receipts are projected to increase from $150.9 million to $234.1 million over the ten-year period. While municipal customer sales receipts make up nearly 75 percent of the projected power sales growth, retail sales are projected to grow immaterially. Retail power sales are projected to make up 15.8 percent of power sales at the end of the projection period compared to 9.6 percent of sales in FY 2018-19.
- Water-related Sales will increase from $36.3 million to $48.3 million over the ten years, representing services related to maintaining the Hetch Hetchy Water system and water sales up-country.
- Other income including reimbursements and interest income, are forecast to average $16.1 million annually over the projection period. Natural gas and steam sales are forecast to average $13.9 million annually over the projection period.

Uses of Funds

The Ten-Year Financial Plan includes a 3 percent annual growth assumption for operations and maintenance costs and a 5 percent annual escalation in capital costs.

The Ten-Year Financial Plan includes operation and maintenance costs, repair and replacement costs for existing equipment and facilities, and loans used to finance capital improvements. Operations and maintenance costs average approximately 84 percent of the Hetch Hetchy Water and Power's expenditures with revenue-funded capital projects the remaining 16 percent. Over the period, total expenditures, net of debt proceeds, average $212.5 million per year with annual variations in operating and capital funding requirements.

- Operations and Maintenance costs include salaries and fringe benefits, materials and supplies, watershed management costs, power purchases, and services of other City departments (including the SFPUC Bureaus). These costs are projected to increase from $182.7 million in FY 2018-19 to $261.4 million by FY 2027-28.
- Debt Service costs represent the Power Enterprise's debt service as Hetchy Water's debt service is separately budgeted in the Water Enterprise fund. These costs are projected to increase from $4.8 million to $37.1 million over the ten years to fund capital projects. Hetch Hetchy Water and Power developed a financial plan that will allow for future capital financing needs to be funded with Power Revenue Bonds as well as revenues.
- Revenue-funded Capital Projects include major maintenance and rebuilding projects associated with the up-country power infrastructure. This includes projects associated with the Hetch Hetchy Reservoir as well as the nearby power generating and distribution facilities. Project needs, net of debt proceeds, average $26.5 million annually over the ten-year period.

These investments represented by the debt service and revenue-funded capital costs are to improve reliability, provide essential seismic upgrades, and repair and replace infrastructure which is beyond its useful life.

Financing of Capital Needs

The Hetch Hetchy Water and Power Ten-Year Financial Plan assumes both revenue and bond financing of Water and Power capital needs. Of the $796.5 million Power capital program over the next ten years, $249.1 million is revenue-funded and $547.4 million is debt financed. Of the $483.9 million Water Ten-Year Capital Plan, all $483.9 million is debt financed, through Water revenue bonds.

Financial Ratios

Consistent with SFPUC strengthened Debt Service Coverage Policy, adopted in March 2017, it is the financial objective of the SFPUC to maintain a minimum revenue bond coverage ratio of 1.35 times on an indenture basis and 1.10 times on a current operations basis; the latter does not include available fund balances. Over the ten-year period, the Enterprise indenture coverage ranges from 5.90 to 1.63. On a current basis, the coverage ratio is projected to exceed the 1.00 minimum with a range from 2.66 to 1.30 times coverage.

Fund Balances and Reserves

Ending fund balance is projected to decline to $32 million by FY 2019-20 as the Enterprise uses reserves for capital spending. The projected ending fund balance at 25 percent of operating expenditures at the end of FY 2019-20 is in-line with the SFPUC Fund Balance Policy, adopted in 2017. Through the end of the forecast period, the Enterprise projects to grow fund balance to a stronger $73.5 million or 41 percent of projected expenditures.

Hetch Hetchy Water and Power Pro-forma Allocation

FY 2018-19 sources and uses of funds are $226.3 million of which $183.7 million, or 81.2 percent is for Power and $42.6 million, or 18.8 percent, is for Hetchy Water. Uses of funds show operating costs of $23.5 million and programmatic costs of $1.3 million being allocated from Hetchy Water to Hetchy Power.

FY 2019-20 sources and uses are $227.5 million of which $184.8 million, or 81.2 percent is for Hetchy Power and $42.7 million, or 18.8 percent, is for Hetchy Water. Uses of funds show operating costs of $24.8 million and programmatic costs of $1.4 million being allocated from Hetchy Water to Hetchy Power.

Table H8 shows the allocation of Hetch Hetchy Water and Power Sources and Uses of Funds based on water and power service delivery by the respective Divisions, Hetchy Water and Power for the FY 2017-18 to FY 2019-20 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and budget variances between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19.

Table H8. Hetch Hetchy Water and Power Sources and Uses of Funds by Division

$ Millions	FY 2016-17	FY 2017-18		FY 2018-19	FY 2019-20	FY 2018-19 vs. FY 2017-18 Adopted Budget		FY 2019-20 vs. FY 2018-19 Adopted Budget	
Category	Audited Actual	Adopted Budget	FY 2017-18 Actual	Adopted Budget	Adopted Budget	Amount	%	Amount	%
SOURCES OF FUNDS									
Hetchy Power									
Federal Interest Subsidy	0.5	0.6	0.6	0.6	0.5	0.0	0.0%	(0.1)	0.0%
Interest Income	1.6	1.3	1.3	0.6	0.6	(0.7)	-52.7%	0.0	0.0%
Other Revenues	6.1	5.9	4.8	6.4	6.5	0.6	9.4%	0.1	0.0%
Sale of Natural Gas & Steam (Pass-through)	9.1	11.3	9.7	10.2	10.9	(1.1)	-9.4%	0.6	6.3%
Fund Balance	0.0	1.7	6.1	8.1	0.0	6.3	361.6%	(8.1)	-100.0%
Sale of Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0%
Sale of Electricity	120.4	143.7	122.4	157.8	166.2	14.1	9.8%	8.5	5.4%
Hetchy Power Subtotal	**137.8**	**164.5**	**144.8**	**183.7**	**184.8**	**19.2**	**11.7%**	**1.1**	**0.6%**
Hetchy Water									
Federal Interest Subsidy	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0%
Interest Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0%
Other Revenues	0.3	0.5	0.5	0.3	0.3	(0.2)	-38.3%	0.0	0.0%
Sale of Natural Gas & Steam (Pass-through)	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0%
Fund Balance	0.0	3.8	0.1	6.0	4.9	2.2	59.0%	(1.1)	0.0%
Sale of Water	35.0	34.9	33.4	36.3	37.5	1.4	4.2%	1.2	3.4%
Sale of Electricity	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0%
Hetchy Water Subtotal	**35.3**	**39.1**	**34.0**	**42.6**	**42.7**	**3.5**	**9.0%**	**0.1**	**0.2%**
Hetch Hetchy Water and Power									
Federal Interest Subsidy	0.5	0.6	0.6	0.6	0.5	0.0	0.0%	(0.1)	-13.8%
Interest Income	1.6	1.3	1.3	0.6	0.6	(0.7)	-52.7%	0.0	0.0%
Other Revenues	6.4	6.3	5.3	6.7	6.8	0.4	5.8%	0.1	1.3%
Sale of Natural Gas & Steam (Pass-through)	9.1	11.3	9.7	10.2	10.9	(1.1)	-9.4%	0.6	6.3%
Fund Balance	0.0	5.5	6.2	14.1	4.9	8.6	154.3%	(9.2)	-65.2%
Sale of Water	35.0	34.9	33.4	36.3	37.5	1.4	4.2%	1.2	3.4%
Sale of Electricity	120.4	143.7	122.4	157.8	166.2	14.1	9.8%	8.5	5.4%
Hetch Hetchy Total Sources	**173.1**	**203.6**	**178.9**	**226.3**	**227.5**	**22.7**	**11.2%**	**1.2**	**0.5%**
USES OF FUNDS									
Hetchy Power									
Operations and Maintenance	47.3	80.4	61.0	88.5	92.1	8.1	10.1%	3.6	4.1%
Natural Gas & Steam (Pass-through)	9.1	11.3	9.7	10.2	10.9	(1.1)	-9.4%	0.6	6.3%
Debt Service	2.3	4.8	4.8	4.8	4.8	0.0	0.0%	0.0	0.0%
General Reserve	6.2	0.3	0.0	0.0	0.0	(0.2)	-84.9%	0.0	0.0%
Reclass, Power Only & Joint Operating Costs	22.4	21.1	24.1	23.5	24.8	2.4	11.2%	1.3	5.3%
Subtotal	**87.3**	**117.9**	**99.6**	**127.1**	**132.5**	**9.2**	**7.8%**	**5.5**	**4.3%**
Revenue-Funded Capital	36.8	33.0	33.0	42.5	38.5	9.5	28.7%	(3.9)	-9.3%
Programmatic Projects	12.3	12.2	12.2	12.8	12.4	0.6	4.8%	(0.4)	-3.2%
Reclass, Power Only & Joint	1.4	1.4	0.0	1.3	1.4	(0.1)	-5.0%	0.1	6.0%
Hetchy Power Subtotal	**137.8**	**164.5**	**144.8**	**183.7**	**184.8**	**19.2**	**11.7%**	**1.1**	**0.6%**
Hetchy Water									
Operations and Maintenance	55.2	58.7	55.6	64.9	66.2	6.2	10.6%	1.3	2.0%
General Reserve	1.4	0.4	0.0	0.0	0.0	(0.4)	0.0%	0.0	0.0%
Reclass, Power Only & Joint Operating Costs	(22.4)	(21.1)	(24.1)	(23.5)	(24.8)	(2.4)	11.2%	(1.3)	5.3%
Subtotal	**34.2**	**37.9**	**31.5**	**41.4**	**41.5**	**3.5**	**9.2%**	**0.1**	**0.2%**
Revenue-Funded Capital	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0%
Programmatic Projects	2.5	2.6	2.5	2.5	2.6	0.0	0.0%	0.1	3.0%
Reclass, Power Only & Joint	(1.4)	(1.4)	0.0	(1.3)	(1.4)	0.1	-5.0%	0.0	0.0%
Hetchy Water Subtotal	**35.3**	**39.1**	**34.0**	**42.6**	**42.7**	**3.6**	**9.1%**	**0.1**	**0.2%**
Hetch Hetchy Water and Power									
Operations and Maintenance	102.5	139.1	116.7	153.4	158.3	14.3	10.3%	4.9	3.2%
Natural Gas & Steam (Pass-through)	9.1	11.3	9.7	10.2	10.9	(1.1)	-9.4%	0.6	6.3%
Debt Service	2.3	4.8	4.8	4.8	4.8	0.0	0.0%	0.0	0.0%
General Reserve	7.6	0.6	0.0	0.0	0.0	(0.6)	-93.6%	0.0	0.0%
Subtotal	**121.5**	**155.8**	**131.1**	**168.5**	**174.0**	**12.7**	**8.2%**	**5.6**	**3.3%**
Revenue-Funded Capital	36.8	33.0	33.0	42.5	38.5	9.5	28.7%	(3.9)	-9.3%
Programmatic Projects	14.8	14.8	14.7	15.3	15.0	0.6	3.9%	(0.3)	-2.1%
Hetch Hetchy Total Uses	**173.1**	**203.6**	**178.9**	**226.3**	**227.5**	**22.7**	**11.1%**	**1.2**	**0.5%**

Chart H6 show the allocation of Hetch Hetchy Water and Power FY 2018-19 sources based on water and power service delivery by the respective Divisions.

Chart H6. FY 2018-19 Hetch Hetchy Water and Power Sources of Funds by Division, by Category

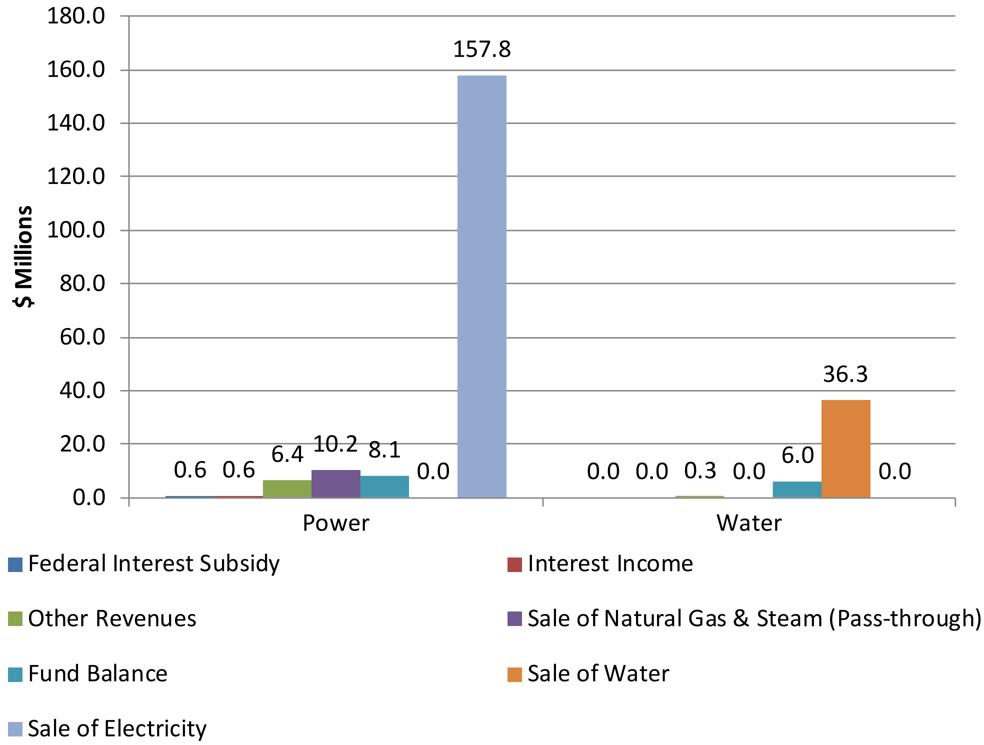


Chart H7 shows the allocation of Hetch Hetchy Water and Power FY 2018-19 uses based on water and power service delivery by the respective Divisions.

Chart H7. FY 2018-19 Hetch Hetchy Water and Power Uses of Funds by Division, by Category

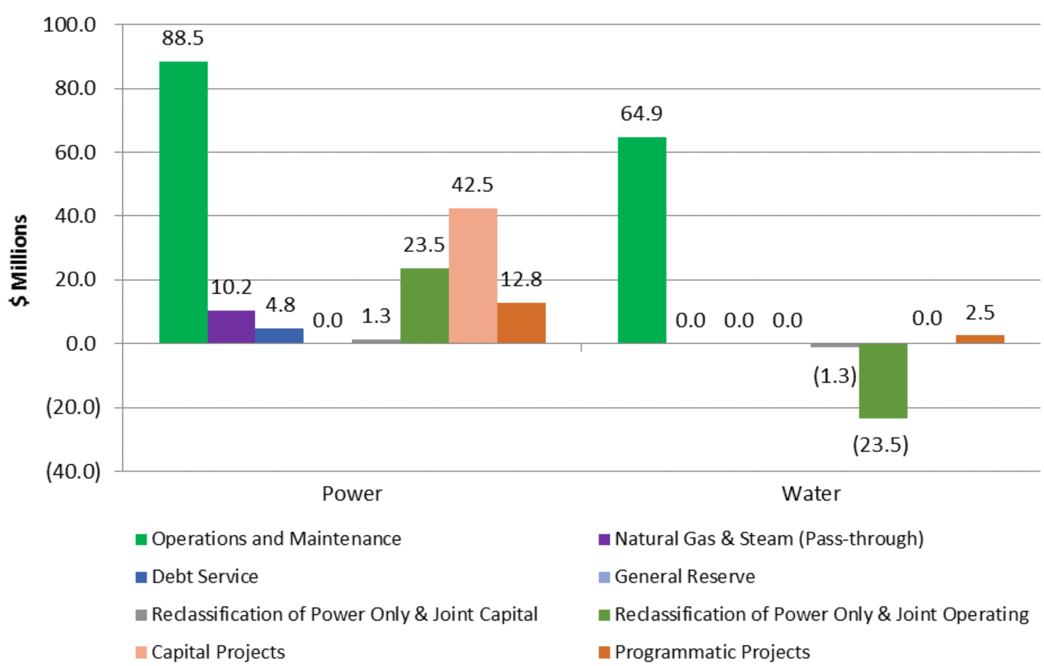


Chart H8 shows the allocation of Hetch Hetchy Water and Power FY 2019-20 fund sources based on water and power service delivery by the respective Divisions.

Chart H8. FY 2019-20 Hetch Hetchy Water and Power Sources of Funds by Division, by Category

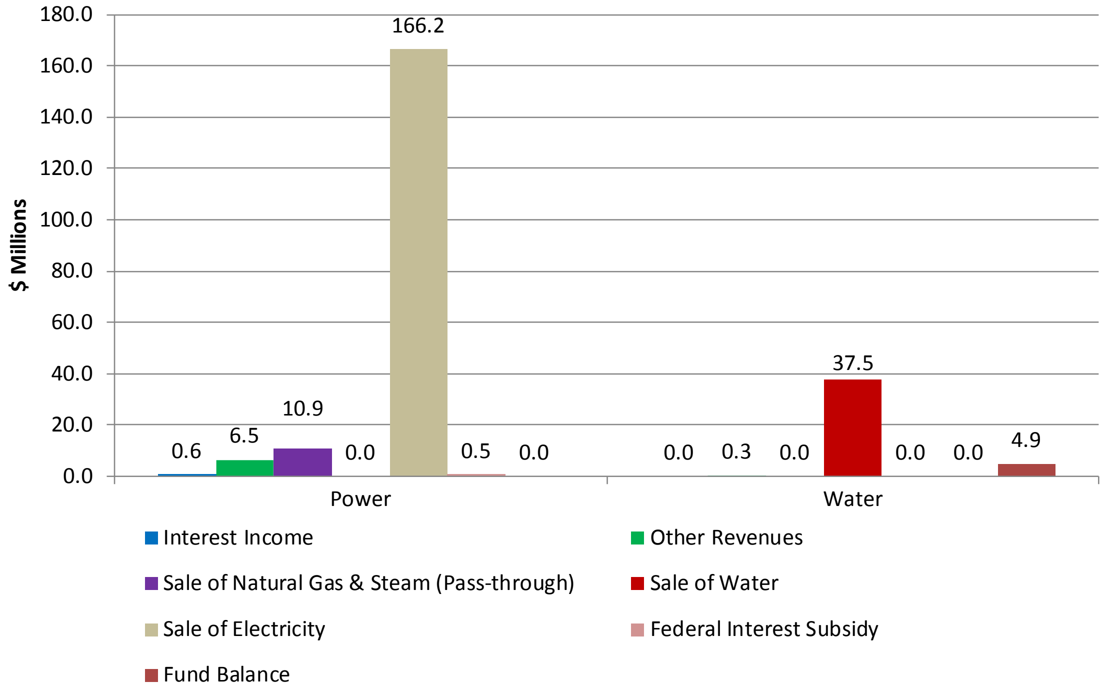
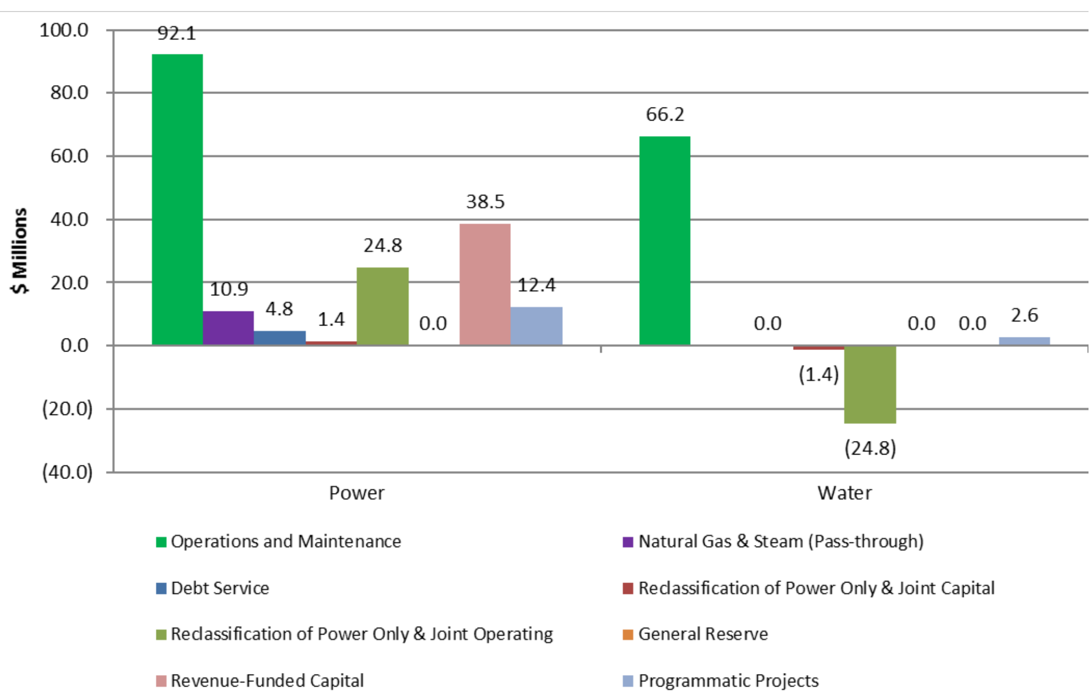


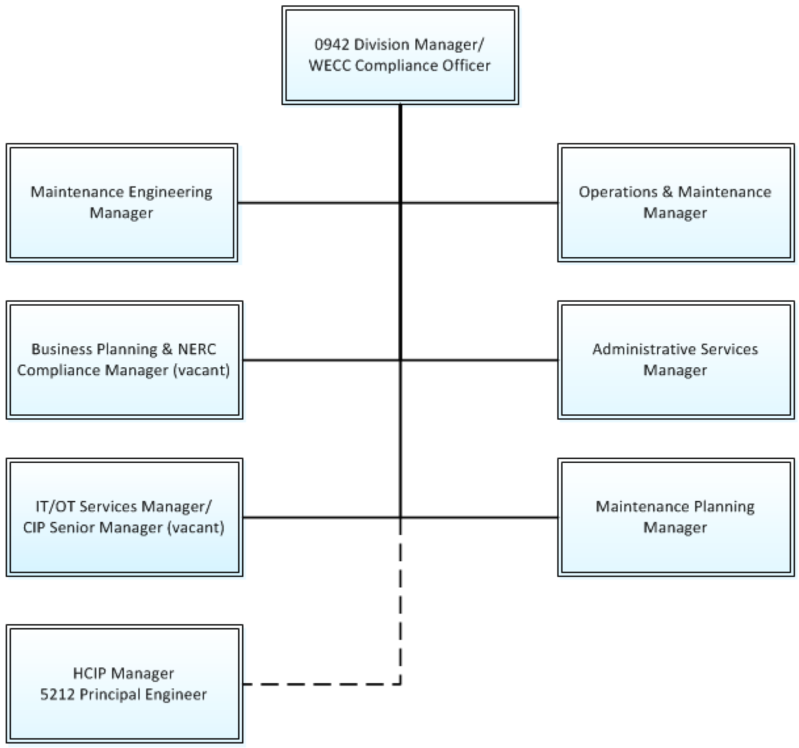
Chart H9 shows the allocation of Hetch Hetchy Water and Power FY 2019-20 fund uses based on water and power service delivery by the respective Divisions.

Chart H9. FY 2019-20 Hetch Hetchy Water and Power Uses of Funds by Division, by Category



Hetch Hetchy Water

Hetch Hetchy Water Organization Chart



Budget Summary

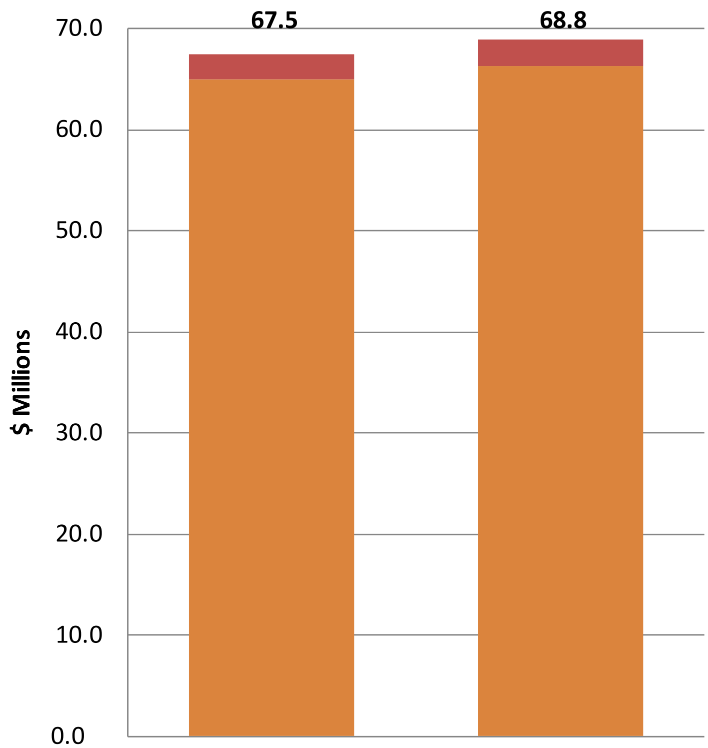
Hetchy Water is responsible for managing, operating and maintaining three up-country reservoirs including the main source of water for San Francisco and other Bay Area communities. The operation, maintenance, and improvements of dams and smaller reservoirs within the Hetch Hetchy system, and the water conveyance systems, power generation facilities and power transmission systems, are also managed by Hetchy Water. The assets making up these systems start at Hetch Hetchy Reservoir located in Yosemite National Park and span all the way to Alameda East located in Sunol and Newark in Alameda County. Additionally, Hetchy Water manages and maintains almost 50 miles of paved roads, 11 bridges, and hundreds of square miles of watershed lands and right-of-way easements.

The activities of these multifunctional systems are balanced based on priorities identified within the mission statement. With many Hetchy Water assets serving multiple purposes, a funding system has been established that is based on the function or benefit individual assets provide. An asset may be classified as “water only”, “power only” or “joint”. Funding to improve or rehabilitate an asset comes from Water funds, Power funds or a combination of the two for those assets classified as Joint.

Hetchy Water will continue to spend significant resources to meet new reliability requirements designed to protect the Nation’s power grid established through agreements with the North American Electric Reliability Corporation (NERC). Hetch Hetchy Water and Power (HHWP) is a NERC registered Generator Owner, Generator Operator, Transmission Owner, Transmission Operator and Transmission Planner. Over the last year, NERC regulatory efforts have focused on two areas: transitioning to the new Critical Infrastructure Protection (CIP) Standards and implementing a risk-based approach to Reliability Standards compliance monitoring and enforcement. Additionally, SFPUC entered into an agreement with the California Independent System Operator (CAISO) for CAISO to provide Planning Coordinator services to Hetchy Water.

Chart H10 displays Hetchy Water's Uses of Funds budget allocation for operations, and programmatic projects.

Chart H10. FY 2018-19 and FY 2019-20 Hetchy Water Uses of Funds



		FY 2018-19	% of Total		FY 2019-20	% of Total
Operations	$	64.9	96.2%	$	66.2	96.2%
Programmatic Projects		2.5	3.8%		2.6	3.8%
Total	**$**	**67.5**	**100.0%**	**$**	**68.8**	**100.0%**

The FY 2018-19 budget for Hetchy Water includes $64.9 million for Operations or 96.2 percent of the total budget, and $2.5 million for Programmatic Projects or 3.8 percent of the total budget.

The FY 2019-20 budget for Hetchy Water includes $66.2 million for Operations or 96.2 percent of the total budget, and $2.6 million for Programmatic Projects, or 3.8 percent of the total budget.

Table H9 shows the FY 2017-18 to FY 2019-20 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and budget variances between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19.

Table H9. Hetchy Water Operations Budget Summary

\$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 20119-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	26,022,170	28,878,529	26,789,568	29,979,396	30,860,540	1,100,867	3.8%	881,144	2.9%
Overhead	0	8,495,546	7,775,502	9,117,706	9,276,775	622,160	7.3%	159,069	1.7%
Non-Personnel Services	16,217,531	16,396,897	16,657,185	20,087,440	19,688,566	3,690,543	22.5%	(398,874)	-2.0%
Materials & Supplies	2,027,788	2,131,609	2,079,498	2,159,823	2,368,103	28,214	1.3%	208,280	9.6%
Equipment	842,218	70,507	264,764	695,941	1,075,619	625,434	887.1%	379,678	54.6%
Services Of Other Depts	10,052,847	2,719,497	2,043,715	2,903,772	2,947,661	184,275	6.8%	43,889	1.5%
Total	**55,162,554**	**58,692,585**	**55,610,232**	**64,944,078**	**66,217,264**	**6,251,493**	**10.7%**	**1,273,186**	**2.0%**

As shown in Table H9 above, there is a 10.7 percent increase in the Operations Budget for Hetchy Water between FY 2017-18 and FY 2018-19 adopted budgets; and a 2 percent increase from FY 2018-19 to FY 2019-20, resulting in a 12.7 percent increase from FY 2017-18 to FY 2019-20 adopted budgets

Reasons for Changes, FY 2017-18 to FY 2018-19

The following describes FY 2017-18 to FY 2018-19 budget category variances greater than ten percent.

- **Non-Personnel Services –** Adjusts for increased services for watershed protection and special project services provided by the National Park Service as well as an increase for Don Pedro new building construction.
- **Equipment -** Reflects projected equipment needs for new and replacement vehicles, heavy equipment and other field equipment required for operations and maintenance activities.

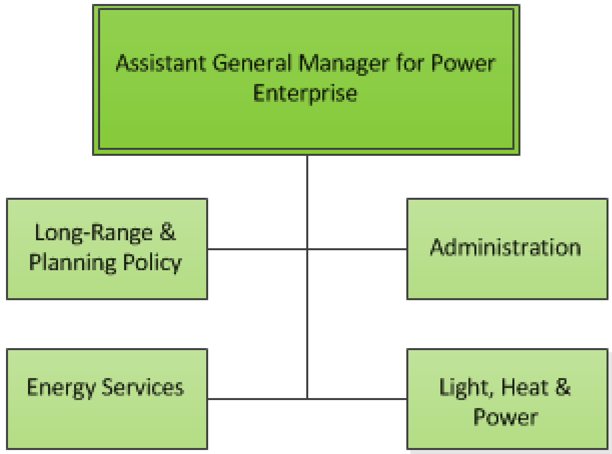
Reasons for Changes, FY 2018-19 to FY 2019-20

The following describes FY 2018-19 to FY 2019-20 budget category variances greater than ten percent.

- **Equipment –** Increases the budget for new and replacement vehicles.

Power Enterprise

Power Organization Chart



Budget Summary

Power has four sections including, Administration, Energy Services, Long Range Planning and Light, Heat and Power. The Power FY 2018-19 budget is $158.8 million and for FY 2019-20 is $158.7 million, a net decrease of 0.1 percent, mainly due to increases in Long Range Planning for Purchase of Power offset by decreases in Revenue-Funded Capital, Programmatic Projects, and in Energy Services in professional services.

Each section provides the support services to provide reliable service to SFPUC customers. Since FY 2015-16, Power Enterprise interconnects its customers through a federally-approved Wholesale Distribution Tariff, which dictates the terms and conditions under which PG&E provides distribution interconnection services. The new requirements for facilities to interconnect customers continues to impose cost increases on the Power budget. However, Power continues to leverage investments in distribution and transmission interconnections to serve additional customers. Power is expanding the number of customers it serves to include new retail customers at redevelopment projects, like Hunters Point and Transbay Center.

Power Performance Trends

In FY 2011-12 the SFPUC adopted a Strategic Sustainability Plan (SSP) to provide the SFPUC with a system for planning, managing, and evaluating SFPUC-wide performance that considers the long-term economic, environmental, and social impacts of its business activities. Starting in FY 2012-13 through FY 2015-16 specific key performance measures from the SSP have been used to determine trends in performance for Power and the other Enterprises. In May 2016, the SFPUC adopted the **2020 Strategic Plan** developed by the Executive Team to reaffirm the overall strategic direction, identify key priorities and serve as a roadmap for the SFPUC to ensure the utility meets the challenges ahead and continue to deliver reliable water, power and sewer services. Through this process of reaffirming the Mission and Vision, the SFPUC also reviewed and expanded upon the its values. The Goals and Objectives in Table H10 included in the plan focus on accomplishments to be achieve by 2020 and to ensure that objectives are met while the organization strives to implement capital programs, diversify the water and energy portfolio and ensure triple bottom line sustainability.

Table H10. 2020 Strategic Plan Goals and Goals Descriptions

2020 Strategic Goals	Goal Descriptions
Reliable Service and Assets	We provide reliable service and value to our customers by optimizing the operations, maintenance, and replacement of all assets in the most cost-effective manner.
Organizational Excellence	We are a high performing organization focused on efficiency, effectiveness and accountability across the organization.
Effective Workforce	We attract, retain, and develop an effective workforce, reflective and supportive of our communities, that consistently delivers high quality services to stakeholders.
Financial Sustainability	We assure financial integrity and sustainability, meeting today's operating and capital investment needs while managing risk and long-term affordability for the future.
Stakeholder and Community Interest	We foster trust and engagement with our customers, employees, and the communities we serve through open and timely communication and education.
Environmental Stewardship	We sustainably manage the resources entrusted to our care to ensure environmental and community health.

Each Goal in the **2020 Strategic Plan** has one or more Executive Champions who have worked across the SFPUC to develop Performance Measures including target and baseline metrics. Additionally, each Goal has key elements on which the Goal Champions have chosen to base the performance measures. In May 2018, the performance measures for each goal for the **2020 Strategic Plan** were finalized. Table H11 provides a performance measures for the Power Enterprise for FY 2018-19 and FY 2019-20.

Over the last two years since the adoption of the **2020 Strategic Plan**, the performance measures for Power were both consistent of SSP and could be associated with the goals of the **2020 Strategic Plan**. Appendix F provides the performance measure and targets applied across the SFPUC for FY 2016-17 and FY 2017-18 and reported to the Controller and the Mayor.

As shown in Appendix F there are some trends for the Power Enterprise that can be noted:

- Percent of power rate and fee structure that reflects cost of services (including funding capital investment, O&M and contributions to reserve); target is 77 percent
  - FY 2016-17 was 68.0 percent
  - FY 2017-18 was 76.0 percent
- Average monthly electricity used by streetlights (in kWh), target is 50.00
  - FY 2016-17 was 57.89
  - FY 2017-18 was 56.03

Table H11. Power Enterprise Performance Measure, Target and Responsible Organization for FY 2018-19 and FY 2019-20

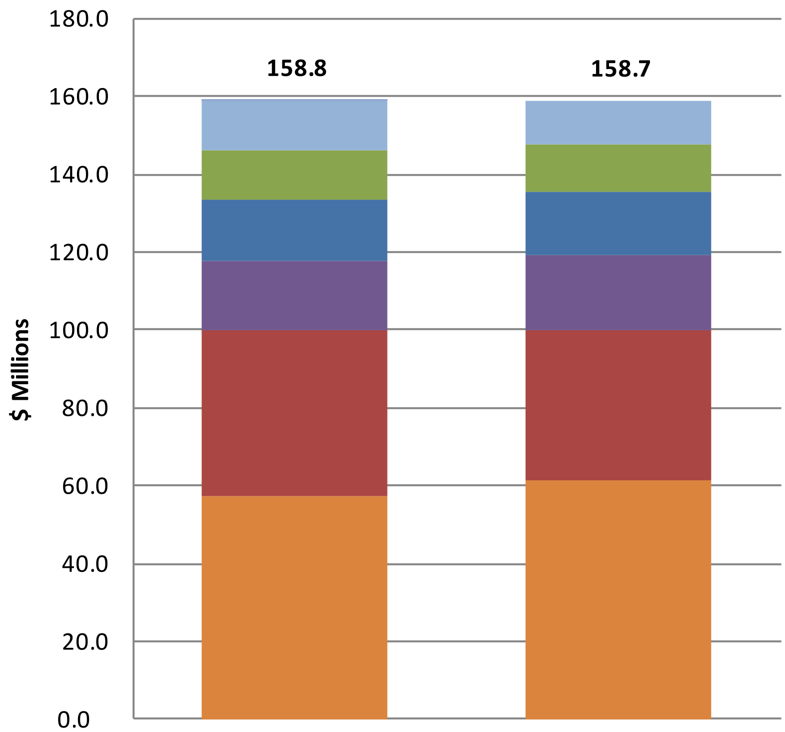
Goal	Performance Measurement	Target/Baseline	Responsible Organization
Reliable Service and Assets	Percent of reported street light outages addressed within 48-hours a. Simple street light repaired b. Complex street light evaluated	100%	Light, Heat and Power Division
Reliable Service and Assets	Develop baseline security standards for existing and future assets	100% by December 31, 2019	Enterprise-wide
Reliable Service and Assets	Publish a State of the System Report	First report in 2020 and then biennial thereafter	Enterprise-wide
Organizational Excellence	Percent overtime as a percent of base salary -year over year	16%	Enterprise -wide
Organizational Excellence	Percent of audit recommendations closed within 6 months of publication	85%	Enterprise-wide
Stakeholder and Community Interests	Percent of retail customers rating the SFPUC as good or better on a customer survey	90%	Enterprise and SFPUC-wide
Stakeholder and Community Interests	Average response time to customer inquiries about street lights that are received via 311	2 business hours of initial contact	Light, Heat and Power Division
Stakeholder and Community Interests	Average response time to customer inquiries received via Customer Services Bureau and CleanPower SF Call Center	80% of calls answered within 20 seconds 95% of emails received within 2 business days 100% of written correspondence within 5 days for routines questions and comments	CleanPowerSF and Customer Services Bureau
Stakeholder and Community Interests	Response rate to the Employee Engagement Survey	70% of employees participate 80% of the manager with access to team results create and complete at least one action plan	Enterprise-wide
Environmental Stewardship	CleanPowerSF customer account retention rate (percent)	90% or more	CleanPowerSF
Environmental Stewardship	Retail sales receiving greenhouse gas free power (percent)	100	Enterprise-wide

Power Sections

Power has four sections, Administration, Energy Services, Long Range Planning and Power Purchase, and Light, Heat and Power. The Power budget decreased by $0.1 million from FY 2018-19 to FY 2019-20, mainly due to increases in Long Range Planning for Purchase of Power offset by decreases in Revenue-Funded Capital, Programmatic Projects, and in Energy Services in professional services.

Chart H11 displays Power's Uses of Funds budget allocation for operations by section and for revenue-funded capital, programmatic projects and general reserve.

Chart H11. FY 2018-19 and FY 2019-20 Power Uses of Funds by Section and Other Categories



		FY 2018-19	% of Total		FY 2019-20	% of Total
Long-Range Planning and Power Purchase*	$	57.5	36.2%	$	61.6	38.8%
Capital/Revenue Reserve		42.5	26.7%		38.5	24.3%
Light, Heat & Power		17.9	11.3%		19.1	12.0%
Power Administration		15.7	9.9%		16.0	10.1%
Programmatic Projects		12.8	8.1%		12.4	7.8%
Engergy Services		12.4	7.8%		11.0	6.9%
General Reserve		0.0	0.0%		0.0	0.0%
Total	**$**	**158.8**	**100.0%**	**$**	**158.7**	**100.0%**

* Includes Power Purchases for FY 2018-19 and FY 2019-20 budgets.

The FY 2018-19 Power operations budget includes: $57.5 million for Long Range Planning and Power Purchase ($50.6 million for Purchase of Power only), $17.9 million for Light, Heat and Power, $15.7 million for Power Administration, $12.4 million for Energy Services, $42.5 million for Revenue-Funded Capital and $12.8 million Programmatic Projects.

The FY 2019-20 Power operations budget includes: $61.6 million for Long Range Planning and Power Purchase ($54.9 million for Purchase of Power only), $19.1 million for Light, Heat and Power, $16 million for Power Administration, $11 million for Energy Services, $38.5 million for Revenue-Funded Capital and $12.4 million Programmatic Projects.

Administration

Power Administration assists Power operations managers with the biennial budget submittal, monthly planning, reporting, cost monitoring, transaction processing and contract management support. Administration also supports internal and external information requests, legislative matters, records management and retention coordination, and Electric Vehicle Infrastructure strategy coordination.

Budget Summary

Table H12 shows the FY 2017-18 to FY 2019-20 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and budget variances between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19.

Table H12. Power Administration Budget Summary

$						FY 2018-19 vs. FY 2017-18 Adopted Budget		FY 20119-20 vs. FY 2018-19 Adopted Budget	
Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	Amount	%	Amount	%
Personnel	3,347,845	4,579,598	2,896,304	4,764,716	4,931,480	185,118	4.0%	166,764	3.5%
Overhead	0	6,225,317	7,033,354	7,665,632	7,774,567	1,440,315	23.1%	108,935	1.4%
Non-Personnel Services	452,295	1,527,893	572,120	1,517,278	1,557,278	(10,615)	-0.7%	40,000	2.6%
Materials & Supplies	43,465	56,726	30,611	56,726	66,726	0	0.0%	10,000	17.6%
Services Of Other Depts	8,453,702	1,610,046	1,389,859	1,685,073	1,697,548	75,027	4.7%	12,475	0.7%
Total	**12,297,307**	**13,999,580**	**11,922,248**	**15,689,425**	**16,027,599**	**1,689,845**	**12.1%**	**338,174**	**2.2%**

Reasons for Changes, FY 2017-18 to FY 2018-19

The following describes FY 2018-19 to FY 2019-20 budget category variances greater than ten percent.

- **Overhead** – Reflects a projected increase for Hetchy Power's allocation for services of the SFPUC Bureaus provided to Hetchy Power resulting from the 2018 Indirect Cost Study.

Reasons for Changes, FY 2018-19 to FY 2019-20

The following describes FY 2018-19 to FY 2019-20 budget category variances greater than ten percent.

- **Materials & Supplies** – Reflects projected increases for the cost of office materials and supplies.

Energy Services

Energy Services consists of seven service areas: Retail Services, Energy Data Systems, Strategic Planning and Regulatory Affairs, Business and Financial Analysis, Customer Development, Retail Interconnections, and Redevelopment Projects. These service areas provide operational and regulatory support.

Budget Summary

Table H13 shows the FY 2017-18 to FY 2019-20 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and budget variances between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19.

Table H13. Energy Services Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 20119-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	3,554,210	5,166,101	4,068,362	5,051,623	5,312,141	(114,478)	-2.2%	260,518	5.2%
Non-Personnel Services	1,033,897	1,636,008	2,002,335	5,011,227	3,365,171	3,375,219	206.3%	(1,646,056)	-32.8%
Materials & Supplies	434	3,436	702	3,436	3,436	0	0.0%	0	0.0%
Services Of Other Depts	1,650,000	2,306,656	1,060,447	2,335,508	2,336,373	28,852	1.3%	865	0.0%
Total	**6,238,541**	**9,112,201**	**7,131,846**	**12,401,794**	**11,017,121**	**3,289,593**	**36.1%**	**(1,384,673)**	**-11.2%**

Reasons for Changes, FY 2017-18 to FY 2018-19

- **Non-Personnel Services –** Adds one-time funding for Electric Billing System Software Implementation services and an increase for City Attorney to manage contracts such as federal litigation, transmission and energy contracts, California Public Utilities Commission proceedings and state reporting requirements.

Reasons for Changes, FY 2018-19 to FY 2019-20

- **Non-Personnel Services** – One-time funding for electric billing system software implementation services is eliminated.

Long-Range Planning and Power Purchase

The Long-Range Planning and Power Purchase Group is responsible for planning, developing and implementing energy efficiency programs and projects, and renewable generation facilities. The group is also responsible for power purchasing and scheduling, transmission planning and managing GoSolarSF, the City's solar incentive program.

Budget Summary

Table H14 shows the FY 2017-18 to FY 2019-20 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and budget variances between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19.

Table H14. Long Range Planning and Power Purchase Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget		FY 20119-20 vs. FY 2018-19 Adopted Budget	
						Amount	%	Amount	%
Personnel	1,154,421	1,034,007	1,021,678	1,305,825	1,324,174	271,818	26.3%	18,349	1.4%
Non-Personnel Services	21,242,273	48,608,571	34,461,993	50,926,031	55,074,052	2,317,460	4.8%	4,148,021	8.1%
Materials & Supplies	0	5,000	0	5,000	5,000	0	0.0%	0	0.0%
Debt Service	2,300,000	4,830,504	4,830,504	4,789,441	4,748,407	(41,063)	-0.9%	(41,034)	-0.9%
Services Of Other Depts	493,319	493,319	493,319	493,319	493,319	0	0.0%	0	0.0%
Total	**25,190,013**	**54,971,401**	**40,807,494**	**57,519,616**	**61,644,952**	**2,548,215**	**4.6%**	**4,125,336**	**7.2%**

Reasons for Changes, FY 2017-18 to FY 2018-19

- **Personnel –** Transfers one position from the Infrastructure Bureau to Long Range Planning to reflect where the position works and reports.

Reasons for Changes, FY 2018-19 to FY 2019-20

There were no major changes in the FY 2019-20 Adopted Budget.

Light, Heat and Power

The Light, Heat and Power section is responsible for Power Enterprise Transmission/Distribution and Distribution Field Service including maintaining over 25,509 SFPUC-owned streetlights in the City and County of San Francisco, and maintaining other City-owned, or other agency-owned power transmission and distribution systems, including substations, meters, backup generators, overhead and underground power lines, transformers, and switchgears. New installation work is also performed including the installation of new overhead service and underground connections up to 12 kilovolts (kV), meters, streetlights, switchgear, transformers, etc. Light, Heat and Power is not responsible for maintaining and operating the high voltage transmission facilities that run from the Hetchy reservoir to Newark.

Streetlight Engineering Services is a section within Light, Heat and Power which manages all activities related to the administration, planning, design, investigation and reporting functions of the street light infrastructure owned and operated by the SFPUC. This group also facilitates planning and conducts design review of street lighting system installations in the public right of way performed by other agencies and contractors. Underground Service Alert requests are also managed by the engineering group. Work is performed for other City and State agencies, merchant and/or community groups, and general contractors.

Budget Summary

Table H15 shows the FY 2017-18 to FY 2019-20 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and budget variances between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19.

Table H15. Light, Heat and Power Budget Summary

$						FY 2018-19 vs. FY 2017-18 Adopted Budget		FY 20119-20 vs. FY 2018-19 Adopted Budget	
Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	Amount	%	Amount	%
Personnel	2,867,172	3,621,781	3,173,394	3,861,405	4,306,078	239,624	6.6%	444,673	11.5%
Non-Personnel Services	11,154,561	13,706,451	11,876,814	12,671,003	13,320,292	(1,035,448)	-7.6%	649,289	5.1%
Materials & Supplies	360,983	511,010	325,150	616,213	708,550	105,203	20.6%	92,337	15.0%
Equipment	374,601	310,525	0	321,000	260,000	10,475	3.4%	(61,000)	-19.0%
Services Of Other Depts	260,972	290,160	297,757	477,026	492,084	186,866	64.4%	15,058	3.2%
Total	**15,018,289**	**18,439,927**	**15,673,115**	**17,946,647**	**19,087,004**	**(493,280)**	**-2.7%**	**1,140,357**	**6.4%**

Reasons for Changes, FY 2017-18 to FY 2018-19

- **Materials and Supplies –** Adjust for the projected costs of streetlight maintenance supplies.
- **Services of Other Depts. –** Funds projected costs for Hetchy Power's electricity consumption at the Bryant Street facility.

Reasons for Changes, FY 2018-19 to FY 2019-20

- **Personnel Services –** Funds staff support services for installation, operations and maintenance of distribution infrastructure and customer connections related to PG&E's requirement of Intervening Facilities for all SFPUC customer connections.
- **Materials and Supplies –** Adjust for the projected costs of streetlight maintenance supplies.
- **Equipment –** Eliminates one-time funding for field equipment and vehicles.

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CLEANPOWERSF

CleanPowerSF is San Francisco's Community Choice Aggregation program. Community Choice Aggregation is a State authorized program that allows cities and counties to partner with their investor-owned utility (PG&E in San Francisco) to deliver cleaner energy producing less green-house gases, to residents and businesses. Under these programs, PG&E continues to maintain the power grid, respond to outages and send customers their monthly bills. CleanPowerSF began delivering this cleaner energy to San Francisco neighborhoods in phases starting May 2016.

CleanPowerSF is subject to Section 8B.125 of the City Charter which requires that an independent rate study be performed at least once every five years, and the Commission sets rates and charges for the program. Additionally, the Rate Fairness Board will advise the Commission regarding program rate setting.

The Commission approved not-to-exceed rates and charges for CleanPowerSF Green Rates on April 10, 2018 that resulted in rates that provided for a 2 percent generation cost savings over comparable PG&E service. Effective July 1, 2018 and each successive July 1 thereafter, the Commission authorizes SFPUC General Manager to adjust rates not otherwise adjusted by Commission action. CleanPowerSF rates will be reviewed annually and updated as needed.

The SFPUC intends that CleanPowerSF to be a financially independent program, separate from Hetchy Power, with sufficient revenues to support its own operating and capital costs.

Budget Summary

Table CP1 shows the FY 2016-17 to FY 2019-20 adopted budgets, FY 2016-17 audited actual and FY 2017-18 actual, and budget variances between FY 2018-19 and FY 2017-18, and between FY 2019-20 and FY 2018-19.

Table CP1 below shows the CleanPowerSF budget increasing by $116.8 million or 290.1 percent between FY 2017-18 and FY2018-19 and $55.9 million, or 35.6 percent between FY 2018-19 to FY 2019-20. The largest increase between FY 2018-19 and FY 2019-20 in Sources of Funds is in Sale of Electricity-CCA and in Uses of Funds is in Non-Personnel Services, mostly for purchase of power.

Table CP1. CleanPowerSF Sources and Uses of Funds

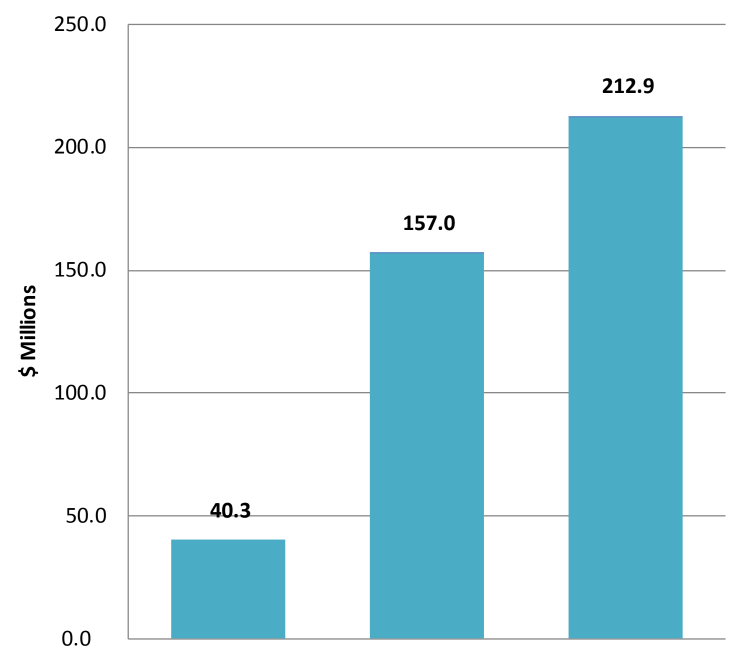
$ Millions						FY 2018-19 vs. FY 2017-18 Adopted Budget		FY 2019-20 vs. FY 2018-19 Adopted Budget	
Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	Amount	%	Amount	%
SOURCES OF FUNDS									
Interest	0.1	0.0	0.5	0.4	0.8	0.4	100.0%	0.4	98.3%
Sale of Electricity-CCA	31.2	40.3	40.0	156.6	212.1	116.4	289.0%	55.5	35.4%
Total Sources of Funds	**31.3**	**40.3**	**40.5**	**157.0**	**212.9**	**116.8**	**290.1%**	**55.9**	**35.6%**
USES OF FUNDS									
Personnel	1.1	2.2	1.3	4.7	6.5	2.5	115.2%	1.7	36.9%
Overhead	1.1	1.5	1.2	2.0	2.0	0.5	36.0%	0.0	1.5%
Non-Personnel Services	23.7	27.8	33.8	129.6	177.1	101.8	366.3%	47.5	36.7%
Materials & Supplies	0.0	0.0	0.0	0.1	0.2	0.1	813.1%	0.1	100.0%
Debt Service	0.7	2.0	1.7	0.0	0.0	(2.0)	-100.0%	0.0	-100.0%
Services Of Other Depts	0.7	1.2	1.5	2.6	3.1	1.4	122.4%	0.5	17.2%
General Reserve	4.0	5.6	0.9	17.9	23.7	12.3	221.6%	5.9	32.8%
Programmatic Projects	0.0	0.0	0.0	0.1	0.3	0.1	100.0%	0.2	170.0%
Total Uses of Funds	**31.3**	**40.3**	**40.5**	**157.0**	**212.9**	**116.8**	**290.1%**	**55.9**	**35.6%**

Sources of Funds

Chart CP1 shows the FY 2017-18 to FY 2019-20 budgeted Sources of Funds by revenue category.

Chart CP1 below shows that from FY 2017-18 to FY 2018-19 and from FY 2018-19 to FY 2019-20 there is a large budget increase in Sale of Electricity-CCA. Reasons for these changes are described below.

Chart CP1. FY 2017-18 to FY 2019-20 CleanPowerSF Sources of Funds



		FY 2017-18	% of Total		FY 2018-19	% of Total		FY 2019-20	% of Total
Interest		0.0	0.0%		0.4	0.3%		0.8	0.4%
Sale of Electricity-CCA		40.3	100.0%		156.6	99.7%		212.1	99.6%
Total Sources of Funds	**$**	**40.3**	**0.0%**	**$**	**157.0**	**100.0%**	**$**	**212.9**	**100.0%**

Summary

The CleanPowerSF program is new and expanding rapidly to all eligible customers by the end of FY 2019-20, accounting for the large increases from the previous year and between the two years of this budget.

FY 2018-19 projected revenues include $156.6 million in Sale of Electricity-CCA and $0.4 million in Interest Income.

FY 2019-20 projected revenues include $212.1 million in Sale of Electricity-CCA and $0.8 million in Interest Income.

Sale of Electricity-CCA

FY 2018-19 budgeted revenues from Sale of Electricity-CCA are $156.6 million which is $116.4 million or 289.0 percent increase from FY 2017-18. Sale of Electricity-CCA revenues are derived from selling electricity supplied from clean, renewable sources such as solar, wind, bioenergy, geothermal, and hydroelectric at competitive rates to San Francisco residents and businesses enrolled in the program. CleanPowerSF offers two service options for customers: Green and SuperGreen. The SuperGreen product provides 100.0 percent

California-certified renewable energy and is billed at a premium over the basic Green service. This premium amount to about $4 more per month for the average residential customer and $12 more per month for the average small commercial customer.

FY 2018-19 forecasted Sale of Electricity-CCA revenues are based on usage patterns from actual billings for similar customers by customer class and the proposed expansion of the program, currently serving approximately 108,000 customer accounts. The SFPUC completed an enrollment of approximately 26,000 additional customer accounts in July 2018 with the next major enrollment phase adding approximately 258,000 customers in April 2019, for a total of approximately 365,000 customer accounts.

FY 2019-20 Sale of Electricity-CCA is budgeted at $212.1 million, an increase of $55.5 million or 35.4 percent from FY 2018-19. The net change reflects an estimated increase in customer enrollment and electricity sales resulting from the final enrollment phase of customers.

Interest

FY 2018-19 Interest Income revenues is budgeted at $0.4 million. Interest income is based on the projected cash balance and interest rates on the County Investment Pool. There was no interest income budgeted in FY 2017-18, therefore the FY 2018-19 budget is a 100.0 percent increase.

FY 2019-20, Interest Income is budgeted at $0.8 million or $0.4 million, 98.3 percent more than FY 2018-19. The increase reflects a projected higher cash balance in the investment pool.

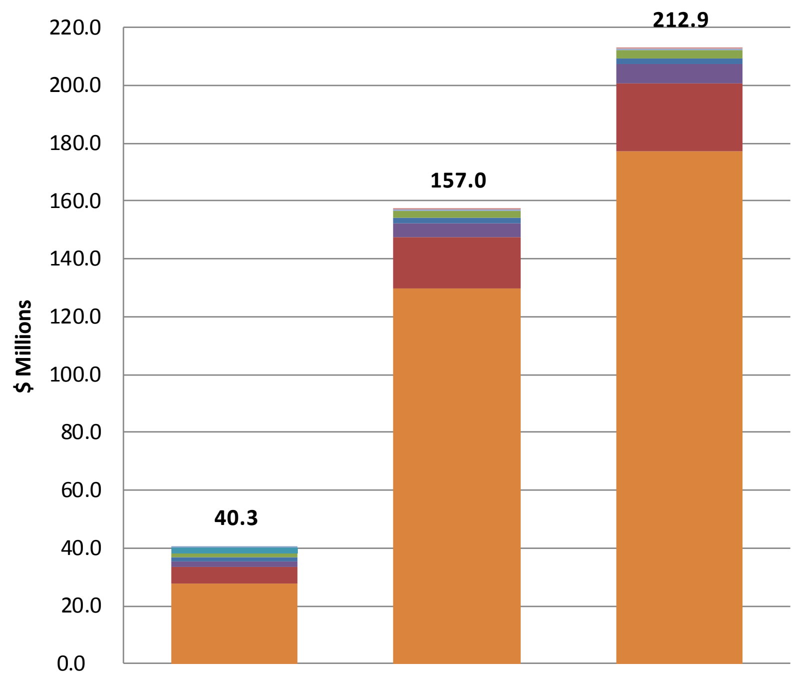
Uses of Funds

Chart CP2 shows the FY 2017-18 to FY 2019-20 budgeted Uses of Funds by expenditure category.

Total Uses of Funds for FY 2018-19 are $157.0 million a $116.8 million or 290.1 percent increase from FY 2017-18. The change reflects the proposed expansion of CleanPowerSF to increase its business and residential customer base.

Total Uses of Funds for FY 2019-20 are $212.9 million a $55.9 million or 35.6 percent increase from FY 2018-19. The increase reflects the proposed final expansion phase to increase its business and residential customer base.

Chart CP2. FY 2017-18 to FY 2019-20 CleanPowerSF Uses of Funds



	FY 2017-18	% of Total	FY 2018-19	% of Total	FY 2019-20	% of Total
Non-Personnel Services	$ 27.8	69.0%	$ 129.6	82.5%	$ 177.1	83.2%
General Reserve	5.6	13.8%	17.9	11.4%	23.7	11.1%
Personnel	2.2	5.5%	4.7	3.0%	6.5	3.0%
Overhead	1.5	3.7%	2.0	1.3%	2.0	1.0%
Services Of Other Depts	1.2	2.9%	2.6	1.7%	3.1	1.4%
Debt Service	2.0	5.1%	0.0	0.0%	0.0	0.0%
Programmatic Projejects	0.0	0.0%	0.1	0.1%	0.3	0.1%
Materials & Supplies	0.0	0.0%	0.1	0.1%	0.2	0.1%
Total Uses of Funds	**$ 40.3**	**100.0%**	**$ 157.0**	**100.0%**	**$ 212.9**	**100.0%**

Summary

FY 2018-19 Uses of Funds budget is $157.0 million. Uses of Funds include $129.6 million for Non-Personnel Services, $17.9 million for General Reserve, $4.7 million for Personnel, $2.0 million for Overhead, and $2.8 million for Services of Other Departments, Programmatic Projects and Materials and Supplies.

FY 2019-20 Uses of Funds budget is $212.9 million and include $177.1 million for Non-Personnel Services, $23.7 million for General Reserve, $6.5 million for Personnel, $2.0 million for Overhead, $3.1 million for Services of Other Departments and $0.5 million for Programmatic Projects and Materials and Supplies.

Non-Personnel Services

FY 2018-19 Non-Personnel Services are budgeted at $129.6 million, $101.8 million or 366.3 percent more than FY 2017-18 based on projected spending levels to provide all eligible customers with service. The budget includes $119.1 million for energy contracts, $7.5 million for professional services for marketing/communication, data management, and CleanPowerSF development and implementation services and $2.1 million for Green-e Energy certification fee, PG&E service fees and letter of credit fee. The remaining budget of $0.9 million funds office rent, travel/training and membership fees resulting from staff expansion.

FY 2019-20 Non-Personnel Services are budgeted at $177.1 million, a $47.5 million or 36.7 percent increase from FY 2018-19. The increase includes $45.5 million mainly due to adjustments for payments to the California Independent System Operator (CAISO) and Scheduling Coordinator for energy contracts resulting from the final expansion phase for business and residential customer growth, $2.0 million for projected costs of professional services.

General Reserve

FY 2018-19 General Reserve is budgeted at $17.9 million, $12.3 million or 221.6 percent more than in FY 2017-18. The General Reserve is used to balance budgeted sources and uses of funds, when budgeted revenues exceed budgeted expenditures.

FY 2019-20 General Reserve is budgeted at $23.7 million, $5.9 million or 32.8 percent more than in FY 2018-19 to increase CleanPower's available reserves.

Personnel

FY 2018-19 Personnel is budgeted at $4.7 million, a $2.5 million or 115.2 percent increase from FY 2017-18; including $3.9 million for salaries and $0.8 million for fringe benefits. The Personnel budget increase of $2.2 million funds cost of living adjustments, four new positions and an increase in temporary salaries funding to support CleanPowerSF's (CLP) program expansion. The FY 2018-19 mandatory fringe benefits budget of $0.8 million is based on the cost of budgeted positions and adjustments to fringe benefits such as Social Security, retirement and health costs. The $0.3 million increase from FY 2017-18 reflects salary and benefit rate adjustments.

FY 2019-20 Personnel is $6.5 million, a $1.7 million or 36.9 percent increase; including $5.3 million for salaries and $1.2 million for fringe benefits. The salaries increase of $1.3 million from FY 2018-19 funds annualization of FY 2018-19 new positions, seven new positions and an increase in temporary salaries to support the CleanPowerSF final customer expansion phase. FY 2019-20 mandatory fringe benefits budget is $1.2 million or an increase of $0.4 million from FY 2018-19, reflecting adjustments to salaries and increases in fringe benefits rates.

Overhead

The FY 2018-19 Overhead budget is $2.0 million, $0.5 million or 36.0 percent more than in FY 2017-18. The Overhead budget funds CleanPowerSF's allocation of support services provided by the SFPUC Bureaus, including General Manager, Business Services, and External Affairs. The overhead rate is based on SFPUC's 2018 Indirect Cost Study. The increase reflects adjustments to the Bureaus' budget and allocation rate adjustments resulting from the 2018 Indirect Cost Study.

The FY 2019-20 Overhead budget remains the same as in FY 2018-19.

Services of Other Departments

FY 2018-19 Services of Other Departments is budgeted at $2.6 million, a $1.4 million or 122.4 percent increase from FY 2017-18 based on the projected costs of direct services provided by Hetchy Power for legal, mail/reproduction, data systems, communication and financial services provided by other City departments to CleanPowerSF. The $1.4 million increase from FY 2017-18 funds additional services from City Attorney.

FY 2019-20 Services of Other Departments budget is $3.1, a $0.5 million or 17.2 percent increase from FY 2018-19 to fund a projected increase in legal services provided by the City Attorney's Office.

Debt Service

The FY 2018-19 and FY 2019-20 Debt Service budget is eliminated.

Programmatic Projects

FY 2018-19 Programmatic Projects is budgeted at $0.1 million. The budget was added to fund the Community Engagement Program to implement programmatic strategies that support fair and equitable rates, urban agriculture and community gardens, education programs and environmental stewardship. As the first year of this budget item, the increase is 100.0 percent over FY 2017-18.

FY 2019-20 Programmatic Projects is budgeted at $0.3 million, a $0.2 million or 170.0 percent increase from FY 2018-19 to fund expanded activities of the Community Engagement Program.

Materials and Supplies

FY 2018-19 Materials and Supplies is budgeted at $0.1 million based projected costs of data, and office and operations materials and supplies resulting from CleanPowerSF's program expansion.

FY 2019-20 Materials and Supplies is budgeted at $0.2 million, $0.1 million or 100.0 percent more than in FY 2018-19. The increase funds projected costs for materials and supplies resulting from CleanPowerSF's FY 2019-20 program expansion.

Authorized and Funded Full-Time Equivalents (FTEs)

Table CP2 shows FTE positions by position type from FY 2016-17 to FY 2019-20.

Table CP2. CleanPowerSF Authorized and Funded Full-Time Equivalents (FTEs)

Position Type	FY 2016-17 Adopted Budget	FY 2017-18 Adopted Budget	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18	FY 2019-20 vs. FY 2018-19
Permanent Positions	9.00	11.00	12.63	18.96	1.63	6.33
Temporary Positions	3.15	3.04	23.79	26.94	20.75	3.15
Subtotal Operating-Funded	**12.15**	**14.04**	**36.42**	**45.90**	**22.38**	**9.48**
Project-Funded Positions	0.00	0.00	0.00	0.00	0.00	0.00
Total Positions	**12.15**	**14.04**	**36.42**	**45.90**	**22.38**	**9.48**

As noted above in Table CP2, the total authorized and funded full-time equivalent (FTE) operating, and temporary positions for FY 2018-19 are 36.42 FTEs and for FY 2019-20 are 45.90.

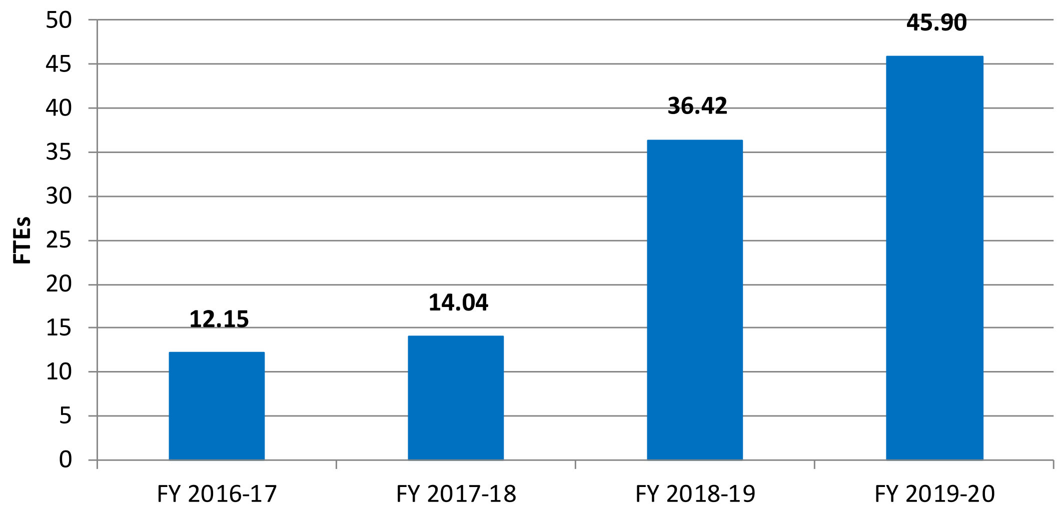
The FY 2018-19 FTEs are 36.42 an increase of 22.38 FTEs from FY 2017-18. The net change includes increases to fund four new positions and temporary salaries funding to support CleanPower's program expansion including outreach and customer education, marketing programs, operations of the CleanPowerSF program, electric load management, supply settlement, risk management services, energy data systems requirements and coordination and power generation services. The increase is offset by an increase to salary savings to reflect projected hiring of vacant positions.

The FY 2019-20 FTEs are 45.90 an increase of 9.48 FTEs from FY 2019-20. The change includes annualization of FY 2018-19 new positions, seven new FY 2019-20 positions and an increase in temporary salaries funding to support CleanPowerSF program operations as it expands.

Chart CP3 illustrates the trend of operating FTEs from FY 2016-17 to FY 2019-20.

The operating FTEs trend is relatively flat from FY 2016-17 to FY 2017-18 and increases in FY 2018-19 and FY 2019-20 in accordance with CleanPower's planned program expansion.

Chart CP3. CleanPowerSF Operating FTEs Trend



CleanPowerSF Ten-Year Financial Plan

Table CP3 shows Hetch Hetchy Water and Power Ten-Year Financial Plan, from FY 2017-18 to FY 2027-28.

Table CP3. CleanPowerSF Ten-Year Financial Plan

$ Millions	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	FY 2027-28
Beginning Operating Fund Balance	**$ 8.9**	**$ 12.1**	**$ 25.1**	**$ 49.0**	**$ 69.6**	**$ 86.4**	**$ 102.0**	**$ 116.8**	**$ 130.4**	**$ 143.0**	**$ 154.5**
Sources											
Power Sales	40.3	166.1	261.1	270.2	279.5	289.3	299.4	309.8	320.5	331.5	342.8
Total Sources	**40.3**	**166.1**	**261.1**	**270.2**	**279.5**	**289.3**	**299.4**	**309.8**	**320.5**	**331.5**	**342.8**
Uses											
Supply	28.6	129.6	209.3	221.2	234.9	245.0	255.4	266.1	277.1	288.4	300.2
Operating Costs	6.4	21.5	25.9	27.2	27.9	28.6	29.3	30.0	30.8	31.6	32.4
Debt Service	2.1	2.1	2.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Uses	**37.1**	**153.1**	**237.2**	**249.6**	**262.8**	**273.6**	**284.7**	**296.1**	**307.9**	**320.0**	**332.6**
Net Revenues	**3.2**	**13.0**	**23.9**	**20.6**	**16.8**	**15.7**	**14.7**	**13.7**	**12.6**	**11.5**	**10.2**
Ending Fund Balance	**12.1**	**25.1**	**49.0**	**69.6**	**86.4**	**102.0**	**116.8**	**130.4**	**143.0**	**154.5**	**164.7**
Fund Balance as % of Revenue	30%	15%	19%	26%	31%	35%	39%	42%	45%	47%	48%
Fund Balance as % of Expense	33%	16%	21%	28%	33%	37%	41%	44%	46%	48%	50%

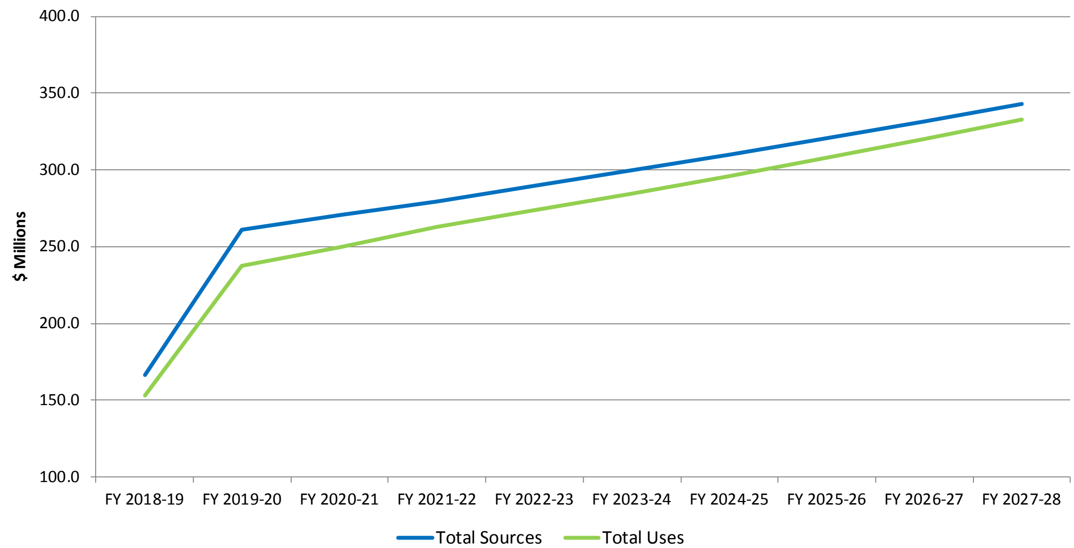
**SFPUC FY 2018-2019 10 Year Financial Plan, Adopted February 2018*

The SFPUC's Ten-Year Financial Plan as required by City and County of San Francisco Charter Section 8B.123, includes a ten-year financial summary (FY 2018-19 through FY 2027-28), describing projected sources and uses, resulting fund balances and associated financial reserve ratios. This is a planning document intended to inform the development of the Ten-Year Capital Plan, water and power utility rates and the biennial budget. The revenue and cost estimates should be viewed as indications of expected trends, given certain expenditure, receipt, and financing assumptions. These assumptions are based on current Board of Supervisors' and Commission policies, goals, and objectives representing management's best estimates.

The FY 2018-19 Ten-Year Financial Plan update included the inaugural plan for CleanPowerSF. The Ten-Year Financial Plan included CleanPowerSF's best estimates for program expansion that existed at the time of Commission adoption in February 2018. Many of the underlying assumptions, including the timing for program ramp up and customer enrollment, as well as costs for power contract procurement have been finalized since then and have been incorporated into the final FY 2018-19 and 2019-20 budget adoption. The FY 2019-20 Ten-Year Financial Plan update will reflect the final adopted budget. Chart CP4 shows CleanPowerSF's projected Ten-Year Financial Plan sources and uses trend at the time of adoption, reflecting positive net revenues projected over the period.

Chart CP4 shows projected ten-year financial trends.

Chart CP4. CleanPowerSF Ten-Year Financial Plan Trend



Rates and Charges

CleanPowerSF generates revenues from selling electricity supplied from clean, renewable sources such as solar, wind, bioenergy, geothermal, and hydroelectric at competitive rates to San Francisco residents and businesses enrolled in the program. CleanPowerSF offers two service options for customers; Green and SuperGreen. The SuperGreen product provides 100.0 percent California-certified renewable energy and is billed at a premium over the basic Green service. CleanPowerSF rates will be reviewed annually and updated as needed. PG&E, the current provider of electricity, continues to deliver electricity, maintain the power grid and respond to outages. PG&E also continues to send customer monthly bills, with CleanPowerSF charges replacing certain PG&E charges.

The Commission approved not to exceed rates and charges for CleanPowerSF Green Rates on April 10, 2018 that resulted in rates that provided for a 2.0 percent generation cost savings over comparable PG&E service. Effective July 1, 2018 and each successive July 1 thereafter, the Commission authorizes SFPUC General Manager to adjust rates not otherwise adjusted by Commission action. On January 23, 2018 and April 10, 2018, the Commission took action on CleanPowerSF SuperGreen rates that resulted in SuperGreen rate premiums over Green Rates that varied depending upon customers classes and reflect the program’s policy objective to remain competitive with PG&E comparable rates.

CleanPowerSF rates are annually adjusted to ensure program revenues are adequate to support its operating and capital needed. CleanPowerSF is subject to Section 8B.125 of the City Charter, which requires an independent rate study be performed at least once every five years, and the Commission sets rates and charges for the program. CleanPowerSF rates will be included in the next power rate study which is scheduled for 2020.

Sources of Funds

CleanPowerSF’s main source of funds are revenues from the Sale of Electricity. These sources are derived from selling electricity supplied from clean, renewable sources such as solar, wind, bioenergy, geothermal, and hydroelectric at competitive rates to San Francisco residents and businesses enrolled in the program. CleanPowerSF offers two service options for customers: Green and SuperGreen. The SuperGreen product provides 100.0 percent California-certified renewable energy and is billed at a premium over the basic Green service. Total sources are projected to increase from $166.1 million in FY 2018-19 to $342.8 million by FY 2027-28.

Uses of Funds

CleanPowerSF's largest expenses are purchase of power. Those costs are projected to make up 84.7 percent of FY 2018-19 expenditures from the Commission adopted ten-year financial plan. By the end of the ten-year period these expenses are projected to more than double to $300.2 million. Operating costs for the Program are projected to be $21.5 million in FY 2018-19 or 14.0 percent of expenses. Over the ten-year period they are projected to reach $32.4 million by FY 2027-28.

The Ten-Year Financial Plan also includes projections for debt service costs which represent the repayment of an operating loan from Hetch Hetchy Power Enterprise totaling $5.4 million over the early portion of the projection period.

Financing of Capital Needs

There is no Ten-Year Capital Plan for the Program.

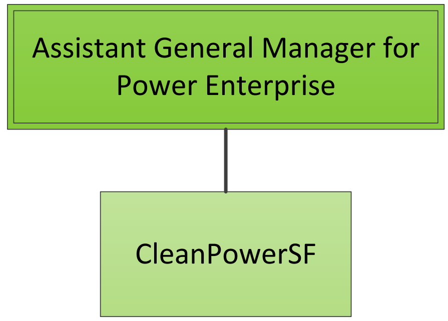
Financial Ratios

The Program conforms with Commission-approved financial policies, except during program expansion period where fund balance is below the thresholds prescribed in the SFPUC Fund Balance policy.

Fund Balances and Reserves

Ending fund balance is projected to grow from $25.1 million in FY 2018-19 or 17.0 percent of projected expenses to $164.7 million in FY 2027-28 or 50.0 percent of projected expenses.

CleanPowerSF Organization Chart



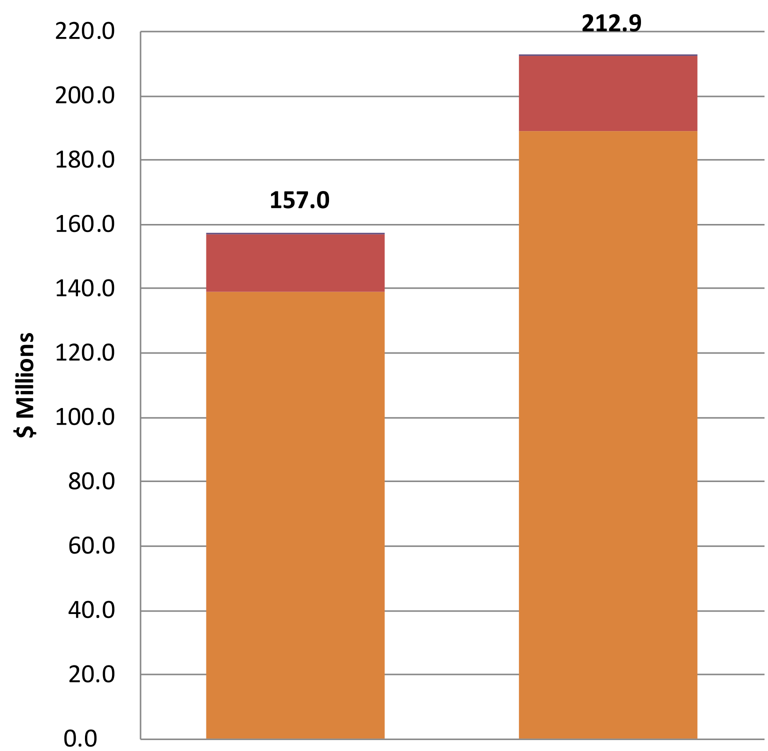
Program Summary

CleanPowerSF is a Community Choice Aggregation program offered by the SFPUC to San Francisco residents and businesses, with direct administrative oversight by the Commission. Through City ordinance, the San Francisco Local Agency Formation Commission will monitor and advise the SFPUC and the Board of Supervisors on the expansion, implementation, operation and management of CleanPowerSF. Additionally, the Rate Fairness Board will advise the Commission regarding rate setting.

The CleanPowerSF program is managed by the Assistant General Manager for Power with day-to-day operations managed by the Director of CleanPowerSF. CleanPowerSF is responsible for the development and operations of the program and for expanding the program through a phased approach. Team duties include but are not limited to forecasting customer demand; planning for and procuring resources to match customer demand; managing energy and related professional service contracts; overseeing meter data management, billing and customer service provision; regulatory and legislative advocacy and compliance; and managing communications outreach. As of the end of FY 2017-18, CleanPowerSF had a staff of 15.5 FTEs, including permanent, temporary and work order positions. In May 2017, the Commission established a goal of completing citywide enrollment in the CleanPowerSF program by July 2019. To support the planned enrollment and expansion of the CleanPowerSF program, staff is planned to grow to 45.9 FTEs by the end of FY 2019-20.

Chart CP5 displays CleanPowerSF's Uses of Funds budget allocation for operations, general reserve and programmatic projects.

Chart CP5. FY 2018-19 and FY 2019-20 CleanPowerSF Uses of Funds



	FY 2018-19	% of Total	FY 2019-20	% of Total
Operations	$ 139.0	88.6%	$ 188.9	88.7%
General Reserve	17.9	11.4%	23.7	11.1%
Progammatic Projects	0.1	0.1%	0.3	0.1%
Total	**$ 157.0**	**100.0%**	**$ 212.9**	**100.0%**

The FY 2018-19 budget for CleanPowerSF includes $139.0 million for operations, or 88.6 percent of the total budget, $17.9 million for general reserve, or 11.4 percent of the total budget and $0.1 million for Programmatic Projects, or 0.1 percent of the total budget.

The FY 2019-20 budget for CleanPowerSF includes $188.9 million for operations, or 88.7 percent of the total budget, $23.7 million for general reserve, or 11.1 percent of the total budget and $0.3 million for Programmatic Projects, or 0.1 percent of the total budget.

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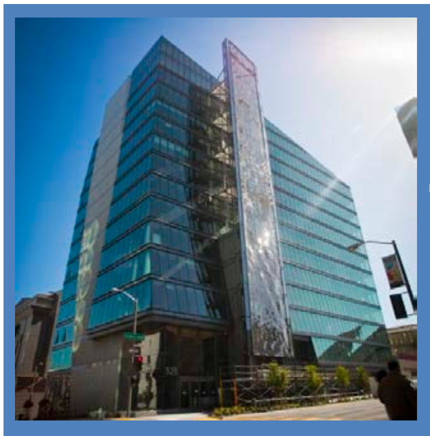


SFPUC BUREAUS

Mission, Roles, and Responsibilities

The SFPUC Bureaus provide support services to all three Enterprises, and include the Office of the General Manager, Business Services, and External Affairs. The Office of the General Manager includes four sections: Emergency Response and Security, The General Manager's Office, Human Resources, and Real Estate Services. Business Services includes Administration, Assurance and Internal Controls, Customer Services, Financial Services, and Information Technology Services. External Affairs includes Communications, Community Benefits, and Governmental Affairs. The Bureaus' budgets are funded through an allocation model that allocates costs of services to the three Enterprises and CleanPowerSF.

Budget Summary

Table S1 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

The Bureaus' Budget Summary, in Table S1 below, rolls up the budget by expenditure category for the three Bureaus, Office of General Manager, Business Services and External Affairs. The Bureaus' budget in Table S1 increased by 3.8 percent from FY 2017-18 to FY 2018-19, and 1.5 percent increase from FY 2018-19 to FY 2019-20. The largest percentage change in FY 2018-19 is increases to Non-Personnel Services and Materials & Supplies, offset by decreases to General Reserve and SFPUC's share of the Citywide overhead, or the County-Wide Cost Allocation Plan (COWCAP), based on the Controller Office's cost allocation plan. In FY 2019-20, the largest percentage change is an increase to Equipment spending partially offset by a decrease to General Reserve.

Table S1. Bureaus Budget Summary

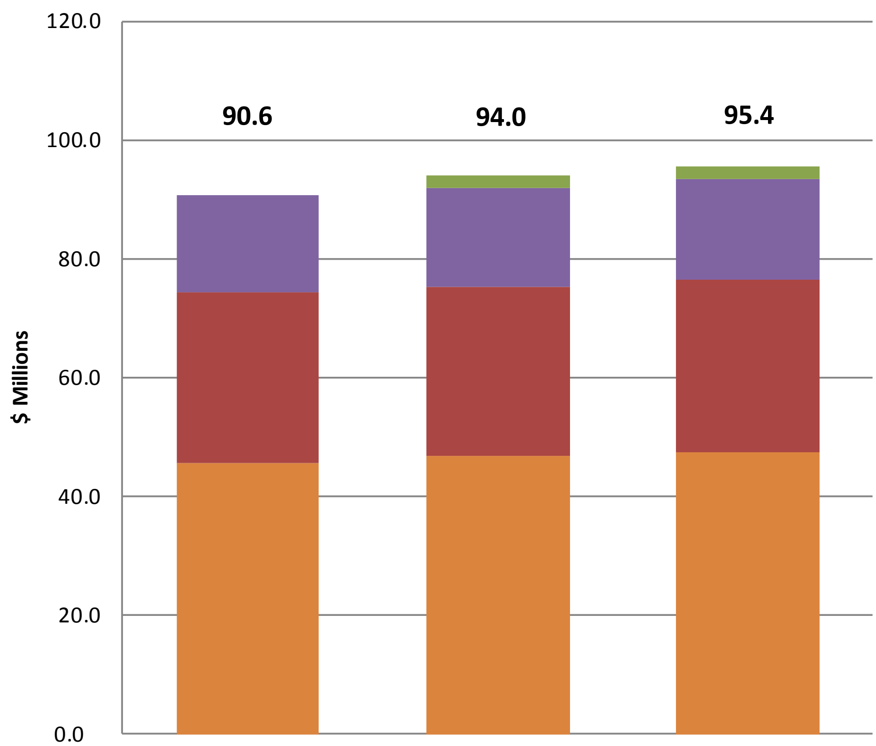
$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	FY 2018-19 vs. FY 2017-18 Adopted Budget %	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	FY 2019-20 vs. FY 2018-19 Adopted Budget %
Personnel	56,514,491	62,129,098	59,322,492	65,601,148	66,642,890	3,472,050	5.6%	1,041,742	1.6%
Overhead	1,410,604	745,422	745,422	0	0	(745,422)	-100.0%	0	0.0%
Non-Personnel	8,781,431	9,511,829	8,745,241	11,364,575	11,529,646	1,852,746	19.5%	165,071	1.5%
Materials & Supplies	1,508,210	1,766,596	1,518,100	2,079,452	2,056,628	312,856	17.7%	(22,824)	-1.1%
Equipment	1,108,596	1,694,260	1,568,585	1,263,179	1,398,570	(431,081)	-25.4%	135,391	10.7%
Services of Other	13,957,950	13,777,171	11,441,666	13,599,848	13,810,021	(177,323)	-1.3%	210,173	1.5%
General Reserve	0	929,794	0	92,857	7,622	(836,937)	-90.0%	(85,235)	-91.8%
Total	**83,281,282**	**90,554,170**	**83,341,506**	**94,001,059**	**95,445,377**	**3,446,889**	**3.8%**	**1,444,318**	**1.5%**

Sources of Funds

Chart S1 shows a breakdown of the FY 2017-18, FY 2018-19 and FY 2019-20 Sources of Funds by Enterprise.

The Bureaus Sources of Funds increased by $4.8 million from FY 2017-18 to FY 2019-20; the largest increase is due to the addition of CleanPowerSF, which operates San Francisco's Community Choice Aggregation Program, a state program that allows cities and counties to partner with investor-owned utilities to deliver clean energy to residents and businesses. With the addition of CleanPowerSF, the percentage allocation to the Water and Wastewater Enterprises are slightly reduced.

Chart S1. FY 2017-18 to FY 2019-20 Bureaus Sources of Funds



		FY 2017-18	% of Total		FY 2018-19	% of Total		FY 2019-20	% of Total
Water Enterprise	$	45.7	50.4%	$	46.8	49.8%	$	47.5	49.8%
Wastewater Enterprise		28.7	31.7%		28.4	30.2%		28.8	30.2%
Hetch Hetchy Water & Power		16.2	17.9%		16.8	17.9%		17.1	17.9%
CleanPowerSF		0.0	0.0%		2.0	2.1%		2.0	2.1%
Total Sources of Funds	**$**	**90.6**	**100.0%**	**$**	**94.0**	**100.0%**	**$**	**95.4**	**100.0%**

The FY 2018-19 Bureaus budget of $94.0 million is funded by the Water Enterprise, $46.8 million, or 49.8 percent; Wastewater Enterprise by $28.4 million, or 30.2 percent; Hetch Hetchy Water and Power by $16.8 million, or 17.9 percent; and CleanPowerSF by $2.0 million, or 2.1 percent. The allocation of costs to the Enterprises includes assumptions such as employee full-time equivalent (FTE) employment, salary surveys, and direct services provided to the Enterprises.

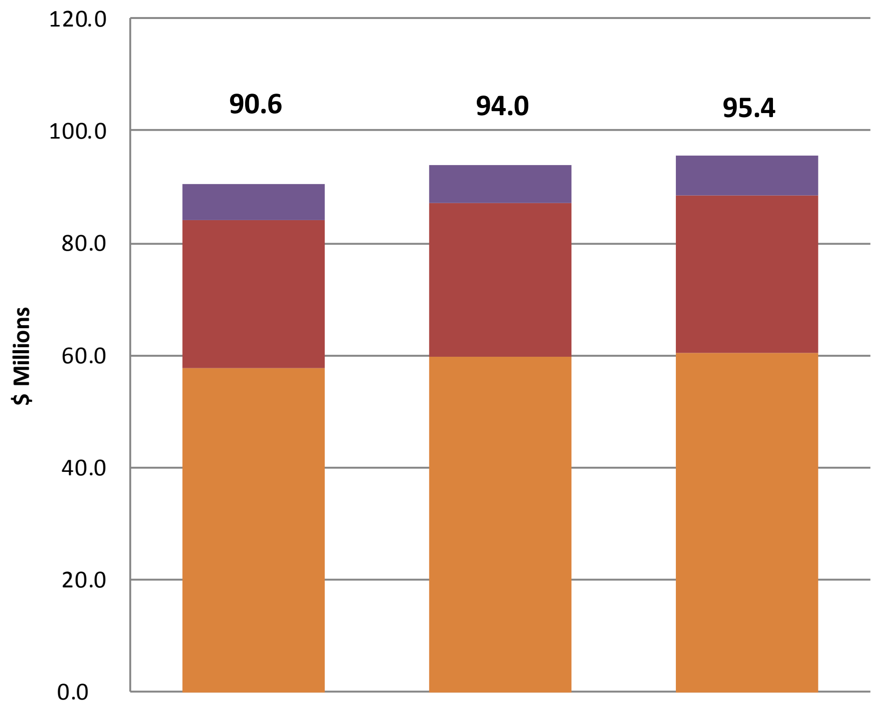
The FY 2019-20 Bureaus budget of $95.4 million is funded by the Water Enterprise, $47.5 million, or 49.8 percent; Wastewater Enterprise, $28.8 million, or 30.2 percent; Hetch Hetchy Water and Power, $17.1 million, or 17.9 percent; and CleanPowerSF, $2.0 million, or

2.1 percent. This allocation of costs to the Enterprises is based on the same assumptions in the allocation model for FY 2018-19.

Uses of Funds

Chart S2 shows a breakdown of the FY 2017-18 to FY 2019-20 Uses of Funds by Bureau.

Chart S2. FY 2017-18 to FY 2019-20 Bureaus Uses of Funds



	FY 2017-18	% of Total	FY 2018-19	% of Total	FY 2019-20	% of Total
Business Services	$ 57.7	63.7%	$ 59.6	63.4%	$ 60.6	63.5%
Office of the General Manager	26.4	16.9%	27.6	29.3%	27.9	29.3%
External Affairs	6.5	7.2%	6.8	7.3%	6.9	7.3%
Total Uses of Funds	**$ 90.6**	**100.0%**	**$ 94.0**	**100.0%**	**$ 95.4**	**100.0%**

The total Bureaus Uses of Funds FY 2018-19 budget is $94.0 million. This is a $3.4 million or 3.8 percent increase from the prior year (see Table S1). The General Manager's budget is $27.6 million, or 29.4 percent of the total, and a 4.5 percent increase from FY 2017-18. The Business Services budget is $59.6 million, or 63.4 percent of the total, and a 3.3 percent increase from FY 2017-18. The External Affairs budget is $6.8 million, or 7.3 percent of the total, and a 4.6 percent increase from FY 2017-18.

The total Uses of Funds in FY 2019-20 budget for the Bureaus is $95.4 million. This is a $1.4 million, or 1.5 percent increase from the prior year (see Table S1). The General Manager's budget is $27.9 million, or 29.3 percent of the total, and a 1.1 percent increase from FY 2018-19. The Business Services budget is $60.6 million, or 63.5 percent of the total, or a 1.7 percent increase from FY 2019-20. The External Affairs budget is $6.9 million, or 7.3 percent of the total, with 1.5 percent increase from FY 2018-19.

Authorized and Funded Full-Time Equivalents (FTEs)

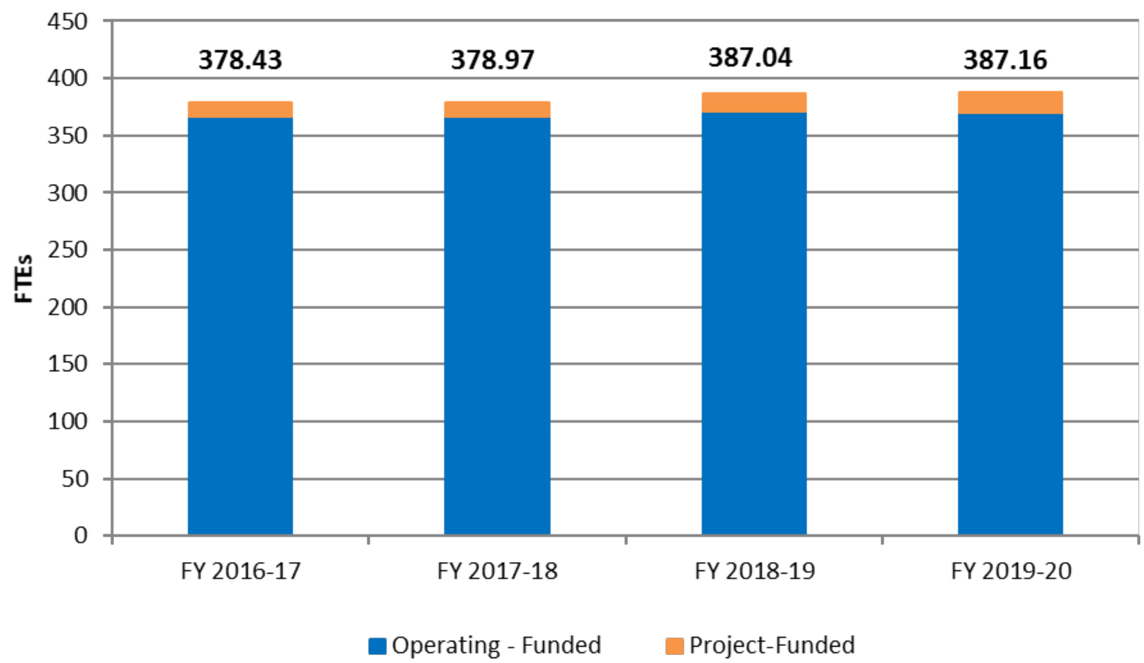
Table S2 shows total full-time equivalents (FTEs) operating budget, project funded, and temporary positions for FY 2016-17 to FY 2019-20.

Table S2. Bureaus Authorized and Funded Full-Time Equivalents (FTEs)

Position Type	FY 2016-17 Adopted Budget	FY 2017-18 Adopted Budget	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs FY 2017-18 Adopted Budget	FY 2019-20 vs FY 2018-19 Adopted Budget
Permanent Positions	351.84	352.73	352.24	352.28	(0.49)	0.04
Temporary Positions	14.59	14.24	18.95	17.88	4.71	(1.07)
Subtotal Operating-Funded	**366.43**	**366.97**	**371.19**	**370.16**	**4.22**	**(1.03)**
Project-Funded Positions	12.00	12.00	15.85	17.00	3.85	1.15
Total Positions	**378.43**	**378.97**	**387.04**	**387.16**	**8.07**	**0.12**

Chart S3 shows the operating and project–funded positions four-year trend.

Chart S3. Bureaus Operating and Project FTEs Trend



As noted on Table S2, on the previous page, the SFPUC Bureaus full-time equivalent (FTE) operating, project-funded, and temporary positions for FY 2018-19 is 387.04 FTEs, an 8.07 FTE increase from FY 2017-18. Chart S3, on the previous page, illustrates the trend on the number of operating and project-funded FTEs from FY 2016-17 to FY 2019-20. FY 2018-19 permanent positions decreased by 0.49 FTEs, from 352.73 in FY 2017-18 to 352.24 FTEs in FY 2018-19. The net position reduction is due to increases to salary savings offset by one position reassignment from the Water Enterprise, and the conversion of one project-funded position to the operating budget.

Temporary positions from FY 2017-18 to FY 2018-19 increased by 4.71 FTEs, from 14.24 FTEs in FY 2017-18 to 18.95 FTEs in FY 2018-19. The increase supports the expansion of staffing for Customer Services' Customer Accounts, technical safety expertise to the Wastewater Enterprise, support in the areas of emergency planning and preparedness, and support to Real Estate Services.

Project-funded positions from FY 2017-18 to FY 2018-19 increased by 3.85 FTEs, from 12.00 in FY 2017-18 to 15.85 FTEs in FY 2018-19. The increase is due to five new positions and one reassignment from the Infrastructure Bureau to support the maintenance of SFPUC's headquarters building, and the conversion of one Project-funded position to the operating budget.

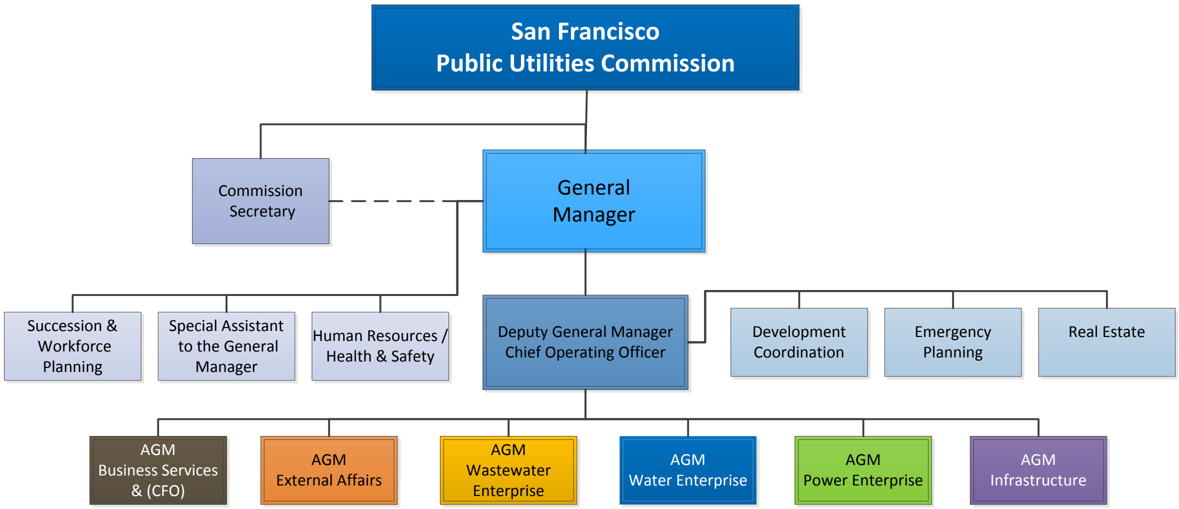
Also noted on Table S2, the SFPUC Bureaus full-time equivalent (FTE) operating budget, project-funded, and temporary for FY 2019-20 is 387.16 FTEs, a 0.12 FTE increase from FY 2018-19. FY 2019-20 permanent positions increased by 0.04 FTEs, from 352.24 FTEs in FY 2018-19 to 352.28 FTEs in FY 2019-20. The net position change remains relatively unchanged.

The number of temporary positions from FY 2018-19 to FY 2019-20 decreased by 1.07 FTEs, from 18.95 FTEs to 17.88 FTEs. The decrease reflects projected temporary staffing needs.

Project-funded positions from FY 2018-19 to FY 2019-20 increased by 1.15 FTEs, from 15.85 in FY 2018-19 to 17.00 FTEs in FY 2019-20. The increase reflects the annualization of five new positions in FY 2018-19.

Office of the General Manager

Organization Chart



Mission, Roles, and Responsibilities

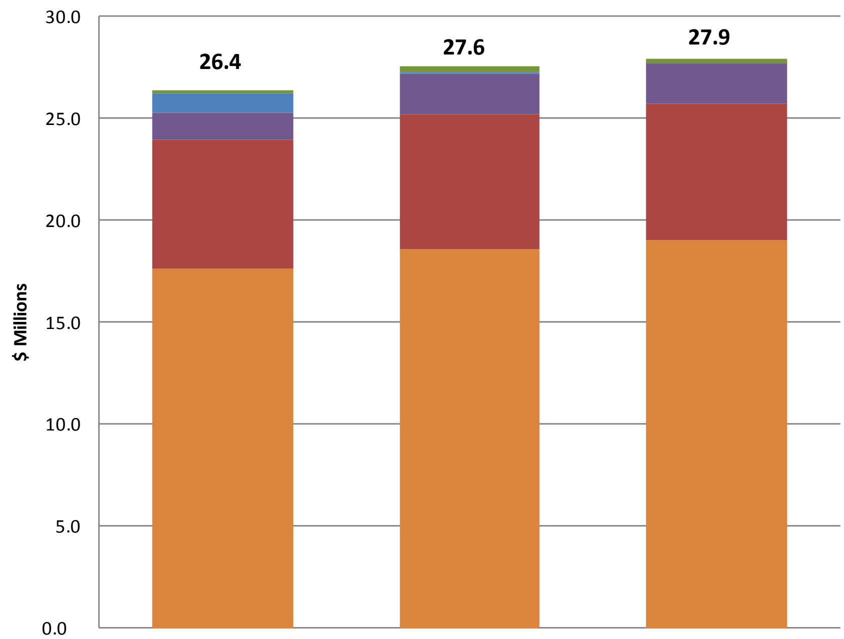
The General Manager of the SFPUC oversees the regional utility that delivers reliable, high quality drinking water to more than 2.7 million Bay Area customers, collects and treats wastewater and stormwater for the City and County of San Francisco (CCSF), and provides hydroelectric and other renewable power resources for San Francisco municipal customers as well as clean power to San Francisco retail customers. The functions of the Office of the General Manager support the General Manager in key oversight areas.

The following sections provides further information on the Bureaus budget. Tables G1, B1, and E1 provide the budget variances – between the FY 2018-19 and FY 2017-18 budgets, and between the FY 2019-20 and FY 2018-19 budgets – for the Office of the General Manager, Business Services, and External Affairs, respectively.

Uses of Funds

Chart G1 shows a breakdown of FY 2017-18, FY 2018-19, and FY 2019-20 Uses of Funds by expenditure category costs.

Chart G1. FY 2017-18 to FY 2019-20 Office of the General Manager Uses of Funds



		FY 2017-18	% of Total		FY 2018-19	% of Total		FY 2019-20	% of Total
Personnel	$	17.7	67.0%	$	18.6	67.6%	$	19.0	68.0%
Services of Other Departments		6.3	23.8%		6.6	23.9%		6.7	24.1%
Non-Personnel Services		1.4	5.3%		2.0	7.1%		2.0	7.1%
General Reserve		0.9	3.5%		0.1	0.3%		0.0	0.0%
Materials & Supplies		0.1	0.5%		0.3	1.0%		0.2	0.8%
Equipment		0.0	0.0%		0.0	0.0%		0.0	0.0%
Total Uses of Funds	**$**	**26.4**	**100.0%**	**$**	**27.6**	**100.0%**	**$**	**27.9**	**100.0%**

Summary

The FY 2018-19 Office of the General Manager budget is $27.6 million, a $1.2 million, or 4.5 percent, increase from FY 2017-18. The major change from the FY 2017-18 budget is support for data analysis and competency models and cost of living adjustments and changes in fringe benefits.

The FY 2019-20 Office of the General Manager budget is $27.9 million, a 1.1 percent increase from FY 2018-19. The major change from FY 2018-19 mainly reflects changes in fringe benefits.

Table G1 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

The budget for the Office of the General Manager is 27.6 percent of the Bureaus' budget in FY 2018-19 and 27.9 percent in FY 2019-20 (See Chart S2). The Office of the General Manager's budget increases by 4.5 percent between FY 2017-18 and 2018-19 and by 1.1 percent in FY 2019-20. As mentioned earlier, the major change from the FY 2017-18 budget is support for data analysis and competency models in Human Resource Services.

Table G1. Office of the General Manager Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	16,325,063	17,662,198	16,833,158	18,634,392	19,007,870	972,194	5.5%	373,478	2.0%
Non-Personnel	974,662	1,385,284	1,137,247	1,961,106	1,969,932	575,822	41.6%	8,826	0.5%
Materials & Supplies	106,605	132,020	131,018	269,314	234,574	137,294	104.0%	(34,740)	-12.9%
Equipment	51,073	0	0	24,510	0	0	0.0%	0	0.0%
Services of Other	6,649,004	6,270,399	3,806,973	6,594,595	6,720,990	324,196	5.2%	126,395	1.9%
General Reserve	0	929,794	0	92,857	7,622	(836,937)	-90.0%	(85,235)	-91.8%
Total	**24,106,407**	**26,379,695**	**21,908,396**	**27,576,774**	**27,940,988**	**1,172,569**	**4.4%**	**388,724**	**1.4%**

Reason for Changes – FY 2017-18 to FY 2018-19

The following describes FY 2017-18 and FY 2018-19 budget category variances greater than ten percent.

- **Non-Personnel Services** – Reflects consultant support for data analysis and competency models in Human Resource Services.
- **Materials and Supplies:** Reflects the increase in training materials to support Human Resources efficiency and technological solutions.
- **General Reserve –** Reflects a decrease in the general reserve.

Reasons for Changes – FY 2018-19 to FY 2019-20

The following describes FY 2018-19 and FY 2019-20 budget category variances that are greater than ten percent.

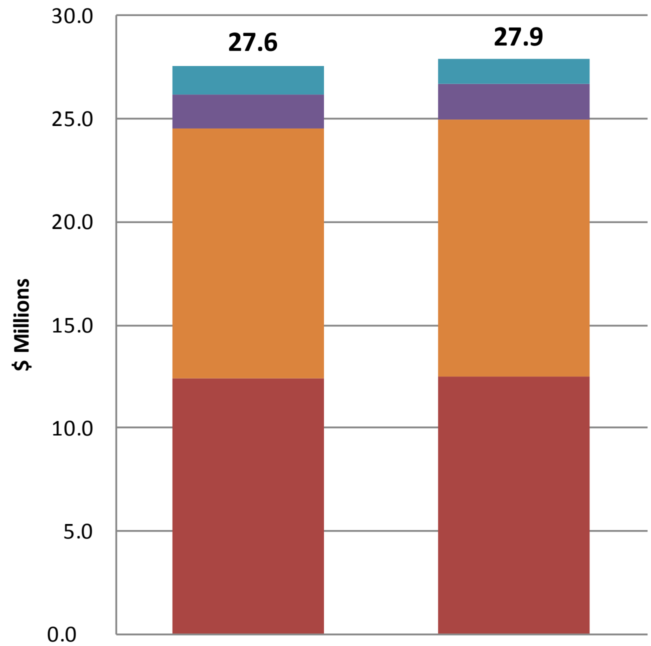
- **Materials and Supplies** – Decrease reflects one-time funding for a barcode scanner and training materials from the FY 2018-19 budget.
- **Equipment** – reflects one-time funding.
- **General Reserve –** Reflects a decrease in the general reserve.

General Manager

Chart G2 shows a breakdown of the FY 2018-19 and FY 2019-20 General Manager budget by bureau.

The increase from FY 2018-19 to FY 2019-20 is 1.1 percent.

Chart G2. FY 2018-19 and FY 2019-20 General Manager Budget by Bureau



	FY 2018-19	% of Total	FY 2019-20	% of Total
Human Resources	$ 12.4	45.0%	$ 12.5	44.7%
General Manager	12.1	43.9%	12.4	44.5%
Real Estate Services	1.7	6.1%	1.7	6.1%
Emergency Planning	1.4	5.0%	1.3	4.6%
Total Uses of Funds	**$ 27.6**	**100.0%**	**$ 27.9**	**100.0%**

Chart G2 provides a breakdown of the FY 2018-19 General Manager budget by Division. Human Resources budget is $12.4 million, or 45.0 percent of the total. General Manager budget is $12.1 million, or 43.9 percent of the total. Real Estate Services budget is $1.7 million, or 6.1 percent of the total. Emergency Planning budget is $1.4 million, or 5.0 percent of the total.

General Manager FY 2019-20 budget: Human Resources budget is $12.5 million, or 44.7 percent of the total. General Manager budget is $12.4 million, or 44.5 percent of the total. Real Estate Services budget is $1.7 million, or 6.1 percent of the total. Emergency Planning budget is $1.3 million, or 4.6 percent of the total.

Human Resource Services

Human Resource Services recruits, compensates, supports and retains a diverse and highly qualified workforce, and serves the SFPUC Enterprises and Bureaus in an efficient, responsive, and professional manner. The promotion of health, safety, workforce planning, and professional development for all SFPUC employees is critical to the SFPUC mission and Human Resource Services' functions.

Budget Summary

Table G2 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table G2. Human Resource Services Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	FY 2018-19 vs. FY 2017-18 Adopted Budget %	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	FY 2019-20 vs. FY 2018-19 Adopted Budget %
Personnel	8,465,692	9,539,716	8,692,376	10,014,565	10,157,538	474,849	5.0%	142,973	1.4%
Non-Personnel Services	394,978	693,287	489,925	1,222,801	1,230,805	529,514	76.4%	8,004	0.7%
Materials & Supplies	59,664	74,620	87,965	189,173	147,490	114,553	153.5%	(41,683)	-22.0%
Equipment	51,073	0	0	24,510	0	24,510	0.0%	(24,510)	-100.0%
Services of Other Depts	1,882,871	941,947	880,777	958,050	958,050	16,103	1.7%	0	0.0%
Total	**10,854,278**	**11,249,570**	**10,151,043**	**12,409,099**	**12,493,883**	**1,159,529**	**10.3%**	**84,784**	**0.7%**

Reasons for Changes – FY 2017-18 to FY 2018-19

- **Non-Personnel Services** – Reflects funding to support software licensing fees.
- **Materials & Supplies** – Reflects funding for laptops and training materials to support the learning and development of staff.

Reasons for Changes – FY 2018-19 to FY 2019-20

- **Materials & Supplies** – Reflects one-time reductions in materials from prior year.
- **Equipment** – Decrease reflects one-time funding in equipment for FY 2018-19.

General Manager

The General Manager's Division provides centralized oversight of all of the Enterprises and Bureaus, as well as the governing activities of the Commission.

Budget Summary

Table G3 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table G3. General Manager Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	6,152,423	5,906,964	6,004,409	6,163,211	6,466,019	256,247	4.3%	302,808	4.9%
Non-Personnel	188,950	304,798	311,150	304,798	304,798	0	0.0%	0	0.0%
Materials & Supplies	8,985	30,000	17,168	30,000	30,000	0	0.0%	0	0.0%
Equipment	0	0	0	0	0	0	0.0%	0	0.0%
Services of Other	4,666,050	5,210,100	2,830,581	5,509,358	5,635,853	299,258	5.7%	126,495	2.3%
General Reserve	0	929,794	0	92,857	7,622	(836,937)	-90.0%	0	0.0%
Total	**11,016,408**	**12,381,656**	**9,163,308**	**12,100,224**	**12,444,292**	**(281,432)**	**-2.3%**	**429,303**	**3.5%**

Reason for Changes – FY 2017-18 to FY 2018-19

- **General Reserve –** Reflects a decrease in the general reserve.

Reasons for Changes – FY 2018-19 to FY 2019-20

There were no major changes to the FY 2019-20 adopted budget.

Real Estate Services

Real Estate Division manages the real estate assets of each of the enterprises, which includes negotiating leases and licenses and earning a commercial return on properties where practical; assisting in the development of policies and procedures relating to property use and asset management; and managing the financial and legal obligations of tenants and licensees.

Budget Summary

Table G4 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table G4. Real Estate Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	1,112,492	1,227,548	1,369,414	1,365,260	1,392,566	137,712	11.2%	27,306	2.0%
Non-Personnel Services	216,254	184,914	134,604	186,972	187,694	2,058	1.1%	722	0.4%
Materials & Supplies	2,800	5,000	4,126	6,000	6,000	1,000	20.0%	0	0.0%
Services of Other Depts	99,989	118,352	95,615	125,687	125,687	7,335	6.2%	0	0.0%
Total	**1,431,535**	**1,535,814**	**1,603,759**	**1,683,919**	**1,711,947**	**148,105**	**9.6%**	**28,028**	**1.7%**

Reason for Changes – FY 2017-18 to FY 2018-19

- **Personnel –** Reflects an increase in temporary salaries to provide temporary support to management.

- **Materials & Supplies -** Reflects an increase in projected costs.

Reasons for Changes – FY 2018-19 to FY 2019-20

There were no major changes to the FY 2019-20 adopted budget.

Emergency Planning

The Emergency Planning and Security Division develops plans and manages contracts for securing the various facilities and properties owned and occupied by the SFPUC enterprises and bureaus.

Budget Summary

Table G5 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table G5. Emergency Planning Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	594,457	987,970	766,960	1,091,356	991,747	103,386	10.5%	(99,609)	-9.1%
Non-Personnel Services	174,481	202,285	201,566	246,535	246,635	44,250	21.9%	100	0.0%
Materials & Supplies	35,155	22,400	21,761	44,141	51,084	21,741	97.1%	6,943	15.7%
Services of Other Depts	94	0	0	1,500	1,400	1,500	0.0%	(100)	-6.7%
Total	**804,187**	**1,212,655**	**990,287**	**1,383,532**	**1,290,866**	**170,877**	**14.1%**	**(92,666)**	**-6.7%**

Reason for Changes – FY 2017-18 to FY 2018-19

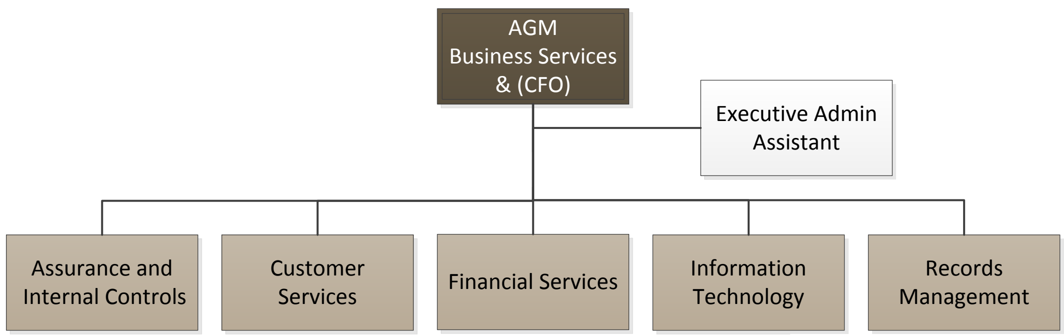
- **Personnel –** Reflects an increase in temporary salaries to support emergency planning and preparedness functions of the Divisions.
- **Non-Personnel Services -** Reflects an increase software licensing fees for the SFPUC security system.
- **Materials & Supplies -** Reflects an increase in supplying ID badges and badge materials for the security system.

Reasons for Changes – FY 2018-19 to FY 2019-20

- **Materials & Supplies –** Reflects an increase in projected costs.

Business Services

Organization Chart



Mission, Roles, and Responsibilities

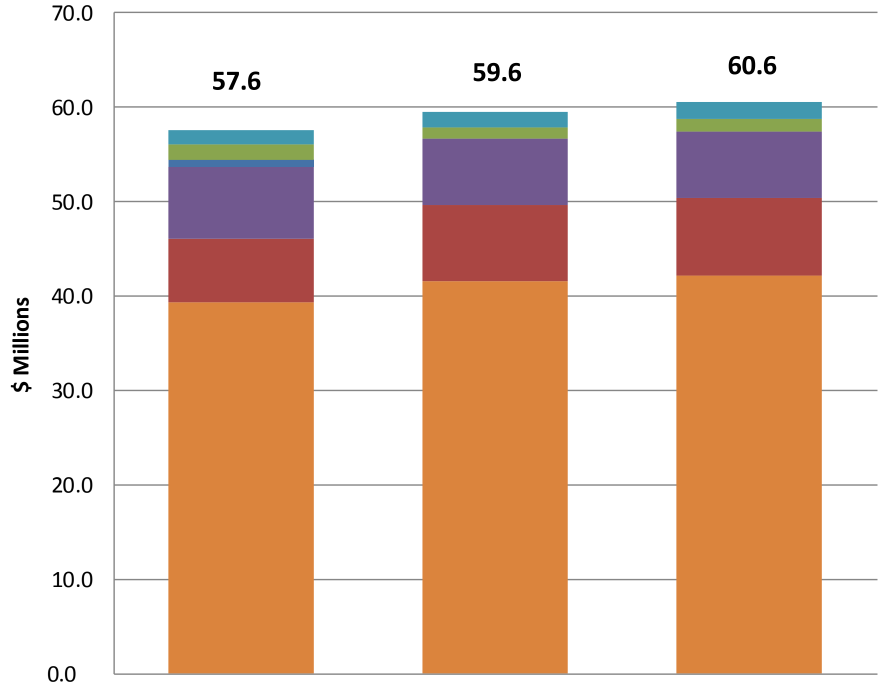
Business Services supports the Water, Power and Wastewater Enterprises to achieve operational efficiency, industry-leading customer service and sound financial performance.

* Budget for Records Management is in Business Services Administration.

Uses of Funds

Chart B1 shows a breakdown of FY 2017-18, FY 2018-19, and FY 2019-20 Uses of Funds by expenditure category cost.

Chart B1. FY 2017-18 to FY 2019-20 Business Services Uses of Funds



	FY 2017-18	% of Total	FY 2018-19	% of Total	FY 2019-20	% of Total
Personnel	$ 39.4	68.4%	$ 41.6	69.8%	$ 42.1	69.5%
Services of Other Depts	7.5	13.0%	7.0	11.7%	7.0	11.6%
Non-Personnel Services	6.7	11.7%	8.1	13.6%	8.3	13.7%
Equipment	1.7	2.9%	1.2	2.1%	1.4	2.3%
Materials & Supplies	1.6	2.7%	1.7	2.9%	1.8	3.0%
Overhead	0.7	1.3%	0.0	0.0%	0.0	0.0%
Total Uses of Funds	**$ 57.6**	**100.0%**	**$ 59.6**	**100.0%**	**$ 60.6**	**100.0%**

Summary

The FY 2018-19 Business Services budget is $59.6 million, a $2.0 million or 3.4 percent increase from the prior year. Major changes from the FY 2017-18 budget include increases to the investment of Non-Personnel Services, related software, as the SFPUC shifts toward cloud-based technology platforms, offset by the elimination of the City-wide overhead based on the Controller Office's cost allocation plan, decreases to equipment purchases and City work orders funding the replacement of the City-wide financial system.

The FY 2019-20 Business Services budget is $60.6 million, a $1.0 million, or 1.7 percent, increase from the prior year. The major change from the FY 2018-19 budget is the purchase of software for SFPUC's continuing efforts to shift towards cloud-based technology platforms and the funding of one-time equipment purchases.

Table B1 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

The budget for Business Services is the largest portion of the Bureaus; representing 63.4 percent in FY 2018-19 and 63.5 percent in FY 2019-20 (See Chart S2). The Business Services budget as shown in Table B1 reflect the major changes in the Bureaus Budget Summary as discussed above including a net increase of 5.1 percent from FY 2017-18 to FY 2019-20 in Non-Personnel Services, an increase of 12.0 percent in Materials & Supplies offset by a reduction of 17.5 percent in equipment, a reduction of 6.2 percent in Services of Other Departments and the zeroing out of Overhead in the same period.

Table B1. Business Services Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	35,783,771	39,427,759	37,972,160	41,569,907	42,142,177	2,142,148	5.4%	572,270	1.4%
Overhead	1,410,604	745,422	745,422	0	0	(745,422)	-100.0%	0	0.0%
Non-Personnel Services	6,406,802	6,716,467	6,296,884	8,093,391	8,249,636	1,376,924	20.5%	156,245	1.9%
Materials & Supplies	1,367,333	1,560,933	1,347,652	1,736,495	1,748,411	175,562	11.2%	11,916	0.7%
Equipment	1,057,523	1,694,260	1,568,585	1,238,669	1,398,570	(455,591)	-26.9%	159,901	12.9%
Services of Other Depts	7,142,495	7,496,772	7,401,257	6,945,253	7,029,031	(551,519)	-7.4%	83,778	1.2%
Total	**53,168,528**	**57,641,613**	**55,331,961**	**59,583,715**	**60,567,825**	**1,942,102**	**3.4%**	**984,110**	**1.7%**

Reason for Changes – FY 2017-18 to FY 2018-19

The following describes FY 2017-18 and FY 2018-19 budget category variances greater than ten percent.

- **Overhead** – The City-wide Overhead budget of $0.7 from FY 2017-18 has been eliminated by the Controller based on a two-year rolling average.
- **Non-Personnel Services** – The FY 2018-19 Non-Personnel budget is $8.1 million, a $1.4 million, or 20.5 percent increase from FY 2017-18. The budget funds software, travel, training, memberships, and professional services. The increase reflect investments to software as the SFPUC shifts towards cloud-based technology platforms and an increase to support online utility billing services as well as associated service fees.
- **Materials & Supplies** – The FY 2018-19 Materials & Supplies budget is $1.7 million, a $0.2 million, or 11.2 percent increase from FY 2017-18. The increase reflects an increase in computer supplies for Business Services.
- **Equipment** – The FY 2018-19 Equipment budget is $1.2 million, a $0.5 million, or 26.9 percent reduction from FY 2017-18. The decrease reflects a shift in investment away from equipment hardware purchases and towards cloud-based software.

Reasons for Changes – FY 2018-19 to FY 2019-20

The following describes FY 2018-19 and FY 2019-20 budget category variances that are greater than ten percent.

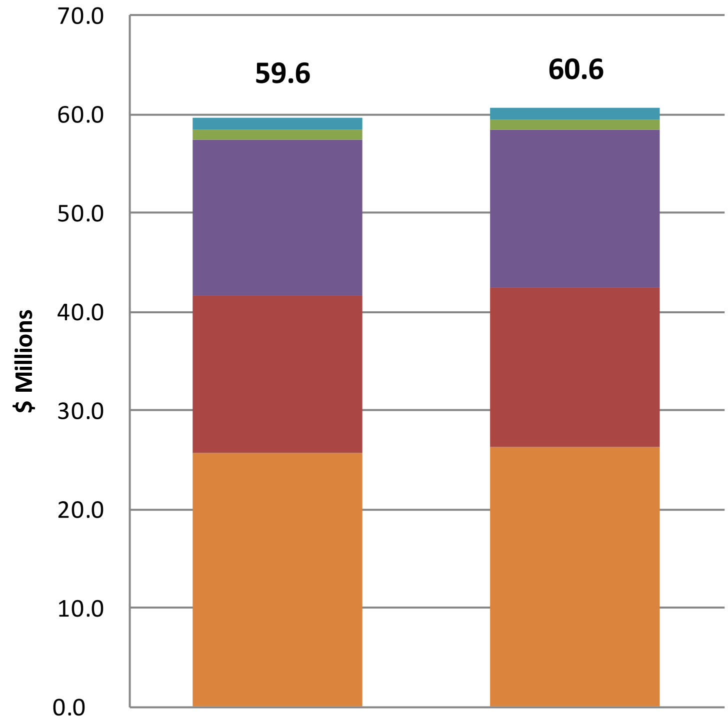
- **Equipment** – The FY 2019-20 Equipment budget is $1.4 million, a $0.2 million, or 12.9 percent increase from FY 2018-19. The increase reflects funding to support upgrades to networking infrastructure.

Business Services

Chart B2 shows a breakdown of the FY 2018-19 and FY 2019-20 Business Services budget by bureau.

The increase from FY 2018-19 to FY 2019-20 is 1.7 percent.

Chart B2. FY 2018-19 and FY 2019-20 Business Services Budget by Bureau



	FY 2018-19	% of Total	FY 2019-20	% of Total
Information Technology	$ 25.8	43.4%	$ 26.3	43.5%
Customer Services	15.9	26.7%	16.2	26.7%
Financial Services	15.7	26.3%	15.9	26.2%
Assurance & Internal Controls	1.2	2.0%	1.2	2.0%
Administration	1.0	1.6%	1.0	1.6%
Total Uses of Funds	**$ 59.6**	**100.0%**	**$ 60.6**	**100.0%**

Chart B2 provides a breakdown of the FY 2018-19 Business Services budget by Division. Information & Technology Service's budget is $25.8 million, or 43.4 percent of the total. Customer Services budget is $15.9 million, or 26.7 percent of the total. Financial Services budget is $15.7 million, or 26.3 percent of the total. The Assurance & Internal Controls budget is $1.2 million, or 2.0 percent of the total. Business Services Administration budget is $1.0 million, or 1.6 percent of the total.

Business Services FY 2019-20 budget: Information & Technology Services (ITS) budget is $26.3 million, or 43.5 percent of the total. Customer Services budget is $16.2 million, or 26.7 percent of the total. The Financial Services budget is $15.9 million, or 26.2 percent of the total. The Assurance and Internal Controls budget is $1.2 million, or 2.0 percent of the total. Business Services Administration budget is $1.0 million, or 1.6 percent of the total.

Business Services Administration, including Records Management

Business Services Administration provides overall administrative support and oversight within Business Services, as well as to the three Enterprises and other Bureaus.

Records Management includes the SFPUC's Record Retention Program, and within this Program are the SFPUC Historical Archive and the SFPUC Historian. The Records Retention Program promotes the integrity, confidentiality, and availability of records created and maintained to ensure the achievement of the organization's commitments, objectives and legal obligations.

Budget Summary

Table B2 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table B2. Administration Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	636,350	628,944	671,958	646,893	654,853	17,949	2.9%	7,960	1.2%
Overhead	1,410,604	745,422	745,422	0	0	(745,422)	-100.0%	0	0.0%
Non-Personnel Services	87,183	193,758	27,361	199,304	205,723	5,546	2.9%	6,419	3.2%
Materials & Supplies	2,210	15,395	152	16,124	16,168	729	4.7%	44	0.3%
Services of Other Depts	85,258	98,250	92,420	105,963	110,952	7,713	7.9%	4,989	4.7%
Total	**2,221,605**	**1,681,769**	**1,537,313**	**968,284**	**987,696**	**(713,485)**	**-42.4%**	**19,412**	**2.0%**

Reasons for Changes – FY 2017-18 to FY 2018-19

- **Overhead** – Reflects the elimination of funding based on the Controller Office's cost allocation plan.

Reasons for Changes – FY 2018-19 to FY 2019-20

There were no major changes to the FY 2019-20 adopted budget.

Assurance and Internal Controls (AIC)

Assurance and Internal Controls (AIC) administers the SFPUC Governance Risk & Compliance framework and champions best practices for risk management, internal controls, accountability, compliance, transparency and completeness. AIC supports all businesses enterprise-wide with the objective to mitigate financial and operational risks, enhance opportunities for positive outcomes, and advance the achievement of SFPUC's strategic goals.

AIC manages the following areas related to governance, risk and compliance:

- Enterprise Risk Management
- Contractual Risk Transfer
- Governance & Assurance
- Audit & Compliance
- Data Analysis & Forensics

Budget Summary

Table B3 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table B3. Assurance and Internal Controls Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	912,978	1,083,385	998,048	1,112,694	1,125,717	29,309	2.7%	13,023	1.2%
Non-Personnel Services	48,833	48,009	36,362	54,111	54,111	6,102	12.7%	0	0.0%
Materials & Supplies	2,318	2,000	315	2,000	3,499	0	0.0%	1,499	75.0%
Services of Other Depts	0	389	0	389	389	0	0.0%	0	0.0%
Total	**964,129**	**1,133,783**	**1,034,725**	**1,169,194**	**1,183,716**	**35,411**	**3.1%**	**14,522**	**1.2%**

Reasons for Changes – FY 2017-18 to FY 2018-19

- **Non-Personnel Services** – Reflects an increase for software fees for the Audit & Compliance and Risk Management teams.

Reasons for Changes – FY 2018-19 to FY 2019-20

- **Materials & Supplies** – Reflects an increase in office supplies based on projected needs.

Customer Services

Customer Services is responsible for the billing and collection of utility services and is the primary point of contact for water and wastewater customers. Customer Services maintains over 175,000 water and wastewater service accounts, over 3,700 municipal and retail electric service accounts, and approximately 450 land-lease accounts totaling over $1 billion in annual revenue. Customer Services is also responsible for meter reading and field investigations, as well as responding to over 200,000 customer inquiries, complaints and requests for services annually.

Customer Services is comprised of five units all of which are dependent on one or more of the other units to effectively fulfill their respective roles. The five units are:

- Administration
- Business Center
- Customer Accounts
- Customer Contact Center
- Field Services

Budget Summary

Table B4 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table B4. Customer Services Budget Summary

$	FY 2016-17	FY 2017-18		FY 2018-19	FY 2019-20	FY 2018-19 vs. FY 2017-18 Adopted Budget		FY 2019-20 vs. FY 2018-19 Adopted Budget	
Expenditure Category	Audited Actual	Adopted Budget	FY 2017-18 Actual	Adopted Budget	Adopted Budget	Amount	%	Amount	%
Personnel	11,905,950	12,965,149	11,887,046	13,798,692	13,978,391	833,543	6.4%	179,699	1.3%
Non-Personnel Services	576,710	627,995	828,018	779,264	834,719	151,269	24.1%	55,455	7.1%
Materials & Supplies	185,261	167,438	200,516	230,480	235,053	63,042	37.7%	4,573	2.0%
Equipment	0	0	0	89,442	92,916	89,442	100.0%	3,474	3.9%
Services of Other Depts	1,135,272	1,077,246	1,119,015	1,032,354	1,032,385	(44,892)	-4.2%	31	0.0%
Total	**13,803,194**	**14,837,828**	**14,034,595**	**15,930,232**	**16,173,464**	**1,092,404**	**7.4%**	**243,232**	**1.5%**

Reasons for Changes – FY 2017-18 to FY 2018-19

- **Non-Personnel Services** – Reflects an increase to support online customer payments for utility billing services as well as associated service fees.
- **Materials & Supplies** – Reflects an increase in office supplies based on projected needs.
- **Equipment** – Reflects funding to replace three vehicles to support the modernization of the Customer Service motor pool.

Reasons for Changes – FY 2018-19 to FY 2019-20

There were no major changes to the FY 2019-20 adopted budget.

Financial Services, including Fleet Management

Financial Services supports the SFPUC Enterprises and Bureaus, ensuring financial stewardship and oversight for ratepayer assets, and includes Fleet Management & Operations which is responsible for the establishment, implementation, and maintenance of policies and procedures governing SFPUC-owned vehicles. Financial Services includes accounting operations, asset management, audit oversight, reconciliation, budget management, debt management, financial reporting and analysis, purchasing support, and rates administration. Financial Services central mission is to accurately communicate the financial position of the SFPUC to rate payers, City departments, rating agencies, investors and other stakeholders.

Budget Summary

Table B5 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table B5. Financial Services Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	8,995,520	10,196,461	10,140,556	10,522,089	10,653,663	325,628	3.2%	131,574	1.3%
Non-Personnel Services	713,955	757,492	731,189	983,032	1,007,473	225,540	29.8%	24,441	2.5%
Materials & Supplies	26,765	91,741	26,060	91,741	93,541	0	0.0%	1,800	2.0%
Equipment	50,094	0	0	66,818	69,490	66,818	100.0%	2,672	4.0%
Services of Other Depts	3,397,251	4,630,213	4,234,640	4,021,239	4,051,101	(608,974)	-13.2%	29,862	0.7%
Total	**13,183,584**	**15,675,907**	**15,132,446**	**15,684,919**	**15,875,268**	**9,012**	**0.1%**	**190,349**	**1.2%**

Reasons for Changes – FY 2017-18 to FY 2018-19

- **Non-Personnel Services** – Reflects an increase in consultant support for the Debt Management Group.
- **Equipment** – Reflects funding for Fleet Management to replace two vehicles to support the modernization of the SFPUC's motor pool.
- **Services of Other Departments** – Decrease reflects the completion of the City-wide financial system replacement program.

Reasons for Changes – FY 2018-19 to FY 2019-20

There were no major changes to the FY 2019-20 adopted budget.

Information Technology Services (ITS)

Information Technology Services (ITS) partners with the SFPUC Enterprises, Divisions and Bureaus, reliably supports the SFPUC's information technology, and delivers innovative solutions which enable the SFPUC to achieve its mission.

Budget Summary

Table B6 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table B6. ITS Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget		FY 2019-20 vs. FY 2018-19 Adopted Budget	
						Amount	%	Amount	%
Personnel	13,332,972	14,553,820	14,274,552	15,489,539	15,729,553	935,719	6.4%	240,014	1.5%
Non-Personnel Services	4,980,121	5,089,213	4,673,954	6,077,680	6,147,610	988,467	19.4%	69,930	1.2%
Materials & Supplies	1,150,779	1,284,359	1,120,610	1,396,150	1,400,150	111,791	8.7%	4,000	0.3%
Equipment	1,007,429	1,694,260	1,568,585	1,082,409	1,236,164	(611,851)	-36.1%	153,755	14.2%
Services of Other Depts	2,524,714	1,690,674	1,955,181	1,785,308	1,834,204	94,634	5.6%	48,896	2.7%
Total	**22,996,015**	**24,312,326**	**23,592,882**	**25,831,086**	**26,347,681**	**1,518,760**	**6.2%**	**516,595**	**2.0%**

Reasons for Changes – FY 2017-18 to FY 2018-19

- **Non-Personnel Services** – Reflects an increase in investment for software licenses as the SFPUC shifts towards cloud-based technology platforms.
- **Equipment** – Decrease reflects a shift in investment away from equipment and towards cloud-based software in Non-Personnel Services.

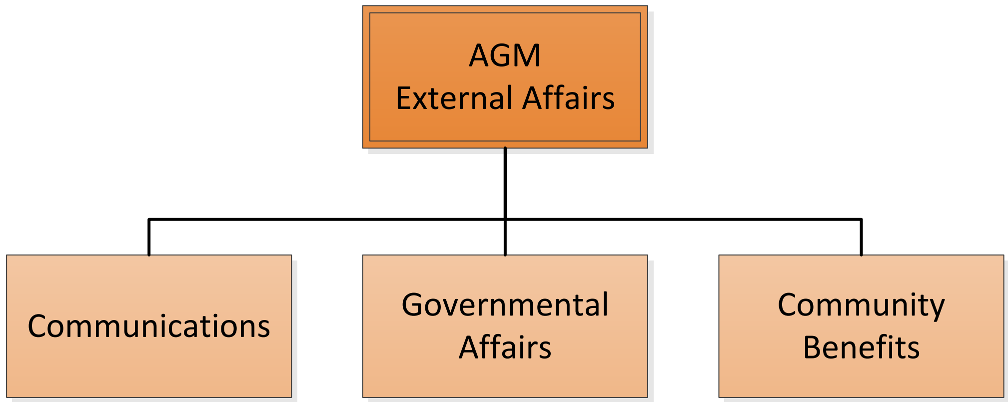
Reasons for Changes – FY 2018-19 to FY 2019-20

- **Equipment** – Reflects an increase to support upgrades for networking infrastructure.

External Affairs

Organization Chart

This organizational chart reflects the budget structure of External Affairs.



Mission, Roles, and Responsibilities

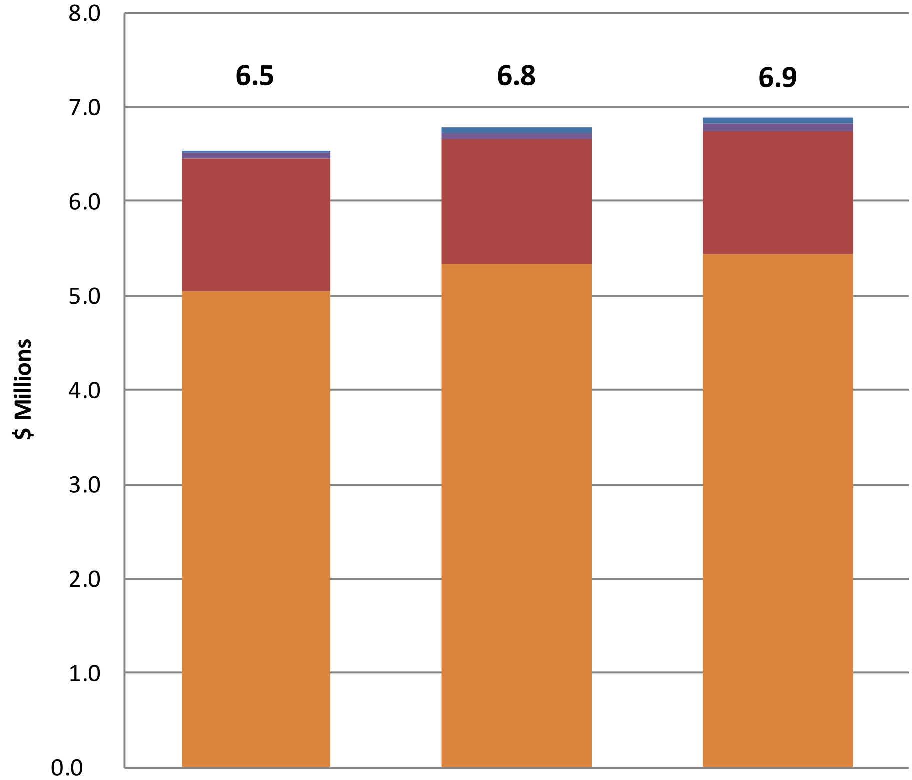
SFPUC External Affairs is comprised of three sections: Communications, Government Affairs, and Community Benefits. The divisions within this Bureau track and coordinate legislation, perform public outreach and media relations, educate and communicate, and coordinate SFPUC community benefits activities. These activities support the SFPUC's mission to provide its customers with high quality, efficient, and reliable water, power, and wastewater services in a manner that values environmental and community interests.

The External Affairs budget as shown in Chart S2 is 7.3 percent of the total budget for the Bureaus. The budget has increased by 4.7 percent in FY 2017-18 to FY 2018-19 and 1.4 percent from FY 2018-19 to FY 2019-20. The net increase from FY 2017-18 adopted budget to FY 2019-20 is 6.2 percent.

Uses of Funds

Chart E1 shows a breakdown of FY 2017-18, FY 2018-19, and FY 2019-20 Uses of Funds by expenditure category.

Chart E1. FY 2017-18 to FY 2019-20 External Affairs Uses of Funds



	FY 2017-18	% of Total	FY 2018-19	% of Total	FY 2019-20	% of Total
Personnel	$ 5.0	77.1%	$ 5.3	78.7%	$ 5.4	79.0%
Non-Personnel Services	1.4	22.9%	1.3	19.3%	1.3	19.0%
Materials & Supplies	0.1	1.1%	0.1	1.1%	0.1	1.1%
Services of Other Depts	0.0	0.2%	0.1	0.9%	0.1	0.9%
Total Uses of Funds	**$ 6.5**	**100.0%**	**$ 6.8**	**100.0%**	**$ 6.9**	**100.0%**

Summary

The FY 2018-19 External Affairs budget is $6.8 million, a $0.3 million, or a 4.7 percent, increase from FY 2017-18.

The FY 2017-18 External Affairs budget is $6.9 million, relatively no change from FY 2018-19.

Table E1 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table E1. External Affairs Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	4,405,657	5,039,141	4,517,174	5,396,849	5,492,843	357,708	7.1%	95,994	1.8%
Non-Personnel Services	1,399,966	1,410,078	1,311,110	1,310,078	1,310,078	(100,000)	-7.1%	0	0.0%
Materials & Supplies	34,272	73,643	39,429	73,643	73,643	0	0.0%	0	0.0%
Services of Other Depts	166,451	10,000	233,436	60,000	60,000	50,000	500.0%	0	0.0%
Total	**6,006,346**	**6,532,862**	**6,101,149**	**6,840,570**	**6,936,564**	**307,708**	**4.7%**	**95,994**	**1.4%**

Reasons for Changes – FY 2017-18 to FY 2018-19

The following describes FY 2017-18 and FY 2018-19 budget category variances greater than ten percent.

- **Services of Other Departments** – This budget funds projected costs of services provided by other City Departments. This increase funds External Affairs' projected reproduction needs.

Reason for Changes – FY 2018-19 to FY 2019-20

The following describes FY 2018-19 and FY 2019-20 budget category variances that are greater than ten percent.

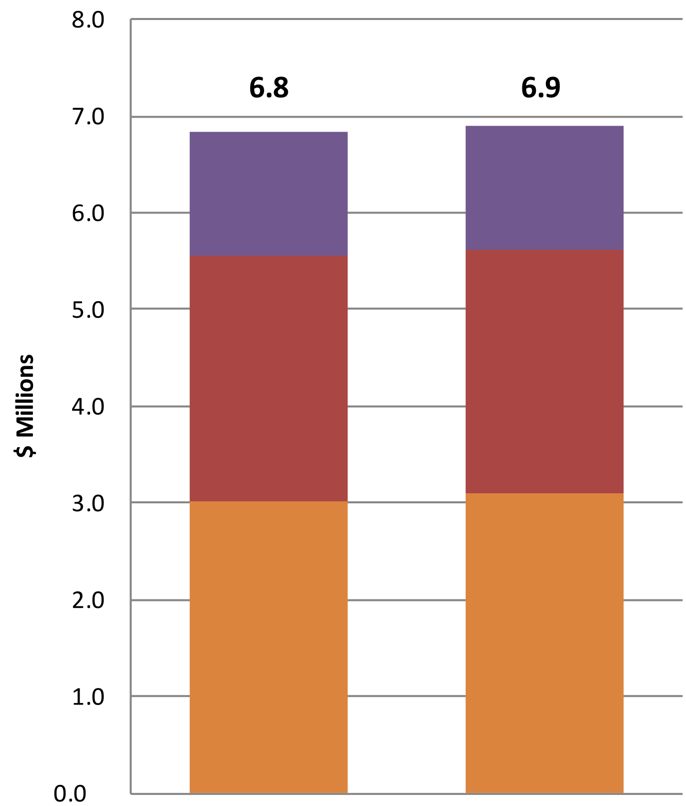
There were no major changes to the FY 2019-20 adopted budget.

External Affairs

Chart E2 shows a breakdown of the FY 2018-19 and FY 2019-20 External Affairs budget by Section

The allocation to the three sections of the External Affairs is flat and consistent between FY 2018-19 and FY 2019-20 and the budget is essentially flat.

Chart E2. FY 2018-19 and FY 2019-20 External Affairs Budget by Bureau



	FY 2018-19	% of Total	FY 2019-20	% of Total
Communications	$ 3.0	44.2%	$ 3.1	44.8%
Governmental Affairs	2.5	37.1%	2.5	36.6%
Community Benefits	1.3	18.7%	1.3	18.6%
Total Uses of Funds	**$ 6.8**	**100.0%**	**$ 6.9**	**100.0%**

The FY 2018-19 Communications budget is $3.0 million, or 44.2 percent of the total. Governmental Affairs budget is $2.5 million, or 37.1 percent of the total. Community Benefits budget is $1.3 million, or 18.7 percent of the total.

The FY 2019-20 Communications budget is $3.1 million, or 44.8 percent of the total. Governmental Affairs budget is $2.5 million, or 36.6 percent of the total. Community Benefits budget is $1.3 million, or 18.6 percent of the total.

Communications

Communications oversees the SFPUC's communications, education, media and outreach functions; provides a full range of communication services to all of the Enterprises and Bureaus of SFPUC and oversees SFPUC publications; develops community understanding and support for Water, Power and Wastewater Enterprise projects; coordinates community outreach for capital improvement projects, hosts special community and media events, develops background collateral materials for SFPUC projects and programs, handles press and media inquiries, conducts surveys, and serves as the content manager for www.sfwater.org, the SFPUC website; and promotes diversity and the health, safety, and professional development of its employees.

Budget Summary

Table E2 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table E2. Communications Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	2,381,584	2,690,980	2,451,865	2,790,174	2,856,788	99,194	3.7%	66,614	2.4%
Non-Personnel Services	88,361	203,220	110,504	153,220	153,220	(50,000)	-24.6%	0	0.0%
Materials & Supplies	10,036	31,700	13,941	31,700	31,700	0	0.0%	0	0.0%
Services of Other Depts	80,285	0	92,186	50,000	50,000	50,000	100.0%	0	0.0%
Total	**2,560,267**	**2,925,900**	**2,668,497**	**3,025,094**	**3,091,708**	**99,194**	**3.4%**	**66,614**	**2.2%**

Reasons for Changes – FY 2017-18 to FY 2018-19

- **Non-Personnel Services** – The reduction reflects Communication's projected reprographic needs to be funded under other City Departments.
- **Services of Other Departments** – This budget funds projected costs of reproduction and mail services provided by City Reproduction.

Reason for Changes – FY 2018-19 to FY 2019-20

There were no major changes to the FY 2019-20 adopted budget.

Governmental Affairs

Governmental Affairs oversees the SFPUC's legislative affairs and advocacy functions; manages the SFPUC's relationship with key stakeholders; provides a full range of legislative services to the Enterprises and Bureaus of the SFPUC; directs SFPUC activities associated with local, regional, State and Federal government; secures approvals and community support for all Water, Power and Wastewater Enterprise projects; plans for the continued service of reliable, high quality water to San Francisco and its customers, and for the continued collection, treatment, and discharge and reuse of wastewater for San Francisco in compliance with current and anticipated laws and regulations; and promotes diversity and the health, safety, and professional development of its employees.

Budget Summary

Table E3 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table E3. Governmental Affairs Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	1,492,442	1,501,960	1,634,823	1,758,789	1,780,616	256,829	17.1%	21,827	1.2%
Non-Personnel Services	757,229	816,630	796,432	766,630	766,630	(50,000)	-6.1%	0	0.0%
Materials & Supplies	8,324	11,943	4,317	11,943	11,943	0	0.0%	0	0.0%
Services of Other Depts	76,166	0	131,250	0	0	0	0.0%	0	0.0%
Total	**2,334,161**	**2,330,533**	**2,566,822**	**2,537,362**	**2,559,189**	**206,829**	**8.9%**	**21,827**	**0.9%**

Reason for Changes – FY 2017-18 to FY 2018-19

- **Personnel** – Reflects staffing support for the Strategic Plan implementation.

Reason for Changes – FY 2018-19 to FY 2019-20

There were no major changes to the FY 2019-20 adopted budget.

Community Benefits

Community Benefits coordinates and implements SFPUC community benefits programs and policies, environmental justice and land use policies, and jobs, workforce, and economic development policies. Community Benefits was created in FY 2011-12 to engage communities where the SFPUC program and facilities are located and be a focal point within the SFPUC for the City and County of San Francisco community programs.

Community Benefits' programs are also budgeted in the Enterprises Programmatic Projects representing an additional $7.4 million over the two budget years.

Budget Summary

Table E4 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

Table E4. Community Benefits Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	%	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	%
Personnel	531,631	846,201	430,485	847,886	855,439	1,685	0.2%	7,553	0.9%
Non-Personnel Services	554,376	390,228	404,174	390,228	390,228	0	0.0%	0	0.0%
Materials & Supplies	15,911	30,000	21,171	30,000	30,000	0	0.0%	0	0.0%
Service of Other Depts	10,000	10,000	10,000	10,000	10,000	0	0.0%	0	0.0%
Total	**1,111,918**	**1,276,429**	**865,831**	**1,278,114**	**1,285,667**	**1,685**	**0.1%**	**7,553**	**0.6%**

Reason for Changes – FY 2017-18 to FY 2018-19

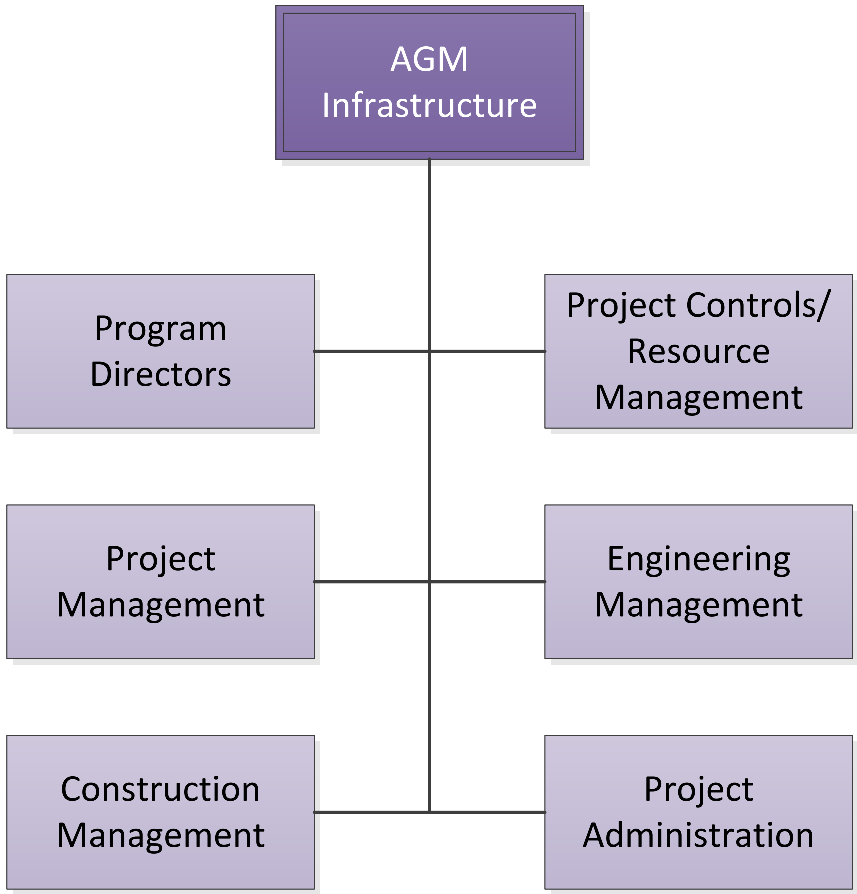
There were no major changes to the FY 2018-19 adopted budget.

Reason for Changes – FY 2018-19 to FY 2019-20

There were no major changes to the FY 2019-20 adopted budget.

Infrastructure

Organization Chart



Mission, Roles, and Responsibilities

Infrastructure manages the planning, design and construction of SFPUC capital programs, as well as the renewal and replacement of the Water, Wastewater and Power Enterprise facilities. The mission of Infrastructure is to provide high quality and cost-effective services in an environmentally sensitive manner, while at the same time meeting or exceeding customer and stakeholder expectations.

Infrastructure is led by the Assistant General Manager (AGM) of Infrastructure, and is supported by the Capital Program Directors, Project Controls, and Resource Management, and by the Project, Construction, Engineering, Environmental Management and Project Administration bureaus.

The responsibilities of Infrastructure include the implementation of the following:

- The $4.8 billion Water System Improvement Program (WSIP), which will result in the repair, replacement and seismic upgrade of the Hetch Hetchy Water System, which directly serves 2.7 million residential, commercial and industrial customers in the San Francisco Bay Area. This program is 96 percent complete as of June 30, 2018.

- The Sewer System Improvement Program (SSIP), estimated at $6.9 billion, 20-year program, to provide a Bayside Biosolids Center, Rehabilitation of the Southeast Treatment Plant, new Central Bayside Facilities including a new tunnel in the Channel Basin, and improvements to all collection systems and treatment facilities. SSIP Phase 1 is 24.8 percent complete as of June 30, 2018.

- The Repair and Renewal Capital Programs for Water, Wastewater that are not included in the WSIP or the SSIP.

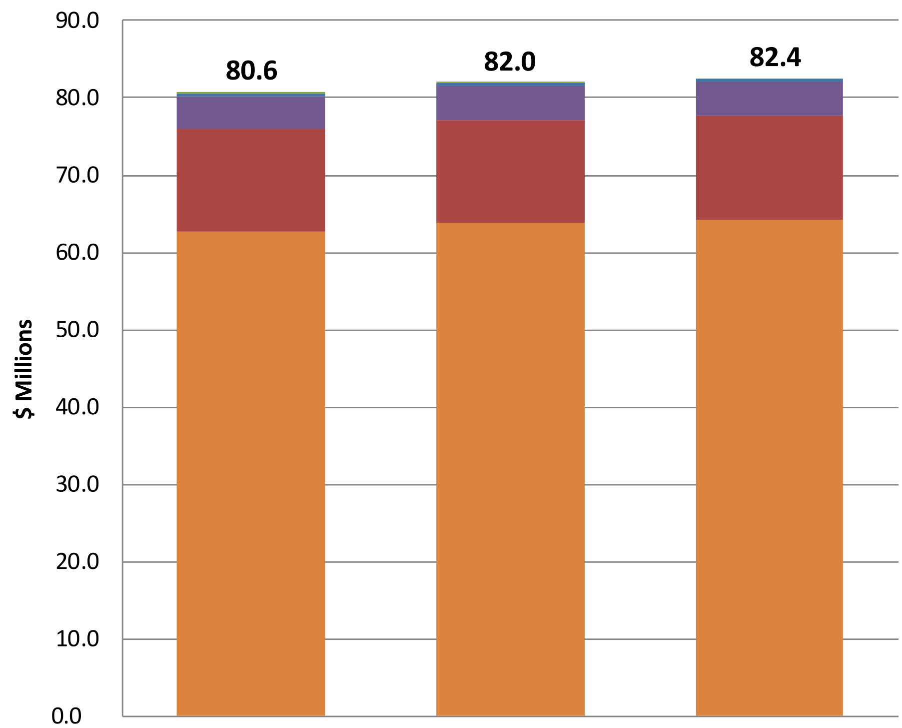
- A Hetch Hetchy Capital Improvement Program, which is being developed to address the needed work and projects for power and water systems.

- The capital programs and projects that are necessary to provide a safe, adequate and reliable electrical power supply to San Francisco Government facilities and operations.

Uses of Funds

Chart I1 shows a breakdown of FY 2017-18, FY 2018-19, and FY 2019-20 Uses of Funds by expenditure category.

Chart I1. FY 2017-18 to FY 2019-20 Infrastructure Uses of Funds



		FY 2017-18	% of Total		FY 2018-19	% of Total		FY 2019-20	% of Total
Personnel	$	62.7	77.8%	$	63.8	77.8%	$	64.3	77.9%
Services of Other Depts		13.3	16.5%		13.3	16.3%		13.4	16.3%
Non-Personnel Services		4.2	5.2%		4.3	5.3%		4.5	5.4%
Materials & Supplies		0.4	0.5%		0.4	0.5%		0.3	0.3%
Equipment		0.0	0.0%		0.1	0.1%		0.0	0.0%
Total Uses of Funds	**$**	**80.6**	**100.0%**	**$**	**82.0**	**100.0%**	**$**	**82.4**	**100.0%**

Summary

The Infrastructure budget is funded by SFPUC's capital programs. The FY 2018-19 Infrastructure budget is $82.0 million, a $1.4 million, or 1.7 percent, increase from the prior year. The major change from FY 2017-18 budget is a 1.7 percent increase in Personnel based on labor agreements.

The FY 2019-20 Infrastructure budget is $82.4 million, a $0.4 million, or 0.5 percent, increase from the prior year. Major change to the FY 2019-20 budget is a $0.5 million increase in personnel costs, offset by a reduction in materials and supplies and equipment.

Table I1 shows the 2017-18, FY 2018-19, and FY 2019-20 adopted budgets, FY 2016-17 audited actual, FY 2017-18 actual, and the budget variance between FY 2018-19 and FY 2017-18 and between FY 2019-20 and FY 2018-19.

As shown in Table I1 below, the Infrastructure budget has increased by 1.6 percent from FY 2017-18 adopted budget to FY 2018-19 and another 0.6 percent from FY 2018-19 to FY 2019-20.

Table I1. Infrastructure Budget Summary

$ Expenditure Category	FY 2016-17 Audited Actual	FY 2017-18 Adopted Budget	FY 2017-18 Actual	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs. FY 2017-18 Adopted Budget Amount	FY 2018-19 vs. FY 2017-18 Adopted Budget %	FY 2019-20 vs. FY 2018-19 Adopted Budget Amount	FY 2019-20 vs. FY 2018-19 Adopted Budget %
Personnel	19,443,512	62,722,937	20,511,820	63,764,456	64,256,609	1,041,519	1.7%	492,153	0.8%
Non-Personnel Services	3,585,649	4,197,183	2,988,757	4,335,871	4,478,718	138,688	3.3%	142,847	3.3%
Materials & Supplies	184,703	414,174	155,871	426,905	288,217	12,731	3.1%	(138,688)	-32.5%
Equipment	68,856	11,555	-	97,831	-	86,276	746.7%	(97,831)	-100.0%
Services of Other Depts	11,836,601	13,292,977	10,193,214	13,340,311	13,413,807	47,334	0.4%	73,496	0.6%
Total	**35,119,321**	**80,638,826**	**33,849,662**	**81,965,374**	**82,437,351**	**1,326,548**	**1.6%**	**471,977**	**0.6%**

Reason for Changes – FY 2017-18 to FY 2018-19

The following describes FY 2017-18 and FY 2018-19 budget category variances that are greater than ten percent.

- **Equipment**: The FY 2018-19 Equipment budget reflects a 746.7 percent increase from FY 2017-18. The increase reflects one-time funding for vehicle replacements for FY 2018-19.

Reason for Changes – FY 2018-19 to FY 2019-20

The following describes FY 2018-19 and FY 2019-20 budget category variances that are greater than ten percent.

- **Materials & Supplies:** The decrease reflects projected expenditures in materials and supplies for FY 2019-20.
- **Equipment**: The decrease reflects one-time funding in vehicles from the FY 2018-19 budget.

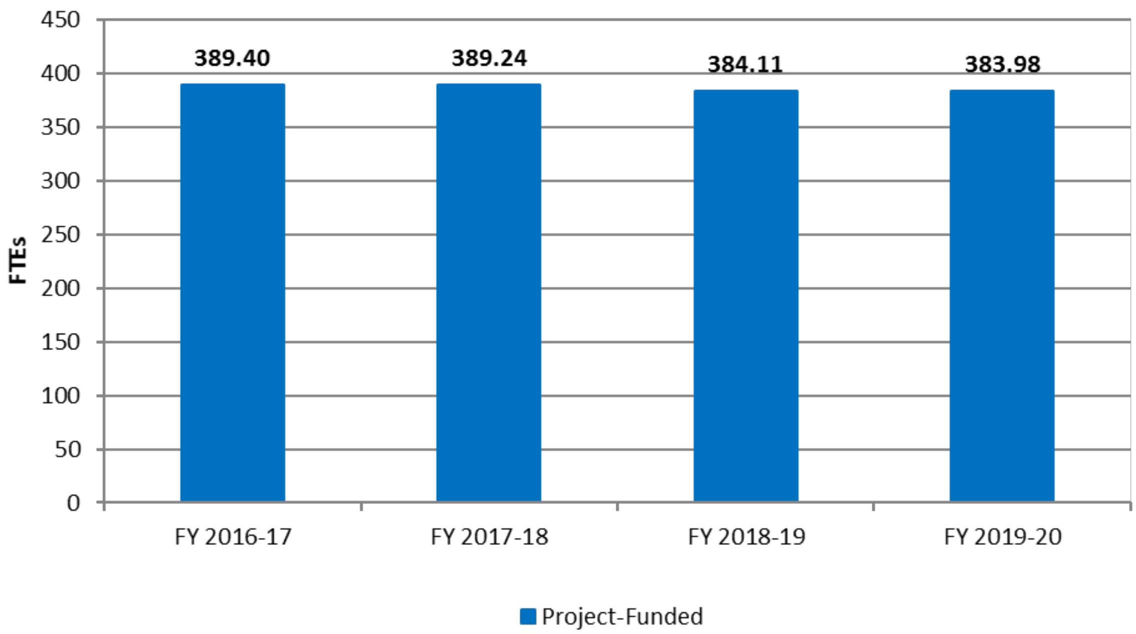
Authorized and Funded Full-Time Equivalents (FTEs)

Table I2 shows total full-time equivalents (FTEs) operating budget, project funded, and temporary positions for FY 2016-17 to FY 2019-20.

Table I2. Infrastructure Authorized and Funded Full-Time Equivalents (FTEs)

Position Type	FY 2016-17 Adopted Budget	FY 2017-18 Adopted Budget	FY 2018-19 Adopted Budget	FY 2019-20 Adopted Budget	FY 2018-19 vs FY 2017-18 Adopted Budget	FY 2019-20 vs FY 2018-19 Adopted Budget
Permanent Positions	385.00	385.00	380.00	380.00	(5.00)	-
Temporary Positions	4.40	4.24	4.11	3.98	(0.13)	(0.13)
Total Positions	**389.40**	**389.24**	**384.11**	**383.98**	**(5.13)**	**(0.13)**

Chart I2. Infrastructure Position Trend



Infrastructure's authorized full-time equivalent (FTE) positions are funded through SFPUC capital programs. As Table I2 above shows, the total positions for FY 2018-19 are 384.11 FTEs, a 5.13 FTE decrease from FY 2017-18. Chart I2 illustrates the trend of the number of FTEs from FY 2016-17 to FY 2019-20. The variance from FY 2017-18 to FY 2018-19 reflects a decrease of five positions; three were reassigned to the Water Enterprise and two to the Hetch Hetchy Water and Power Enterprise. The FY 2019-20 FTEs had a slight decrease from FY 2018-19.

Appendix A – City and County of San Francisco Economy and General Information

This Appendix provides general economic and demographic information about the City and County of San Francisco (the "City") and the Bay Area (defined below). The various reports, documents, websites and other information referred to herein are not incorporated herein by such references.

Area and Economy

The corporate limits of the City encompass over 93 square miles, of which approximately 49 square miles are land, with the balance consisting of tidelands and a portion of the San Francisco Bay (the "Bay"). The City is located on a peninsula bounded by the Pacific Ocean to the west, the Bay to the east, the entrance to the Bay and the Golden Gate Bridge to the north and San Mateo County to the south. The City is the economic center of the nine counties contiguous to the Bay: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano and Sonoma Counties (the "Bay Area"). The economy of the Bay Area includes a wide range of industries, supplying local needs as well as the needs of national and international markets. Major business sectors in the Bay Area include retail and entertainment, conventions and tourism, service businesses, banking, professional and financial services, corporate headquarters, international and wholesale trade, multimedia and advertising, biotechnology, and higher education.

Population and Income

Table A1 reflects the population and per capita personal income of the City, as estimated by the U.S. Census bureau and the Bureau of Economic Analysis (BEA). The City's estimated population as of 2016 was 110,418.

Table A1. San Francisco Population and Income, 2012-2016

CITY AND COUNTY OF SAN FRANCISCO Population and Income 2012-2016		
Year	Population[1]	Per Capita Personal Income[2]
2012	828,816	88,216
2013	829,280	88,970 [3]
2014	850,424	97,978
2015	862,004	105,997
2016	870,887	110,418

[1] Source: Population Division, U.S. Census Bureau, 2012-2016. U.S. Census Bureau State & County QuickFacts.

[2] Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce. Updated on August 30, 20184.

[3] Per capita personal income of a region is the total personal income of the residents of the region divided by the population of the region. The 2016 San Francisco City and County per capita personal income was estimated by assuming that San Francisco personal income as percent change from preceding period. Information was updated on August 30, 2018 according to the Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce.

Conventions and Tourism

According to the San Francisco Travel Association (the "San Francisco Travel") San Francisco Travel is reporting a total of 25.5 million visitors to the city in 2017, up 1.4 percent over 25.2 million from 2016. Total spending by visitors was $9.10 billion, up 1.4 percent over $8.98 billion in 2016 and the eighth consecutive year that visitor spending was higher than the previous year. For 2018, San Francisco Travel is forecasting a total of 26.3 million visitors to the city, an increase of 3.0 percent and total spending by visitors is projected to reach $9.46 billion, up 4.0 percent from 2017. Also, as reported by San Francisco Travel, the average hotel occupancy rates were down 2.4 percent for 2017 and projected to be up 0.4 percent for 2018. Average daily rates were $249.49 for 2017 and are expected to average $254.67 for 2018. Overnight visitor spending represented 86.7 percent of all visitor spending. Overnight visitors made up 40.3 percent of the total, or 10.3 million people, and spent $7.89B. This is an increase of 1.2 percent over $7.80 billion in 2016. Day visitors totaled 15.2 million or 59.7 percent of the total and spent $1.21 billion. This is an increase of 2.6 percent over $1.18B in 2016. Day visitors accounted for 13.3 percent of all visitor spending in 2017. International visitors comprised 28.1 percent of overnight visitors and 61.6 percent of all overnight visitor spending in 2017. Also, there were 2.9 million international visitors in 2017, an increase of 0.4 percent over 2016.

Table A2. San Francisco Overnight Hotel Guests, 2009-2014

CITY AND COUNTY OF SAN FRANCISCO San Francisco Overnight Hotel Guests			
Calendar Year	Annual Average Hotel Occupancy	Visitors Staying in Hotels or Motels (Thousands)	Estimated Hotel Visitor Spending ($ Thousands)
2011	81.9%	5,040	5,200,000
2012	82.6%	5,080	5,540,000
2013	85.4%	5,240	5,200,000
2014	86.3%	5,300	6,910,000
2015	86.6%	5,443	8,600,000
2016	87.6%	5,590	9,000,000

Source: San Francisco Travel Association, Economic Research Associates

The Moscone Center (Moscone North, South, and West) is San Francisco's meeting and exhibition facility. It was developed and is owned by the City and County of Francisco and is privately managed. The Moscone Center consists of more than two million square feet of building area, including over 700,000 square feet of exhibit space, up to 106 meeting rooms and nearly 123,000 square feet of pre-function lobbies. Moscone West covers most of one city block and rises to three levels, 110 feet above street level. With the completion of Moscone West, Moscone Center facilities cover more than 20 acres on three adjacent blocks. Moscone Center anchors the 87-ccre Yerba Buena Center redevelopment district in a neighborhood of hotels, theaters, restaurants, museums, galleries, housing, parts and urban recreation centers. Moscone Center is undergoing construction that will increase the size of the convention center by 21 percent, according to Department of Public Works officials, with a 50,000-square foot grand ballroom and more than 500,000 square feet of exhibition space. The project broke ground in 2015 and is projected to be completed in 2019.

Employment

The City benefits from a highly skilled, educated and professional labor force. Key industries include tourism, real estate, banking and finance, retailing, apparel design and manufacturing. Emerging industries include multimedia and bioscience. See Table A4 for more information on the top employment sectors in the City. According to the California Employment Development Department, the unemployment rate for the City was 3.1% for June 2017 compared with an unadjusted unemployment rate of 4.8% for the State. See Table A3 for more information for the estimated average annual employment by sector from 2012-2016.

Table A3. San Francisco Estimated Average Annual Employment by Sector, 2012-2016

CITY AND COUNTY OF SAN FRANCISCO Estimated Average Annual Employement by Sector, 2012-2016					
Sector	**2012**	**2013**	**2014**	**2015**	**2016**
Professional & Business Services	143,600	154,700	167,100	182,700	190,500
Government	89,200	88,600	88,800	91,100	93,800
Leisure & Hospitality	84,600	87,700	91,400	94,000	97,800
Trade, Transportation & Utilities	65,400	69,400	70,000	74,200	77,500
Educational & Health Services	78,400	85,000	81,800	84,900	87,100
Financial Activities	47,700	48,900	50,100	52,000	56,100
Other Services	22,900	23,900	25,700	26,100	26,600
Information	25,500	25,300	28,300	31,800	39,300
Manufacturing	9,600	9,200	9,800	10,200	12,700
Total	566,900	592,700	613,000	647,000	681,400

Source: California Employment Development Department (EDD), Labor Market Information Division.

Table A4 shows the annual unemployment rates for San Francisco County, the State and the United States.

Table A4. San Francisco County Unemployment Rates, 2007-2017

COUNTY OF SAN FRANCISCO Unemployment Rates, 2007-2017			
Year	**County of San Francisco**	**California**	**United States**
2007	4.2%	5.4%	4.6%
2008	5.2%	7.2%	5.8%
2009	8.9%	11.3%	9.3%
2010	9.5%	12.4%	9.6%
2011	8.5%	11.8%	8.9%
2012	7.2%	10.4%	8.1%
2013	5.7%	8.9%	7.4%
2014	4.4%	7.5%	6.2%
2015	3.6%	6.2%	5.3%
2016	3.3%	5.5%	4.9%
2017	2.9%	4.8%	4.3%

Source: State of California, Employment Development Department, Labor Market Information Division and US Department of Labor, Bureau of Labor Statistics.

Table A5 lists the 25 largest employers in the City, as reported by the California Employment Development Department.

Table A5. San Francisco Major Employers

CITY AND COUNTY OF SAN FRANCISCO Major Employers	
Employer Name	**Industry**
10,000 + Employee	
University of CA-San Francisco-4th Street	Schools-Universities & Colleges Academic
University of CA-San Francisco-Parnassus	Schools-Universities & Colleges Academic
5,000-9,999 Employee	
Pacific Gas & Electric Corporation	Electric Companies
UCSF Medical Center-Parnassus	Hospitals
1,000 -4,999 Employees	
Bechtel Corp	Engineers
California Pacific Medical Ctr-Buchanan	Hospitals
California Pacific Medical Ctr-California	Hospitals
Ernest & Young	Accountants
Federal Reserve Bank	Government Offices-Us
Golden Gate University	Schools-Universities & Colleges Academic
Gourmet Gate	Gourment Shops
Gsa Pacific Rim Region	Government Offices-Us
Kaiser Foundation Hospitals	Hospitals
Laguna Honda Hospital & Rehab	Rehabilitation Services
Marriot-San Francisco Marquis	Hotels & Motels
Media Relations Unit	Police Departments
P G & E Corp	Electric Companies
Riverbed Technologies	Publishers-Computer Software (mfrs)
San Francisco Chronicle	Newspapers (Publishers/Mfrs)
San Francisco Municipal Railway	Government Offices-City, Village & Twp
San Francisco Police Department	Police Departments
UCSF Medical Ctr Radiology	Diagnostic Imaging Centers
US Veterans Medical Center	Hospitals
Williams-Sonoma	Kitchen Accessories
Yellow Cab	Taxicabs & Transportation Service

Ssource: State of California, Employment Development Department (EDD), Labor Market Information Division; EDD extracted this information from the America's Labor Market Information (ALMIS) Employer Database, 2018 2nd Edition.

Taxable Sales

Table A6 provides information on taxable sales for the City for calendar years 2012 through 2016. Total retail sales increased in 2016 by approximately $0.5 billion compared to 2015. Data for full years after 2017 are not yet available from the California State Board of Equalization.

Table A6. San Francisco Taxable Sales, Calendar Years 2012-2016

CITY AND COUNTY OF SAN FRANCISCO Taxable Sales - Calendar Year 2012-2016 ($ Thousands)					
Categories	**2012**	**2013**	**2014**	**2015**	**2016**
Bldg. Matril and Garden Equip and	466,949	508,070	537,424	588,279	586,372
Clothing and Accessories Stores	1,886,746	2,040,734	2,168,822	2,163,743	2,132,167
Food and Beverage Stores	698,890	740,746	782,750	830,061	843,717
Food Services and Drinking Places	3,442,081	3,750,056	4,104,185	4,441,352	4,670,360
Gasoline Stations	664,318	650,678	611,354	471,495	428,473
General Merchandise	804,628	897,608	864,009	825,300	797,832
Home Furnishing and Appliance Stores	825,268	880,330	938,256	1,010,769	965,918
Motor Vehicle and Parts Dealers	505,612	548,713	588,769	565,638	573,964
Other Retail Stores	1,588,780	1,852,618	2,037,646	2,136,115	2,223,653
Retail Stores Total	10,883,271	11,869,553	12,633,215	13,032,755	13,222,461
All Other Outlets	5,070,334	5,224,609	5,836,514	5,839,078	6,174,841
Total All Outlets	15,953,605	17,094,162	18,469,729	18,871,834	19,397,302

[1]Data categories for 2012 to 2014 are grouped according to categories from the subsequent year 2011

[2]Other Retail Stores include Health and Personal Care Stores, Sporting Goods, Hobby, Book, and Music Stores, Miscellaneous Store Retailers, and Non-Store Retailers.

Two-thirds of SFPUC's water is sold to customers outside of San Francisco, key highlights from those counties where most of the wholesale water customers reside are included.

San Mateo County, Alameda County and Santa Clara County Economy and General Information

The information in this section provides economic and demographic information concerning the Counties of San Mateo, Alameda and Santa Clara. The following economic and demographic information about the Counties of San Mateo, Alameda and Santa Clara has been collected from the Counties or, as noted, third party sources. The historical economic and demographic data set forth in this section is current as of the dates indicated.

County of San Mateo and General Information

General

The County of San Mateo ("San Mateo County") was established on April 19, 1856. Located on the San Francisco Peninsula, coastal mountains run north and south through San Mateo County, dividing the lightly-populated western part from the heavily-populated eastern corridor between San Francisco and Santa Clara/Silicon Valley. San Mateo County covers 446 square miles and contains 20 incorporated cities and the San Francisco International Airport (SFO). As of July 1, 2015, the estimated population was 765,135.

Population

Table A7 shows population data for San Mateo County, its six largest cities, and the State of California (the "State"). San Mateo County's population increased by approximately 3.0% during the five-year period.

Table A7. San Mateo County Population, Its Six Largest Cities, and California, 2013-2017

COUNTY OF SAN MATEO Six Largest Cities and State of California, 2013-2017					
County/Cities	**2013**	**2014**	**2015**	**2016**	**2017**
San Mateo County	747,373	758,581	765,135	766,589	770,256
Six Largest Cities:					
Daly City	104,739	106,094	106,562	107,810	107,733
San Mateo	101,128	102,893	103,536	103,006	103,465
Redwood City	80,872	82,881	85,288	86,076	86,271
So. San Francisco	66,174	67,009	67,271	66,597	66,752
San Bruno	42,443	43,009	43,185	46,036	45,965
Pacifica	38,606	39,088	39,260	38,318	38,342
State of California	38,332,521	38,499,378	39,144,818	39,179,627	39,500,973

[1]As of July 1 for the years shown.
Sources: State of California, Department of Finance, *E-4 Population Estimates for Cities, Counties, and the State, 2011-2016, with 2010 Census Benchmark*. Sacramento, California, May 2018.

Employment

Table A8 shows annual averages of the estimated number of wage and salary workers by industry for calendar years 2011 through 2017.

Table A8. San Mateo County Estimated Average Annual Employment by Sector, 2013-2017

COUNTY OF SAN MATEO Estimated Average Annual Employment by Sector, 2013-2017					
Categories	**2013**	**2014**	**2015**	**2016**	**2017**
Goods Producing	42,400	44,800	48,600	41,900	44,900
Trade, Transportation & Utilities	72,400	74,300	74,300	74,600	76,600
Information	23,600	26,300	28,100	30,500	33,500
Financial Activities	20,200	20,600	21,600	22,100	22,300
Professional & Business Services	71,000	75,200	76,500	79,600	80,700
Education & Health Services	39,700	43,000	44,300	44,800	46,800
Leisure & Hospitality Services	39,500	40,900	42,500	42,200	43,300
Other	13,300	13,900	14,000	13,600	13,600
Government	30,400	31,200	32,700	33,100	33,600
Total Non-Farm	**352,500**	**370,100**	**382,400**	**382,400**	**395,300**
Total Farm	**1,600**	**1,800**	**1,800**	**1,800**	**1,700**
Total All Industries	**354,100**	**371,900**	**384,200**	**384,200**	**397,000**

Source: State of California, Employment Development Department, Industry Employment & Labor Force - by Annual Average, July 2018 Benchmark, San Mateo County.

Table A9 lists 25 major employers in San Mateo County, as reported by the California Employment Development Department.

Table A9. San Mateo County Major Employers

COUNTY OF SAN MATEO Major Employers		
Employer Name	**Location**	**Industry**
5,000 -9,999 Employees		
Lpch	Menlo Park	Health Care Facilities
Oracle Corp	Redwood City	Computer Software-Manufacturers
US Interior Dept	Menlo Park	Federal Government-Conservation Depts
1,000-4,999 Employees		
Electric Charging Statiom	Menlo Park	Research Service
Electronic Arts, Inc.	Redwood City	Game Designers (Mfrs)
Fisher Investments	San Mateo	Investment Management
Fisher Investments	Woodside	Investment Management
Forced Dump Debris Box Svc	Burlingame	Garbage Collection
Franklin Templeton Institutional, LLC.	San Mateo	Investments
Genentech Inc	South San Francisco	Biotechnology Products & Services
Gilead Sciences, Inc.	Foster City	Biological Products (Mfrs)
Guckenheimer, Inc.	Foser City	Marketing Programs & Services
Kaiser Permanente Medical Center	Redwood City	Physicians & Surgeons
Kaiser Permanente Medical Center	South San Francisco	Hospitals
Loften North America	Burlingame	Mining Companies
Mills-Peninsula Health Svc	Burlingame	Health Care Management
San Francisco International Airport-SFO	San Francisco	Airports
San Mateo County Behavior	San Mateo	Government Offices-County
San Mateo Medical Center	San Mateo	Hospitals
Sciex LLC	Redwood City	Scientific Apparatus & Instruments-Mfrs
SMC Tax Collector	Redwood City	Tax Return Preparation & Filing
SRI International, Inc.	Menlo Park	Engineers-Research
Visa, Inc.	Foster City	Credit Card & Other Credit Plans
Visa International Svc Assn	Foster City	Associations
Visa USA, Inc.	Foster City	Credit Card & Other Credit Plans

Source: State of California, Employment Development Department (EDD), Labor Market Information Division; EDD extracted this information from the America's Labor Market Information (ALMIS) Employer Database, 2018 2nd Edition.

Table A10 shows the annual unemployment rates for San Mateo County, the State and the United States. During each of the years set forth in the table, the unemployment rate in San Mateo County has been lower than the unemployment rate in the State and in the United States.

Table A10. San Mateo County Unemployment Rates, 2007-2017

COUNTY OF SAN MATEO Unemployment Rates, 2007-2017			
Year	County of San Mateo	California	United States
2007	3.8%	5.4%	4.6%
2008	4.9%	7.2%	5.8%
2009	8.4%	11.3%	9.3%
2010	8.7%	12.4%	9.6%
2011	7.9%	11.8%	8.9%
2012	6.7%	10.4%	8.1%
2013	5.4%	8.9%	7.4%
2014	4.2%	7.5%	6.2%
2015	3.4%	6.2%	5.3%
2016	3.2%	5.5%	4.9%
2017	2.9%	4.8%	4.3%

Source: State of California, Employment Development Department, Labor Market Information Division and US Department of Labor, Bureau of Labor Statistics.

Taxable Transactions

Table A11 shows taxable transactions by type of business for the calendar years 2010 through 2016 in San Mateo County.

Table A11. San Mateo County Taxable Sales, Calendar Years 2012-2016

COUNTY OF SAN MATEO Taxable Sales - Calendar Year 2012-2016 ($ Thousands)					
Categories	**2012**	**2013**	**2014**	**2015**	**2016**
Motor Vehicle and Parts Dealers	1,464,005	1,682,692	1,831,220	1,945,310	1,902,427
Home Furnishings and Appliance Stores	750,756	778,642	810,355	816,315	897,143
Bldg. Matrl. and Garden Equip. and Supplies	758,787	843,865	884,697	947,423	958,806
Food and Beverage Stores	563,507	584,609	610,223	636,760	650,941
Gasoline Stations	1,262,692	1,250,794	1,158,444	940,292	850,055
Clothing and Clothing Accessories Stores	683,382	727,281	786,446	808,788	805,349
General Merchandise Stores	1,130,266	1,131,430	1,124,294	945,470	906,752
Food Services and Drinking Places	1,502,049	1,612,392	1,754,008	1,931,719	2,027,889
Other Retail Group 1)	1,161,700	1,323,935	1,318,949	1,329,119	1,394,693
Retail Stores Total	**9,277,144**	**9,935,640**	**10,278,636**	**10,301,197**	**10,394,055**
All Other Outlets	4,629,834	4,675,976	5,019,717	5,176,813	5,264,519
Totals All Outlets	**13,906,978**	**14,611,616**	**15,298,353**	**15,478,010**	**15,658,573**

[1]Other Retail Group include Health and Personal Care Stores, Sporting Goods, Hobby, Book, and Music Stores, Miscellaneous Store Retailers, and Non-Store Retailers.

County of Alameda General Information

General

Alameda County ("Alameda County") is located on the east side of the San Francisco Bay and extends from the Cities of Berkeley and Albany in the north to the City of Fremont in the south. It is the seventh most populous county in the State, with most of its population concentrated in a highly urbanized area between the San Francisco Bay and the East Bay Hills.

The northern part of Alameda County has direct access to San Francisco Bay and the City of San Francisco. It is highly diversified with residential areas as well as traditional heavy industry, the University of California at Berkeley, the Port of Oakland, and sophisticated manufacturing, computer services and biotechnology firms. The middle of Alameda County is also highly developed, including older established residential and industrial areas. The southwestern corner of Alameda County has seen strong growth in residential development and manufacturing. Many high-tech firms have moved from neighboring Silicon Valley in Santa Clara County into this area. The southeastern corner of Alameda County has seen the most development in recent years due to land availability. Agriculture and the rural characteristics of this area are disappearing as the area maintains its position as the fastest growing residential, commercial and industrial part of Alameda County.

Population

Table A12 summarizes population figures for Alameda County.

Table A12. Alameda County Population, 2007-2017

ALAMEDA COUNTY Estimated Population 2007-2017	
Year	**Population**
2007	1,476,401
2008	1,491,781
2009	1,503,827
2010	1,513,527
2011	1,531,324
2012	1,553,960
2013	1,578,891
2014	1,612,850
2015	1,638,215
2016	1,629,738
2017	1,646,405

Source: State of California, Department of Finance E-6 Population Estimates & Components of Change by County – December 2017.

Employment

Table A13 summarizes historical employment and unemployment in the Oakland Metropolitan Statistical Area ("MSA"), which is comprised of both Alameda and Contra Costa Counties.

Table A13. Oakland MSA Civilian Labor Force, Employment, and Unemployment, 2013-2017

OAKLAND Metropolitan Statistical Area (MSA) Civilian Labor Force, Employment and Unemployment Annual Averages [1]					
Categories	**2013**	**2014**	**2015**	**2016**	**2017**
Employment	1,224,100	1,275,300	1,310,000	1,334,000	1,360,000
Unemployment	97,800	80,100	67,000	60,700	52,300
Total Civilian Labor Force	1,321,900	1,355,400	1,377,000	1,394,600	1,412,300
Unemployment Rate	7%	6%	5%	4%	4%

[1] The Unemployment Rate and Labor Force data are based upon ""place of residence"" – where people live, regardless of where they work. Individuals who have more than one job are counted only once. Civilian Labor Force is the sum of civilian employment and civilian unemployment. Civilian Employment includes all individuals who worked during the week including the 12th of the month. Civilian Unemployment includes those individuals who were not working but were able, available, and actively looking for work. Unemployment Rate is the number of unemployed divided by the labor force then multiplied by 100. Data not seasonally adjusted.

Source: California Employment Development Department (EDD), Labor Market Information Division

Table A14 summarizes the historical numbers of workers in the Oakland Metropolitan Statistical Area, which is comprised of both Alameda and Contra Costa Counties, by industry.

Table A14. Oakland MSA Estimated Average Annual Employment by Sector, 2013-2017

OAKLAND MSA Estimated Average Annual Employment by Sector, 2013-2017					
Categories	**2013**	**2014**	**2015**	**2016**	**2017**
Agricutural	1,500	1,300	1,200	1,300	1,300
Natural Resources and Mining	1,200	800	900	400	400
Construction	56,100	58,600	62,400	67,900	71,200
Manufacturing	78,600	82,800	86,600	9,100	95,600
Trade, Transportation and Utilities	185,400	191,700	198,900	202,600	205,500
Information	21,400	21,300	22,400	26,300	26,500
Financial Activities	49,500	49,300	49,600	57,200	57,600
Professional and Business Services	172,300	178,800	183,000	182,200	184,900
Educational and Health Services	171,000	173,100	178,400	185,900	192,000
Leisure and Hospitality	98,000	102,100	106,300	111,700	115,000
Other Services	37,000	37,500	38,000	39,100	40,100
Government	163,400	166,500	168,700	173,400	174,600
Total All Industries	1,035,300	1,063,800	1,096,400	1,138,900	1,164,600

Source: California Employment Development Department (EDD), Labor Market Information Division.

Major Employers

Table A15 lists 25 major employers in Alameda County, as reported by the California Employment Development Department.

Table A15. Alameda County Major Employers

ALAMEDA COUNTY Major Employees		
Employer Name	**Location**	**Industry**
More than 10,000 Employees		
University of California-Berkeley	Berkeley	Schools-Universities & Colleges Academic
Western Digital Corp	Fremont	Electronic Equipment & Supplies-Mfrs
5,000-9,999 Employees		
Grifols Diagnostic Solutions	Emeryville	Pharmaceutical Research Labratories
Lawrence Livermore Natl Lab	Livermore	Laboratories
Lbnl	Berkeley	Research Service
Llnl st & T Staff	Livermore	Research Service
University of California-BERKELY	Berkeley	Schools-Universities & Colleges Academic
1,000 -4,999 Employees		
Alameda County Law Enforcement	Oakland	Government Offices-County
Alameda County Sheriff's Office	Oakland	Government Offices-County
Alta Bates Summit Medical Ctr-Lab	Oakland	Laboratories-Medical
Alta Bates Summit Medical Center	Berkeley	Hospitals
Bayer Health Care	Berkeley	Labratories-Pharmaceutical (mfrs)
Children's Hosp & Research Center	Oakland	Hospitals
Coopervision, Inc. Advanced	Pleasanton	Optical Goods-Wholesale
East Bay Municipal Utilities District	Oakland	Water & Sewage Companies -Utility
Ferrellgas	Newark	Gas-Propane-Refilling Stations
Highland Hospital	Oakland	Hospitals
Kaiser Permanente Oakland Med	Oakland	Hospitals
Lawrence Berkeley National Lab	Berkeley	Laboratories-Research & Development
Life Scan Inc	Fremont	Physicians & Surgeons Equip & Supls-Mfrs
Safeway, Inc.	Pleasanton	Grocers-Retail
Tesla Motors	Fremont	Automobile Repairing & Service
Transportation Dept-California	Oakland	State Government-Transportation Programs
Valley Home Care	Pleasanton	Nonclassified Establishments
Washington Hospital Healthcare	Fremont	Hospitals

Source: State of California, Employment Development Department (EDD), Labor Market Information Division; EDD extracted this information from the America's Labor Market Information (ALMIS) Employer Database, 2018 2nd Edition.

County of Santa Clara Economy and General Information

General

The County of Santa Clara ("Santa Clara County") lies immediately south of San Francisco Bay and is the sixth most populous county in the State. It encompasses an area of approximately 1,316 square miles. Named after Mission Santa Clara, which was established in 1777, and named for Saint Clara of Assisi, Italy, Santa Clara County was incorporated in 1850 as one of the original 28 counties of the State and operates under a home rule charter adopted by Santa Clara County voters in 1950 and amended in 1976 (the "Santa Clara County Charter").

The southern portion of Santa Clara County has retained the agricultural base which once existed throughout the area and has two cities, separated by roughly twenty miles. The northern portion of Santa Clara County is densely populated, extensively urbanized and heavily industrialized. It contains 15 cities, the largest of which is the City of San Jose, the third largest city in the State and the county seat. The uppermost northwestern portion of Santa Clara County, with its concentration of high-technology, electronics-oriented industry, it's popularly referred to as the "Silicon Valley." Large employers include Lockheed Martin Space Systems, Intel, and NASA.

Recent Annual Population Changes: All the cities in Santa Clara County reported population increases over the period 2013-2017, with Milpitas posting the largest population growth (9.6% percent). Morgan Hill followed with a 9.1 percent increase, followed by Gilroy, with a 7.4 percent increase. The number of residents living in the unincorporated areas of Santa Clara County increases by 5.5 percent within the same period. From 2013 to 2017, Santa Clara County's population rose by approximately 5.2 percent. Approximately 4.5 percent of Santa Clara County's residents lived in unincorporated areas in 2017.

Table A16 provides a historical summary of population in Santa Clara County and its incorporated cities for calendar years 2013 through 2017.

Table A16. Santa Clara County Population, 2013-2017

SANTA CLARA COUNTY Population, 2013-2017[1]					
County/City	**2013**	**2014**	**2015**	**2016**	**2017**
Campbell	40,373	41,900	41,900	42,097	42,372
Cupertino	59,575	59,800	59,800	59,667	60,079
Gilroy	51,505	52,300	53,000	54,422	55,336
Los Altos	29,769	29,900	30,000	31,156	31,298
Los Altos Hills	8,258	8,300	8,300	8,332	8,417
Los Gatos	30,225	30,400	30,500	30,271	30,448
Milpitas	67,845	69,900	72,600	74,085	74,327
Monte Sereno	3,417	3,400	3,500	3,466	3,528
Morgan Hill	40,049	41,100	41,800	43,217	43,680
Mountain View	76,204	76,600	77,900	80,122	80,897
Palo Alto	66,318	66,700	66,900	69,184	69,446
San Jose	983,574	1,002,300	1,016,500	1,035,312	1,042,782
Santa Clara	120,196	120,900	121,000	125,265	125,528
Saratoga	30,683	30,800	30,800	31,219	31,271
Sunnyvale	145,864	146,700	148,000	149,697	150,599
Incorporated	1,753,855	1,781,000	1,802,500	1,837,512	1,850,008
Balance Of County	87,040	93,526	115,544	87,070	87,465
County Total	**1,840,895**	**1,874,526**	**1,918,044**	**1,924,582**	**1,937,473**

[1]As of July 1 for the years shown.

Sources: State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, 2013-2017, with 2010 Census Benchmark. Sacramento, California, May 2018.

Employment and Industry

According to the California Employment Development Department, the 2017 annual average of the labor force in Santa Clara County was an estimated 1,070,800 compared to 1,053,800 in 2016. From 2016 to 2017, unemployment in Santa Clara County fell slightly from 3.9 percent (40,900 unemployed) to 3.3 percent (35,400 unemployed). The unemployment rate in Santa Clara County as of 2017 was lower than the nationwide annual unemployment rate of 3.9 percent and lower than the State annual unemployment rate of 4.8 percent during the same period.

Within Santa Clara County, development of high technology and high technology jobs have been enhanced by the presence of Stanford University, Santa Clara University, San Jose State University, other institutions of higher education, and research and development facilities such as the Ames Research Center (NASA). In addition, the Rincon de los Esteros Redevelopment Area in northern San Jose has been the site of industrial/research and development submarkets in Silicon Valley.

Table A17 lists wage and salary employment in Santa Clara County by industry from 2013 to 2017.

Table A17. Santa Clara County Civilian Labor Force and Annual Employment by Sector, 2013-2017

SANTA CLARA COUNTY Civilian Labor Force and Annual Employment by Sector					
Industry Employment	**2013**	**2014**	**2015**	**2016**	**2017**
Civilian Labor Force	923,200	995,700	1,018,400	1,053,800	1,071,800
Civilian Employment	860,100	944,500	976,100	1,012,900	1,036,300
Civilian Unemployment	63,200	51,200	42,300	40,900	35,400
Civilian Unemployment Rate	6.8%	5.1%	4.2%	3.9%	3.3%
Total Employment	**951,800**	**990,900**	**1,032,200**	**1,077,500**	**1,104,000**
Total Farm	3,400	3,500	3,600	6,100	5,800
Total Non-Farm	948,400	987,400	1,028,600	1,076,400	1,098,200
Goods Producing					
Mining and Logging	300	300	200	300	200
Construction	36,700	38,500	42,100	48,300	49,800
Manufacturing	153,300	155,900	159,400	166,600	166,700
Subtotal Goods Producing	190,300	194,700	201,700	215,200	216,700
Service Providing					
Trade, Transportation & Utilities	132,500	134,400	135,800	138,100	137,200
Information	58,600	66,200	74,700	75,700	85,100
Financial Activities	33,200	34,300	35,000	35,600	36,100
Professional & Business Services	190,200	201,800	214,900	223,300	227,600
Education & Health Services	143,400	148,700	155,400	162,500	168,700
Leisure & Hospitality Services	86,100	90,700	94,500	99,400	182,300
Other	25,000	26,000	26,700	27,600	28,700
Government	89,100	90,600	89,900	94,100	95,700
Subtotal Service Providing	**758,100**	**792,700**	**826,900**	**856,300**	**961,400**

The unemployment rate is calculated using unrounded data.

Source: California Employment Development Department (EDD), Labor Market Information Division.

Major Employers

Santa Clara County is home to numerous high technology and computer software and hardware manufacturing companies, which, together with public sector employers, continue to top the list of the largest employers in Santa Clara County. The County ranks as the number one public sector employer, with all departments collectively employing over 15,300 workers. The City of San Jose alone has approximately 6,999 full-time employees

Table A18 lists 25 major employers in Santa Clara County, as reported by the California Employment Development.

Table A18. Santa Clara County Major Employers

SANTA CLARA COUNTY Major Employers		
Employer Name	**Location**	**Industry**
More Than 10,000 Employees		
Cisco Systems Inc	San Jose	Computer Peripherals (mfrs)
E Bay Inc	San Jose	E-Commerce
5,000 -9,999 Employees		
Applied Materials Inc	San Jose	Publishers-Computer Software (mfrs)
Flextronics International	Milpitas	Semiconductor Devices (mfrs)
Intel Corp	Santa Clara	Semiconductor Devices (mfrs)
Lumileds Lighting Co	San Jose	Lighting Fixtures-Supplies & Parts-Mfrs
NASA	Mountain View	Governement Offices-Us
Prime Materials	San Jose	Semiconductor & Related Devices (mfrs)
1,000-4,999 Employees		
Adobe Systems Inc	San Jose	Publishers-Computer Software (Mfrs)
Advanced Micro Devices Inc	Santa Clara	Semiconductor Devices (mfrs)
Apple Inc	Cupertino	Computer & Equipment Dealers
Avaya Inc	Santa Clara	Telecommunication Services
California's Great America	Santa Clara	Amusement & Theme Parks
Christopher Ranch, LLC	Gilroy	Garlic (Mfrs)
Fujitsu Laboratories	Sunnyvale	Venture Capital Companies
Hcl Technologies Ltd	Sunnyvale	Computer Software
HP Inc	Palo Alto	Computers-Electronic-Manufacturers
Lockheed Martin Corp	San Jose	Aerospace Industrues (mfrs)
Microsoft Corp	Sunnyvale	Computer Software-Manufacturers
Net App Inc	Sunnyvale	Computer Storage Devices (Mfrs)
San Jose Convention Center	San Jose	Reecreation Centers
SAP Center	San Jose	Stadiums Arenas & Athletic Fields
Standford Children's Health	Palo Alto	Hospitals
Stanford Univ School Medicine	Stanford	Schools-Medical
US Veterans Medical Center	Palo Alto	Hospitals

Source: State of California, Employment Development Department (EDD), Labor Market Information Division; EDD extracted this information from the $53,741.

Income

Owing to the presence of relatively high-wage skilled jobs and wealthy residents, Santa Clara County historically achieves high rankings relative to the rest of the State on a variety of income measurements. The per capita personal income in Santa Clara County in 2017 is $88,920, which is higher than the 2017 national level of $51,631 and State level of $53,741[1].

[1] Source: US and California, Regional Economic Information System, Bureau of Economic Analysis, US Department of Commerce, preliminary as of March 28, 2018.

Appendix B – Pro-Forma Statement of Operations

THE SAN FRANCISCO PUBLIC UTILITIES COMMISSION
Statements of Revenues, Expenses, and Changes in Net Position
Proprietary Funds
Years ended June 30, 2017
(In thousands)

	Business Type Activities – Proprietary Funds				
	Water	Wastewater	Hetchy Water	Hetchy Power	CleanPowerSF
	2017	2017	2017	2017	2017
Operating revenues:					
Charges for services	$ 438,207	267,601	35,008	120,789	33,867
Rents and concessions	8,813	606	142	173	—
Capacity fees	1,432	4,345	—	—	—
Other revenues	11,879	4,789	—	—	—
Total operating revenues	460,331	277,341	35,150	120,962	33,867
Operating expenses:					
Personnel services	182,034	115,288	21,998	44,961	1,213
Contractual services	10,664	13,825	1,017	4,916	1,141
Transmission/distribution and other power costs	—	—	—	18,447	214
Purchased electricity	—	—	—	2,523	22,223
Materials and supplies	12,564	8,736	1,161	1,510	1
Depreciation and amortization	118,826	55,441	4,505	13,225	—
Services provided by other departments	59,173	36,832	1,962	6,716	734
General and administrative and other	38,566	14,098	19,456	24,637	1,570
Total operating expenses	421,827	244,220	50,099	116,935	27,096
Operating income (loss)	38,504	33,121	(14,949)	4,027	6,771
Non-operating revenues (expenses):					
Federal and state grants	—	3,274	—	37	—
Interest and investment income (loss)	4,331	2,327	46	1,718	89
Interest expenses	(148,075)	(28,474)	—	(3,200)	(70)
Amortization of premium, discount, refunding loss, and issuance costs	9,029	5,806	—	255	—
Net gain from sale of assets	6,407	37	21	26	—
Other non-operating revenues	30,998	5,322	595	11,701	4
Other non-operating expenses	(2,607)	(383)	(68)	(1,408)	—
Net non-operating revenues (expenses)	(99,917)	(12,091)	594	9,129	23
Change in net position before transfers	(61,413)	21,030	(14,355)	13,156	6,794
Transfers from the City and County of San Francisco	128	40	60,000	100	—
Transfers to the City and County of San Francisco	(60,116)	(30,747)	—	(49)	—
Net transfers	(59,988)	(30,707)	60,000	51	—
Change in net position	(121,401)	(9,677)	45,645	13,207	6,794
Net position at beginning of year	622,668	1,155,940	122,711	389,903	1,424
Less: CleanPowerSF beginning net position	—	—	—	(1,424)	—
Net position at end of year	$ 501,267	1,146,263	168,356	401,686	8,218

Appendix C – Fund Balance Reserve Policy

The San Francisco Charter Section 8B.125 requires the SFPUC to be a financial steward by establishing "rates, fees and charges at levels sufficient to improve or maintain financial condition and bond ratings at or above levels equivalent to highly rated utilities of each enterprise under its jurisdiction, meet requirements and covenants under all bond resolutions and indenture and provide sufficient resources for the continued financial health (including appropriate reserves), operation, maintenance and repair of each enterprise, consistent with good utility practice." To most effectively meet this requirement, the SFPUC will utilize financial policies that foster financial stability, support fiscal discipline, and maintain credit ratings at or above levels equivalent to highly rated utilities. Institutionalized policies signal to rating agencies and the capital markets that an entity is well managed and committed to prudent financial practices.

The SFPUC faces a number of risks to revenue stability, including multi-year rate packages, drought and weather variability, and highly volumetric rates. To manage these risks and reduce susceptibility to emergency rate increases, the SFPUC will ensure adequate ratepayer protection in the form of a Fund Balance Reserve. For each enterprise, the SFPUC will adopt budgets and establish rates to maintain undesignated fund balances that provide sufficient capacity to bridge shortfalls in cash flow and cover unanticipated expenditures, while also considering ratepayer impact and fairness in compliance with the San Francisco Charter. Specifically, for the time period covered in the SFPUC's Charter-mandated 10-Year Financial Plan, operating and capital budgets and rates will be proposed for adoption such that the Fund Balance Reserve totals **a minimum of 90 days or 25% of Operations & Maintenance Expenses** (including programmatic projects, and excluding debt service and revenue-funded capital) throughout the forecast period**.** Amounts in excess of the minimum will be considered for contingencies and rate stabilization.

In the event that Fund Balance Reserve exceeds 250 days or 68% of Operations & Maintenance Expenses, this fact will be brought to the Commission during the subsequent biannual budget process for consideration for uses, including:

- The reduction of future customer rate increases,
- Management of unanticipated one-time events (such as an earthquake or disaster), or any ongoing impairment to revenues (such as a drought or economic downturn), or
- Revenue-funded capital projects, which will reduce projected future debt issuance.

To monitor compliance with this policy, SFPUC Finance staff will present this metric to the Commission as part of the annual 10-Year Financial Plan and Quarterly Budget Status Report.

Adopted by Resolution 17-0044 on February 28, 2017

Appendix D – SFPUC Ratepayer Assurance Policy

Background

The San Francisco Charter Section 8B.125 requires the SFPUC to exercise prudent financial stewardship of SFPUC assets by establishing "rates, fees and charges at levels sufficient to improve or maintain financial condition and bond ratings at or above levels equivalent to highly rated utilities of each enterprise under its jurisdiction, meet requirements and covenants under all bond resolutions and indentures and provide sufficient resources for the continued financial health (including appropriate reserves), operation, maintenance and repair of each enterprise, consistent with good utility practice." To most effectively meet these requirements, the SFPUC will utilize financial policies that foster financial stability, support fiscal discipline, and maintain credit ratings at or above levels equivalent to highly rated utilities. Strong financial policies signal to rating agencies and the capital markets that an entity is well managed and committed to sound financial practices.

Purpose

The Commission recognizes that its revenue comes from ratepayers, and takes seriously its commitment to provide affordable and reliable water, power and sewer services. Ratepayers pay for: 1) what we do, i.e. our essential-service water, power and sewer utilities, and 2) how we do it, through a commitment to sustainability and adherence to the Commission's Environmental Justice and Community Benefits policies.

The Ratepayer Assurance Policy serves as guidance to the SFPUC General Manager and staff of the Commission's expectations regarding a) prudent use of ratepayer funds, b) establishment of rates and charges, and c) transparency in budgeting and rate-setting processes. SFPUC departments are self-supported enterprises, receiving no tax revenue from San Francisco's General Fund. The Water, Power, and Sewer Enterprises are funded by service-based rates, fees and charges, as well as non-operating revenues such as interest and rental income.

Accountability to ratepayers is a central tenet that guides the use of ratepayer monies and the stewardship of the utility systems and resources entrusted to the SFPUC's care.

Prudent Use of Ratepayer Funds

This policy is intended to provide ratepayers with the assurance that management recommendations and Commission decisions are made in the ratepayers' best interest. It promotes accountability and transparency by using established budget and planning efforts to report how management will address the following:

Mission Management

The SFPUC shall comply with all San Francisco Charter requirements, including the development of our budget, as well as our long-term capital, financial and strategic plans. This includes mission-driven budgets for SFPUC Enterprises which are considered, adopted and published in a timely manner. Specifically, the Commission shall:

- Review any proposed changes to the mission statement early in the budget process and any changes to the mission are adopted by the Commission prior to the cost of such changes being budgeted.
- Review an analysis of mission changes along with how the proposed budget ties to the Strategic Plan.

Asset Management

As a utility, a significant portion of the SFPUC budget is allocated for the acquisition, construction, repair, and replacement of critical physical assets. Purchasing contracting and construction are subject to extensive legal and administrative regulation. Asset costs are ultimately driven by the assets acquired and the way in which they are maintained. The Commission shall:

- Plan and fund the acquisition, design, construction, repair, and replacement of assets such that their life cycle cost is minimized.
- Reduce the environmental impact of its assets by using more efficient technologies and seeking out opportunities to practice resource recovery, simultaneously reducing the cost of its activities. Examples include the use of vehicle pools, public transit, and greenhouse gas-free vehicles; developing power generation capacity as a byproduct of other utility functions; capturing and using stormwater runoff and recycled water wherever feasible; and investing in energy efficient and recycled buildings, assets, and materials.
- Review and approve all major asset purchases through the budget process, confirming that they are consistent with City policies and best practices promulgated by the General Manager.
- Ensure that assets (including, but not limited to, vehicles, computers, and other electronic devices) are selected and assigned to individuals in a cost-effective manner, and that they are used for business purposes that benefit the ratepayers.
- Support the development of innovative technologies, including the consideration of prudent demonstration projects, and implement proven technologies that achieve utility reliability, performance effectiveness, cost minimization, and continued environmental impact improvements.

Personnel Management

Personnel costs are driven by how the SFPUC operates and organizes its workforce, including the number and level of staff. Compensation and benefit costs are determined by labor agreements, the Civil Service Commission, the City's Retirement Board, and the City's Health Service System. Position classifications and hiring authorizations include a review process that is governed by the Civil Service Commission and the City's Human Resources Department to ensure our hiring is appropriate for the work assigned. The Commission shall:

- Meet new position needs by reassignment of existing positions or substituting new positions for existing ones wherever possible.
- Review all proposed position changes in every budget in order to assure compliance with the agency's mission and Strategic Plan.

- Structure its workforce to ensure that customer service and utility operations are achieved effectively and efficiently, minimizing unplanned overtime, and maintaining the established level of service.
- Consider strategies to promote employee retention and succession planning by evaluating employee satisfaction with job content, compensation, and personnel processes.

Operating Cost Containment

To the extent that operating costs are determined by SFPUC management choices, the Commission shall limit operating cost increases, exclusive of debt services and pay-go capital investment, to not more that the cost of inflation. Any proposed budget that increases operating costs above this level will be supported by findings of necessity.

Social & Environmental Stewardship

The SFPUC has a stated policy of supporting the triple bottom line (TBL) form of performance measurement, evaluating the impact of projects beyond solely financial performance to include environmental as well as social impacts. Management shall report to the Commission on how the proposed budget and rates support TBL principles.

Establishment of Rates and Charges

Within industry standard ratemaking best practices, the SFPUC has significant flexibility to create rate structures that advance different policy goals. The SFPUC commits to designing rates in a manner that prioritizes the needs of ratepayers and aligns with the mission and values of the agency.

Tradeoffs are inherent in the development of rates and financial planning; it is rarely possible to achieve all goals. To ensure that decision-makers have properly assessed the impact of their recommendations, the SFPUC has identified the following principles to consider during the development of all proposed rates and charges:

Revenue Sufficiency

The Commission will aim to establish rates sufficient to cover the full cost of all SFPUC activities. Recovering sufficient revenue to fund the programs identified by the long-term plan is necessary to meet established level of service goals and comply with bond covenants, contract commitments, and adopted SFPUC and City policies.

Customer Equity

The Commission will establish rates based on cost of service in compliance with the San Francisco Charter and California Proposition 218. Cost of service based rates are an industry best practice to fairly allocate the cost of providing utility services between customer classes.

Environmental Sustainability

The Commission will aim to establish rates in a manner that values environmental sustainability and preserves the natural resources entrusted to the SFPUC's care. Rate structures that financially incentivize customers to conserve resources or reduce their demand on the SFPUC's system support this principle.

Affordability

The Commission will consider SFPUC service affordability for all its customers. Prudent operating and capital planning ties annual spending to system demand and intergenerational equity, enabling financial engineering and reducing costly emergency expenditures. Rate design should also consider the burden imposed by SFPUC bills on low-income customers.

Predictability

The Commission will aim to establish rates designed to minimize bill fluctuations, enabling ratepayers to plan ahead for their personal finances. Communicating to ratepayers well in advance of pending rate changes is important to prevent rate shock.

Simplicity

The Commission will aim to establish rates that are easy for ratepayers to understand. Simple rate structures also require fewer implementation and administration costs.

Tradeoffs

These principles sometimes compete with each other. For instance, customer equity may impede simplicity, environmental sustainability, or predictability. Rate structures that equitably distribute the cost of service often require more detail and complexity, which can hinder customers' ease of understanding, discourage measures to promote environmental sustainability, or inhibit the predictability of monthly bills. Some rate methodologies that promote conservation may be more challenged in meeting cost of service objectives, so the SFPUC will consider the principle of environmental sustainability alongside that of revenue sufficiency. Most of the SFPUC's costs (including debt service, operations and maintenance, and repair and replacement of aging infrastructure) do not vary based on consumption. With widespread customer conservation, rates tied solely to volumetric usage will impede revenue sufficiency.

The Commission endeavors to thoughtfully consider these inherent tradeoffs, and to transparently present the reasons for its decision-making.

Transparency

The above principles for prudent use of ratepayer funds and the establishment of rates and charges must be supported by a strong commitment to transparency. None of the Commission's work can be effectively carried out without the trust of its ratepayers. This requires open communication and engagement with the Commission, ratepayers, and other key stakeholders about the tradeoffs that are inevitably present in decision-making.

SFPUC management and staff recognize that it is their obligation to accurately collect and present to the Commission the input of a diverse and representative set of stakeholders in the financial planning, budgeting, and rate-setting processes. This includes the oversight provided by the Citizens' Advisory Committee, the Rate Fairness Board, the Revenue Bond Oversight Committee, the Board of Supervisors, and the Mayor's Office.

Mechanisms to communicate information on key decisions shall include: timely public meetings for budget and rate review; accurate, predictable communication of future rate changes, including average bill impact illustrations; and descriptions of both operating and capital costs to ensure that ratepayers know the component costs of their utility service and related programs. In addition, the SFPUC fosters transparency for ratepayers and the Commission through a range of publications that provide metrics and context regarding asset management, affordability, environmental sustainability, community engagement, cost containment, and levels of service. These include the annual Ten-Year Financial and Capital Plans, as well as independent cost of service studies as required by the city charter. With these metrics and stakeholder input, the Commission can ensure that it makes informed decisions that support the SFPUC's mission and values.

Adopted by Resolution 17-0198 on September 12, 2017

2017

Appendix E – Debt Management Policies and Procedures

SAN FRANCISO PUBLIC UTILITIES COMMISSION

DEBT MANAGEMENT POLICIES & PROCEDURES

San Francisco Water Power Sewer

Services of the San Francisco Public Utilities Commission

Commission adopted August 8, 2017

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APPENDICES FOR DEBT MANAGEMENT POLICIES AND PROCEDURES

1. OVERVIEW

1.1 Introduction

San Francisco Charter Section 8B.125 requires the San Francisco Public Utilities Commission (SFPUC or Commission) to exercise prudent financial stewardship of SFPUC assets by establishing "rates, fees and charges at levels sufficient to improve or maintain financial condition and bond ratings at or above levels equivalent to highly rated utilities of each enterprise under its jurisdiction, meet requirements and covenants under all bond resolutions and indentures, and provide sufficient resources for the continued financial health (including appropriate reserves), operation, maintenance and repair of each enterprise, consistent with good utility practice." To most effectively meet this requirement, the SFPUC will utilize financial policies that foster financial stability, support fiscal discipline, and maintain credit ratings at or above levels equivalent to highly rated utilities. Institutionalized policies signal to rating agencies and the capital markets that an entity is well managed and committed to prudent financial practices.

1.2 Background

The SFPUC's debt management mission is to serve, within the financial objectives and parameters established by the Commission, the capital financing needs of the respective enterprises in a cost-effective, risk-appropriate and flexible manner, through the implementation of sound financial decision-making and the use of prudent debt management practices.

1.2.1 Purpose

The SFPUC has established these Debt Management Policies and Procedures (Policies) for debt financings associated with the Water, Wastewater and Power Enterprises.[1] The purpose of these Policies is to provide SFPUC officials and staff a comprehensive guide to SFPUC's issuance and use of debt to fund capital projects or to refund/refinance/restructure outstanding debt. The Policies primarily address debt instruments/securities issued by the SFPUC in public and/or private bond markets. This is consistent with examples of debt policies of other comparable municipalities, Government Finance Officers Association (GFOA) best practices and rating agency guidelines.

These Policies shall govern the issuance and management of all bonds and other forms of indebtedness of the SFPUC, together with any credit, liquidity, or other security instruments and agreements that may be executed in connection with the issuance of bonds and other forms of indebtedness (Bonds). The Board of Supervisors may, in its sole discretion, approve Bonds that deviate from these Policies, upon the recommendation of the Chief Financial Officer (CFO). Notwithstanding anything in these Policies to the contrary, the failure of the SFPUC to comply with any provisions of these Policies shall not affect the authorization, validity or enforceability of any Bonds or other forms of indebtedness that are otherwise issued in accordance with law.

Further, these Policies are intended to comply with applicable regulatory requirements including California Government Code Section 8855 which requires any issuer of public debt to provide the California Debt Investment Advisory Commission (CDIAC) with

[1] The Policies shall apply to each SFPUC enterprise, unless otherwise noted.

certain reports and information related to the issuance of public debt. SB 1029, which went into effect on January 1, 2017, amends California Government Code Section 8855 and expands the additional reporting requirements related to the issuance of debt by a local agency. SB 1029 also requires issuers to certify before any debt is issued, and as part of its report of proposed debt issuance submitted to CDIAC, that it has adopted a local debt policy concerning the use of debt proceeds and that the debt policy includes the following:

- The purpose for which the debt proceeds may be used;
- The types of debt that may be issued (Appendix A);
- The relationship of the debt to and integration with the issuer's capital improvement program or budget;
- Policy goals related to the issuer's planning goals and objectives; and
- Internal control procedures that the issuer has implemented to ensure that the proceeds of the debt issuance will be directed to the intended use (Appendix D and Appendix E).

The SFPUC's Policies comply with the provisions of SB 1029.

1.2.2 Objectives

The aim of the established policies and procedures is to assist the SFPUC in furthering the following goals and objectives related to debt financing activities:

- Maintain cost-effective access to capital markets through prudent debt management policies and practices;
- Ensure that the SFPUC's debt is consistent with the SFPUC's long-term financial planning goals and objectives and capital improvement program or budget, as applicable;
- Finance significant capital acquisitions or improvements in a timely and cost-effective manner;
- Ensure that judicious debt service commitments are made through effective planning and cash management;
- Maintain the highest practical credit ratings to ensure efficient access to capital markets at the lowest prevailing interest rates;
- Support strong internal controls through support of bond oversight committees;
- Structure long-term financings to minimize transaction specific risk and total debt portfolio risk to the SFPUC;
- Maintain user friendly and publicly accessible electronic portal for the timely dissemination of material information concerning the financial condition of the SFPUC; and
- Promote financial sustainability by adhering to sound debt management practices that are consistent with the SFPUC's mission and guiding principles.

1.3 General Scope

The SFPUC shall issue debt solely for the purpose of financing the cost of environmental review, design, acquisition, and/or construction of the SFPUC's water, wastewater, and power system improvements or other improvements in accordance with the SFPUC's Capital Improvement Program or other Commission-approved needs or for the refunding of prior debt.

1.3.1 Permitted Debt

The SFPUC may issue both short-term and long-term debt to finance the acquisition and/or construction of capital improvements, unless otherwise decreed by court order or adjudicated settlement.[2] Debt financings are not to be used to fund SFPUC operating costs.

SFPUC revenue bonds are secured by a revenue pledge that enterprise rate-setting will generate net revenues sufficient to pay the principal of and interest on indebtedness, pursuant to the provisions of the respective enterprise Indenture.

The SFPUC may issue the following types of tax-exempt or taxable debt:

1. Long-Term Debt – securities that are generally structured where the amortization of the debt approaches the expected useful life of a long-lived asset. Long-term debt or bonds may be issued as fixed or variable rate debt.
2. Short-Term Debt – securities may take several forms, including notes, commercial paper, direct bank loans and other short-term products with either fixed or variable rates, that are secured by a pledge of net revenues that is subordinate in lien to the pledge of net revenues for senior lien revenue bonds. These products are designed to provide flexible, low-cost financing to meet the interim encumbrance and expenditure needs of capital projects.
3. Refunding bonds – issued to realize debt service savings, or for other debt restructuring purposes.
    a. Absent significant non-economic factors, refunding transactions must produce aggregate net present value debt service savings of at least 3% of the par value of the refunded bonds, calculated using the refunding issue's true interest cost (TIC) as the discount rate.
    b. Advance Refunding transactions in aggregate must also meet the 3% minimum debt service savings requirement as well as having a minimum 50% refunding efficiency. Refunding efficiency is defined as the ratio between the net present value savings and the refunding escrow negative arbitrage.
4. Other Types of Debt – The SFPUC may issue various types of debt as noted and may also utilize Green Bonds, State Revolving Fund Loans, and other federal bonds or loans that may be available (including Tax Credit Bonds, Build America Bonds and Water Infrastructure Finance and Innovation Act loans).

Additional details on each type of authorized debt are included in Appendix A.

[2] Pursuant to Proposition P, the Revenue Bond Oversight Committee (RBOC) has the authority to prohibit the SFPUC from issuing authorized public utility revenue bonds if it determines that revenue bond proceeds are being or have been expended for purposes not authorized by the authorizing bond resolution or otherwise amount to an illegal expenditure within the meaning of the law. See Section 4.2.4, "Oversight."

1.3.2 Professional Assistance

The SFPUC shall procure professional services as required to execute financing transactions and to advise on non-transaction related work. The Debt Manager shall have the authority to periodically select service providers as necessary to meet legal requirements and minimize costs. The SFPUC will maintain high standards of integrity in selecting professional service providers and conducting its debt management activities in a manner consistent with all applicable regulations as well as the City and County of San Francisco's Conflict of Interest Code. Such services, depending on the type of financing, may include financial advisory, underwriting, trustee, verification agent, escrow agent, arbitrage consulting, and special tax consulting. The City Attorney's Office shall be responsible for selection of bond counsel and for publicly issued debt, disclosure counsel. Additionally, the City Attorney's Office will be responsible for the selection of disclosure counsel in those circumstances where the City Attorney's Office determines it to be necessary or desirable to retain disclosure counsel to generally advise the SFPUC with respect to its obligations under state and federal securities laws. The goal in selecting service providers, whether through a competitive process or when appropriate, a sole-source selection, is to achieve an appropriate balance between service and cost. The roles and responsibilities of key professional consultants/advisors are further described in Section 1.4.3, "Financing Team."

1.4 Roles and Responsibilities

The primary responsibility for oversight of this Debt Policy shall lie with the Commission. The Debt Manager, acting on behalf of the CFO, shall be responsible for the administration and implementation of the Policy, day-to-day responsibility and the authority for structuring, implementing, and managing the SFPUC's debt program.

1.4.1 Debt Management

The Capital Finance Group will be responsible for managing and coordinating all activities related to the issuance and administration of debt, including the implementation of internal control procedures to ensure that the proceeds of debt will be directed to the intended use. The Debt Manager is the designated administrator of the Policy and is responsible for the oversight of the Capital Finance Group's debt-related undertakings. In this role, he or she has the authority to select the financing team, coordinate the administration and issuance of debt, communicate with the rating agencies, and fulfill the pre-issuance and post-issuance disclosure information. Responsibilities of the Debt Manager are summarized below.

- Provide for the issuance of SFPUC debt at the lowest possible cost and risk;
- Determine the available debt capacity of each Enterprise;
- Provide for the issuance of debt at appropriate intervals and in reasonable amounts as required to fund approved capital expenditures;
- Recommend to the SFPUC's Commission the method and manner of sale;
- Monitor opportunities to refund and recommend such refunding as appropriate to reduce costs or to achieve other policy objectives;
- Comply with all Internal Revenue Service (IRS), Municipal Securities Rulemaking Board (MSRB), and Securities and Exchange Commission (SEC) rules and regulations governing the issuance of debt;

- Maintain a current database with all outstanding SFPUC debt;
- Provide for the timely payment of principal and interest on all SFPUC debt;
- Comply with all terms and conditions and disclosure required by the legal documents governing the debt issued;
- Distribute to appropriate repositories information regarding the SFPUC's financial condition and affairs at such times and in the form required by law, regulation and general practice;
- Provide for the frequent distribution of pertinent information to the rating agencies;
- Provide for the ongoing management of bond proceed spending; and
- Apply and promote prudent fiscal practices.

A detailed operational overview of the SFPUC's debt issuance and administration process can be found in Appendix B and Appendix C.

1.4.2 Financing Team

The SFPUC must assemble a Financing Team that will provide advice and support for the best execution of each transaction. The following applies to members of the Financing Team:

1. May consist of multiple parties with distinct responsibilities and is generally comprised of both SFPUC staff and outside professional consultants. These outside professional consultants include:
    a. Financial Advisors – SFPUC shall utilize the services of independent financial advisors in connection with financing-related issues. The financial advisors shall be selected via a competitive Request for Proposals (RFP) process or via the City- wide approved pool of financial advisors, and the services to be provided shall be documented by contract. Compensation shall be capped. Financial advisors will not serve as underwriters on negotiated bond sales of the SFPUC.
    b. City Attorney's Office – SFPUC shall utilize the services of the City Attorney's Office when appropriate for legal support on financing-related matters to ensure all City and Charter requirements are fully met.
    c. Bond Counsel – SFPUC, with the City Attorney's Office recommendation, shall select bond counsel for each transaction. Bond counsel shall be responsible for developing the legal documents required for each transaction.
    d. Disclosure Counsel – SFPUC shall utilize the services of a disclosure counsel for each transaction, with the City Attorney's Office's recommendation. Disclosure counsel shall be responsible for assisting the SFPUC to prepare the Preliminary and Final Official Statements and any other disclosure documents.
    e. Underwriters – Such firms shall be solicited pursuant to a competitive RFP basis utilizing the Underwriter's Pool of the City's Office of Public Finance. Selection will be based on a formal, scored evaluation process.

f. Dealers, Auction Agents and Remarketing Agents – Such firms shall be selected on a competitive RFP basis and performance will be monitored regularly. SFPUC shall retain the right to replace any such firm with due notice at any time.

g. Trustees – Trustee shall be selected on a competitive RFP basis and have a combined capital and surplus of at least $50 million and be subject to supervision or examination by relevant Federal or State regulatory bodies.

h. Letter of credit, liquidity facility and direct loan providers – Selected via competitive RFP or from the City-wide pool of approved credit facility provider banks, or from banks who are HRC compliant, and subject to negotiations of its terms.

i. Investment agreement counterparties – Selected from pool approved by the Office of Public Finance, if one exists. If no pool exists, selected on the basis of a competitive bid process, with bidders subject to approval by the City's Human Rights Commission (HRC).

j. Arbitrage Rebate Consultant – Selected via competitive RFP process.

k. Independent pricing verification agent - Financial advisor not involved in transaction, engaged in negotiated transactions to provide independent pricing report and comparative sales details to reassure negotiated sale provided best possible pricing for the rate payers.

l. Other professional assistance may be secured as necessary or desirable.

2. The SFPUC will select members of the financing team through a competitive process. However, the SFPUC may also directly engage consultants on a case-by-case basis, if it is determined to be in the best interest of the SFPUC.

3. The SFPUC requires that its consultants and advisers provide objective advice and analysis, maintain the confidentiality of the SFPUC's financial plans, and be free from any conflicts of interest or violate any City contracting requirements.

All Financing Team Members will be required to provide full and complete disclosure, relative to agreements with other Financing Team members and outside parties. The extent of disclosure may vary depending on the nature of the transaction. However, in general terms, no agreements shall be permitted which could compromise the firm's ability to provide independent advice which is solely in the Commission's best interests or which could reasonably be perceived as a conflict of interest.

2. GOVERNING PRINCIPLES

2.1 Legal & Statutory Authority

In connection with the issuance and management of debt, the SFPUC shall comply with all legal requirements and conditions imposed by federal, state, and local law. The following section highlights key governing documents and certain debt limitations.

2.1.1 Governing Law

<u>Charter of the City and County of San Francisco</u> – The SFPUC has authority issue debt payable from revenues of the applicable enterprise pursuant to Section 8B.124 of the

Charter of the City (Charter), subject to approval by a two-thirds vote of the Board of Supervisors of the City (BOS). The SFPUC is authorized to issue revenue bonds without voter approval pursuant to Sections 9.107, 9.108 and 9.109 of the Charter.

All bonds and other forms of indebtedness of the SFPUC shall be issued in accordance with applicable provisions of the Charter and federal and state laws, rules and regulations.

Federal Tax Law - The SFPUC shall issue and manage debt in accordance with the limitations and constraints imposed by the Internal Revenue Code of 1986, as amended federal tax law, to maximize the eligibility for tax-exempt debt.

Securities Law - The SFPUC shall comply with the requirements of federal and state securities laws in offering SFPUC debt and the SFPUC shall comply with securities law requirements in providing ongoing disclosure to the securities markets.

2.1.2 Debt Financing Authorization

a. Charter

i. Section 8B.124 Revenue Bonds (Proposition E, approved by voters in November 2002): Authorizes the SFPUC to issue revenue bonds or other forms of indebtedness for the purpose of reconstructing, replacing, expanding, repairing or improving water facilities or clean water facilities when authorized by ordinance approved by a two-thirds vote of the BOS.

    Required Certification: Bonds issued against Prop E require the certification of a Qualified Independent Consultant that estimated net revenues of the applicable enterprise will sufficiently meet debt service coverage and other Indenture requirements, as well as certification from an Independent Engineer that the bond-financed projects meet utility standards.

ii. Section 9.110 Power Revenue Bond Election by Initiative (Proposition B, approved by voters November 2001): Subject to BOS approval, authorizes the issuance of up to $100 million in revenue bonds or other forms of indebtedness to finance solar energy, energy conservation, or renewable energy facilities and equipment.

iii. Section 9.110 Water Revenue Bond Election by Initiative (Proposition A, approved by voters November 2002): Subject to BOS approval, authorizes the SFPUC to issue up to $1.628 billion in revenue bonds or other forms of indebtedness to finance the acquisition and construction of improvements to the City's water system.

iv. Section 9.107(6) Water and Power Revenue Bonds: Authorizes the SFPUC to issue revenue bonds or other forms of indebtedness for the purpose of the reconstruction or replacement of existing water facilities or electric power facilities or combined water and power facilities when authorized by resolution approved by three-fourths vote of the BOS.

v. Section 9.107(8) Power Revenue Bonds (Proposition H, approved by voters November 2001): Authorizes the issuance of revenue bonds to finance or refinance the acquisition, construction, installation, equipping, improvement or rehabilitation of equipment or facilities for renewable energy and energy conservation.

vi. Section 9.109 Refunding Bonds: Authorizes the issuance of refunding bonds that achieve aggregate net debt service savings on a present value basis without voter approval. Refunding bonds must be approved by the Commission, and the Clerk of the BOS must be provided a report as more fully described in Section VI (e)(iii).

b. Short-Term Borrowing Authorization

i. Wastewater Enterprise $750 million Commercial Paper Program:

a. $150 million authorized by SFPUC Resolution No. 06-0164 and BOS Ordinance Nos. 266-06/270-06.

b. Authorization to increase Wastewater CP authorization from $150 million to $300 million (SFPUC Resolution No. 11-0197, BOS Ordinance No. 91-12).

c. Authorization to increase Wastewater CP authorization from $300 million to $500 million (SFPUC Resolution No. 14-0139, BOS Resolution No. 378-14).

d. Authorization to increase Wastewater CP authorization from $500 million to $750 million (SFPUC Resolution No. 17-0086, BOS Ordinance No. 193-17).

ii. Water Enterprise $500 million Commercial Paper Program

a. Authorization to issue up to $150 million (SFPUC Resolution No. 99-084 and BOS Ordinance No. 451-99).

b. Authorization to increase Water CP issuance from $150 million to $250 million (SFPUC Resolution No. 00-0234 and BOS Ordinance No. 953-00).

c. Authorization to increase Water CP issuance from $250 million to $500 million (SFPUC Resolution Nos. 08-0202/09-0175 and BOS Ordinance No. 311-08).

iii. Power Enterprise $90 million Commercial Paper Program

a. $90 million authorized by SFPUC Resolution No. 15-0183 and BOS Resolution No. 427-15.

c. San Francisco Administrative Code

i. Article V of Chapter 43 of Part I (Ordinance No. 203-98 adopted by BOS on June 8, 1998 and amended in December 2006): Establishes a procedure for the SFPUC to issue commercial paper.

ii. Appendix 54 Revenue Bonds (Proposition B, approved by voters November 2001): Subject to BOS approval, authorizes the issuance of up to $100 million in revenue bonds or other forms of indebtedness to finance solar energy, energy conservation, or renewable energy facilities and equipment.

2.1.3 Debt Financing Approval Process

a. Voter Authorization and Ballot Procedure – SFPUC may, pursuant to Charter Section 9.107, seek voter approval for revenue bond issuance. Prior to placing any measure on the ballot, the SFPUC must submit the item to the Capital Planning Committee (CPC) for its review. Legislation requesting the submission of a proposal for the issuance of revenue bonds to the voters of the City must be submitted in the form of a resolution by the SFPUC at a regularly scheduled BOS meeting in sufficient time prior to the due date to the Department of Elections to account for a 30-day review period at the BOS and BOS Finance Committee meetings.

b. Commission approval in the form of a resolution is required for all SFPUC debt financings.

c. Capital Planning Committee (CPC) – Pursuant to the City's Administrative Code Section 3.21, the CPC must review and submit a recommendation to the BOS on all proposed new long-term financing transactions for capital improvements. The SFPUC completes this CPC review during capital plan development.

d. Board of Supervisors – BOS approval in the form of a resolution or ordinance is required for SFPUC financings, as follows:

   i. If pursuant to voter-approved debt (e.g., Proposition A, Proposition B), a resolution passed by a majority of the BOS is required.

   ii. If pursuant to Charter Section 8B.124 (Proposition E), an ordinance passed by two-thirds vote of the BOS is required and is subject to referendum requirements of Charter Section 14.102.

   iii. BOS Budget Analyst Review – The BOS Budget Analyst prepares a report and recommendation for the BOS on any item submitted for consideration.

e. Pursuant to administrative code section 8B. 124, the following certifications are filed with the Clerk of the BOS:

   i. Certification by an independent engineer retained by the SFPUC that:

      a. Projects to be funded by the bonds, including the prioritization, cost estimates and scheduling, meet utility standards; and

      b. estimated net revenue after payment of operating and maintenance expenses will be sufficient to meet debt service coverage and other indenture or resolution requirements, including debt service on the bonds to be issued, and estimated repair and replacement costs.

   ii. Certification by the San Francisco Planning Department that facilitates under the jurisdiction of the Public Utilities Commission that projects funded with such bonds will comply with applicable requirements of the California Environmental Quality Act.

   iv. Pursuant to BOS Ordinances No. 111-16, 112-16, and 113-16, within 30 days of a new money or refunding bond issuance, the SFPUC must file with the Clerk of the BOS the following:

      a. New Money Bond Sale Report showing the results of the sale of the bonds, including (a) principal amount sold and method of sale, (b) true interest cost, (c) final maturity, (d) the facilities constructed and/or improved, and (e) a statement about the remaining bonding authorization under the applicable financing budget ordinance.

      b. Refunding Bond Savings Report prepared by the SFPUC's financial advisor that reflects at least a 3% net present value debt service savings, together with a copy of the final Official Statement for the refunding bonds.

f. Revenue Bond Oversight Committee (RBOC) may review anticipated bond sales in advance of the issuance of the proposed financing transaction, including details with respect to amount, timing, and purpose of the issuance (Sec. 5A.30-36, Proposition P, approved by voters, November 2002). RBOC is scheduled to sunset on January 1, 2019, pursuant to extension legislation (Ordinance No. 189-15) by the Board of Supervisors on December 4, 2015.

2.1.4 Limitations on Debt Issuance

The Commission has adopted financial policies and/or is subject to legal agreements and requirements that effectively limit the amount of debt that can be issued. These include:

A. Financial Policies

1. Fund Balance Reserve Policy

   Establishes a Fund Balance Reserve that totals a minimum of 90 days or 25% of Operations and Maintenance Expenses (including programmatic projects, and excluding debt service and revenue-funded capital) throughout the SFPUC's 10-Year Financial Plan forecast period (SFPUC Resolution No. 17-0044, approved February 28, 2017).

2. Debt Service Coverage Policy

   Imposes higher standards than the Bond's minimum indenture requirements in order to maintain access to low-cost capital and retain financial flexibility for contingencies (SFPUC Resolution No. 17-0060, approved March 28, 2017). For reach Enterprise, the SFPUC will adopt budgets, rates, and financial plans that generate revenues such that:

   - Indenture Coverage shall be at least 1.35x
   - Current Coverage shall be at least 1.10x

3. Capital Financing Policy

   Establishes a balanced mix of funding sources needed to maintain enterprise infrastructure in a state of good repair and fund ongoing maintenance and capital improvements. A minimum ranging between 15% and 30% of each Enterprise's capital budget will be paid for by current revenues (SFPUC Resolution No. 17-0061, approved March 28, 2017).

4. Rates Policy [3]

   Ensures accountability to ratepayers by establishing guiding principles around long-term financial planning and short-term rate design (SFPUC Resolution No. 12-0027, approved February 14, 2012).

5. Derivatives Policy

   Sets forth parameters and processes when evaluating feasibility of derivative products (Appendix F).

[3] Updated Rates Policy scheduled for Commission review in September 2017.

A complete list of these and other Commission adopted policies are accessible from the SFPUC's website at: http://www.sfwater.org/index.aspx?page=999. See appendices for separate policy documents.

B. Legal Covenants

1. Additional Bonds Test

   City Charter Section 8B.124 requires an independent certification that Indenture Coverage of 1.25 will be maintained for 3 years after issuance of additional bonds.

2. Debt Service Coverage Requirements

   Pursuant to SFPUC bond covenants entered into with bondholders, enterprise revenues pledged for the repayment of debt service must meet the following financial ratios.

   Indenture Coverage: Net Revenues must equal a minimum of 1.25 x annual debt service; calculated as follows:

$$\frac{(Annual\ Revenues - Operating\ Expenses) + Unappropriated\ Fund\ Balance}{Annual\ Debt\ Service}$$

   Current Coverage: Annual Revenues must equal a minimum of 1.00 x annual debt service; calculated as follows:

$$\frac{(Annual\ Revenues - Operating\ Expenses)}{Annual\ Debt\ Service}$$

2.2 Long-Range Financial Sustainability

The SFPUC is committed to long-term financial planning, maintaining appropriate reserve levels and employing prudent practices in governance, management and budget administration. Regularly updated debt Policies, in conjunction with the SFPUC's Capital Improvement Plan, the Ten-Year Financial Plan, the Capital Financing Policy and the Debt Service Coverage Policy, serve as important tools that support the use of SFPUC resources to meet its financial commitments to maintain sound financial management practices.

2.2.1 Capital Planning and Budgeting

The SFPUC's borrowing decisions in terms of timing, amount, structure and alternative products will be made in the context of the SFPUC's Capital Improvement Plan (CIP) and the SFPUC's Capital Budget. As the SFPUC's CIP is developed in the context of the SFPUC's Strategic Plan and 10-Year Financial Plan, borrowing decisions will be made in the appropriate strategic context to ensure that any proposed borrowing is directly supporting the goals and objectives of the SFPUC. While the CIP represents the unconstrained (i.e., unconstrained by available revenues) plan for the SFPUC, the Capital Budget expenditures are constrained based upon the amount of realistic revenues resulting in balanced budgets for all fiscal years to which they apply. Developing financing strategies in this context ensures that any proposed borrowing both supports the long-term goals of the SFPUC and its affordability from a budgetary perspective.

The SFPUC shall develop and maintain a capital finance model to evaluate the impact of capital program spending, operations and maintenance costs, and debt service on its financial condition. To that end, the Debt Manager, together with the Financial Planning Director, shall oversee the ongoing maintenance of quantitative modeling that includes, but is not limited to, the following:

- Historic and projected cash flows;
- Historic and projected capital expenditures;
- Historic and projected operating costs;
- Historic and projected fund balances, including the Operating Fund, the Wholesale Coverage Reserve Fund, Pay-As-You-Go Fund, Debt Proceeds Fund, and Debt Service Reserve Fund, if any;
- Historic and projected debt service coverage;
- The most efficient mix of funding sources (long-term debt; short-term debt, and cash);
- Projected revenue requirements; and
- Projected rates and charges.

3. TRANSACTION-SPECIFIC GUIDELINES

3.1 Method of Sale

The SFPUC may employ a variety of financing methods in order to sell bonds and enter into other debt agreements such as negotiated sales, competitive sales, direct loans, and other bilateral agreements. The SFPUC will determine, along with bond counsel and its financial advisor, the appropriate method of sale.

The SFPUC will adhere to all relevant federal tax regulations pertaining to the sale of bonds, including regulations related to the determination of issue price for the purposes of calculating arbitrage and any other arbitrage rules that apply to the sale of tax-exempt bonds. See Section 3.3 for a description of New Issue Price Regulations effective June 2017. The SFPUC will monitor federal tax law as it applies to arbitrage restrictions and maintain adequate records to comply with arbitrage reporting, rebate requirements and any other required documentation or certifications that pertain to the establishment of issue price or actual sale results. See Appendix C for additional details on the SFPUC's procedures to ensure compliance with the requirements for tax-exempt bonds.

a. General

   i. Marketing – Bond sales shall be advertised, and the Preliminary Official Statement be distributed, as broadly as possible and receive a rating from at least one nationally recognized rating agency, with two ratings preferred. The financial advisors and/or the underwriters, if applicable, for each transaction shall undertake to market the bonds to prospective bidders and investors as appropriate or relevant.

   ii. Amendments – Terms of the bonds shall be subject to amendment as late as practicable in the issuance process.

b. Competitive Sale – New money and refunding fixed rate revenue bonds should be issued by competitive sale unless (i) there is significant deterioration in the SFPUC's overall credit rating or outlook, (ii) there are market issues specific to a transaction that are outside of the SFPUC's credit profile such as significant market volatility, or changes in taxation or sector risks, (iii) there is a financing structure that is not conducive to a successful competitive sale, or (iv) there are other factors which mitigate or make the use of the competitive sale process less attractive or likely to ensure a successful sale with the lowest total borrowing costs. The SFPUC may take bids in person, by facsimile or by electronic means, which is the preferred approach.

   i. Cancellation – Bond sales shall be subject to cancellation at any time prior to the time bids are to be received.

   ii. Award – The bonds shall be awarded to the bidder whose conforming bid represents the lowest true interest cost (TIC) to the SFPUC. The SFPUC's financial advisor will confirm the calculation of the TIC before any bonds are awarded. The SFPUC's bond counsel will confirm that the bids conform to the requirements of the Notice of Sale. The SFPUC may then restructure the bonds in accordance with the Official Notice of Sale. The General Manager or his/her designee shall award the sale of SFPUC bonds.

   iii. Rejection - The SFPUC shall reserve the unfettered right to reject all bids or waive bid irregularities.

c. Negotiated Sale – Bonds, including fixed rate bonds, variable rate demand notes, put bonds, commercial paper, etc. may be issued by negotiated sale, at the discretion of the SFPUC General Manager, if deemed necessary for a successful offering. One or more underwriters may be selected by the SFPUC for a negotiated bond sale pursuant to a competitive RFP solicitation process or from the approved Underwriter Pool of the Controller's Office of Public Finance. An independent pricing verification agent should also be selected to assist the SFPUC in a negotiated sale to provide further ratepayer assurance of lowest cost borrowing success. The SFPUC may retain one or more remarketing agents for each issuance of variable rate or put bond debt, or one or more dealers for each enterprise's commercial paper program. The SFPUC shall reserve the right to replace a dealer or remarketing agent with notice at any time for any reason in its sole discretion.

   i. Independent Pricing Verification Agent-for each negotiated bond sale, the SFPUC will retain an Independent Pricing Verification Agent (IPA) to oversee the pricing process and provide a letter to the SFPUC certifying whether the pricing results were fair and reasonable to the SFPUC in light of prevailing market conditions. The IPA will be a firm separate and independent from the SFPUC's financial advisors on the transaction.

d. Private Placement –The General Manager may issue obligations by means of a private placement pursuant to a bond purchase contract and placed with an accredited investor in Rule 501(a) of Regulation D (or such other investor restrictions appropriate to the transaction), subject to the General Manager finding that such a sale method would result in a lower overall cost than would be achieved by selling bonds at a public sale.

3.2 Structural Elements

The following Standard Terms will apply to the SFPUC's transactions, as appropriate. Individual terms may change as dictated by the marketplace and/or by the unique characteristics of a given transaction.

a. Fixed Rate Revenue Bonds

1. Term: Up to 40 years per issue.
2. Maximum Interest Rate: Not to exceed 12% (statutory).
3. Maximum Premium or Discount: Case by case as recommended by SFPUC financial advisor(s).
4. Payment Dates:[4]
   - i. Water and Power Revenue Bonds: November 1 for annual principal and semi-annual interest; May 1 for semi- annual interest.
   - ii. Wastewater Revenue Bonds: October 1 for annual principal and semi-annual interest; April 1 for semi-annual interest.
   - iii. CWSRF Loans: Principal and interest paid annually on each December 31st.
   - iv. Power Tax Credit Bonds: December 15 for annual 2008 CREBs payments; December 15 and June 15 for semi-annual QECBs payments; April 25 and October 25 for semi-annual 2012 and 2015 NCREBs payments.
5. Call Provisions:
   - i. Shortest possible optional call consistent with optimal pricing and portfolio flexibility; no more than 30 days' notice.
   - ii. Make – Whole call or non-callable structures permitted if warranted by market conditions.
6. Structure of Debt: Level debt service unless an alternative structure is advantageous, such as deferral of principal so as to achieve level overall enterprise debt service – principal payments may be serial and/or term bonds.
7. Reserve Funds: The lesser of what is required, including no reserve requirement, pursuant to indenture requirements, and as governed by current tax law, or acceptable to the marketplace; surety or other credit instrument may also be used; assuming availability.
8. Capitalized Interest: Up to three years or such other lower amount as may be legally permissible and advantageous.
9. Good Faith Deposit: 1% of par amount, which may be satisfied by cash, surety or equivalent.

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[4] The first payment of any revenue bond issue may be extended beyond the first November or October after the bond sale, if it is advantageous.

10. Other, Federal, and State: Unique structures as appropriate such as federal subsidies or stimulus funding, as in the case of Build America Bonds, CREBs, NCREBs, and QECBs.

b. Variable Rate Obligations – The SFPUC may elect to issue variable rate obligations, including variable rate demand obligations, auction rate securities and commercial paper.

1. Purpose: Lower net borrowing costs; match assets to liabilities; diversify debt portfolio.
2. Portfolio allocation: No more than 25% of each enterprise's outstanding debt shall be variable rate.
3. Term: Up to 40 years per issue, except commercial paper which has a maximum maturity of 270 days.
4. Maximum interest rate: 12%
5. Budgeting: SFPUC will recommend an annual budget of debt service on any variable rate obligations at a minimum of 1.5 times the rolling 3-year average of the Securities Industry and Financial Markets Association municipal swap index, or other appropriate index over a similar period.
6. Monitoring: SFPUC will monitor all variable rate bonds on a regular basis and shall determine, from time to time, whether to change modes, alter hedging strategies and/or replace a dealer or remarketing agent.
7. Remarketing Inventory Obligation: SFPUC will actively manage the performance of remarketing agents, dealers or remarketing credit support providers and will retain the right to terminate or replace such arrangements at its sole discretion. SFPUC may also require a provision in agreements that the dealer or agent, in the event of a failed remarketing, inventory the securities, at prevailing interest rates, for up to 30 days.
8. Call/Conversion Provision: On any date without penalty; no more than 20 days' notice or the minimum period allowed by the Depository Trust Company (DTC).
9. Liquidity: A bank credit facility, in the form of either a liquidity facility or letter of credit, will be obtained for all long-term variable rate obligations as market conditions may require; Liquidity or letter of credit providers will maintain short-term ratings in the Tier 1 level of short-term ratings (P-1 and A-1 or higher). Banks with ratings below the Tier 1 category may be used, however such banks will only be limited to securing CP against which project contracts can be certified or encumbered, as opposed to actually issuing CP to fund projects.
10. Mode: Variable rate obligations, except for commercial paper, may be issued as "multi-modal."

3.3 New Issue Price Regulations

The SFPUC will comply with the IRS issue price regulations that are effective on June 7, 2017 (Issue Price Rules), and which apply to all tax-exempt bonds sold after such date. Under the Issue Price Rules, the bonds' price will be defined as the price that the bonds are sold to the public, versus determining the issue price using a reasonable expectation standard. The value of a bonds' price is used in determining the bonds' yield for IRS arbitrage compliance purposes. In advance of each bond sale, the SFPUC will work with its bond counsel and financial advisor to provide the necessary documentation, including underwriter certifications, notice of sale, and pricing wires, necessary to establish the issue price for such bond sale per the Issue Price Rules.

4. DISCLOSURE AND COMMUNICATION

4.1 Disclosure

Each publicly offered SFPUC debt issuance will meet the disclosure requirements of the Securities and Exchange Commission (SEC) and other government agencies before and after the bond sale takes place. Whether a document or other communication is a Disclosure Document (Disclosure Document), as defined under SEC Rule 15c2-12 (the Rule), shall be determined by SFPUC Officers and Staff in consultation with the City Attorney's Office and Disclosure Counsel. The SFPUC will endeavor to use best practices and uniform procedures, and attorneys, consultants, and other experts, as necessary, to ensure primary and secondary disclosure is timely and completed in full compliance with SEC regulations.

4.1.1 Primary Offering Disclosure

The Preliminary Official Statement (POS) (distributed to investors prior to the sale of the Bonds) and the Official Statement (OS) (delivered to purchasers once final terms have been determined) are prepared in order to provide a reasonable investor with the information necessary to make an informed investment decision. The OS describes the terms of the SFPUC's Bonds and the sources of repayment (i.e. water enterprise revenues, wastewater enterprise revenues or power enterprise revenues) for the Bonds and discloses information about the SFPUC and its operations and financial prospects germane to the ability of SFPUC to make timely payments of principal of and interest on the Bonds. The OS is not a "sales" document. The OS is the SFPUC's disclosure document and it is essential that the OS not contain material misstatements or omissions. Inadequate disclosure can result in the imposition of civil and criminal penalties, investor lawsuits and an inability to access the capital markets for additional financing.

Prior to the distribution of all primary disclosure documents, which are part of the bond offering documents (e.g. the POS and the OS), the substantially final drafts to be approved by the Commission will have been thoroughly and critically reviewed by SFPUC officers and staff (in consultation with the SFPUC's professional advisors, including Disclosure Counsel) to reflect the best and most current material information available at the time. The SFPUC will also provide ongoing disclosure in accordance with continuing disclosure requirements set forth in Appendix C.

4.1.2 Ongoing (Continuing) Disclosure

Continuing disclosure information is intended to reflect the financial or operating condition of an issuer as it changes over time, as well as specific events occurring after issuance, that can have an impact on both the ability to pay amounts owed and the market value of the Bonds if bought or sold prior to maturity. Pursuant to SEC Rule

15c2-12 (the Rule), each new publicly-offered debt issuance will require a written agreement (which the SFPUC refers to as a “continuing disclosure certificate” or CDC), between the SFPUC and the original purchaser/underwriter for the benefit of holders of municipal securities, to provide certain annual financial information (Annual Disclosure Reports) and material event notices to the public. In accordance with changes made in 2009 to the Rule, those filings must be made electronically at the Municipal Securities Rulemaking Board’s (MSRB) Electronic Municipal Market Access (EMMA) web dissemination portal (www.emma.msrb.org). The SFPUC currently has outstanding publicly-offered debt for its Water, Wastewater and Power Enterprises, with each enterprise’s debt being subject to the Rule, and thereby having its own CDCs. The SFPUC’s continuing disclosure requirements are summarized in Appendix C.

4.1.3 Voluntary Disclosure

Although the Rule prescribes certain annual information and event-based disclosures that must be filed, issuers may determine that additional information would be of interest to investors. To this end, the SFPUC may choose to voluntarily disclose other information to the MSRB that goes beyond the requirements of the Rule. This information may include, but is not limited to, items such as monthly financial reports, updates on issues that could affect the SFPUC’s budgetary, financial, or economic position, annual/biennial budgets, and changes in rating outlooks.

4.1.4 Other Disclosure

In addition to continuing disclosure requirements as undertaken pursuant to the SFPUC’s CDCs, the SFPUC also has certain disclosure obligations vis-à-vis specific agreements with certain debt issuance-related entities. These entities include the bond rating agencies, trustee bank, insurers, credit facility providers, commercial paper dealers, private placement lenders and others. At such time that the SFPUC no longer has an agreement with such an entity (i.e. through expiration or termination of the agreements), the disclosure requirements with that entity ends.

4.1.5 Training

As part of the primary disclosure process, disclosure training shall be conducted on a regular basis or just prior to a new publically-offered bond sale. In coordination with Disclosure Counsel and the City Attorney’s Office, formal disclosure training shall be provided to enterprise project managers/engineers and senior management. On a regular basis, disclosure training shall also be conducted with members of the Commission, the SFPUC’s direct governing body. In addition, when a new bond sale is brought to the Commission for approval, the Commission shall be provided with a summary of key disclosure items related to the bond sale. This shall assist Commissioners in understanding their responsibilities with respect to Disclosure Documents.

4.2 Communication

4.2.1 Rating Agencies

The SFPUC shall maintain its strong ratings through prudent fiscal management and consistent communications with the ratings analysts. The Debt Manager shall manage relationships with the rating analysts assigned to the SFPUC’s credit, using both formal and informal methods to disseminate information. Communication with the rating agencies shall include:

i. Formal Meetings: The SFPUC will meet (or formally communicate) with credit rating agencies, preceding a new debt issuance, or, at least annually unless such meeting is deemed unnecessary by the rating agencies. The meeting(s) will cover economic, financial, operational, and other issues that impact the SFPUC's credit.

ii. Reporting: The SFPUC will promptly make Annual Audited Financial Statements, Adopted Budgets, and other relevant documents available to rating agency personnel.

iii. Citywide Ratings Notification: Any changes in ratings will be promptly noticed to the Commission, the Mayor, the Office of Public Finance, the Mayor's Budget Director and Press Secretary, the City Controller, City Treasurer, President of the Board of Supervisors, Chair of the Finance Committee of the Board of Supervisors, as relevant.

4.2.2 Underwriters

SEC Rule 15c2-12 requires underwriters, in a negotiated sale, to review issuers' official statements before underwriting municipal bonds and to reasonably determine that the issuer has contracted to disclose annual financial and operating information, as well as material event notices. In advance of circulating the Official Statement for a negotiated sale, the SFPUC will participate in a "due diligence" meeting with the underwriters and their counsel to address any questions they may have related to the SFPUC's financial condition and operations. In the case of a competitive sale, the SFPUC will similarly participate in a "due diligence" meeting conducted by disclosure counsel.

4.2.3 Investors

Retail, Professional Retail and Institutional investors purchase SFPUC bonds. While both classes of investors rely on the formal credit ratings, Institutional investors generally do an independent review and approval of SFPUC's credit before making an investment decision. Information is critical for these investor classes and, in addition to providing a POS to the Underwriters, the SFPUC will endeavor to establish and maintain an Investor Relations Program in order to achieve the lowest cost of finance for a transaction, maintain a diversified investor base and keep investors continually informed of the SFPUC's current financial and operational position.

The SFPUC shall use disclosure as a tool for developing ongoing dialogue with investors. Communication with investors may consist of the following elements:

i. Disclosure Reports – The SFPUC shall make disclosure reports readily available to key stakeholders, Investors, and the Rating Agencies.

ii. Website – The SFPUC shall use its website as a tool for providing timely information to investors.

iii. Marketing Campaigns – To reach certain Professional Retail and Institutional investors, the SFPUC can conduct marketing outreach campaigns for each transaction. The campaigns might include print and online advertising and radio ads, face-to-face meetings or internet road shows (eg. NetRoadShow).

iv. Investor Conferences – From time to time, the SFPUC will attend industry investor conferences to make presentations to investors and/or to conduct direct one-on-one meetings with investors attending the conference.

4.2.4 Oversight

The Public Utilities Revenue Bond Oversight Committee (RBOC) provides oversight to ensure that the proceeds from revenue bonds authorized by the BOS and/or the voters after November 2002 are expended in accordance with the authorizing bond resolution and applicable law (Administrative Code Chapter 5A and Proposition P, passed by voters in November 2002).

i. Reports at least annually to the Mayor, the BOS and the Commission regarding the SFPUC's expenditure of revenue bond proceeds. Such reports are filed with the Commission, the Clerk of the BOS and the Main Library.

ii. May prohibit further issuance or sale of authorized revenue bonds, pursuant to:

   a. Independent audit of actual expenditures of revenue bond proceeds.
   b. Consultation with the City Attorney.
   c. Determination that proceeds are being or have been expended for unauthorized or illegal purposes.
   d. Majority vote of all its members.[5]

iii. SFPUC will provide notice to the RBOC in advance of the issuance of a proposed financing transaction, including details with respect to the amount, timing, and purpose of the issuance.

iv. To the extent permitted by law, one-twentieth of one percent of new money revenue bond precedes fund the costs of the RBOC.

5. ONGOING DEBT ADMINISTRATION

5.1 Financial Disclosure Compliance

5.1.1 SEC Rule 15c2-12

The SFPUC will meet secondary disclosure requirements in a timely and comprehensive manner, as stipulated by the SEC Rule 15c2-12. Debt Manager shall be responsible for providing ongoing disclosure information to the Municipal Securities Rulemaking Board's (MSRB's) Electronic Municipal Market Access (EMMA) system, the central depository designated by the SEC for ongoing disclosures by municipal issuers. The Debt Manager is responsible for maintaining compliance with disclosure standards promulgated by state and national regulatory bodies, including the Government Accounting Standards Board (GASB), the National Federation of Municipal Analysts, the Securities and Exchange Commission (SEC), and Generally Accepted Accounting Principles (GAAP). The SFPUC may also employ the services of firms that improve the availability of or supplement the SFPUC's EMMA filings.

[5] Determination may be appealed to the BOS within 30 days of the RBOC's decision. BOS may overturn the decision of the RBOC by resolution approved by two-thirds vote of all its members.

The SFPUC will provide full and complete financial disclosure to rating agencies, institutional and individual investors, other levels of government, and the general public to share clear, comprehensible, and accurate financial information using the appropriate channels/policies/procedures.

All disclosure information shall be reviewed and approved by the CFO. Appendix C provides a summary of the SFPUC's continuing disclosure requirements.

5.1.2 Compliance with Other Bond Covenants

In addition to financial disclosure and arbitrage compliance (discussed below), once the bonds are issued, the SFPUC is responsible for verifying compliance with all undertakings, covenants, and agreements of each bond issuance on an ongoing basis. This typically includes ensuring:

- Annual appropriation of revenues to meet debt service payments
- Taxes/fees are levied and collected where applicable
- Timely transfer of debt service/rental payments to the trustee or paying agent
- Compliance with insurance requirements
- Compliance with rate covenants where applicable
- Compliance with all other bond covenants

Capital Financing staff, under the direction of the Debt Manager, will coordinate verification of covenant compliance and will work with the City Attorney's Office, Disclosure Counsel and all other responsible departments to monitor compliance with the aforementioned compliance requirements.

5.2 Post-Issuance Tax Compliance

5.2.1 IRS Tax Compliance

1. Arbitrage Liability Management

   The SFPUC shall minimize the cost of arbitrage rebate and yield restrictions while strictly complying with tax law. Because of the complexity of arbitrage rebate regulations and the severity of non-compliance penalties, the SFPUC shall solicit the advice of bond counsel and other qualified experts about arbitrage rebate calculations. The SFPUC will engage a qualified third-party for the preparation of the arbitrage rebate calculation.

   The SFPUC will be responsible for monitoring the use of bond proceeds and investment earnings to ensure compliance with any covenants or restrictions established in connection with issued bonds. The expenditure of bond proceeds shall be tracked in the financial accounting system by issue. All investments of bond proceeds shall adhere to the City's Investment Policy approved periodically by the Treasury Oversight Committee. Further, the SFPUC will maintain copies of all relevant and material documentation related to all issued bonds and bond proceeds as described below under "Record Keeping Requirements."

2. Use of Bond Proceeds and Bond-Financed or Refinanced Assets

   The Debt Manager, in accordance with the Fixed Assets Supervisor and the Controller's Office, shall be responsible for:

i. Monitoring the use of Bond proceeds and the use of Bond-financed or refinanced assets (e.g., facilities, furnishings or equipment) throughout the term of the Bonds to ensure compliance with covenants and restrictions set forth in any tax agreement relating to the Bonds;

ii. Maintaining records identifying the assets or portion of assets that are financed or refinanced with proceeds of each issue of Bonds, including a final allocation of Bond proceeds as described below under "Record Keeping Requirements";

iii. Consulting with bond counsel and other legal counsel and advisers in the review of any contracts or arrangements involving use of Bond-financed or refinanced assets to ensure compliance with all covenants and restrictions set forth in the Tax Agreement relating to the Bonds;

iv. Maintaining records for any contracts or arrangements involving the use of Bond-financed or refinanced assets as described below under "Record Keeping Requirements";

v. Conferring at least annually with personnel responsible for Bond-financed or refinanced assets to identify and discussing any existing or planned use of Bond-financed or refinanced assets, to ensure that those uses are consistent with all covenants and restrictions set forth in the Tax Agreement relating to the Bonds; and

vi. To the extent that the SFPUC discovers that any applicable tax restrictions regarding use of Bond proceeds and Bond-financed or refinanced assets will or may be violated, consulting promptly with bond counsel and other legal counsel and advisers to determine a course of action to remediate all nonqualified bonds, if such counsel advises that a remedial action is necessary.

The SFPUC has adopted written post-Issuance Tax Compliance Procedures for Tax-Exempt Bonds found in Appendix D and Direct Pay Bond Compliance Procedures found in Appendix E. The SFPUC shall comply with such procedures to maintain the tax-exempt status of the SFPUC's debt obligations or to maintain eligibility for direct pay subsidy payments, as applicable.

5.2.2 Other IRS Compliance

1. Record Keeping

The Debt Manager, in coordination with the Record's Keeping Manager, shall be responsible shall be responsible for maintaining the following documents for the term of each issue of Bonds (including refunding Bonds, if any) plus at least three years:

i. A copy of the Bond closing transcript(s) and other relevant documentation delivered to the City at or in connection with closing of the issue of Bonds, including any elections made by the City in connection therewith;

ii. A copy of all material documents relating to capital expenditures financed or refinanced by Bond proceeds, including (without limitation) construction contracts, purchase orders, invoices, trustee requisitions and payment records, draw requests for Bond proceeds and evidence as to the amount and date for each draw down of Bond proceeds, as well as documents relating to costs paid or reimbursed with Bond proceeds and records identifying the assets or portion of assets that are financed or refinanced with Bond proceeds, including a final allocation of Bond proceeds;

iii. A copy of all contracts and arrangements involving the use of Bond-financed or refinanced assets; and

iv. A copy of all records of investments, investment agreements, arbitrage reports and underlying documents, including trustee statements, in connection with any investment agreements, and copies of all bidding documents, if any.

Appendix A

SFPUC Types of Authorized Debt

San Francisco Public Utilities Commission
Types of Authorized Debt

i. Fixed rate bonds - long-term securities with serial and term maturities, including put-bonds. Interest rates are determined when the bonds are sold and are fixed to maturity.

ii. Fixed rate notes - securities with short-term maturities (i.e. 1 to 5 years). Interest rates are determined when the notes are sold and fixed to maturity.

iii. Variable rate bonds - long-term securities that do not bear a fixed interest rate to maturity, but instead bear rates adjusted at agreed upon intervals, such as daily, weekly or monthly. The holder of the variable rate security may be allowed to "put" the security to the SFPUC or to a bank credit facility provider retained by the SFPUC.

iv. Commercial paper - short-term (1-270 days) security with fixed interest rates set depending on the term of the commercial paper within the 270- day period. Customarily, commercial paper is secured by a pledge of net revenues that is subordinate in lien to the pledge of net revenues for senior lien revenue bonds. In order to further secure and have market access for the commercial paper, some form of credit facility, such as a letter or line of credit or a liquidity facility, must be obtained from a high-grade bank. Commercial paper is designed to provide flexible, low-cost financing to meet the interim encumbrance and expenditure needs of capital projects. Commercial paper is typically refunded with the issuance of long-term indebtedness.

v. Direct Bank Loans – short-term security with interest rates based off a floating index (i.e. 1-Month LIBOR) plus a predetermined spread to the index. The SFPUC can make direct draws from the bank for a period determined by the SFPUC. Direct bank loans have fees based off of utilized and unutilized amounts of the facility.

vi. Green Bonds - issued for any enterprise to fund qualified projects that have environmental and/or climate change mitigation or adaptation benefits. Proceeds from these bonds are earmarked for sustainability oriented green projects and allow investors to invest directly in bonds which finance environmentally beneficial projects. The SFPUC will comply with the following when issuing Green Bonds:

1. For each issuance of Green Bonds, the SFPUC will make a determination whether to self-certify the Bonds, or retain an independent consultant to certify the Bonds.

2. The SFPUC will only issue Green Bonds if, during the life of the Bonds, they in no way impede or restrict the ability of the issuing enterprise to use the Green Bond-funded projects for other future business purposes that are not in keeping with "Green Bond" principles.

3. The SFPUC will annually report on its website the status of spending of Green Bond proceeds during the construction period of the funded projects.

4. The SFPUC will conform with established Green Bond international standards as they develop, such as the recently-established Water Climate Bonds Standard.

vii. State Revolving Fund (SRF) Loans–

5. Managed by the California State Water Resources Control Board, Clean Water SRF loans provide alternative capital financing for certain facilities of the Wastewater Enterprise and certain Water Enterprise Recycled Water projects. The SFPUC will not enter into SRF loans with lien status senior to outstanding senior lien Wastewater Revenue Bonds.

6. Managed by the California State Water Resources Control Board, Drinking Water SRF loans provide alternative capital financing for certain facilities of the Water Enterprise. The SFPUC will not consider entering into SRF loans with lien status senior to outstanding senior lien water revenue bonds.

viii. Tax Credit Bonds

7. Clean Renewable Energy bonds (CREBs) – no- or low-interest bonds administered by the Federal government to finance renewable energy projects of the Power Enterprise. CREBs are part of the 2009 American Reinvestment and Recovery Act (ARRA) legislation designed to stimulate state and local government capital project construction and improvements.

8. Qualified Energy Conservation Bonds (QECBs) – also part of 2009 ARRA, this program authorized local communities to use some or all of their QECB allotment for funding municipal solar and energy efficiency projects, including capital expenditures of the Power Enterprise that reduce energy consumption on publicly-owned buildings by at least 20%, and implementing green community programs.

9. New Clean Renewable Energy Bonds (NCREBs) - established by Congress as part of the Energy Improvement and Extension Act of 2008 and capped at $2.4 billion by ARRA. These tax credit bonds allow certain issuers to receive subsidies, in the form of reimbursements, from the federal government when financing qualified renewable energy facilities.

ix. Build America Bonds (BABs) – also part of the 2009 ARRA, this program allows state and local governments to issue taxable bonds for capital projects and to receive a new direct federal subsidy payment for a portion of their borrowing costs. The SFPUC issued several BABs for the Water and Wastewater Enterprises in 2010. Federal authorization for this program expired on December 31, 2010.

x. Capital Lease Financing – equipment or facility lease financing as allowed by the Charter and Administration code.

Appendix B

SFPUC Debt Administration & Accounting Process Overview

San Francisco Public Utilities Commission

Debt Administration & Accounting Process Overview

OBJECTIVE

- Provide an operational overview of the SFPUC debt issuance and administration process;
- Describe compliance procedures for legal and regulatory requirements; and
- Describe accounting procedures and the work groups responsible to record debt issues and the repayment of principal and interest.

SECTION ONE: BACKGROUND

I. The SFPUC's Debt Group has established SFPUC Debt policies and procedures to:

A. Manage debt effectively;
B. Finance capital projects for the SFPUC enterprises in a timely and cost-effective manner;
C. Achieve and maintain high credit ratings;
D. Retain financial flexibility;
E. Maintain compliance with the City's policies and procedures, relevant laws, regulations, and disclosure requirements.

II. Authorization

A. Legal authorization for debt is provided by the City Charter, Section 9.107(6) Revenue Bonds (Proposition A in November 2002), Section 9.107(8) Revenue Bonds (Proposition H in November 2001), and Section 8B.124 Revenue Bonds (Proposition E in November 2002). All Propositions were passed by the voters of the City and County of San Francisco.
B. The Commission approves all debt financings.
C. The Capital Planning Committee (CPC) and the Mayor's Budget Office review proposed debt issues prior to Board of Supervisors (BOS) approval.
D. The Revenue Bond Oversight Committee (RBOC) also must review anticipated bond sales prior to issue as well as perform audits of bond proceeds spending.

III. The SFPUC issues debt for purposes of financing or refinancing the acquisition and/or construction of capital improvements. Debt financings are not to be used for operating costs. Types of debt that may be issued are further described in SFPUC Debt Management Policies and Procedures, as approved by the Commission in August 2017, and include the following:

A. Fixed rate bonds;
   1. Revenue Bonds (tax exempt, taxable Build America Bonds (BABs), Green Bonds, etc.)

2. Refunding

B. Variable Rate Bonds and Notes;
C. Commercial Paper (tax exempt, taxable, and Alternative Minimum Tax AMT);
D. Loans (State Revolving Loans (SRFs), California Energy Commission (CEC), etc.);
E. Federal Subsidy Financings;
   1. Clean Renewable Energy Bonds (CREBs)
   2. New Clean Renewable Energy Bonds (NCREBs)
   3. Qualified Energy Conservation Bonds (QECBs)
F. Certificates of Participation (COPs); and
G. Capital Lease Financing.

IV. The amount and purpose of the debt is determined through the annual budgeting process and the 10-year Capital and Financial Plans.

V. Policies & Procedures

A. A complete copy of the SFPUC Debt Management Policies and Procedures is located at:

   http://www.sfwater.org/modules/showdocument.aspx?documentid=9819

B. When the City issues debt for SFPUC projects, the City's Debt Policy (refer to Section 11) may be applicable, and is located at:

   http://sfcontroller.org/sites/default/files/Documents/AOSD/CON%20Accounting%20Policies%20%20Procedures%202016-09-01%20FINAL.pdf

SECTION TWO: TRUST INDENTURE

I. Revenue bonds issuance is subject to the provisions of a Trust Indenture, or a similar agreement, for the protection of the bondholders, which may require certain proceeds to be held in trust by a Trustee. The SFPUC has trustee agreements with US Bank dated on August 01, 2002 for the Water Enterprise, January 01, 2003 for the Wastewater Enterprise, and May 01, 2015 for the Power Enterprise.

II. Bond proceeds may be held by the Trustee or the City (CCSF) Treasurer as required. Proceeds are invested pursuant to the Trust Indenture, SFPUC, and CCSF investment and debt management policies.

III. The Trustee sets up funds pursuant to the respective Trust Indenture which are separately accounted for by bond issue and enterprise, and typically include the following fund types:

A. Principal;
B. Interest;
C. Debt Service Reserve;
D. Capitalized Interest;
E. Arbitrage Rebate;
F. Revenue;

G. Cost of Issuance;
H. Escrow;
I. COP & COT Working Capital.

IV. Trustee duties include:

A. Providing a monthly accounting for each bond series and fund;
B. Collecting funds from the SFPUC to hold for purposes of paying principal and interest when due;
C. Investing idle funds;
D. Monitoring compliance with the Trust Indentures;
E. Paying the required principal and interest amounts when due to the Fiscal Agent pursuant to the Official Statements, Trust Indenture, and other bond issuance documents. The Fiscal Agent makes the payments to the bond holders.
F. Filing Agent for Build America Bonds for semi-annual subsidy payment requests to the Treasury and receiving those funds on the SFPUC's behalf.

SECTION THREE – ACCOUNTING FOR DEBT

Table of Key Personnel

Title	Responsibilities
Controller's Office, Office of Public Finance (OPF)	▪ Manages the debt issuance process when the City's Office of Public Finance issues debt for SFPUC projects
Controller's Office	▪ Assists SFPUC in administrative set-up of funds, chart fields and accounts in PeopleSoft for new issuances ▪ Approves journal entries relating to recording debt issues, transfer of funds to the trustee, and other debt related accounts transactions
Debt Manager	▪ Primary contact for debt issuance, trustees, financial advisors, rating agencies, investors, and underwriters ▪ Maintains master schedule for debt instruments ▪ Manages arbitrage rebate analysis and reporting ▪ Manages continuing disclosure requirements ▪ Manages all legal settlements and payouts utilizing bond proceeds ▪ Approves and coordinates all capital finance budgeting and long term financial planning issues related to debt ▪ Responsible for debt service budget and coordinates with Budget Director operating fund transfers and related appropriation to debt services funds in accordance with approved budget ▪ Approves all payments to lawyers, financial advisors, underwriters, trustees, credit banks, and all other suppliers, etc.

Table of Key Personnel	
Debt Analyst/ Senior Debt Analyst	▪ Compares invoices from Trustee with debt schedules ▪ Prepares disclosure reports ▪ Ensures and submits Bond Compliance requirements are met ▪ Ensures debt transfers are sufficient to meet debt service requirements ▪ Ensures debt transfers and payments are made in accordance with the approved budget. Responsible for tracking Budgetary Savings/Overages related to debt issues and/or payments ▪ Prepares all debt financing costs and Debt Manager review and approval ▪ Ensures all debt service payment requests are approved at least 10 business days in advance of debt payment date unless first time debt payment which require 15 business days in advance ▪ Responsible for providing HRC waivers for non-compliant suppliers ▪ Prepares cost of issuance analysis and/or projections
Accountant IV – Reconciliation and Financial Reporting	▪ Submits completed set up forms requesting new funds, chart fields, and accounts approved by Debt Manager/ Debt Analyst to the Controller's Office ▪ Prepares journal entries for new issuance ▪ Calculates refunding gain/loss for refunded bonds ▪ Prepares Debt Service Coverage compliance schedules
Accounting Services Manager	▪ Reviews amortization schedules for debt repayment, bond discount or premium, prepaid insurance and refunding gain or loss
Capital Projects Accounting Manager	▪ Monitors debt repayments ▪ Reviews various Debt schedules
Accountant IV – Capital Projects Accounting	▪ Monitors debt service payments for accuracy and timeliness ▪ Reviews and approves journal entries

Table of Key Personnel	
Accountant III – Capital Projects Accounting	▪ Upon receipt of transfer requests, moves appropriations from operating fund to debt service fund ▪ Processes journal entries for debt service payments
Accountant IV - Fixed Assets & Debt Accounting	▪ Reviews annual debt schedules and reconciliations ▪ Approves journal entries
Accountant III – Fixed Assets & Debt Accounting	▪ Prepares monthly reconciliation of trustee statements to PeopleSoft ▪ Prepares quarterly and annual debt related schedules and entries to PeopleSoft ▪ Prepares journal entries in PeopleSoft for activity in trustee funds; interest accruals; amortization of bond discount or premium, prepaid insurance, and refunding gains or losses

I. Long Term Debt

A. Types of Authorized Debt
   1. Revenue Bonds (tax exempt, taxable, variable, refunding);
   2. Green Bonds (projects must meet eligibility requirements);
   3. Loans (State Revolving Fund (SRF); California Energy Commission (CEC); Environmental Protection Agency (EPA), Water Infrastructure Finance and Innovation (WIFIA); etc.);
   4. Tax Credit Bonds (Clean Renewable Energy Bonds (CREBs), New Clean Renewable Energy Bonds (NCREBs), Qualified Energy Conservation Bonds (QECBs); etc.);
   5. Build America Bonds (BABs); and
   6. Capital Lease Financings (Certificates of Participation (COPs));

B. Prior to bond issuance
   1. Debt Manager
      a) Schedules a meeting with Budget, Reconciliation and Financial Reporting (RAFR), and Accounting Services at least a month before the issue date.
      b) Provides copies of the draft/proposed following documents to the Accounting Services Manager, Fixed Assets & Debt Accounting Supervisor, and RAFR Manager at least a month before the issue date:
         i) Preliminary Official Statement (POS);
         ii) SFPUC Commission Resolution; and
         iii) City Board of Supervisors Ordinance/Resolution.
      c) Provides the City Treasurer with
         i) Details (i.e., amount and date) for the expected wire transfer from the Trustee; and
         ii) Draw Schedule for the expected spend down of proceeds.
      d) Completes set up forms for the RAFR team for set up of funds, and accounts.
      e) Provides Project code for monthly interest allocation to RAFR.

2. RAFR Accountant IV of the Enterprise ensures funds and accounts are established 5 business days in advance of the issue date.
3. RAFR Accountant IV of the Enterprise informs Accounting Services Manager, Accounting Operations Manager, Cash Receipts Supervisor, Fixed Assets & Debt Accounting Supervisor, and Debt Manager after set up of funds and accounts by the Controller's Office in the Accounting System.

C. Post Bond Issuance
   1. Debt Manager provides links in Finance folder of the following documents from the bond issuance to the Accounting Services Manager, RAFR Manager/Supervisor, Capital Projects Accounting Manager; Fixed Assets & Debt Accounting Supervisor and Accountant III for Fixed Assets Group:
      a) Official Statement (OS);
      b) Closing flow of funds memo;
      c) Trust Indenture;
      d) Cost of issuance scheduling;
      e) Bond Pricing report prepared by the Financial Advisor; and
      f) Debt amortization schedule and periodic updates to it.
   2. Enterprise RAFR Accountant IV prepares journal entries to record the debt proceeds, spent cost of issuances as an expense, unspent cost of issuances as cash with fiscal agent, premiums or discounts, prepaid insurance and gain or loss for refunding. Posting of debt proceeds in PeopleSoft is to be completed within two weeks of receiving the debt proceeds. The entry is reviewed and approved by:
      a) Secondary reviewer following typical approval path; and
      b) Controller's Office through the PeopleSoft approval path.
   3. Given index codes and sub-object codes provided by Debt Manager 10 business days before issue date, Cash Receipts Supervisor with the Accounting Operations Group prepares an entry to record the cash receipt on the day that the wire transfer is made. The entry is to be recorded within 24 hours after debt is issued and reviewed and approved by:
      a) Accounting Operations Manager and Accounting Services Manager; and
      b) Controller's Office through the PeopleSoft approval path.
   4. After journal entries are approved by the Controller's Office, an email should be sent by Accounting Operations Manager to Accounting Services Manager.
   5. The Debt Manager, within 30 days of the closing of any Enterprise Bonds refunding, shall provide a saving report (that reflects at least a 3% net present value savings for ratepayers) to the Board of Supervisors together with a copy of the final Official Statement. The Refunding Bonds shall be subject to the following further conditions, that:
      a) Ordinance No. 112-16, adopted by the Board of Supervisors on June 14, 2016, authorizes the Commission to issue refunding bonds and other forms of indebtedness, without limitation as to the principal amount, provided that each such refunding bonds are permitted under the applicable policies and procedures of the City and authorized by either Section 9.109 of the Charter or Proposition E.

D. Cost of Issuance Close Out

1. Accountant III – Fixed Assets obtains from the Debt Analyst the latest cost of issuance amount within 1 month receiving debt proceeds and final changes to cost of issuance are obtained subsequently.
2. Debt Analyst
   a) Reviews and informs the fiscal agent to close out the cost of issuance accounts according to the Debt Indenture.
   b) Sends an email notification to Fixed Assets & Debt Accounting Supervisor, Accounting Services Manager, and RAFR Manager/Supervisor after closing out the cost of issuance accounts.
   c) Per GASB 65 Debt costs of issuance are expensed as incurred rather than amortized beginning 2014 except for prepaid insurance.
   d) Work with the Fixed Assets Accountant III to close out the cost of issuance by 18 months after the bond issued date.

E. Project Fund Close-Out

   a) When there is a Project Fund Close-out for any outstanding series of tax-exempt bonds, Accounting may allocate unspent project fund proceeds, and any interest earnings thereon, for making debt service payments on that series of bonds.
   b) When there is a Project Fund Close-out for any outstanding series of federal subsidy bonds (i.e. Build America Bonds or the NCREBs and QECBs), federal tax regulations (as opined by respective bond counsel for the federal subsidy bonds) require that any unspent project fund proceeds, and any interest earning thereon, can only be allocated for capital spending. The proceeds cannot be allocated to making debt service payments on the bonds.

F. Economic Gain/ Loss

Debt Analyst will provide the RAFR group and Fixed Assets & Debt Accounting Supervisor the Refunding Analysis and Final numbers on a case by case basis within 10 business days after issuance date.

G. Human Rights Commission (HRC) compliance requirements

The Debt Group is responsible for checking the suppliers' compliance status to ensure that the selected suppliers are current with the business taxes and that the HRC compliance requirements are met before doing business with them. If the supplier is not compliant with HRC requirements, the HRC wavier should be obtained from the Human Rights Commission before the agreement is signed or the service is performed.

H. Payments

1. Debt Analyst with Debt Manager oversight
   a) The Debt Group will maintain a current schedule of all upcoming debt payments in excel and make it available for access to the Accounting Group.
   b) Reviews the principal and interest payment schedules of each bond series from the fiscal agent and prepares a summary schedule and provide it to the Capital Project Group.
   c) Provides copies of the issuance documents, Final Debt Service Payment Schedule detailing each (e.g. semi-annual) debt service payment to the Accounting Services Manager, Capital Projects Manager, Fixed Assets & Debt Accounting Supervisor, and the Accountant III with the Fixed Assets Accounting Group.
   d) Provides debt related payment request to the Capital Project Group.

i) The payment request including the funding sources and the due date of the payment must be initiated by the Debt Manager and approved by the Deputy Chief Financial Officer.
ii) In order to process the payment request on time and to ensure that the payment is received by the suppliers on or before the due date, requests must be submitted to Capital Project Accounting a minimum of 15 business days in advance for a first time debt service repayment request and a minimum of 10 business days in advance for a routine debt service repayment requests and any debt related payments.
iii) In the event that debt service payments are in excess $100M, the maximum amount that will clear the City's Automated Clearing House (ACH), the debt analyst will submit the debt service payment request to Capital Project Accounting no later than 5 business days prior to payment posting date and notify the Treasurer's Office via email (ttx.bankwires@sfgov.org) at least 3 business days before the wire is due.

e) In the event that the SFPUC receives written notice from the IRS that all or a portion of the federal subsidy payment from the IRS on any of its Build America Bonds or Tax Credit Bonds will be sequestered, the Debt Manager will promptly inform the CFO, Deputy CFO, Accounting Group, and Capital Budget Group in order to make the necessary adjustments resulting from this sequestration.

2. For each debt service payment Debt Manager coordinates with Budget unit, RAFR, Accounting Services staff, and Trustee (invoice received) to determine the amount to transfer from the operating fund to the debt service fund to cover debt service payments. Debt Manager verifies the transfer agrees with the budgeted debt service. Debt Manager tracks budget savings/overages and reports it to the Budget Unit.
3. Accountant III for Capital Projects Accounting with direction from the Debt Manager or Debt analyst, prepares journal entries to request a transfer of funds from the operating fund to the debt service fund and make a deposit to the trustee to cover principal and interest when due.
   a) The journal entry is approved by:
      i) Capital Projects Supervisor;
      ii) Capital Projects Manager; and
      iii) The Controller's Office.
   b) Once approved, funds are sent to the Trustee using the Automated Clearing House (ACH) payment method (with exceptions as noted above).
4. Accountant III for Fixed Assets
   a) Compares and reconciles the principal and interest payment schedules among the issuance documents.
   b) Records the actual principal and interest payment in PeopleSoft when due.

I. Amortization schedules are prepared based on the direction from the Official Statement on the flow of funds.
   1. Accountant III with the Fixed Assets Accounting Group prepares amortization schedules for:
      a) Discount or premium;
      b) Prepaid Insurance; and
      c) Refunding gain or loss.
   2. Schedules are reviewed for accuracy and completeness by:

a) Fixed Assets Supervisor;
b) The Capital Projects Manager; and
c) The Accounting Services Manager.

J. Reporting and compliance with debt covenants
   1. Debt Manager, in accordance with the Controller's Office and the Revenue Bond Oversight Committee (RBOC), periodically reviews and monitors
      a) Appropriateness of the use of proceeds;
      b) Compliance with debt covenants and other requirements;
      c) Principal and interest payments; and
      d) Arbitrage rebate on tax-exempt issuances.
   2. Debt Manager arranges with a consultant to perform a periodic arbitrage rebate analysis, as needed.
      a) Obtains a detailed transactions report from the Business Analyst with the Budget Group, which includes expenditures in project funds and earnings on funds held by the City Treasury.
      b) Provides a copy of the report to:
         i) Trustee, who notifies SFPUC if and when payments from earnings should be made; and
         ii) Enterprise RAFR Accountant IV to accrue arbitrage rebate liabilities at fiscal year-end.
   3. Disclosure Reports are prepared annually by the Debt Analyst.
      a) The Accountant IV from RAFR Group
         i) Prepares the schedule for the debt service coverage calculation at year-end.
         ii) Prepares an analysis of available fund balances by fund.
      b) Prior to including the schedules in the disclosure report, they are reviewed by the:
         i) RAFR Manager; and supervisor
         ii) Accounting Services Manager;
         iii) Debt Manager;
         iv) Deputy CFOs; and
         v) CFO.

K. Debt Analyst ensures trustee provides monthly statements for each fund and online access to Debt group, Fixed Assets & Debt Accounting Supervisor, and Fixed Assets Accountant III:
   1. Accountant III with the Fixed Assets Group prepares reconciliations and journal entries for
      a) Payment of principal and interest;
      b) Interest earnings;
      c) Reimbursement for project cost;
      d) IRS Subsidy Payment for Build America Bonds, COPs, QECBs, and NCREBs;
      e) Other expenditures.
   2. Accountant III with the Fixed Assets Group reconciles the original repayment schedule from the Trustee to the trustee statement.
   3. Journal entries and reconciliations are reviewed for accuracy and approved by:
      a) Fixed Assets Supervisor;
      b) Capital Projects Accounting Manager;
      c) Accounting Services Manager; and
      d) Controller's Office.

II. Commercial Paper

A. General –
   1. Commercial paper (CP) is a short-term debt instrument that is typically supported by a bank letter of credit or liquidity facility.
   2. Commercial paper can have maturities from 1-270 days, and is normally refunded with revenue bonds.
   3. Authorizations include $500 million for the Water Enterprise as of May 1, 2013, $750 million for the Wastewater Enterprise as of May 2017 and $90 million for the Power Enterprise as of December 2015.
   4. The dealers are selected via a competitive request for proposal (RFP) process.
   5. Typically, tax and credit facility banks exempt CP is used. However, to address private activity among wholesale customers, taxable CP is used.

B. Prior to debt issuance
   1. Debt Manager requests the RAFR Group to begin the process of setting up the new funds (if needed), accounts, and chart field to coordinate with the Controller's Office. This request is provided 10 business days in advance of the issue date.
   2. Enterprise RAFR Accountant IV establishes new funds and accounts 5 business days before issue date.
   3. Enterprise RAFR Accountant IV informs Fixed Assets Accountant III, Debt Accounting Supervisor, Accounting Services Manager, RAFR Manager/Supervisor, Debt Manager, and Debt Analyst after setting up funds and accounts in PeopleSoft by the Controller's Office. RAFR completes setup 5 business days in advance of the issue date.
   4. Debt Manager provides chart of accounts and expected issue amounts for wire transfers to the Cash Receipts Supervisor 5 business days before Commercial Paper proceeds are to be received.
   5. Debt Analyst provides project code for monthly interest allocation to RAFR.

C. Post debt issuance
   1. Cash Receipts Supervisor prepares an entry to record the cash receipt on the day that the wire transfer is made. The entry is reviewed and approved by:
      a) Accounting Operations Manager and Accounting Services Manager; and
      b) Controller's Office.
   2. Enterprise RAFR Accountant IV prepares a journal entry to record the debt proceeds. After review, the entry is approved by:
      a) RAFR Manager/Supervisor; and
      b) Controller's Office.

D. Principal and interest payments
   1. In fiscal year 2016, SPFUC changed the practice on how the commercial paper (CP) interest is paid. Instead of paying the accrued interest after each CP maturity (or roll) from the debt operating fund, SFPUC is now capitalizing the interest. Thus, after each maturity, the accrued interest for the period will be added to the principal amount that is maturing.
   2. The accrued interest is typically in an odd amount at the maturity date. However, the Commercial Paper Investors only purchase in denominations of one thousand dollars. Thus, at the maturity date, the accrued interest is rounded up to the nearest thousand in order to issue a new roll of the commercial paper. For example, the SFPUC issues $20,000,000 of commercial paper, and the accrued interest for the

issued period is $40,875. This accrued interest is rounded up to $41,000 (the nearest thousand) and added to the current outstanding principal of $20,000,000. The new principal amount of $20,041,000 will be issued as the new roll.

3. At the commercial paper maturity date, the Issuing and Paying Agent (IPA) pays the accrued interest to the investor and the difference between the accrued interest amount and the amount rounded up to the nearest thousand is kept with the IPA. After each roll, the excess cash with the IPA will accumulate and the SFPUC can request reimbursement at any time. Using the above example, if the accrued interest is $40,875 and the nearest thousand of the accrued interest is $41,000, the difference of $125 ($41,000 minus $40,875) is kept with the IPA.
4. Quarterly, the Accountant III in the Fixed Assets Group prepares
   a) Commercial Paper outstanding debt schedule, interest accrual schedule, and the rounded up amount of cash with the IPA schedule;
   b) Journal entries to record the commercial paper liabilities changes, accrued interest, and cash with the IPA for the rounded up amount; and
   c) Journal entries and schedules are reviewed for accuracy and completeness, and approved by:
      i) Fixed Assets and Debt Accounting Supervisor;
      ii) Capital Projects Accounting Manager; and
      iii) Controller's Office.

III. Notes to Audited Financial Statements & Comprehensive Annual Financial Report

A. RAFR updates debt information in the financial statements each fiscal year-end. The short-term and long term debt balances as well as current year debt activities are disclosed in the Notes in the Audited Financial Statements.

   Water Enterprise Audited Financial Statements
   http://www.sfwater.org/modules/showdocument.aspx?documentid=9836

   Hetch Hetchy Water and Power Audited Financial Statements
   http://www.sfwater.org/modules/showdocument.aspx?documentid=9844

   Wastewater Enterprise Audited Financial Statements
   http://www.sfwater.org/modules/showdocument.aspx?documentid=9835

B. Debt Capacity and Debt Ratings financial information can be found in the Statistical Section – Debt Capacity of the Comprehensive Annual Financial Report (CAFR) (see page 178-191).

   https://sfwater.org/modules/showdocument.aspx?documentid=9978

Appendix C

SFPUC Municipal Securities Disclosure Policies & Procedures

San Francisco Water Power Sewer

San Francisco Public Utilities Commission

Municipal Securities Disclosure Policies & Procedures

POLICY OBJECTIVES

- **Compliance with Law**. To assure compliance with applicable securities law when preparing disclosure documents;
- **Stewardship**. To ensure integrity, accountability, and transparency in financial management;
- **Reduce Liability.** To reduce exposure to liability for misstatements and omissions in disclosure documents;
- **Transparency/Liquidity.** To provide transparency and enhance credibility with investors, financial analysts and the general bond market and foster liquidity for the SFPUC's securities,
- **Good Investor Relations.** To promote good investor relations;
- **Credit Ratings.** To protect the SFPUC's strong credit ratings, and
- **Training.** To promote training regarding municipal securities disclosure to assist SFPUC officers and key staff in understanding their roles and responsibilities in compliance with applicable securities laws.

SECTION ONE: BACKGROUND

I. As a debt-issuing governmental entity, the San Francisco Public Utilities Commission (SFPUC) has an obligation to meet certain continuing disclosure standards in compliance with Securities and Exchange Commission (SEC) Rule 15c2-12 for publicly-offered debt. This rule, which is set forth under the Securities Exchange Act of 1934, sets forth certain obligations of (i) underwriters to receive, review and disseminate official statements prepared by governmental agencies for most primary market offerings of municipal securities, (ii) underwriters to obtain continuing disclosure agreements from debt-issuing governmental agencies to provide material event disclosures and annual financial information on a continuing basis, and (iii) broker-dealers and investors to have access to such continuing disclosure in order to make recommendations of municipal securities in the secondary market.

When bonds are issued, the issuer enters into a continuing disclosure agreement (which the SFPUC refers to as a "continuing disclosure certificate" or CDC), for the benefit of the underwriter to meet the SEC's requirements, promising to provide certain annual financial information and material event notices to the public. In accordance with changes made in 2009 to Rule 15c2-12, those filings must be made electronically at the Municipal Securities Rulemaking Board's (MSRB) Electronic Municipal Market Access (EMMA) web dissemination portal (www.emma.msrb.org). The SFPUC currently has outstanding publicly-offered debt for its Water, Wastewater and Power Enterprises, with each enterprise's debt being subject to Rule 15c2-12, and thereby having its own CDCs.

Issuers are also able to provide periodic voluntary financial information to investors in addition to meeting the SEC Rule 15c2-12 responsibilities undertaken in their CDC through EMMA. It is important to note that issuers must disseminate any financial information to the market as a whole and cannot give any one investor certain information that is not readily available to all investors.

In addition to continuing disclosure requirements as undertaken pursuant to the SFPUC's CDCs, the SFPUC also has certain disclosure obligations vis-à-vis specific agreements with certain debt issuance-related entities. These entities include the bond rating agencies, trustee bank, insurers, credit facility providers, commercial paper dealers, private placement lenders and others. At such time that the SFPUC no longer has an agreement with such an entity (i.e. through expiration or termination of the agreements), the disclosure requirements with that entity ends).

The SFPUC's Capital Finance Group has established SFPUC Municipal Disclosure policies and procedures to:

- identify the information that is obligated to be submitted in an annual filing;
- disclose the dates on which filings are to be made;
- list the material events as stated by the SEC and the agency's CDCs; and
- identify the person at the agency who is designated to be responsible for making the filings (in the case of the SFPUC, the Debt Manager is directly responsible for disclosure, with supervision from the Deputy CFO and AGM/CFO, and with guidance from the City Attorney's Office and the SFPUC's outside disclosure counsel).

SECTION TWO: ELEMENTS OF DISCLOSURE

Each publicly offered SFPUC debt issuance will meet the disclosure requirements of the SEC and other government agencies before and after the bond sale takes place. Disclosure items prior to bond sale and closing are referred to as "primary" offering disclosure and disclosure items after bond sale and closing are referred to as "continuing" disclosure obligations. SEC requirements for each type of disclosure, as well as the SFPUC's processes for ensuring compliance with such requirements, are described in the sections below.

I. Primary Disclosure

Each time the SFPUC issues publicly-offered debt, the SFPUC is responsible for preparing a preliminary official statement (POS) and a final official statement (OS). The POS is distributed to investors prior to the sale of the Bonds and the OS is delivered to purchasers once final terms have been determined. The POS and OS are prepared in order to provide a reasonable investor with the information necessary to make an informed investment decision. The OS is the SFPUC's disclosure document and it is essential that the OS not contain material misstatements or omissions. Inadequate disclosure can result in the imposition of civil and criminal penalties, investor lawsuits and an inability to access the capital markets for additional financing. The SFPUC's most recent OSs can be accessed on EMMA:

- Water Revenue Bonds, 2016 Series C
  https://emma.msrb.org/ES997086-ES780844-ES1182154.pdf
- Wastewater Revenue Bonds, 2016 Series A&B
  https://emma.msrb.org/ES786506-ES618502-ES1014137.pdf

- Power Revenue Bonds, Series 2015A&B
  https://emma.msrb.org/ER881975-ER689101-ER1090744.pdf

II. Continuing Disclosure

Continuing disclosure information is intended to reflect the financial or operating condition of the SFPUC as it changes over time, as well as specific events occurring after issuance, that can have an impact on both the ability to pay amounts owed and the market value of the Obligation if bought or sold prior to maturity. Pursuant to Rule 15c2-12, each new publically-offered debt issuance will require a written agreement between the SFPUC and the original purchaser/underwriter for the benefit of holders of municipal securities, to provide certain annual financial information reports and event notices (sometimes referred to as event disclosures or material event notices) to investors. In accordance with changes made in 2009 to Rule 15c2-12, those filings must be made electronically at the Municipal Securities Rulemaking Board's (MSRB) Electronic Municipal Market Access (EMMA) web dissemination portal (www.emma.msrb.org). A complete list of the SFPUC's outstanding disclosure requirements can be found in Exhibit A.

A. Annual Financial Information. The SFPUC's CDCs require filing of annual financial information reports (ADRs) no later than nine months following the end of its fiscal year (or no later than March 31 each year), to EMMA. Revenue Bonds of the Water, Wastewater and Power Enterprise are subject to filing requirements. The most usual practice with respect to the contents of the ADRs is, in addition to annual financial statements, the filing of other annual information necessary to update the significant tables and other disclosure presented in the OS; for example, the most recent data on number of accounts and approved rate increases pertinent to a bond issue secured by a net revenue pledge. ADR reports for Fiscal Year Ending June 30, 2016 are available here:

- Water Enterprise
  http://www.sfwater.org/Modules/ShowDocument.aspx?documentID=10534
- Wastewater Enterprise
  http://www.sfwater.org/modules/showdocument.aspx?documentid=10533
- Power Enterprise
  http://www.sfwater.org/modules/showdocument.aspx?documentid=10532

B. Material Event Notices: In addition to annual financial information filings, CDCs require the SFPUC to give timely notice of the following events with respect to the bond offering, if material:

1. Principal and interest payment delinquencies;
2. Non-payment related defaults, *if material*;
3. Unscheduled draws on debt service reserves reflecting financial difficulties;
4. Unscheduled draws on credit enhancements reflecting financial difficulties;
5. Substitution of credit or liquidity providers, or their failure to perform;

6. Adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the security, or other material events affecting the tax status of the security;
7. Modifications to rights of security holders, *if material*;
8. Bond calls, *if material*, and tender offers;
9. Defeasances;
10. Release, substitution, or sale of property securing repayment of the securities, *if material*;
11. Rating changes;
12. Bankruptcy, insolvency, receivership or similar event of the SFPUC;
13. The consummation of a merger, consolidation, or acquisition involving the SFPUC or the sale of all or substantially all of the assets of the SFPUC, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; and
14. Appointment of a successor or additional trustee or the change of name of a trustee, *if material*.

The SFPUC's material event filings for FY 2015-16 and FY 2016-17 can be accessed here:

- SEC Rule 15c2-12 Notice of Listed Event https://emma.msrb.org/EP541628-EP422900-EP820530.pdf
- Rating Upgrade https://emma.msrb.org/ER959857-ER750574-ER1152147.pdf
- Other Event Notice - Reserve Release Substitution https://emma.msrb.org/ER996910-ER779984-ER1181240.pdf

C. Voluntary Disclosure: Although SEC Rule 15c2-12 prescribes certain annual information and event-based disclosures that must be filed, issuers may determine that additional information would be relevant to investors. To this end, the SFPUC may choose to voluntarily disclose other information to the MSRB that goes beyond the requirements described above. This information may include, but is not limited to, items such as monthly financial reports, updates on issues that could affect the SFPUC's budgetary, financial, or economic position, annual/biennial budgets, and changes in rating outlooks. The SFPUC prepares and files voluntary disclosures on EMMA when, in the opinion of the SFPUC in consultation with Disclosure Counsel, that information could be deemed relevant to investors in SFPUC bonds. Voluntary disclosure submissions made by the SFPUC in the past can be found here:

- Notice of Potential Financing https://emma.msrb.org/EP945422-EP733351-EP1135062.pdf
- California Drought

https://emma.msrb.org/ER746923-ER580079-ER981748.pdf

- Rim Fire Update
  https://emma.msrb.org/EA557289-EA434708-EA830858.pdf

SECTION THREE: RESPONSIBILITY FOR DISCLOSURE

I. The Capital Finance Group is responsible for preparing, reviewing and maintaining the information that is included in the POS and OS for each new publicly-offered SFPUC debt issuance. The Debt Manager, together with the Deputy Chief Financial Officer, certifies that the information contained within the OS as of the sale and closing dates, does not contain any untrue statement of material fact or omit any material fact necessary to make the statements contained therein, in light of the circumstances under which they were made, not misleading. Prior to the distribution of the POS and the OS, the Debt Manager, in consultation with the SFPUC's professional advisors and Disclosure Counsel, thoroughly and critically reviews the information contained therein to reflect the best and most current material information available at the time.

- Drafting: As part of the POS drafting process, the Debt Manager and his/her staff make formal requests of other SFPUC staff to provide the most current updates or information on that section of the POS relevant to their respective functional areas. This includes working with enterprise project managers/engineers to describe the project or program that will be funded with bond proceeds. The Debt Manager and his/her staff will also work with other divisions of the SFPUC, including Financial Planning/Rates, Budget, Accounting, and Reconciliation and Financial Reporting to update or provide financial information or data on their relevant sections of the POS. The Debt Manager and his/her staff will also coordinate with the City Attorney's Office to update or provide information on legal matters addressed in the POS. The aforementioned process is coordinated closely with Disclosure Counsel and the City Attorney's Office to assure that the material being presented in the POS is relevant and material.

- Review: Just prior to its posting/distribution, when the POS is in near final draft form, it is provided to the SFPUC's senior management for review and final sign-off. This includes the Assistant General Manager (AGM)/CFO, the relevant enterprise AGM, the Infrastructure AGM, as well as the Deputy General Manager and AGM for Legislative Affairs. This rigorous preparation and review process assures that the POS will contain information and data that is current, accurate and material, and that it meets industry disclosure standards as certified by Disclosure Counsel.

- Training: As part of the primary disclosure process, disclosure training is conducted on a regular basis or just prior to a new publicly-offered bond sale. In coordination with Disclosure Counsel and the City Attorney's Office, formal disclosure training is provided to enterprise project managers/engineers and senior management. On a regular basis, disclosure training is also conducted with members of the Commission, the SFPUC's direct governing body. In addition, when a new bond sale is brought to the Commission for approval, the Commission is provided with a summary of key disclosure items related to the bond sale. In doing so, the Commission members can understand, and ask questions, if necessary, on any particular disclosure item, prior to taking action on the bond sale.

II. Annual financial information reports are prepared by the Capital Financing Group's Debt Analyst, under the general supervision of the Debt Manager. The draft report is reviewed by:

1. Debt Manager;
2. Deputy Chief Financial Officer; and
3. Assistant General Manager/Chief Financial Officer of Business Services.

Financial Statements are provided by the SFPUC's Reconciliation and Financial Reporting (RAFR) unit.

The SFPUC's Debt Manager is responsible for monitoring compliance with all disclosure-related undertakings per CDCs and/or other agreements with certain related entities as set forth in Exhibit A. In this role, the Debt Manager appoints the Debt Analyst to file and disseminate the SFPUC's continuing disclosure information, material event notices, and voluntary notices to EMMA as required by Rule 15c2-12 and the SFPUC's CDCs.

The SFPUC's continuing bond disclosure dissemination and record-keeping process is described in the following section.

SECTION FOUR: SFPUC CONTINUING DISCLOSURE RECORDKEEPING PROCESS

I. Disclosure Compliance Records: The Capital Finance Group maintains disclosure compliance records for all outstanding debt obligations per continuing disclosure certificates and/or other agreements with certain related entities handled by the Debt Manager. Records are reported in the form of a checklist, maintained on a fiscal year basis, and comprise the disclosure binder provided to the auditors. The binder includes:

- Summary of disclosure obligations and due dates
- Source documents (legal agreements)
- Checklist of obligations by counterparty
- Noticing and confirmations tracking spreadsheet

The binder evidences that all of the SFPUC's disclosure obligations for that fiscal year have been met on a timely basis, and includes print outs of emails confirming receipt of the disclosure material. This binder will be prepared and made ready for review by the Deputy CFO and AGM/CFO no later than May 15th of each fiscal year.

II. Noticing and Confirmations Tracking Spreadsheet: Staff will create and maintain an internal list spreadsheet, which tracks notices sent to obligors and confirmations received, organized by each type of disclosure requirement. See Exhibit B for sample.

III. EMMA Automated Reminder System: EMMA features a tool that automatically sends email reminders pertaining to financial disclosure obligations. See Exhibit C for sample.

(a) The SFPUC has customized the tool to send reminder emails for most disclosure obligations, including annual budget, annual disclosure, audited financial statements, compliance certificates, no default certificates, quarterly budget updates, statements of project completions, and CAFR.

(b) Reminders are currently sent to the Deputy CFO, Debt Manager and Debt Staff.

(c) Generally, reminders are scheduled 14 days prior to the earliest date that the respective obligation either shall be completed per an agreement, or can be reasonably completed given the expected timing of the relevant publication (e.g. CAFR).

IV. Material and Voluntary Event Filings: Legal Counsel prepares draft EMMA filings for material event notices. These drafts are reviewed by the Debt Manager, Deputy CFO and AGM/CFO prior to final submission. Voluntary event notices are prepared by the Debt Manager, with advice from executive officer(s) with oversight and management authority for the subject matter, and with advice and concurrence of the City Attorney (who may consult with outside disclosure counsel).

V. SFPUC Website Disclosure: The SFPUC has a dedicated "Investor Relations" section on its website (www.sfwater.org) that is intended to augment its ongoing disclosure requirements by directly providing investors, broker-dealers and other financial markets participants with certain ongoing financial and debt-related information on the SFPUC and its enterprises. The "Investor Relations" website section currently offers the following information:

i) The most recent and past Annual Reports filed with EMMA to satisfy the SEC's Rule 15c2-12 continuing disclosure obligation;

ii) The most recent SFPUC financial policies, including "Debt Management Policies and Procedures," "Debt Service Coverage Policy," Capital Financing Policy" and "Fund Balance Reserve Policy," as well as a link to the City and County of San Francisco's "Debt Policy" as prepared by the Controller's Office of Public Finance;

iii) The SFPUC's most recent and past financial statements;

iv) Quarterly Budget Status Reports;

v) Annual Budgets for each Enterprise; and

vi) Bond ratings information and outstanding debt by enterprise.

Exhibit A – Outstanding Disclosure Requirements

WATER ENTERPRISE					
Disclosure Obligation	**Issue**	**Document Source**	**Recipient**	**Due Date**	**Transmittal Method**
Audited Financial Statements	All Water Bonds	Indenture: §6.07(b)	Trustee	Within 150 days of Fiscal Year End	Email
	All Water CP†	RCTL §5.1(a)/ §7.1(a)	Credit Bank(s)	Within 180 days of Fiscal Year End	Email
	All Water Bonds and CP	Credit Rating Report	Rating Agencies (Moody's & S&P)	As soon as such information is available	Email
Certificate of No Default	All Water Bonds	Indenture: §6.07(b)	Trustee	Within 180 days of Fiscal Year End	Mail
	All Water CP	RCTL §5.1(a)/ §7.1(a)	Credit Bank(s)	Within 180 days of Fiscal Year End	Email
	WSIP Habitat Mitigation LOC's	Letter of Credit Agreement: §5.02(i)(y)	Bank of America (Standby LOC's)	Within 180 days of Fiscal Year End	Email
Annual Budget (approved bi-annually)	All Water Bonds	Indenture: §6.08	Trustee	When Approved	Email
	All Water CP	RCTL §5.1(a)/ §7.1(a)	Credit Bank(s)	Within 10 days of publication	Email
	All Water Bonds & CP	Credit Rating Report	Rating Agencies (Moody's & S&P)	As soon as such information is available	Email
	WSIP Habitat Mitigation LOC's	Letter of Credit Agreement: §5.02(b)	Credit Bank(s)	Within 45 days after publication	Email
Annual Disclosure Report	All Water Bonds	Continuing Disclosure Certificates	Bondholders CP Dealers	March 30	Upload to EMMA sufficient
Quarterly Budget	All Water CP	RCTL §5.1(a)/ §7.1(a)	Credit Bank(s)	Within 45 days of quarter end	Email
	All Water SRF Loans	SRF ISA	DFA	Within 30 days (60 if coverage <1.1x)	Email
Statement of Project Completion	WSIP Bonds	5.03	Trustee	Review at Fiscal Year End	Email

† The Water Enterprise's $500M Commercial Paper Program is secured by bank credit facilities as summarized below (as of August 8, 2017):

Credit Provider	Series	Facility Type	Amount ($000s)	Expiration Date	CP Issued ($000s)
Bank of America N.A.	A-1 / A-1-T	LOC	$100,000	07/24/2020	$0
Bank of Tokyo	A-2 / A-2-T	Liquidity	$200,000	06/29/2018	$145,000
Barclays PLC	A-3 / A-3-T	LOC	$100,000	07/23/2023	$0
U.S. Bank N.A.	R-1	Revolver	$100,000	07/25/2020	$0

Exhibit A – Outstanding Disclosure Requirements

WASTEWATER ENTERPRISE					
Disclosure Obligation	**Issue**	**Document Source**	**Recipient**	**Due**	**Transmittal Method**
Audited Financial Statements	All Wastewater Bonds	Indenture: §6.07(b)	Trustee	Within 210 days of Fiscal Year End	Email
	All Wastewater CP†	RCTL §5.1(a)/ §7.1(a)	Credit Bank(s)	Within 180 days of Fiscal Year End	Email
	All Wastewater Bonds and CP	Credit Rating Report	Rating Agencies (Moody's & S&P)	As soon as such information is available	Email
Certificate of No Default	All Wastewater CP	RCTL §5.1(a)/ §7.1(a)	Credit Bank(s)	Within 180 days of Fiscal Year End	Email
Annual Budget (approved bi-annually)	All Wastewater Bonds	Indenture: §6.08	Trustee	When Approved	Email
	All Wastewater CP	RCTL §5.1(a)/ §7.1(a)	Credit Bank(s)	Within 10 days of publication	Email
	All Wastewater Bonds & CP	Credit Rating Report	Rating Agencies (Moody's & S&P)	As soon as such information is available	Email
Annual Disclosure Report	All Wastewater Bonds	Continuing Disclosure Certificates	Bondholders CP Dealers	March 30	Upload to EMMA sufficient
Quarterly Budget	All Wastewater CP	RCTL §5.1(a)/ §7.1(a)	Credit Bank(s)	Within 45 days of quarter end	Email
	All Wastewater SRF Loans	SRF ISA	DFA	Within 30 days* (60 if coverage <1.1x)	Email

† The Wastewater Enterprise's $750M Commercial Paper Program is secured by bank credit facilities as summarized below (as of August 8, 2017):

Credit Provider	Series	Facility Type	Amount ($000s)	Expiration Date	CP Issued ($000s)
Sumitomo Mitsui	A-1	LOC	$150,000	03/10/2021	$0
Bank of America N.A.	A-2	LOC	$150,000	06/01/2020	$0
Bank of Tokyo	A-4	Liquidity	$75,000	07/10/2018	$36,176
Barclays PLC	A-5 / A-5-T	LOC	$100,000	10/23/2018	$0
State Street Bank & Trust	A-6 / A-6-T	Liquidity	$100,000	10/16/2019	$75,121
Sumitomo Mitsui	A-7	LOC	$100,000	06/02/2022	$0
U.S Bank, N.A.	R-1	Revolver	$100,000	07/25/2020	$0

Exhibit A – Outstanding Disclosure Requirements

POWER ENTERPRISE					
Disclosure Obligation	**Issue**	**Document Source**	**Recipient**	**Due**	**Transmittal Method**
Audited Financial Statements	All Power Bonds	Indenture: §7.11(c)	Trustee	Within 270 days of Fiscal Year End	Email
	All Power CP†	RCTL §5.1(a)/ §7.1(a)	Credit Bank(s)	Within 180 days of Fiscal Year End	Email
	All Power Bonds & CP	Credit Rating Reports	Rating Agencies (S&P / Fitch)	As soon as such information is available	Email
	CREBs, QECBs & NCREBs	Master Lease/Purchase Agreement: §2.01(g)(iii)	Banc of America Leasing	Within 180 Days of Fiscal Year End	Email
Certificate of No Default	All Power CP	RCTL §5.1(a)/ §7.1(a)	Credit Bank(s)	Within 180 days of Fiscal Year End	Email
Annual Budget (approved bi-annually)	All Power Bonds	Indenture: §6.08	Trustee	When Approved	Email
	All Power CP	RCTL §5.1(a)/ §7.1(a)	Credit Bank(s)	Within 10 days of publication	Email
	CREBs, QECBs & NCREBs	Master Lease/Purchase Agreement: §2.01(g)(iii)	Banc of America Leasing	When Approved	Email
	All Power Bonds & CP	Credit Rating Reports	Rating Agencies (S&P / Fitch)	As soon as such information is available	Email
Annual Disclosure Report	All Power Bonds	Continuing Disclosure Certificates	Bondholders CP Dealers	March 30	Upload to EMMA sufficient
Quarterly Budget	All Power CP	RCTL §5.1(a)/ §7.1(a)	Credit Bank(s)	Within 45 days of quarter end	Email

† The Power Enterprise's $90M Commercial Paper Program is secured by bank credit facilities as summarized below (as of August 8, 2017):

Credit Provider	Series	Facility Type	Amount ($000s)	Expiration Date	CP Issued ($000s)
Bank of America N.A.	A-1	LOC	$90,000	12/17/2018	$20,000

Exhibit B - Noticing and Confirmations Tracking (Sample)

Instructions:
- Copy list of contacts into "BCc" email (some providers will have more than one contact).
- "Cc" Deputy CFO and Debt Manager.
- Send email with confirmation of read receipt option.
- Send the entire Commission-approved quarterly packet (w/ memo, slides).
- Note: The list below does not distinguish between obligations by Enterprise. This is because we send the Quarterly Report packet, which includes all Enterprises, to all recipients.

FY 2016-17 BUDGET REPORT QUARTER 2

Enterprise	Credit Provider	CP Series	Expiration Date	Covenant Section	Date Sent	Date Confirmed	Notes
Water	Royal Bank of Canada	A-1 / A-1-T	6/30/2017	5.1(a)(ii)	3/3/2017		Follow-up for confirm before interim audit
Water	Royal Bank of Canada	A-1 / A-1-T	6/30/2017	5.1(a)(ii)	3/3/2017		
Water	Bank of Tokyo	A-2/ A-2-T	6/29/2018	7.1(a)(ii)	3/3/2017		Follow-up for confirm before interim audit
Water	US Bank	A-3 / A-3-T	6/30/2017	7.1(a)(ii)	3/3/2017		Follow-up for confirm before interim audit
Water	US Bank	A-3 / A-3-T	6/30/2017	7.1(a)(ii)	3/3/2017		
Water	US Bank	A-3 / A-3-T	6/30/2017	7.1(a)(ii)	3/3/2017		
Water	Banc of America	WSIP Habitat Mitigation	Auto-Renews	N/A	3/3/2017	3/3/2017	
Water	Banc of America	WSIP Habitat Mitigation	Auto-Renews	N/A	3/3/2017		
Water	Banc of America	WSIP Habitat Mitigation	Auto-Renews	N/A	3/3/2017		
Wastewater	Wells Fargo	A-1	2/10/2017	N/A	3/3/2017	3/3/2017	Update for Q3 with executed Sumitomo agreement
Wastewater	US Bank	A-2	2/10/2017	7.1(a)(ii)	3/3/2017		
Wastewater	US Bank	A-2	2/10/2017	7.1(a)(ii)	3/3/2017		
Wastewater	US Bank	A-2	2/10/2017	7.1(a)(ii)	3/3/2017		
Wastewater	Bank of America	A-3	7/10/2017	N/A	3/3/2017	3/3/2017	
Wastewater	Bank of America	A-3	7/10/2017	N/A	3/3/2017	3/3/2017	
Wastewater	Bank of Tokyo	A-4	7/10/2018	7.1(a)(ii)	3/3/2017		Follow-up for confirm before interim audit
Wastewater	Barclays Bank	A-5 / A-5-T	10/23/2018	5.1(a)(ii)	3/3/2017		Follow-up for confirm before interim audit
Wastewater	State Street	A-6 / A-6-T	10/16/2019	7.1(a)(ii)	3/3/2017	3/6/2017	
Power	Bank of America	A-1	12/17/2018	N/A	3/3/2017	3/3/2017	
Power	Bank of America	A-1	12/17/2018	N/A	3/3/2017		

Exhibit C – EMMA Automated Reminder Schedule

EMMA Dataport – Financial Disclosure Email Reminders

MSRB GATEWAY

Create Reminder | Exit

Disclosure Type	Description	Filing Due Date	Repeat	
Other	CDLA Certificate	3/1/2017	Yearly	edit | delete
Other	Statement of Project Completetion	7/31/2017	Yearly	edit | delete
Other	Annual Budget (AAO)	7/31/2017	Yearly	edit | delete
Other	Follow-Up w/ Obligors	8/10/2017	Yearly	edit | delete
Other	Prepare Disclosure Binder for Audit	9/1/2017	Yearly	edit | delete
Audited Financial	Audited Financials	11/21/2017	Yearly	edit | delete
Other	No Default Certificates	11/30/2017	Yearly	edit | delete
Audited Financial	CAFR	12/16/2017	Yearly	edit | delete
Other	Quarterly Budget	12/31/2017	Quarterly	edit | delete
Other	Compliance Certificate	12/31/2017	Yearly	edit | delete
Other	Annual Disclosure-1st reminder	2/26/2018	Yearly	edit | delete
Other	Annual Disclosure-2nd reminder	3/31/2018	Yearly	edit | delete

Appendix D

SFPUC Post-Issuance Tax Compliance Policy

San Francisco Public Utilities Commission
Post-Issuance Tax Compliance Policy for Tax-Exempt Bonds

The SFPUC will bear primary responsibility for all ongoing tax compliance matters relating to the obligations (referred to herein as the "Bonds") issued by the SFPUC and subject to the terms of these Policies. The person(s) who hold the following title(s) shall be responsible for monitoring ongoing tax compliance matters relating to the Bonds, including compliance with the arbitrage rebate requirements of Section 148 of the Code, as set forth in these Procedures, which are intended to satisfy Section 7.2.3.4.4 of the Internal Revenue Manual:

I. External Advisors/Documentation

a. The Debt Manager, to the extent necessary, will consult with bond counsel and other legal counsel and advisors following issuance of the Bonds to ensure that all applicable post-issuance requirements in fact are met. Such consultation will include, without limitation, questions about future contracts with respect to the use of Bond-financed or refinanced assets.

b. The Debt Manager will from time to time engage expert advisors (each a "Rebate Service Provider") to assist in the calculation of arbitrage rebate payable in respect of the investment of Bond proceeds as required under the Code.

c. The Debt Manager shall prepare (or cause to be prepared) regular, periodic statements regarding the investments and transactions involving Bond proceeds and such statements shall be delivered to the Issuer if it so requests.

II. Arbitrage Rebate and Yield – In connection with Bonds subject to these Policies the Debt Manager shall be responsible for:

a. Engaging the services of a Rebate Service Provider and, prior to each rebate calculation date, causing the trustee or other account holder to deliver periodic statements concerning the investment of Bond proceeds to the Rebate Service Provider;

b. Providing to the Rebate Service Provider additional documents and information reasonably requested by the Rebate Service Provider;

c. Monitoring efforts of the Rebate Service Provider;

d. Assuring payment of required rebate amounts, if any, no later than 60 days after each 5-year anniversary of the issue date of the Bonds, and no later than 60 days after the last Bond of each issue is redeemed;

e. During the construction period of each capital project financed in whole or in part by Bonds, monitoring the investment and expenditure of Bond proceeds and consult with the Rebate Service Provider to determine compliance with any applicable exceptions from the arbitrage rebate requirements during each 6-month spending period up to 6 months, 18 months or 24 months, as applicable, following the issue date of the Bonds; and

f. Retaining copies of all arbitrage reports and account statements as described below under "Record Keeping Requirements" and, upon request, providing such copies to the Issuer.

III. Use of Bond Proceeds and Bond-Financed or Refinanced Assets – The Debt Manager, together with applicable City departments, shall be responsible for:

a. Monitoring the use of Bond proceeds and the use of Bond-financed or refinanced assets (e.g., facilities, furnishings or equipment) throughout the term of the Bonds to ensure compliance with covenants and restrictions set forth in any tax agreement relating to the Bonds;

b. Maintaining records identifying the assets or portion of assets that are financed or refinanced with proceeds of each issue of Bonds, including a final allocation of Bond proceeds as described below under "Record Keeping Requirements";

c. Consulting with bond counsel and other legal counsel and advisers in the review of any contracts or arrangements involving use of Bond-financed or refinanced assets to ensure compliance with all covenants and restrictions set forth in the Tax Agreement relating to the Bonds;

d. Maintaining records for any contracts or arrangements involving the use of Bond-financed or refinanced assets as described below under "Record Keeping Requirements";

e. Conferring at least annually with personnel responsible for Bond-financed or refinanced assets to identify and discussing any existing or planned use of Bond-financed or refinanced assets, to ensure that those uses are consistent with all covenants and restrictions set forth in the Tax Agreement relating to the Bonds; and

f. To the extent that the Borrower discovers that any applicable tax restrictions regarding use of Bond proceeds and Bond-financed or refinanced assets will or may be violated, consulting promptly with bond counsel and other legal counsel and advisers to determine a course of action to remediate all nonqualified bonds, if such counsel advises that a remedial action is necessary.

IV. Record Keeping – The Debt Manger shall be responsible for maintaining the following documents for the term of each issue of Bonds (including refunding Bonds, if any) plus at least three years:

a. A copy of the Bond closing transcript(s) and other relevant documentation delivered to the City at or in connection with closing of the issue of Bonds, including any elections made by the City in connection therewith;

b. A copy of all material documents relating to capital expenditures financed or refinanced by Bond proceeds, including (without limitation) construction contracts, purchase orders, invoices, trustee requisitions and payment records, draw requests for Bond proceeds and evidence as to the amount and date for each draw down of Bond proceeds, as well as documents relating to costs paid or reimbursed with Bond proceeds and records identifying the assets or portion of assets that are financed or refinanced with Bond proceeds, including a final allocation of Bond proceeds;

c. A copy of all contracts and arrangements involving the use of Bond-financed or refinanced assets; and

d. A copy of all records of investments, investment agreements, arbitrage reports and underlying documents, including trustee statements, in connection with any investment agreements, and copies of all bidding documents, if any.

Appendix E

Direct Pay Bond Compliance Policy

San Francisco Public Utilities Commission
Direct Pay Bond Compliance Policy

This policy establishes procedures to ensure the San Francisco Public Utilities Commission (the SFPUC) complies with rules and regulations relating to Direct Pay Bonds, including Build America Bonds ("BABs") authorized under the American Recovery and Reinvestment Act. These procedures shall be reviewed and modified from time to time.

I. Pre-Issuance

a. The SFPUC will establish, prior to settlement of the Bonds, separate and discreet accounting codes for the following funds and accounts of the Bonds:

i. Project Fund

ii. Debt Service Fund

iii. Debt Service Reserve Fund

iv. Capitalized Interest Account

v. Cost of Issuance Fund

b. The SFPUC will, in consultation with bond counsel engaged on the transaction and the City Attorney, determine the expected placed-in-service dates of capital improvements to be financed with Bonds. Placed-in-service date considerations shall be as follows:

i. Placed-in-service dates will be estimated conservatively, with the early project completion date for any financed project used in formulating capitalized interest on the Bonds, to the extent capitalized interest is necessary, desirable and permissible.

ii. The SFPUC's financial advisor(s) will use the above-information regarding placed in service dates to structure debt service on the Bonds and will provide detailed analyses of the methods and assumptions employed in determining the amount and duration of capitalized interest, if any.

iii. The SFPUC, the City Attorney and the SFPUC's financial advisor(s) will present the analyses to bond counsel engaged on the transaction for tax compliance review and approval.

c. In coordination with its financing team, the SFPUC shall instruct bond counsel to draft an "Underwriter's Certificate" or "Purchase Price Certificate" or other appropriate document (singularly or collectively, "Underwriter's Certificate") to be included with the Bid Form or Notice of Sale, clearly setting forth the SFPUC's requirements for and expectations of a bona fide public offering of the Bonds and establishment of the "issue price" of the Bonds.

d. To the extent necessary and required, the SFPUC will coordinate with the SFPUC's financing team to ensure that all notices, bid forms and other documentation as may be necessary, clearly state limiting parameters relating to costs of issuance, capitalized interest, underwriters' discount, initial offering price and bona fide public offering for the Bonds.

II. Date of Issuance

a. The SFPUC will coordinate with its financing team and the underwriter of the Bonds for receipt of the Underwriter's Certificate attesting to the bona fide public offering and establishment of the "issue price" of the Bonds. The SFPUC shall rely on this certificate for purposes of complying with Section 54AA(d)(2)(C) of the Code.

b. In coordination with its financial advisor(s), the SFPUC will determine that the underwriter has complied with all terms and provisions of the bond offering, including:

   i. Minimum and maximum bid and price parameters;

   ii. Permissible costs of issuance, including underwriters' discount, at or below 2% of the par amount of Bonds.

c. The SFPUC will receive from its financial advisor(s) and/or bond counsel, a computation of initial offering price for each maturity of the Bonds. Such computation shall include the maximum price Bonds may be sold to the public without violation of the de minimis premium limitation.

III. Post-Issuance

a. Beginning on the sale date and continuing until the settlement date, the SFPUC in coordination with its financial advisor(s) will track the secondary market prices of its Bonds to determine that the underwriter has complied with the provisions of the Underwriter's Certificate.

   i. All secondary market trades of the newly issued BABs as reported on EMMA (or other publicly available records and records) will be noted and kept in a file, in hard copy or in electronic form.

   ii. The SFPUC in coordination with its financial advisor(s) will track the principal amount and dollar price of all trades to determine if and when at least the first 10% of each maturity of Bonds has been sold to the general public at or below the initial offering price.

   iii. The SFPUC may cancel its sale or otherwise refuse to settle the Bonds if it determines that the underwriter is in violation of any provision of the Underwriter's Certificate or is otherwise unable to provide bond counsel with a sufficient certification as to the establishment of the "issue price" of the Bonds.

b. Immediately after issuance of the Bonds, the SFPUC and the City Attorney will meet with project staff and accounting staff to brief them on the federal tax rules and requirements regarding investment (including rebate), expenditure and recordkeeping relating to the Bonds (including BABs). All BABs proceeds, other than moneys in a reasonably required reserve fund, if any, or used to pay costs of issuance, must be spent on capital expenditures.

c. At least on a quarterly basis following the issuance of the Bonds, the SFPUC and the City Attorney shall review expenditures made with proceeds relating to BABs from the bond-related funds and accounts held with the Trustee and the City Treasurer to ensure compliance with all spend-down rules. Such review shall continue until all proceeds have been spent, after which no further reviews shall be necessary. If the SFPUC and the City Attorney determine that any violations of the Tax have occurred, such violations will be remedied through the “remedial action” regulations (Treas. Reg. Section 1.141-12) or the Voluntary Closing Agreement Program (VCAP) described in IRS Notice 2008-31 (or successor guidance). If any changes to the terms or provisions of Bonds are contemplated, the SFPUC and the City Attorney will consult bond counsel.

d. Immediately after issuance of any Bonds, the SFPUC shall engage a nationally-recognized arbitrage rebate consultant for purposes of complying with arbitrage restrictions on all issuances of the Bonds.

e. Quarterly, semi-annually or annually, as appropriate, the SFPUC shall confirm that investment earnings on all BABs-related funds and accounts are properly transferred to the Project Fund and spent on eligible capital projects. The Controller’s Office will reconcile balances recorded by project accountants.

f. Not sooner than 90 days nor later than 45 days prior to each interest payment date on BABs, the SFPUC shall, in cooperation with the Trustee on the Bonds, BABs calculation agent, and other relevant parties, as applicable and necessary, calculate the amount of interest coming due on the immediately pending interest payment date and determine the amount of the refundable credit then due for inclusion on IRS Form 8038-CP for submittal to the US Treasury.

g. The SFPUC will coordinate with the Trustee on the Bonds, BABs calculation agent, and other relevant parties, as applicable and necessary, for completion and submittal of each IRS Form 8038-CP.

    i. The SFPUC shall cause the Trustee on the Bonds, BABs calculation agent, City departments, and other relevant parties, as applicable and necessary, to prepare the appropriate forms (including the IRS Form 8038-CP), which shall be signed by an appropriate officer of the SFPUC.

    ii. The City Treasurer or his designee or the Trustee on the Bonds, as applicable, shall be the recipient of the refundable credit for deposit to the debt service fund of the appropriate series of the SFPUC's BABs.

h. No later than 15 days before each interest payment date, the SFPUC will coordinate with the Trustee on the Bonds, BABs calculation agent, and other relevant parties, as applicable and necessary, to confirm that the interest subsidy payment has been received and will be applied in compliance with the Tax Code for BABs.

i. In the event that a partial interest subsidy payment or no interest subsidy payment is received, the SFPUC will coordinate with the Trustee on the Bonds, BABs calculation agent, and other relevant parties, as applicable and necessary, to

    1. determine the cause of the partial payment or no payment

    2. resolve disagreements, disputes, etc. with the IRS and/or US Treasury.

ii. In the event that a partial interest subsidy payment or no interest subsidy payment is received, the SFPUC will coordinate with the Trustee on the Bonds, BABs calculation agent, and other relevant parties, as applicable and necessary, to budget the gross amount of interest due on the Bonds in the applicable fiscal year until the full amount of interest subsidy payments are received.

i. The SFPUC will create a monitoring record that tracks compliance with all applicable provisions of the Tax Code for BABs.

j. The SFPUC will maintain a copy of each Form 8038-CP that is submitted. In addition, the SFPUC will maintain copies of all relevant documents and records sufficient to support that the tax requirements relating to BABs have been satisfied, including the following: closing transcript; all records of investments, arbitrage reports, returns filed with the IRS and underlying documents; construction contracts, purchase orders, invoices and payment records; documents relating to costs reimbursed with bond proceeds; all contracts and arrangements involving private business use of the bond-financed property; all reports relating to the allocation of bond proceeds and private business use of bond-financed property; and itemization of property financed with bond proceeds. Records may be kept in any combination of paper or electronic form.

k. The SFPUC will confirm that no more than two percent (2%) of the proceeds of any issue of BABs will be used for costs of issuance.

Appendix F
SFPUC Derivatives Policy

San Francisco Public Utilities Commission
Derivatives Policy

I. Derivatives (including swaps, swaptions, caps, floors and collars) – Purpose and Objectives

a. To achieve significant savings as compared to a product available in the bond market.

b. To prudently hedge risk in the context of a particular financing or the overall asset/liability management of the SFPUC's balance sheets for its respective enterprises.

c. To ensure flexibility in meeting overall financing objectives.

d. To generate increased net investment return.

II. Derivative Approval Process

a. Commission approval - The Commission, prior to SFPUC entering into a derivative product, shall approve the transaction. If a proposed derivative product meets the objectives of the SFPUC as described herein, SFPUC shall provide to the Commission for their review and approval, an analysis and evaluation of the proposal including all risk factors indicated below.

i. Risk/benefit analysis – Identification and evaluation of proposed benefit and potential risks and any mitigations thereto. Such potential risks shall include:

1. Counterparty Credit Risk – Risk of credit-worthiness of the counterparty. Mitigation is to include provisions in the documents that protect SFPUC from exposure to adverse changes in counterparty's credit standing.

2. Market or interest rate risk – Risk of exposure to fluctuations in interest rates.

3. Tax law risk – Risk of rate adjustments, extraordinary payments, termination or other adverse consequences in the event of a future change in federal income tax policy.

4. Termination risk – Risk of termination by the counterparty in an adverse market (other than at the option of the SFPUC). Mitigation is the maintenance of sufficient liquidity to cover this exposure.

5. "Put" risk – Risk of a future financing that is dependent upon third party participation. Mitigation is to obtain commitment that can be or have been secured for such participation.

6. Legal authority risk – Risk of removal of any party's legal authority to participate in the transaction.

7. Ratings Risk – Risk that the transaction could impact the SFPUC's current credit ratings or its desired future ratings and that the transaction could conflict with rating agency recommended practices today or in the future.

8. Basis Risk – Risk that the payments that SFPUC would make or receive would not match the payments that it seeks to hedge because of changes in relationships between floating rates.

9. Tax-exemption of SFPUC Debt Risk – Risk that the transaction is not in compliance with all federal tax law requirements with respect to the SFPUC's outstanding tax-exempt bonds.

10. Volatility Risk – The change of the mark-to-market value of a transaction resulting from a change in implied volatility.

11. Accounting Risk – Risk that the transaction is not compatible with internal accounting procedures and reporting practices. Related risk is the impact on SFPUC's rate covenant calculation or compliance.

12. Administrative Risk – Risk of counterparty's or SFPUC's failure to administer and monitor transactions consistent with the policies herein.

13. Subsequent Business Conditions – Risk of dependence on the continuation or realization of specific industry or business conditions.

ii. Savings Analysis – Independent analysis of potential savings from proposed transaction.

iii. Rate Exposure – Fixed versus variable rate and swap exposure on a project and for a counterparty before and after proposed transaction.

iv. Market Net Termination Exposure – Termination exposure on a per transaction and per counterparty basis for all existing and proposed transactions.

v. Notional Value – Total notional value of derivative products before and after proposed transaction.

b. Board of Supervisors Approval – When required, Board of Supervisors approval may be required.

III. Inappropriate Use of Derivative Products – SFPUC shall never enter into a derivative transaction for the following purposes or if certain conditions exist.

a. For speculative purposes, including potential trading gains.

b. To achieve extraordinary leverage.

c. If liquidity is insufficient to protect against early termination.

d. Insufficient price “transparency” wherein SFPUC is unable to reasonably value the instrument.

IV. Methods of Soliciting and Procuring Derivatives – Regardless of the method of procurement, the SFPUC shall obtain an independent finding that the terms and conditions of any derivative product entered into reflect a fair market value as of the date of its execution.

a. Competitive – SFPUC would pre-qualify prospective bidders and reserve the right to select one or more bidders for the transaction in addition to the winning bidder if deemed in SFPUC’s best interest.

b. Negotiated – SFPUC may determine that negotiating a transaction is in its best interest if:

i. Due to size or complexity of the transaction, a negotiated process would result in the most favorable pricing or terms in which case an independent financial advisor would be assigned to assist in the process.

ii. Doing so will advance SFPUC’s interests by encouraging and rewarding innovation and/or the substantial commitment of time and resources by a counterparty.

V. Counterparty Requirements

a. Minimum rating – At least one Aa3 or AA- from two rating agencies.

b. Minimum capitalization – $250 million or credit enhancement in one of the following forms:

i. Contingent credit support or enhancement.

ii. Collateral held by a 3rd party trustee and marked to market monthly.

iii. Ratings downgrade triggers.

c. Demonstrated record –

i. Successful track record and reputation for executing and performing derivative transactions.

ii. Creating and implementing innovative ideas in the derivative market.

VI. Standard Terms for Swaps and Derivatives

a. Term – Consistent with the purpose for which the derivative product is used while taking into account the call dates for the related debt or obligation. In no event shall the term extend beyond the existing debt (or other obligation being hedged).

b. Events of default – An event of default by the counterparty shall lead to SFPUC having the option to terminate the agreement with the termination payment being calculated on the side of the bid-offered spread most beneficial to SFPUC. Events of default of a counterparty include:

i. Failure to make payment when due.

ii. Material breach of representations and warranties.

iii. Failure to comply with downgrade provisions.

iv. Failure to comply with any other provision of the agreement after a specified notice period.

c. Termination provisions

i. Optional – All derivative transactions shall contain provisions granting the SFPUC the right to optionally terminate an agreement at any time over the term of the agreement.

ii. Mandatory – A termination payment to or from the SFPUC may be required in the event of termination of an agreement ONLY in the case of credit-related and non-payment events. Prior to entering into an agreement or making any such termination payment, as appropriate, SFPUC shall evaluate whether it would be financially advantageous for the SFPUC to enter into a replacement transaction as a means of offsetting any such termination payment or obtaining insurance to guarantee performance of the counterparty. Any termination payment due from the SFPUC shall be made from available SFPUC monies.

iii. Available liquidity - SFPUC shall consider the extent of the SFPUC's exposure to termination payment liability in connection with each transaction, and the availability of sufficient liquidity to make any such payments that may become due.

iv. Cure provisions - Timelines on SFPUC's obligations to cure must provide for adequate time to affect the cure.

v. Payment - Payments may be structured on a monthly, quarterly, semi-annual or annual basis.

vi. Security – The agreement shall identify the security attributable to the derivative.

vii. Collateral -

1. Required - The SFPUC shall require collateral or other credit enhancement to be posted by each counterparty if the credit rating of the counterparty or its guarantor falls below the "AA" category by two of the three nationally recognized rating agencies (Moody's, Standard & Poor's and Fitch).

2. Value –

a. The amount of collateral posted shall be equal to the positive termination value of the agreement to the SFPUC.

b. SFPUC will determine reasonable threshold limits for the initial deposit and for increments of collateral posted thereafter.

3. Features of Collateral –

a. Cash, U.S. Treasury securities and U.S. Agency securities. The market value of the collateral shall be determined on at least a monthly basis.

b. Deposited with a custodian, acting as agent for the SFPUC, or as mutually agreed upon between the SFPUC and the counterparty.

c. The SFPUC shall determine on a case-by-case basis whether other forms of collateral are more beneficial to the SFPUC.

VII. Monitoring and Reporting - SFPUC shall report to the Commission at least annually and as requested

a. Agreements –

i. A summary of each swap agreement, including but not limited to: the type of swap; the rates and dollar amounts paid by the SFPUC and received by the SFPUC; the rate and amounts that were required to be paid and received; and current market value.

ii. Highlights of all material changes to the agreements or new agreements since the last report.

iii. Sensitivity analysis with net impact to the SFPUC of a 25 basis point movement (up or down) in the appropriate swap index or curve.

iv. Actual collateral posting by each counterparty, if any, under each agreement and in total by that counterparty.

v. Information concerning any default by a counterparty under a swap agreement with the SFPUC, and the results of the default, including but not limited to the financial impact to the SFPUC, if any.

vi. A summary of any agreements that were terminated.

vii. A summary of key terms of outstanding agreements, including notional amounts, interest rates, maturity and method of procurement.

viii. Values of early termination, shortening or lengthening the term to certain benchmarks, sale or purchase of options.

ix. Discussion of other risks associated with each transaction.

b. Counterparties –

i. Full name, description and credit ratings of each counterparty and credit enhancer insuring payments, if any.

ii. For each counterparty, the SFPUC shall provide the total notional amount position, the average life of each agreement, the available capacity to enter into a transaction, and the remaining term of each agreement.

iii. Listing of any credit enhancement, liquidity facility or reserves and accounting of all costs and expenses associated with the credit enhancement, liquidity facility or reserves.

iv. Aggregate marked to market value for each counterparty and relative exposure compared to other counterparties.

v. Calculation of SFPUC's net termination exposure for each counterparty.

c. Future transactions - A summary of any planned transactions and the projected impact of such transactions on the SFPUC.

VIII. Payments

a. Budgeting - Termination payment risk shall be determined annually and offset by a hedge or reserve to a predetermined limit.

b. Priority of payment –

i. Swap payments - no greater than parity with obligation being hedged

ii. Termination payments – If economically feasible, subordinate to related debt payments

c. Swap counterparty termination exposure limit –

i. AAA Counterparties: $40 million maximum collateralized net termination exposure; $40 million maximum uncollateralized net termination exposure; $40 million maximum total net termination exposure

ii. AA Counterparties: $40 million maximum collateralized net termination exposure; $10 million maximum uncollateralized net termination exposure; $40 million maximum total net termination exposure

iii. Disclosure and documentation –

1. Disclosure - Derivatives will be disclosed in the related Official Statement, if relevant, and in the SFPUC's annual financial statements in accordance with generally accepted accounting principles and in the Annual Disclosure Report.

2. Documentation – Each transaction must utilize International Swaps and Derivative Association approved documents.

Appendix F – FY 2016-17 and FY 2017-18 Performance Results

In FY 2011-12 the SFPUC adopted a Strategic Sustainability Plan (SSP) with a framework that provides a system planning, managing, and evaluating SFPUC-wide performance with consideration for the long-term economic, environmental, and social impacts of its business activities. The SSP had six sustainability categories: Customers, Community, Environment and Natural Resources, Government & Management, Infrastructure & Assets, and Workplace. Starting in FY 2012-13 through FY 2015-16 specific key performance measures from the SSP have been used to determine trends in performance across the SFPUC.

In May 2016, the SFPUC adopted the **2020 Strategic Plan** developed by the Executive Team to reaffirm the overall strategic direction, identify key priorities and serve as a roadmap for the SFPUC to ensure that it meets the challenges ahead and continues to deliver reliable water, power and sewer services. Through this process of reaffirming the Mission and Vision, the SFPUC also reviewed and expanded upon its values. Table AF1 shows the SFPUC's 2020 Strategic Goals.

Table AF1. 2020 Strategic Plan Goals

2020 Strategic Goals	Goal Descriptions
Reliable Service and Assets	We provide reliable service and value to our customers by optimizing the operations, maintenance, and replacement of all assets in the most cost-effective manner.
Organizational Excellence	We are a high performing organization focused on efficiency, effectiveness and accountability across the organization.
Effective Workforce	We attract, retain, and develop an effective workforce, reflective and supportive of our communities, that consistently delivers high quality services to stakeholders.
Financial Sustainability	We assure financial integrity and sustainability, meeting today's operating and capital investment needs while managing risk and long-term affordability for the future.
Stakeholder and Community Interest	We foster trust and engagement with our customers, employees, and the communities we serve through open and timely communication and education.
Environmental Stewardship	We sustainably manage the resources entrusted to our care to ensure environmental and community health.

Each Goal in the 2020 Strategic Plan has one or more Executive Champions who have worked across the SFPUC to develop Performance Measures including target and baseline metrics. Additionally, each Goal has key elements on which the Goal Champions have chosen to base the performance measures. In May 2018, the performance measures for each goal of the 2020 Strategic Plan were finalized and the new performance measures will be applied in FY 2018-19 and FY 2019-20.

In the interim period between May 2016 when the 2020 Strategic Plan was adopted and replaced the SSP, and August 2018, when the SFPUC adopted performance measures for the 2020 Strategic Plan, the SFPUC has continued to measure performance which are consistent with both the SSP and the 2020 Strategic Plan. The strategic goals of these two plans are the same, as they capture all the work and effort at the SFPUC and focus on priorities which ensure the continued delivery of reliable water, power and sewer services.

Table AF2 provides the performance measure and targets applied across the SFPUC for FY 2016-17 and FY 2017-18 and reported to the Controller and the Mayor.

Table AF2. FY 2016-17 and FY 2017-18 Reported Performance

	FY 16-17 Actual	FY16-17 Target	FY17-18 Actual	FY17-18 Target
Achieve Organizational Excellence				
Billing Accuracy (water/wastewater/power)= Billing Error Rate (Number of error-driven billing adjustments per 10,000 bills)	4.80	10.00	7.74	10.00
Water meter reading accuracy (Number of errors per 1,000 reads)	0.41	1.00	0.57	0.00
Incidents of, and fines or non-monetary sanctions for non-compliance with applicable laws and regulations	2.00	10.00	11.00	0
Drinking water quality compliance rate (percent days in full compliance with drinking water standards)	100.00%	100.00%	100.00%	100.00%
Completion within 45 days from Commission Award to Certification of components of professional service contracts that are within SFPUC control (percent)	56.10%	70.00%	11.40%	70.00%
Completion within 60 days from Commission Award to Certification of components of construction contracts that are within SFPUC control (percent)	64.00%	70.00%	14.30%	70.00%
Deviation in actual vs. planned facilities and project expenditures (in Millions): WSIP Regional	$28	$122	$10	$144
Deviation in actual vs. planned facilities and project expenditures (in Millions): WSIP Local including LWS	($830.00)	$30.60	$39.00	$67.10
Deviation in actual vs. planned facilities and project expenditures (in Millions): SSIP	$140.00	$360.00	$186.00	$372.00
Deviation in actual vs. planned facilities and project expenditures (in Millions): Wastewater	$0.70	$12.00	$11.00	$11.00

	FY 16-17 Actual	FY16-17 Target	FY17-18 Actual	FY17-18 Target
Deviation in actual vs. planned capital facilities and project schedules: WSIP Local (percent)	0.24%	100.00%	99.87%	100.00%
Deviation in actual vs planned capital facilities & project schedules: WSIP Regional (percent)	0.60%	94.00%	91.20%	96.20%
Deviation in actual vs. planned capital facilities and project schedules: WWE CIP (including SSIP), (percent)	3.00%	100.00%	97.29%	100.00%
Recordable injury rate (# recordable/100 employees)	5.80	5.80	1.20	5.80
Act as Environmental Stewards				
Total electricity reduction achieved by customers (in MWh)	1,908.00	1,500.00	n/a	1,500.00
Total gas reduction achieved by customers (in therms)	28,585.00	37,500.00	n/a	37,500.00
Number of unauthorized discharges from the combined sewer system	3	0	4	0
Annual wet and dry weather flow treated before discharged per year (by level of quality - percent)	100.00%	100.00%	100.00%	100.00%
Average monthly electricity used per SFPUC street light (in kWh)	56.03	35.00	n/a	50.00
Annual peak load reduction (in kW)	171.00	100.00	n/a	100.00
Annual greenhouse gas (GHG) emissions due to SFPUC's electricity and/or natural gas consumption for provision of all SFPUC services (metric tons CO2e), excluding fleet fuel consumption	n/a	0	n/a	0
Annual greenhouse gas (GHG) emissions due to fleet fuel consumption (metric tons CO2e)	n/a	0	n/a	0
Direct energy consumption broken down by source = Energy Intensity (EI metric): MWh energy used per million gallons of water delivered (In-City Retail Water)	1.25	1.20	1.10	1.12
Direct energy consumption broken down by source = Energy Intensity (EI metric): MWh energy used per million gallons wastewater treated	2.0	2.1	2.2	2.1
Laptops, desktops, and monitors that meet the EPEAT Gold standard (percent)	100.00%	100.00%	100.00%	100.00%
Printers and servers that meet the Climate Savers Computing Base standard (percent)	95.00%	95.00%	95.00%	95.00%

	FY 16-17 Actual	FY16-17 Target	FY17-18 Actual	FY17-18 Target
Total amount of water sold to San Francisco residential customers in gallons per capita per day (gpcd)	40.78	50.00	41.51	50.00
Percent of total water supplied by alternative sources to retail customers (percent)	2.64%	3.50%	2.60%	3.50%
Biosolids (the residual, semi-solid material left from the sewage treatment process) going to beneficial reuse (percent)	100.00%	100.00%	100.00%	100.00%
Power supplied vs. forecasted (percent)	100.00%	95.00%	n/a	95.00%
Build an Effective Workforce				
Labor hours worked by SFPUC Service Territory Residents as a percent of all hours worked (percent)	51.00%	50.00%	50.00%	50.00%
Apprentice labor hours worked by WSIP PLA Service Territory Residents Apprentices as a percent of all Apprentice hours worked (percent)	73.00%	50.00%	72.00%	50.00%
Labor hours worked by local residents as percent of all hours worked (percent)d	42.00%	30.00%	43.00%	30.00%
Labor hours worked by local resident apprentices as a percent of all apprentice hours worked (percent)	69.00%	50.00%	68.00%	50.00%
Foster Trust and Engagement with Stakeholders				
Retail customers that rate SFPUC services as "good" or "excellent" (percent)	86%	90%	85%	90%
Maintain Financial Sustainability				
Average residential water and wastewater bill as a percent of median income in San Francisco (percent)	1.35%	2.11%	1.43%	1.44%
Water rate and fee structure that reflects cost of service (including funding capital investment, O&M, and contribution to reserve) (percent)	100.00%	100.00%	100.00%	100.00%
Wastewater rate and fee structure that reflects cost of service (including funding capital investment, O&M, and contribution to reserve) (percent)	100.00%	100.00%	100.00%	100.00%
Power rate and fee structure that reflects cost of service (including funding capital investment, O&M, and contribution to reserve) (percent)	68.00%	76.00%	76.00%	77.00%
SFPUC Cost per gallon of wastewater (percent)	1.46%	1.47%	1.66%	1.66%
SFPUC Cost per gallon of water	0.01150	0.01140	0.01224	0.01230
SFPUC Cost per Kilowatt hour of electricity (percent)	0.1586	14.86%	16.82%	15.39%

	FY 16-17 Actual	FY16-17 Target	FY17-18 Actual	FY17-18 Target
Provide Reliable Services and Assets				
Preventive maintenance ratio for Water (percent)	90.46%	95.00%	91.36%	95.00%
Preventive maintenance ratio for Wastewater (percent)	31.00%	51.00%	29.00%	51.00%
Distribution system renewal and replacement rate for water mains (percent)	0.87%	1.25%	8.80%	1.17%
System renewal and replacement rate for Wastewater (miles)	1,710.00	1,500.00	1,610.00	1,500.00

Appendix G – Project Charter

A. General Information

As required by the City & County of San Francisco Charter, the San Francisco Public Utilities Commission (SFPUC) prepares a biennial operating and capital budget, as well as Ten-Year Capital and Financial Plans, for each of its three enterprises, including the support bureaus. This charter will cover both the operating and capital budget planning project for FY19 & FY20 as well as the FY19-FY28 capital and financial planning cycle. In conjunction with this biennial budget cycle, staff will also propose adjustments to rates and charges for water, sewer and energy service. The development of these rate and charge proposals is within the scope of a separate charter document.

Prepared by: SFPUC Deputy CFO

Date: October 23, 2018

Version: 3.0

B. Project Objective

The SFPUC performs its two-year operating/capital budget as well as its 10-year capital planning effort on a biennial basis as required by the Mayor's Office and the City Charter[1]. As a department of the City and County of San Francisco, the SFPUC has its own budgeting process that precedes the citywide budgeting process as managed by the Mayor's Office. *This project charter governs the entire scope of the budget development and adoption cycle, up to and including final adoption by the Board of Supervisors.*

As a large agency with multiple lines of business and a significant amount of capital activity, the SFPUC has an unwieldy budget. The sheer complexity of the budget demands a high level of administrative support and can result in a budget process that feels more administrative than strategic. The volume of information, varied data formats, and budget terminology are difficult for even staff and management to review and understand—let alone outside stakeholders. <u>The overall objective of this project charter is to enhance the quality of the budget development, vetting and adoption process at the SFPUC.</u> Key priorities are:

- **Improve project governance and internal communication**—formal governance including the project charter, steering committee and project team is aimed at more efficient coordination, internal communication and execution of the overall budget
- **Formalize and centralize budget procedures**—documented procedures provide greater clarity of roles and responsibilities to those involved in the development process and consistency in outputs
- **Focus on stakeholder communication**—because the Commission's budget is ultimately rolled into the greater City budget for presentation and further vetting, and because of the sheer size and complexity, the quality of the public documents for the development process are generally of a lower quality than those of comparable special districts. A key goal of this charter is to enhance the quality and usefulness of public documents

The SFPUC seeks to follow GFOA and other general budgetary best practices as it prepares the upcoming budget. The budget will be developed in an inclusive manner in support of the SFPUC strategic plan. The General Manager's message will set budgetary expectations across the SFPUC, while budget instructions will guide the budget submission process.

Operating Budget Objectives:

Each SFPUC department is responsible for effectively and efficiently managing their operating programs within their operating budget. This includes executing programs in a timely way, working in as efficient manner as possible and establishing their operating budgets only to the degree needed to meet utility standards.

There are a number of strategic objectives for this aspect of the project:

- Establish budget instructions to guide the process including the roles and responsibilities of the Enterprises, Finance and management.
- Establish budget steering committee to provide governance to project.
- Establish budget working group made up of finance staff and representatives from each enterprise to meet periodically to work on budget submissions.
- Determine format for operating budget presentation to the Commission (i.e. tie back to strategic plan).

Capital Budget / Capital Plan Objectives:

Each SFPUC department is responsible for appropriate Asset Management and Capital Planning efforts to keep its infrastructure in a state of good repair to meet utility standards. This capital planning effort results in department capital project submittals that, when consolidated with other submissions, become the 10-year capital plan proposal and 2-year capital budget for General Manager consideration. This work is important to the agency's long range financial and strategic planning efforts and is a key component to the Citywide capital planning effort. The capital planning process should consider all aspects of infrastructure management, assess fiscal capacity, plan for debt issuance, and understand related impacts on reserves and operating budgets.

There are a number of strategic objectives for this aspect of the project:

- Develop consistent framework across the SFPUC for capital planning, including how departments collaborate to prepare the biennial budget and 10-year capital plan that best meets the operational and asset management requirements of the SFPUC while balanced with ratepayer affordability.
- Establish budget instructions to guide the process including the roles and responsibilities of the Enterprises, Finance and management.
- Establish budget steering committee to provide governance to project.
- Establish capital improvement program review committee to provide oversight for budget submissions.
- Establish budget working group made up of finance staff and representatives from each enterprise to meet periodically to work on budget submissions.
- Determine capital planning decision making process including prioritizing project submittals and allocating limited resources.

- Determine format for 10-year CIP presentation to the Commission (i.e. base on asset classification).

- Establish provisions for monitoring and oversight of the Capital program and project execution and close out, including reporting requirements (all capital and renewal and replacement projects managed inP6, maintenance projects in MAXIMO), and how to handle changes and amendments to the plan.

Long-range infrastructure planning is an agency best practice and aligns with the SFPUC Strategic Plan in that it considers asset management and financial sustainability in the context of the SFPUC's overall strategic direction. It addresses the goal of Long-Term Financial Sustainability, which aims to "Assure financial integrity and sustainability of the SFPUC by planning for long-term funding needs while managing enterprise risk and ratepayer affordability." The specific objectives of this goal are:

- Develop a long-range infrastructure plan that ties to capital and asset management policies
- Establish the 2-year operating and capital budget that is consistent with CCSF and SFPUC policy
- Establish consistent Asset Management process across the SFPUC
- Ensure integrity, accountability, and transparency in financial management

C. Assumptions

- This project will set the SFPUC operating and capital budget for FY19 & FY20 as well as set the 10-Year Capital Plan FY19-FY28 for the 3 enterprises.
- All budget submissions conform to established budget procedures and instructions.
- General Manager message will provide clear guidance for budget development on what can and cannot be requested.
- Steering Committee will provide direction and guidance to budget working group.

Operating Budget

- Department funding priorities should be based on target budgets.
- Efficiency measures will be developed to help inform future budget submissions and review.
- Finance will provide budget analysis and a recommendation along with each submission.

Capital Budget & 10-year Capital Plan

- Clear definition of what constitutes a capital improvement program/project, repair and replacement project, programmatic project and planned maintenance.
- Project submissions must be based on cost estimates and assumptions and cannot be a "plug" amount over the entire planning horizon.
- All project budget requests for FY19 & FY20 must have been included as a part of the prior Capital Plan. If not, an explanation must be provided.
- Departments should attempt to "smooth" capital spending amounts to avoid capital spending spikes from one year to the next.
- Projects have a maximum life of 5 years and cannot be ongoing. Funds can only be added to an existing project that involves a new phase to that project.
- Project submissions are tied to an existing asset or will result in the creation of a new asset.
- Project budget submissions in aggregate should not exceed the amounts previously included in that year's approved 10-year plan.
- Infrastructure is responsible for managing the SFPUCs asset management information, data and development processes. All project development and management is via Infrastructure Unifier/ P6.

- The planning process includes an assessment of SFPUC fiscal capacity so that the final capital plan is based on what can realistically be funded.
- All projects will be assigned a funding source once the CIP is balanced; project managers will be given a timeframe for spending their project budget.

D. Project Scope

A. **Policy Review:** The SFPUC has updated financial policies in advance of the budget process to guide budget development. This budget preparation will reflect the new policies, including the rates policy, capital financing policy, reserves policy and debt coverage policy.

B. **Budget Instructions:** A document to the department providing guidance and parameters around the operating and capital budget submissions. The instructions will include:
   a. **General Manager Message**: provides general guidance and specific parameters on department budget submissions
   b. **FY19 &FY20 Target Budget**: represents expected maximum spending levels for the budget period and ties to the financial plan; target budgets were developed from the FY18 budget, removing one-time items and adding an assumed increase tied to inflation to operating costs
   c. **10-year Financial Plan:** Early look at revenue requirements for the next rates cycle; these will tie into the 2018 water/ wastewater rate study underway
   d. **Operating Budget Instructions:** specific instructions on how to make changes to department operating base budgets and request new programs
   e. **Capital Budget and Capital Plan Instructions:** specific instructions on how to budget for FY19 & FY20 capital budget, how to make changes to the current capital plan projects and request new projects

C. **Budget and Financial Planning Integration**: This budget cycle will have a greater focus on integrating the work from the budget and financial planning teams. This coordination will include:
   a. Including an early version of the 10-year financial plan in the budget instructions
   b. Tying proposed budget to 10-year financial plan and projected rates/charges
   c. Incorporating the capital plan within the financial plan modeling
   d. Regular meeting of both teams as a part of the budget workgroup

D. **Budget Submission Review and Consolidation:** Departments will be provided an online link for submittal of their operating and capital budget changes.
   a. **SharePoint Workspace:** An online workspace will be created to house all relevant budget information and instructions as well as provide links for operating/capital budget submissions.
   b. **Budget Team Review:** Submissions will be reviewed by budget staff and a formal opinion provided on the validity and completeness of the submission.
   c. **Executive Team Review:** Consolidated budget submissions will be summarized and provided to the SFPUC executive team for review as a part of the prioritization and funding discussion.

E. **Commission Budget Workshop Documents**: January 2018 budget workshops will be held to discuss the proposed SFPUC budget. Budget details will be provided to the public and the commission.
   a. **Budget Presentations:** Executive team describes proposed budget details to public and commission.

   b. **Proposed Budget Documents:** Budget details and budget changes provided to public and Commission. Separate effort underway to examine improvements to the details and format of this budget information.
   c. **Commission Follow-up:** Answers to questions from each budget hearing along with budget changes are tracked and provided to Commission and the public.

F. **Communications and Outreach:** Overseen mainly by External Affairs, this includes communicating the budget to the Mayor, Controller, oversight bodies and the public.

G. **Mayors Budget Submission:** The Commission approved budget will be submitted to the Mayor's Office for incorporation into the City-wide budget proposal.
   a. **Mayors Budget Instructions:** SFPUC budget will need to conform to these instructions.
   b. **Budget Team Work:** The details of the SFPUC budget is transmitted to the Mayor's Office staff in a number of different formats.

H. **Capital Planning Committee (CPC):** Presentation to the CPC on the proposed 2-year Capital Budget and 10-year capital plan update, including bonding authorizations.

I. **Board of Supervisors (BOS) Budget Presentation:** GM presents the proposed SFPUC budget and capital plan to the BOS Budget and Finance Subcommittee.

J. **Budget Analyst Budget Review:** Harvey Rose's staff reviews SFPUC Proposed operating budget and recommends changes.

K. **Budget Add Back Reporting:** SFPUC has prior year add back program funds that need to be reported out to the Mayor and BOS on progress. The Budget Analyst budget review will result in additional addback funds for future year programming.

L. **Adopted Budget Document**: Prepare an adopted version of the SFPUC budget.
   a. Hardcopy provided to Government Finance Officers Association (GFOA) to qualify for the Distinguished Budget Award.
   b. Softcopy posted to the sfwater.org website.
   c. Budget Book posted on sfwater.org website

E. Project Milestones

Milestones	**Deliverables**	**Date**
Budget Policy & Procedures Document	• Share framework with steering committee	July 31
	• Develop draft and provide at kickoff	August 8
	• Finalize and distribute to department	September 5
Budget instructions	• Develop GM message	September 5
	• Develop target budgets for FY19 & FY20	
	• Update draft 10-year plan to provide funding context	

Milestones	Deliverables	Date
Department Budget Preparation Work and Submittals	• Develop draft instruction and provide at kickoff • Finalize and distribute • Enterprise staff prepare and submit FY19 & FY20 operating budget reallocations, new funding proposals and staffing requests • Enterprise staff prepare and submit FY19 & FY20 capital budget requests	September - October
Budget Submittal Review and Consolidation	• Enterprise staff prepare and submit capital plan proposals for FY21-FY28 • Budget/Infrastructure staff review and make edits as needed to operating and capital budget submittals • Budget staff consolidates all remaining budget submittals into proposed operating and capital budget adjustments for review by executive team	November
Commission Budget Workshops	• General Manager prioritizes budget submittals and develops operating and capital budget proposal • Develop Commission presentation of FY19 & FY20 operating budget	December - January
Mayor's Budget Preparation and Submittal	• Develop Commission presentation of FY19-FY28 capital plan • Develop overview presentation for Mayor's staff to describe SFPUC operating and capital budget proposal	February
Capital Planning Committee Presentation	• Submit budget proposal to Mayor's Office • Develop SFPUC FY19 & FY20 capital budget and 10-year capital plan presentation	January
BOS Budget Presentation	• Develop BOS operating and capital budget presentation	April
Budget Analyst Report	• Develop strategy to respond to budget analyst recommended budget cuts	May
Add-Backs	• Respond to budget analyst recommendations and negotiate final budget • Develop reporting of existing Add Back programs	May

Milestones	Deliverables	Date
	• Develop budget review process for add back programs, in time for when new add-back funds are identified	
Commission Legislation for budget approval	• Develop legislation for operating and budget review and approval	July
Communications & Outreach	• Briefings with Commissioners and Supervisors • Briefings with Mayor's Office and impacted City departments • Other stakeholder outreach as needed	January - May
Adopted Budget	• Final Budget Book preparation and submittal to GFOA • Posting final budget book on website	August

F. Roles and Responsibilities

Steering Committee

The Steering Committee provides overall direction on the project. Responsibilities include: approve the project charter and plan; confirm the project's goals and objectives; keep abreast of major project activities; make decisions on escalated issues; keep senior management informed as needed; and assist in the resolution of roadblocks.

- GM and DGM
- Enterprise and Bureau Managers

Project Manager

Leads in the planning and development of the project; manages the project to scope. Responsibilities include: develop the project plan; identify project deliverables; identify risks and develop risk management plan; direct the project resources (team members); scope control and change management; oversee quality assurance of the project management process; maintain all documentation including the project plan; report and forecast project status; resolve conflicts within the project or between cross-functional teams; ensure that the project's product meets the business objectives; and communicate project status to stakeholders.

Deputy CFO

Project Team Members

Team members work toward the deliverables of the project. Responsibilities include: understand the work to be completed; complete research, data gathering, analysis, and documentation as outlined in the project plan; inform the project manager of issues, scope changes, and risk and quality concerns; proactively communicate status; and manage expectations.

- Budget Director
- Capital
- Budget Analyst for Water Enterprise
- Budget Analyst for Wastewater Enterprise
- Budget Analyst for Hetch Hetchy & CleanPowerSF
- Budget Analyst for Bureaus & Infrastructure

G. Appendix

Appendix I—Charter Sections Related to Budgeting

PROPOSED BIENNIAL AND MULTI-YEAR BUDGETS (SF CHARTER SEC. 9.101) (a) The Mayor shall submit to the Board of Supervisors each year a proposed biennial budget, ordinances and resolutions fixing wages and benefits for all classifications and related appropriation ordinances. (b) The proposed biennial budget shall include: (1) Estimated revenues and surpluses from whatever sources, to the extent feasible, for the forthcoming two fiscal years and the allocation of such revenues and surpluses to various departments, functions and programs to support expenditures. Proposed expenditures may include such necessary and prudent reserves as recommended by the Controller; and (2) A summary of the proposed biennial budget with a narrative description of priorities, services to be provided and economic assumptions used in preparing the revenue estimates. (c) The proposed biennial budget and appropriation ordinances shall be balanced for each fiscal year so that the proposed annual expenditures of each fund do not exceed the estimated annual revenues and surpluses of that fund. If the proposed budget contains new revenue or fees, the Mayor shall submit to the Board of Supervisors the relevant implementing ordinances at the same time the biennial budget is submitted. (d) Until the appropriation ordinances are adopted by the Board of Supervisors, the Mayor may submit to the Board of Supervisors revisions to the proposed biennial budget, appropriation ordinances, and ordinances and resolutions fixing wages and benefits. The Mayor may instruct the Controller to prepare the draft appropriation ordinances. (e) The Mayor shall file a copy of the proposed biennial budget at the Main Library and shall give notice of the budget summary, including making copies available to the public. Upon final approval of the budget by both the Board and the Mayor, notice shall be given of the final budget summary. (f) The Board of Supervisors by ordinance may require multi-year budget plans and other budget planning strategies to be performed by the several departments and offices of the City and County. (g) No later than February 1 of any even-numbered fiscal year, the Mayor and the Board of Supervisors by resolution may determine that the upcoming budgetary cycle or cycles for some or all City departments and offices shall be a fixed budgetary cycle or cycles in which the biennial budget will remain in effect for two fiscal years. With respect to the designated City departments and offices, the Board will not adopt a new budget for the second fiscal year of such fixed budgetary cycle or cycles, except as provided in subsection (h), below. But the City shall adjust the biennial budget for the second year of any fixed budget cycle if certain conditions exist, using the following process: 47 (3) If, during the first year of any fixed budgetary cycle, the Controller projects that the City will experience significant increases or decreases in revenues or expenditures during the second year of such budgetary cycle, the Controller shall submit a report to the Mayor and the Board of Supervisors identifying those increases or decreases. (4) The Mayor shall prepare and submit to the Board of Supervisors a proposed amendment to the biennial budget responding to the Controller's report. The Board may approve or amend the Mayor's proposed budget amendment subject to the limitations that apply to the approval of the budget in Section 9.103. The Mayor's proposed budget amendment shall be deemed approved by operation of law unless the Board finally adopts an amendment to the biennial budget on second reading no later than July 15. (5) The Board's resolution declaring that an upcoming budgetary cycle or cycles shall be fixed, shall include a definition of the term " significant increases or decreases in revenues or expenditures," a deadline for the Controller's submission of a report identifying such increases or decreases, and a deadline for the Mayor to submit to the Board a proposed amendment to the biennial budget in response to the Controller's report. (h) Nothing in this section shall limit the ability of the Mayor or a member of the Board of Supervisors to introduce at his or her discretion an amendment to a biennial budget at any time during the budgetary cycle. (Amended by Proposition A, Approved 11/5/2009)

MISSION-DRIVEN BUDGET (SF CHARTER SEC. 9.114 Each departmental budget shall describe each proposed activity of that department and the cost of that activity. In addition, each department shall provide the Mayor and the Board of Supervisors with the following details regarding its budget: (a) The overall mission and goals of the department; (b) The specific programs and activities conducted by the department to accomplish its mission and goals; (c) The customer(s) or client(s) served by the department; (d) The service outcome desired by the customer(s) or client(s) of the department's programs and activities; (e) Strategic plans that guide each program or activity; (f) Productivity goals that measure progress toward strategic plans; (g) The total cost of carrying out each program or activity; and (h) The extent to which the department achieved, exceeded or failed to meet its missions, goals, productivity objectives, service objectives, strategic plans and spending constraints identified in subsections (1) through (6) during the prior year. Departmental budget estimates shall be prepared in such form as the Controller, after consulting with the Mayor, directs in writing.

PLANNING AND REPORTING (SF CHARTER SEC. 8B.123. (a) Planning and Reporting The Public Utilities Commission shall annually hold public hearings to review, update and adopt: (1) A long-term capital plan, covering projects during the next 10-year period; including cost estimates and schedules. (2) A long-range financial plan, for a 10-year period, including estimates of operation and maintenance expenses, repair and replacement costs, debt costs and rate increase requirements. (3) A Long-Term Strategic Plan, setting forth strategic goals and objectives and establishing performance standards as appropriate. The long-term capital plan and long-rage financial plan shall serve as a basis and supporting documentation for the Commission's capital budget, the issuance of revenue bonds, other forms of indebtedness and execution of governmental loans under this Charter. (b) Citizens' Advisory Committee. The Board of Supervisors, in consultation with the General Manager of the Public Utilities Commission, shall establish by ordinance a Citizens' Advisory Committee to provide recommendations to the General Manager of the Public Utilities Commission, the Public Utilities Commission and the Board of Supervisors. (Added November 2002)

Appendix H CAPITAL FINANCING POLICY

The San Francisco Charter Section 8B.125 requires the SFPUC to exercise prudent financial stewardship of SFPUC assets by establishing "rates, fees and charges at levels sufficient to improve or maintain financial condition and bond ratings at or above levels equivalent to highly rated utilities of each enterprise under its jurisdiction, meet requirements and covenants under all bond resolutions and indentures and provide sufficient resources for the continued financial health (including appropriate reserves), operation, maintenance and repair of each enterprise, consistent with good utility practice." To most effectively meet these requirements, the SFPUC will utilize financial policies that foster financial stability, support fiscal discipline, and maintain credit ratings at or above levels equivalent to highly rated utilities. Strong financial policies signal to rating agencies and the capital markets that an entity is well managed and committed to sound financial practices.

The SFPUC owns and operates Water, Wastewater and Power Enterprises. These enterprises provide essential services to the residents and businesses of the San Francisco Bay Area. Maintaining enterprise infrastructure in a state of good repair requires ongoing maintenance and capital improvements, which represent a large portion of the SFPUC's total ongoing expenditures. Balancing the mix of funding sources needed to pay for these improvements is a prudent way to protect both ratepayer affordability and the high-grade credit ratings of the three enterprises.

The SFPUC relies mainly on current revenue and debt financing to pay for capital assets or improvements. The use of current revenue (i.e. pay-as-you-go) to pay for recurring capital investment, such as repair and replacement projects, promotes financial sustainability by minimizing financing costs. Debt financing large, long-lived capital projects helps mitigate short term rate impacts and spreads the cost of the improvement over multiple generations of ratepayers. However, over-reliance on debt financing could limit future financial flexibility by imposing significant debt burdens on future rate payers, and could put downward pressure on future credit ratings. The appropriate mix of current revenue versus debt financing depends, in part, on the capital investment lifecycle of each enterprise.

In the light of these considerations, it is a policy of this Commission that over the 10-year financial planning horizon, **a minimum ranging between 15% and 30%** of each enterprise's capital budget will be paid for by current revenues.

To monitor compliance with this policy, SFPUC Finance staff will present this information to the Commission as part of the biennial budget process and the annual 10-Year Financial Plan.

Adopted by Resolution 17-0061 on March 28, 2017

Glossary of Terms

Accrual Basis of Accounting
A method of accounting in which all assets and liabilities associated with its operations is included on the statement of net assets; revenues are recorded when earned, and expenses recorded when liabilities are incurred.

Annual Appropriation Ordinance (AAO)
Upon approval, this document is the legal authority for the City to spend funds during the fiscal year. It contains information on the sources and uses of selected City funds detailed by department and by program. Additional schedules summarize selected City revenues and expenditures by service area, department and fund.

Annualization
New positions for the fiscal year are budgeted at 0.77 FTE, to account for the time it takes to hire a new employee (approximately three months). These new positions are annualized in the following fiscal year at 0.23 FTE, to reflect the annual salary costs.

Assistant General Manager (AGM)
An AGM supports the General Manager of the SFPUC as principal member of the senior management team: Business Services, External Affairs, Infrastructure, Power Enterprise, Water Enterprise, and the Wastewater Enterprise.

Attrition Savings
Attrition savings is the projected amount of permanent salaries that will be saved during a fiscal year due to attrition or employee turnover.

Auxiliary Water Supply System (AWSS)
A system of mains and 1889 High Pressure Fire Hydrants, independent of the domestic water supply built solely for the purpose of firefighting. The system is supplied with fresh water, by gravity, from a reservoir and two tanks located at high elevation in the City.

Balanced Budget
The Constitution of the State of California requires all cities to adopt a balanced budget wherein revenues must match expenditures.

Bay Area Water Supply and Conservation Agency (BAWSCA)
BAWSCA represents the interests of 27 suburban wholesale that purchase water wholesale from the San Francisco regional water system. These entities provide water to 1.7 million people, businesses and community organizations in Alameda, Santa Clara and San Mateo counties.

Board of Supervisors (BOS)
The Board of Supervisors is the legislative branch of the City and County of San Francisco. The Board consists of 11 members. Each member is elected on a non-partisan basis from a district where he or she resides. The Board is responsible for approving and amending the SFPUC's proposed budget. The Board's Budget Analyst also participates in reviews of City spending and financial projections.

British Thermo Units (kBtu)
It is a traditional unit of work equal to about 1055 joules. kBtu measures the energy needed to raise the temperature of one pound of water by one degree Fahrenheit. It is most often used as a measure of power in the electric power, steam generation, heating, and air conditioning industries.

Budget and Finance Committee
The Budget and Finance Committee of the Board of Supervisors oversees appropriation ordinances, and measures concerning bond issues, taxes, fees and other revenue

measures, redevelopment, and real estate. The Committee also oversees the annual appropriation and annual salary ordinances, and holds a public hearing on the Mayor's budget instructions to City departments for each annual City budget after the instructions are released.

Build America Bonds (BABs)
This is a tax credit or direct payment subsidy bond for municipal capital projects.

California Building Code (CBC)
The California Building Standards Code is the building code for California, and title 24 of the California Code of Regulations (CCR). It is a maintained by the California Building Standards Commission.

California Cap and Trade
The Cap-and-Trade Program is designed to achieve the goals of Global Warming Solutions Act of 2006. The program involves creating a market where GHG emission allowances can be bought and sold by entities, better facilitating the reduction of GHGs in a way that prevents inflexible limitations on economic activity.

California Department of General Services (DGS)
The Department of General Services (DGS) serves as business manager for the state of California. General Services helps to better serve the public by providing a variety of services to state agencies. DGS is committed to sustainability in its facilities, fleet and purchasing.

California Energy Commission (CEC)
The California Energy Commission has responsibility for activities that include forecasting future energy needs, promoting energy efficiency appliance and building standards, and supporting renewable energy technologies.

California Environmental Quality Act 1970 (CEQA)
The California Environmental Quality Act is a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible.

California Independent Systems Operator (CAISO)
CAISO is a non-profit public benefit corporation charged with operating the majority of California's high voltage wholesale power grid.

California Public Utilities Commission (CPUC)
The California Public Utilities Commission is an administrative agency that exercises both legislative and judicial powers. The major duties of the CPUC are to regulate privately owned utilities, securing adequate service to the public at rates that are just and reasonable to both customers and shareholders of the utilities. The CPUC also provides electricity and natural gas forecasting, and analysis and planning of energy supply and resources.

Capital Expenditures
Expenditures that extend the service life on an existing asset or the acquisition and/or construction of a new asset.

Capital Improvement Program (CIP) (Annual CIP)
The Capital Improvement Program is supported by the Ten-Year Capital Plan and Ten-Year Financial Plan. SFPUC's CIP includes renewal and replacement (R&R) and capital improvement programs to improve water efficiency, power infrastructure, and sewage treatment facilities. The issuance of revenue bonds, other forms of indebtedness, and the execution of governmental loans are provided under the San Francisco City Charter to finance the SFPUC's capital programs. The repayment of this indebtedness is provided for under the annual rates and revenues of the particular Enterprise that incurs the debt, categorized as debt service in the budget.

Capital Planning Committee (CPC)

The legislation creating San Francisco's (City) Ten-Year Capital Plan created the Capital Planning Committee (CPC). This body is chaired by the City Administrator and consists of the President of the Board of Supervisors, the Mayor's Finance Director, the Controller, the City Planning Director, the Director of Public Works, the Airport Director, the Executive Director of the Municipal Transportation Agency, the General Manager of the Public Utilities System, the General Manager of the Recreation and Parks Department, and the Executive Director of the Port of San Francisco. Through a series of meetings, the Capital Planning Committee reviews proposals, staff recommendations, and documents toward the development of a City-wide capital plan and annual capital budget. Furthermore, the Committee establishes prioritization and assessment criteria to assist the City Administrator and staff in developing the capital plan.

Certificates of Participation (COP)

An instrument evidencing a pro-rata share in a specific pledged revenue stream, usually lease payments by the issuer. The certificate generally entitles the holder to receive a share, or participation, in the lease payments from a particular project. The lease payments are passed through the lessor to the certificate holders. The lessor typically assigns the lease and lease payments to a trustee, which then distribute the lease payments to the certificate holders.

Chemical Oxygen Demand (COD)

COD refers to the amount of oxygen required to oxide the organic compound in a water sample.

Citizen's Advisory Committee (CAC)

The purpose of the Citizen's Advisory Committee is to provide policy recommendations to the Mayor, Board of Supervisors, City Administrator and Commissions on prioritization of public benefits.

City and County of San Francisco (CCSF)

CCSF is the City and County of San Francisco and SFPUC is one of departments governed by the Mayor and Board of Supervisors.

CleanPowerSF

CleanPowerSF is San Francisco's Community Choice Aggregation program. Community Choice Aggregation is a State program that allows cities and counties to partner with their investor-owned utility (PG&E in San Francisco) to deliver cleaner energy to residents and businesses.

Clean Renewable Energy Bonds (CREBs)

CREBs are bonds used to fund the solar photovoltaic projects included in the Hetch Hetchy Water and Power budget as debt service. CREBs are a form of tax credit bond in which interest on the bonds is paid in the form of Federal tax credits by the United States government in lieu of interest paid by the issuer. Created under the Energy Tax Incentives Act of 2005, CREBS can be used, among other entities, by local governments, to finance certain renewable energy and clean coal facilities.

Clean Water Act

The Clean Water Act establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters.

Commercial Paper (CP)

Used as a financing strategy that utilizes short-term financing to calibrate financing needs with project spending. The CP program facilitates short-term financing typically at lower interest rates than longer-term debt, which minimizes costs.

Committee on Information Technology (COIT)

The Committee on Information Technology (COIT) is the City's technology planning and governance body that is charged with submitting a five-year Information and Communication Technology (ICT) plan on a biannual basis to the Mayor and Board of

Supervisors. As required by the City's Administrative Code, this plan seeks to better align City resources with the City's technology goals and objectives. The ICT Plan provides a framework for the City to proactively plan, fund, and implement projects which align with the City's goals of innovation, sustainability, and resilience. As the City's third iteration, the ICT Plan outlines a path to maximize current and future resources to support technology projects. The ICT Plan is updated every other year and covers the next five fiscal years.

Community Choice Aggregation (CCA)

As defined by Assembly Bill 117, CCA permits any city, county or city and county to aggregate the electric loads of residents, businesses and municipal facilities to facilitate the purchase and sale of electrical energy.

County-Wide Cost Allocation Plan (COWCAP)

The County-Wide Cost Allocation Plan is developed annually by the Controller's Office and calculates the overhead rate charged to each department for its share of City-wide overhead costs, such as payroll, accounting, and operations.

Cubic Feet (Ccf)

The billing unit for water and wastewater bills, where 1 Ccf=100 cubic feet=748 gallons. The average single-family residence uses about 51 gallons per person per day versus the California State-wide average of 155 gallons per day per capita.

Debt Service

Debt service is principal and interest payments on revenue bonds, State Revolving Fund loans used to finance system improvements, repayments on loans, and financing for Clean Renewable Energy Bonds.

Department of General Services (DGS)

DGS serves as business manager for the State of California. DGS provides a variety of services to State agencies through innovative procurement and acquisition solutions, creative real estate management and design, state-of-the-art telecommunications, environmentally friendly transportation, and funding for the construction of safe schools.

Earthquake Safety and Emergency Response (ESER)

The San Francisco's Earthquake Safety and Emergency Response Program first approved by voters through a bond measure in 2010. The purpose of the program is to make repairs and improvements to neighborhood firehouses, upgrade the emergency firefighting water system and construct the City's new Public Safety Building that will allow San Francisco to quickly respond to a major earthquake or disaster.

Enterprise Fund

An enterprise fund establishes a separate accounting and financial reporting mechanism for municipal services for which a fee is charged in exchange for goods or services.

Environmental Management System (EMS)

EMS ensures that energy and water are efficiently and productively used in the course of Operations and Maintenance of the sewer system. This program encompasses pollution prevention to prevent harmful pollutants from entering the wastewater system; the biosolids treatment process; public outreach and involvement; exceeding regulatory compliance; and resource recovery in the form of energy recovery and recycling biosolids back to soil or other beneficial use of this resource.

Environmental Protection Agency (EPA)

The EPA is an agency of the United States federal government, created to protect human health and the environment by writing and enforcing regulations based on laws passed by Congress

Equipment

Equipment has a value greater than $5,000, and a useful life of three years or more, such as vehicles and hardware, or other heavy equipment.

Financial Project System (F$P)

In June 2015, the City launched the Financial System Project (F$P) to manage the implementation of a new PeopleSoft Financial and Supply Chain Management system citywide by July 2017. The PeopleSoft system will replace accounting, fixed assets, and procurement systems and introduce new business processes based on best practices. The SFPUC is excited to join this effort to modernize our systems and streamline how the City tracks finances, purchases and contracts for goods and services, and pays invoices.

Fats, Oils, and Grease (FOG)

The SFPUC Water Pollution Prevention Program has materials that can assist businesses in properly managing their fats, oils and grease wastes; FOG can be a major problem for San Francisco's sewers and for the Bay and Ocean that surround San Francisco, because when not disposed of properly FOG forms thick layers inside sewers and constricts flow.

Financial Accounting Standards Board (FASB)

The FASB is the designated organization in the private sector for establishing standards of financial accounting. Those standards govern the preparation of financial statements. They are officially recognized as authoritative by the Securities and Exchange Commission (SEC) (Financial Reporting Release No. 1, Section 101, and reaffirmed in its April 2003 Policy Statement) and the American Institute of Certified Public Accountants (AICPA) (Rule 203, Rules of Professional Conduct, as amended May 1973 and May 1979).

Fiscal Year (FY)

San Francisco's fiscal year is from July 1st to June 30th.

Full-Time Equivalent (FTE)

An FTE is one or more employees who cumulatively work 40 hours per week.

Fund Balance

Fund balance is the difference between assets and liabilities.

Gallons Per Capita Daily (GPCD)

This used to refer to per capita daily water use. GPCD can be used for estimating future water use demand, but it is also an important tool for tracking conservation goals, since it provides a baseline for households and individuals to track & compare their own conservation efforts.

General Fund

The General Fund is a source of discretionary spending and funds many of the basic municipal services in the City and County of San Francisco such as public safety, health and human services and public works. Primary revenue sources include local taxes such as property, sales, payroll and other taxes.

General Reserve

General Reserves is budgeted to balance annual revenue and expenditure amounts. It is budgeted when revenues exceed expenditures.

General Use (GUSE)

Referring to general fund department customers generally pay subsidized rates.

Global Reporting Initiative (GRI)

GRI is an international independent organization that helps businesses, governments and other organizations understand and communicate the impact of business on critical sustainability issues such as climate change, human rights, corruption and many others.

GoSolarSF Program

The GoSolarSF Program was developed by the San Francisco Solar Task Force to encourage the installation of photovoltaic systems on residents and businesses within the City. GoSolarSF solar incentive program was approved by the San Francisco Public Utilities Commission in January 2008. The Board of Supervisors passed ordinances establishing a long-term Solar Energy Incentive Program and a Solar Energy Incentive Pilot Program in June 2008. The program was launched on July 1, 2008.

Governmental Accounting Standards Board (GASB)

The Governmental Accounting Standards Board (GASB) is the independent organization that establishes and improves standards of accounting and financial reporting for U.S. State and local governments.

Green-e Energy

The nation's leading independent consumer protection program for the sale of renewable energy and greenhouse gas reductions in the retail market. Green-e offers certification and verification of renewable energy and greenhouse gas mitigation products.

Greenhouse Gas (GHG)

GHG is a gas in an atmosphere that absorbs and emits radiation within the thermo infrared range. This process is the fundamental cause of the greenhouse effect.

Hetchy System Improvement Program (HSIP)

HSIP is the capital improvement program to upgrade the aging Hetchy Regional Water/Power infrastructure.

Independent System Operator (ISO)

The Independent System Operator is nonprofit public benefit corporation that manages the flow of electricity across the high-voltage, long-distance power lines that make up 80 percent of California's and a small part of Nevada's power grid.

Interconnection Agreement (IA)

The interconnection agreement is a business contract between telecommunications organizations for the purpose of interconnecting their networks and exchanging telecommunications traffic and certain services.

Interest Income

Revenue earned by an Enterprise on its cash investments.

Key Performance Indicators (KPIs)

Financial and non-financial metrics used to quantify objectives to reflect strategic performance of an organization.

Kilovolt (kV)

This is a measure of the potential energy of a unit charge at a given point in a circuit relative to a reference point.

Leadership in Energy and Environmental Design (LEED)

LEED stands for Leadership in Energy and Environmental Design and was developed by the U.S. Green Building Council (USGBC) to set a benchmark for design, construction, and operation of high-performance green buildings.

Light-Emitting Diode (LED)

LED is a new solid-state lighting technology that offers better lighting performance and energy efficiency. Light is emitted from clusters of diodes, which direct light. The fixture lasts for 15 years.

Local Agency Formation Commissions (LAFCO)

LAFCO is responsible for reviewing and approving proposed jurisdictional boundary changes, including annexations and detachments of territory to and/or from cities and special districts, incorporations of new cities, formations of new special districts, and consolidations, mergers and dissolutions of existing districts.

Low-Impact Design (LID)

LID refers to a land planning and engineering design approach to manage stormwater runoff. LID directs runoff to natural vegetated systems, such as landscaped planters, swales and gardens that reduce filter or slow stormwater runoff. Strategic placement of this system can help mitigate the impacts of impervious surfaces and in some cases increase the level of service provided by the traditional sewer pipes.

Materials & Supplies (M&S)

M&S is an expenditure category that includes maintenance, safety, fuel, office supplies, and other miscellaneous materials and supplies for the maintenance and operations of an Enterprise/Bureau.

Megawatt (MW)

Megawatt is a standard unit of power in the international system equal to one million watts, used as a measure of the output of a power station.

Memorandum of Understanding (MOU)

A memorandum of understanding describes a bilateral or multilateral agreement between two or more parties

Million Gallons per Day (MGD)

Million gallons per day is a measurement of water flow frequently used in measurement of water consumption.

Modesto Irrigation District (MID)

One of four irrigation districts in California; its electric service area includes Modesto, Salida, Empire, Waterford, Mountain House and parts of LaGrange, Riverbank, Ripon, Escalon and Oakdale.

Modified Accrual Basis of Accounting

A basis of accounting used with a current financial resources measurement focus. It modifies the accrual basis of accounting in two significant ways: first, revenues are not recognized until they are measurable and available; and second, expenditures are recognized in the period in which the SFPUC normally liquidates the related liability rather than when the liability is first incurred, if earlier.

National Pollutant Discharge Elimination System (NPDES)

A permit program, authorized by the Clean Water Act, that controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

New Clean Renewable Energy Bonds (NCREBs)

New Clean Renewable Energy Bonds (New CREBs) are one of several types of tax credit bonds authorized under IRC Section 54A, that allow a credit to investors that hold such bond on one or more of the quarterly credit allowance dates.

Non-Personnel Services

Non-personnel services includes the maintenance of equipment and facilities, travel, training, memberships, professional services, rent, and other expenses that support maintenance for the operation of an Enterprise.

North American Electric Reliability Corporation (NERC)

The electric reliability organization (ERO) certified by the Federal Energy Regulatory Commission purpose is to establish and enforce reliability standards for the bulk-power system. NERC develops and enforces reliability standards; assesses adequacy annually via a 10-year forecast, and summer and winter forecasts; monitors the bulk power system; and educates, trains and certifies industry personnel.

Office of the General Manager (GM)

Supports the General Manager in his key oversight functions, which are to oversee the regional utility that delivers reliable, high quality drinking water to more than 2.5 million Bay Area customers; that collects and treats wastewater and stormwater for the CCSF; and that provides hydroelectric and other renewable power resources for the San Francisco municipal customers.

Oil and Grease (O/G)
One of the determinants of wastewater rates for nonresidential customers.

Operating Transfers Out
Operating transfers out refers to the revenue transfers between Enterprise funds.

Operations and Maintenance (O&M)
Includes budgets for Personnel, Overhead (or COWCAP), Non-Personnel Services, Materials and Supplies, Equipment, and Services of Other Departments.

Other Non-Operating Revenues
Non-utilities revenues, including rent, permit fees, sale of property, custom work, and reimbursements.

Pacific Gas & Electric (PG&E)
Incorporated in California in 1905, Pacific Gas & Electric is a natural gas and electric utilities company, with a service area from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada in the east. The company is based in San Francisco.

Pass-through
A pass-through is when the budget and/or expenditures are off-set by a like amount in revenues.

Personnel
Personnel refers to all labor costs including full-time, temporary, and projected-funded employees, overtime, premium and holiday pays and related benefits.

Pretreatment and Pollution Prevention (P2)
Programs to ensure regulatory compliance in wastewater collection systems; they focus on contaminant reduction activities for residential, commercial, and industrial dischargers. The major P2 programs include: Street Sweeping, Fats, Oils & Grease (FOG), Mercury Reduction Program, Pesticides/Integrated Pest Management (IPM), and Storm Water P2 Program/Construction Runoff Control.

Proceeds from Debt
Refers to revenues received through the issuance of bonds, loans, or other borrowings.

Programmatic Projects
Programmatic projects are annual projects that close-out at the end of the fiscal year. These projects are used to capture costs for specific operating or maintenance programs.

Project Labor Agreement (PLA)
A pre-hire collective bargaining agreement with one or more labor organizations that establishes the terms and conditions of employment for a specific construction project.

Proposition 218
Prop 218 amended the California Constitution (Articles XIIIC and XIIID) which, as it relates to assessments, requires the local government to have a vote of the affected property owners for any proposed new or increased assessment before it could be levied. The Proposition was passed by California voters on November 5, 1996, and the assessments portion placed in effect on July 1, 1997

Proposition A (2002)
Approved by voters in November 2002, authorizes the SFPUC, subject to Board of Supervisors approval, to issue up to $1.628 billion in revenue bonds or other forms of indebtedness to finance the acquisition and construction of improvements to the City’s water system.

Proposition A (2009)
Approved in November 2009, this Proposition amended the City Charter to require the City to transition to a two-year budget cycle by FY 2012-13.

Proposition E (2002)
Approved by voters in November 2002, authorizes the SFPUC to issue revenue bonds or other forms of indebtedness for the purpose of reconstructing, replacing, expanding, repairing or improving water facilities or clean water facilities when authorized by ordinance approved by a two-thirds vote of the Board of Supervisors.

Qualified Energy Conservation Bonds (QECBs)
QECBs are tax credit bonds specifically targeting energy conservation and green programs.

Rate Fairness Board (RFB)
The RFB was established with the passage of Proposition E, approved by San Francisco voters on November 5, 2002. The RFB advises the SFPUC on water and sewer rate matters. Its specific duties are: Annual review of a five-year rate forecast; hold one or more public hearings on annual rate recommendations before the SFPUC Commission adopts rates; provide a report and recommendations to the SFPUC on the rate proposal and; in connection with periodic rate studies, submit to the SFPUC rate policy recommendations for the Commission's consideration, including recommendations to reallocate costs among various retail utility customer classifications, subject to any outstanding bond requirements.

Renewable Portfolio Standards (RPS)
(RPS) is a regulation that requires the increased production of energy from renewable energy sources, such as wind, solar, biomass, and geothermal.

Renewal and Replacement (R&R)
R&R refers to projects in the Enterprises, including both minor and major construction projects, maintenance and rehabilitation projects, planning studies, and preliminary engineering analysis for major capital improvements.

Request for Proposal (RFP)
The process by which a corporate department or government agency prepares bid documents to acquire equipment or services.

Retail Water Sales
Retail water sales consist of rate schedules that include City and Suburban Retail rates. City Retail Rates include general rates - single-family residential, multiple-family residential, and commercial (industrial). These rates consist of a monthly service charge based on meter size and a two-step commodity charge for single- and multiple-family residential customers, and meter size and a uniform commodity charge for commercial (industrial) customers. Suburban retail rates include rate schedules for use outside of San Francisco.

Revenue-Funded Capital
The Revenue-Funded Capital is the revenue portion of the two-year capital program approved outside the budget process. This revenue reserve is funded in the operating budget.

Sale of Electricity
Sale of electricity refers to charges for electric power to City departments for municipal use, wholesale customers, and other retail customers.

Sale of Gas and Steam
Revenues from gas and steam provided to City departments by Hetch Hetchy Power. These revenues are a pass-through and have no impact on Hetchy Hetchy's fund balance levels.

Sale of Water
The budget category for revenues from sales of water to retail customers in San Francisco and suburban areas and to wholesale customers under the terms of a long-term Water Supply Agreement (WSA).

San Francisco Municipal Transportation Agency (SFMTA)
A public service Enterprise department of the CCSF that provides a surface transportation network for pedestrians, bicyclists, transit and paratransit customers, motorists, and taxis.

San Francisco Public Utilities Commission (SFPUC)
The SFPUC is a department of the City responsible for the maintenance, operation and development of three utility enterprises: the Wastewater Enterprise, the Water Enterprise and the Power Enterprise. The SFPUC provides regional water, local water, wastewater (collection, treatment, and disposal), and power.

Services of Other Departments
Services performed for the SFPUC by other City departments.

Sewer Service Charges
Sewer service charges are the primary funding source for the payment of costs associated with the Wastewater Enterprise's sanitary waste and stormwater collection, treatment and disposal.

Sewer System Improvement Program (SSIP)
A major focus of the Wastewater Enterprise, the SSIP is a long-term capital program that provides strategies and policies for the future. The San Francisco Sewer System Improvement Program objectives are to: develop a long-term vision and strategy for the management of the City's wastewater and stormwater; provide a detailed capital planning roadmap for improvements needed; estimate the funds to implement these improvements; address specific challenges facing the system; and maximize system reliability and flexibility.

SFPUC Commission
Under the Charter, the SFPUC is given exclusive charge of the operation and management of all water, wastewater and municipal customers' energy supplies and utilities of the City as well as the real, personal and financial assets under the SFPUC's jurisdiction. The Commission consists of five Commissioners appointed by the Mayor and subject to confirmation by a majority of the Board of Supervisors serving four-year terms.

State Revolving Fund (SRF)
State revolving funds are available as loans to government entities for the construction of publicly owned water and wastewater treatment facilities. The fund is administered by State Water Resources Control Board.

Strategic Sustainability Plan (SSP)
The SSP provides the SFPUC with a system for planning, managing, and evaluating SFPUC-wide performance that takes into account the long-term economic, environmental, and social impacts of the SFPUC's business activities.

Ten-Year Capital Plan
The City and County of San Francisco Administrative Code requires the annual development of a Ten-Year Capital Plan for City-owned facilities and infrastructure. Under the authority of the City Administrator, the Capital is presented to the Capital Planning Committee (CPC) for their review. The CPC completes its review of the capital plan by March 1 and presents it to the Board of Supervisors (BOS). The BOS must adopt the Capital Plan by May 1.

Ten-Year Financial Plan

The Ten-Year Financial Plan is a planning document as required by the City and County of San Francisco, that includes a ten-year financial summary for each Enterprise, describing projected sources and uses, resulting fund balances and associated financial reserve ratios.

Total Suspended Solids (TSS)

A water quality measurement that serves as one of the determinants of wastewater rates for nonresidential customers.

Treasure Island (TI)

The Water, Wastewater, and Power Enterprises operate and maintain the water, wastewater, and power distribution systems, and the associated revenues, on Treasure Island, on behalf of the Treasure Island Development Authority (TIDA) and in accordance with a water supply and quality permit issued by the California Department of Health Services, and the National Pollutant Discharge Elimination System (NPDES) permit issued by the California Regional Water Quality Control Board.

Treasure Island Development Authority (TIDA)

The Treasure Island Development Authority (TIDA) is a non-profit, public benefit agency dedicated to the economic redevelopment of former Naval Station Treasure Island. The Authority is vested with the powers of a California Redevelopment Agency as well as the rights to administer Tidelands Trust property. TIDA also performs and administers vital municipal services for the residential and daytime population during the interim reuse of the former military base.

Turlock Irrigation District (TID)

This is one of four irrigation districts in California that provides irrigation water as well as electric retail energy directly to homes, farms and businesses.

Up-country

Up-country refers to the water and power facilities located east of Alameda Country to the Sierras.

Water Infrastructure Finance and Innovation Act of 2014 (WIFIA)

The Water Infrastructure Finance and Innovation Act of 2014 (WIFIA) established a federal credit program administered by the U.S. Environmental Protection Agency (EPA). The WIFIA program accelerated investment in water and wastewater infrastructure of national and regional significance by offering creditworthy borrowers loans for up to 49 percent of eligible project costs.

Water Supply Agreement (WSA)

The City and County of San Francisco and the 27 suburban wholesale customers entered into an agreement to purchase water from San Francisco on a wholesale basis and distribute it to residents, businesses, and thousands of community organizations in Alameda, Santa Clara and San Mateo Counties. The WSA was approved in April 2009 and has a term of 25 years. The Agreement changes the cost basis by which the wholesale rate is determined from a “utility cost basis” to a “cash basis”. Beginning in FY 2009-10, wholesale customers will pay a proportionate share of regional system operating expenses, debt service on bonds sold to finance regional improvements, and other regional system improvements funded from current revenues. The WSA requires the rate be calculated and set annually and include a “true-up” between prior year revenues expenses.

Water System Improvement Program (WSIP)

The SFPUC launched a $4.6 billion Water System Improvement Program (WSIP) to repair, replace, and seismically upgrade the San Francisco Regional Water System’s aging facilities. Built in the early to mid-1900s, many parts of the San Francisco Regional Water System, often referred to as the Hetch Hetchy System, are nearing the end of their working life, with crucial portions crossing over or near to three of the nation’s most active earthquake faults. The WSIP increases resilience to vulnerable portions of the system to mitigate earthquake risk and enhance water treatment processes to ensure a reliable supply of water for SFPUC customers.

Western Electricity Coordinating Council (WECC)

The Western Electricity Coordinating Council (WECC) is the Regional Entity responsible for coordinating and promoting Bulk Electric System reliability in the Western Interconnection. In addition, WECC provides an environment for coordinating the operating and planning activities of its members as set forth in the WECC Bylaws.

Western Renewable Energy Generation Information System

The Western Renewable Energy Generation Information System (WREGIS) is an independent, renewable energy tracking system for the region covered by the Western Electricity Coordinating Council (WECC). WREGIS tracks renewable energy generation from units that register in the system using verifiable data and creates renewable energy certificates (RECs). WREGIS certificates can be used to verify compliance with state and provincial regulatory requirements (i.e. - Renewable Portfolio Standards) and in voluntary market programs.

Western Systems Power Pool (WSPP)

WSPP is an agreement and an organization that creates power trading opportunities and allows WSPP members to manage power delivery and price risk. The mission of the organization is to provide a catalyst for an efficient and robust wholesale electric power market. WSPP accomplishes this by constantly facilitating refinements to the Agreement, and promoting trading relationships.

Wholesale Water Sales

The Water Enterprise provides wholesale water service to 27 wholesale customers, which consist of 24 municipalities and water districts, one private utility, one private non-profit university and one mutual water association. Wholesale customers are located in Alameda, Santa Clara and San Mateo counties. The SFPUC and the wholesale customers have negotiated a new Water Supply Agreement (WSA) that changes the cost basis by which the wholesale rate is determined from a “utility basis” to a “cash basis”. Beginning in FY 2009-10, wholesale customers will pay a proportionate share of regional system operating expenses, debt service on bonds sold to finance regional improvements, and other regional system improvements funded from current revenues.

San Francisco Public Utilities Commission
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