EAST BAY MUNICIPAL UTILITY DISTRICT

1923–2023 | Celebrating 100 Years of Great Water

Biennial Budget

Fiscal Years 2022 & 2023

Supplemental Material

Capital Project Summaries

Photos on cover:
Top photo shows 1929 Pardee Tunnel construction.
Bottom photo shows 2018 Lafayette Aqueduct repair.

East Bay Municipal Utility District

Biennial Budget

Fiscal Years 2022 and 2023

Volume 1	District Overview Water System Wastewater System
Volume 2	**Supplemental Material:** **Capital Project Summaries**

Adopted by the Board of Directors

June 8, 2021

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FY22-26 CAPITAL PROJECTS SUMMARY

This chapter contains a Project Summary for each project that has work planned in FY22-26, and an alphabetical project listing.

- **Project Summary**

  The project summaries are presented in alphabetical order first by Lead Department and then by Project title, and provide a description of the project including recent accomplishments and future plans, as well as previously adopted and planned appropriations.

- **Project Index**

  The projects are listed in alphabetical order by title to facilitate locating a Project Summary.

- **Department Abbreviations**

  The abbreviation for the Lead Department responsible for each capital project is as follows:

  CUS – Customer and Community Services Department
  ENG – Engineering Department
  FIN – Finance Department
  ISD – Information Systems Department
  MCD – Maintenance & Construction Department
  NRD – Natural Resources Department
  OSD – Operations & Maintenance Support Department
  WAS – Wastewater Department
  WOD – Water Operations Department
  WRD – Water Resources Department
  WRP – Water Recycling Program

- **Recurring Projects**

  Projects that perform similar work each year are considered recurring projects, such as Meter Replacements. For recurring projects only the FY22-26 appropriations are shown on the Project Summary page since such projects do not have a definitive total project cost.

- **Funding Sources**

  Funding for the CIP is drawn from multiple sources, the abbreviations are as follows:

  APPL – Applicant
  BOND/REV – Bond or Revenue
  ERF – Equipment Replacement Fund
  GRANTS – Grants
  OAG – Other Agencies
  SCC – System Capacity Charges
  VRF – Vehicle Replacement Fund

- **Active Segment Appropriations**

  The District is preparing for the implementation of a new financial system which has led to a restructuring of capital work whereby:
  - Most capital projects now contain just one segment,
  - Project appropriations include segments that are completed and no longer active, and
  - Strategies and programs for grouping projects will be redefined.

Capital Improvement Program - Project Summary

Project: Water Conservation Project **Project Number:** 000894

Strategy: Water Supply **Program:** Water Conservation

Justification:

Demand management is a key component of the water management policy to promote the efficient use of the District's limited water supply. In addition, the 2018 water conservation legislation (Assembly Bill 1668 and Senate Bill 606) requires the District to meet water use efficiency goals.

Description:

As part of the 2050 Demand Study, the goal was revised to achieve 70 million gallons per day of water conservation by the year 2050. This project covers implementation of activities to help meet that goal and to comply with state water use efficiency regulations. In FY21, the update to the Water Conservation Master Plan was completed, which will provide a roadmap for meeting this target.

In FY20-21, ongoing rebates and incentives were offered to customers and a pilot flow meter rebate program was launched. In FY21, two pilots studying the potential for Advanced Metering Infrastructure (AMI) to help customers save water and energy were completed. While the global pandemic impacted activities such as in-person water audits and community events, the program pivoted to offering more services remotely including hosting a highly successful Water-Wise Gardening webinar series. Staff conducted extensive phone outreach to customers with leaks and high water use to minimize financial impacts to customers.

Over the next five years, the Water Conservation Program will continue to offer traditional rebates, incentives, and education programs, while increasing its focus on providing digital tools to help customers manage their water use. The program will look to expand the use of its web portal, home water reports, leak alerts, and other communication tools. The District is also participating in a Proposition 1 Regional Water Conservation grant that funds rebates, training, AMI, and other activities.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Water Conservation Services	67,306,924	8,730,696	11,075,000	87,112,620

Project Appropriations	
Prior Years	$ 74,759,124
2022	$ 0
2023	$ 2,371,714
2024	$ 2,402,144
2025	$ 1,946,784
2026	$ 2,010,054
Future Years	$ 11,075,000
Total Cost	**$ 94,564,820**

Lead Dept: CUS

Recurring: No

Funding:

BOND/REV	89%
GRANTS	1%
OAG	10%

In Service Date: 30-Jun-42

Capital Improvement Program - Project Summary

Project: Aqueduct Cathodic Protection **Project Number:** 001210

Strategy: Maintaining Infrastructure **Program:** Corrosion

Justification:

Cathodic protection along the aqueducts enhances the reliability of the raw water delivery system by reducing external corrosion of the steel pipelines, thus reducing aqueduct outages caused by leaks. The cathodic protection for Mokelumne Aqueduct No. 1 has been maintained since 1934.

Description:

This recurring project includes annual investigations and periodic renewal of the Mokelumne Aqueducts' 44 cathodic protection systems (CPSs). These systems prevent the corrosion of steel pipelines that come into contact with soil and require periodic replacement of expendable components, such as anode beds and power supplies.

FY21-22 work includes site evaluations to determine the status of each CPS and prioritization of improvement projects. FY23-26 work includes replacing obsolete and inefficient rectifier power supplies and improving obsolete deep well anode beds.

FY27-31 work will continue to evaluate, repair, replace, and improve CPSs as necessary to maintain aqueduct cathodic protection.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Aqueduct Cathodic Protection	4,168,000	2,089,000	2,375,000	8,632,000

Project Appropriations	
Prior Years	-
2022	$ 0
2023	$ 497,000
2024	$ 513,000
2025	$ 531,000
2026	$ 548,000
Future Years	-
Total Cost	**-**

Lead Dept: ENG
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Building Facilities Improve **Project Number:** 003033

Strategy: Facilities, Servc and Equip **Program:** Area Service Center/Bldg Prog

Justification:

As systems, equipment, and finishes at District-occupied buildings reach the end of their useful service life, higher than normal energy consumption and operating and maintenance costs can be incurred. Upgrading and expanding building facilities will improve sustainability and reduce costs.

Description:

Improvements to building systems and equipment serve to maintain safe work spaces, reduce operating and maintenance costs, minimize energy use, and reduce the carbon footprint.

During FY20-21 work included the elevator upgrades, LED light installations, HVAC systems and Data Center reliability improvements, and roofing renovation designs at the Administration Building (AB). Planning and design for improvements at service centers, a vehicle maintenance facility, and the Adeline Maintenance Center (AMC) moved forward.

FY22-26 work includes HVAC and lighting upgrades at the AMC, Oakport office and warehouse upgrades, electrical modifications at the East Area Service Center to enable operation as an incident command base, and the expansion of facilities at the Fleet Maintenance East facility in Walnut Creek to improve safety, reliability, and energy efficiency. Planning and community outreach for a new service center in West Oakland will be completed and the site will be used for equipment and materials storage and staging operations.

FY27-31 projects include new warehousing and storage facilities at the Oakport Storage Center, renovation of the Central Area Service Center at AMC, expansion of the Castenada Service Center in San Ramon, and re-sealing of joints and pre-cast concrete panels on the exterior of the AB. These projects support pipeline repair and replacement operations and preserve existing infrastructure assets.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Building Facilities Improve	80,007,811	81,079,000	36,472,000	197,558,811

Project Appropriations	
Prior Years	$ 82,142,930
2022	$ 0
2023	$ 0
2024	$ 11,819,000
2025	$ 39,477,000
2026	$ 29,783,000
Future Years	$ 36,472,000
Total Cost	**$ 199,693,930**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-35

Capital Improvement Program - Project Summary

Project: Dam Operational Upgrades **Project Number:** 1002574

Strategy: Regulatory Compliance **Program:** Dam Safety

Justification:

Upgrades to dams, spillways, channels, embankment slopes, reservoir roofs/linings, drain lines, valves and other features are required by the California Division of Safety of Dams and Federal Energy Regulatory Commission to safely operate reservoirs and dam facilities.

Description:

This project involves improvements to various dams and reservoirs to allow continued safe operation of the facilities. FY20-21 accomplishments include: 1) formal spillway condition assessments at Camanche and terminal dams at Briones, Chabot, San Pablo, and Upper San Leandro; 2) inundation maps for jurisdictional open-cut and terminal reservoirs; and 3) inspections of Maloney Reservoir's lining.

FY22-26 work includes: 1) sunny-day inundation modeling and mapping for Mokelumne and non-jurisdictional reservoirs per the California Division of Safety of Dams; 2) lining and roof repairs at Maloney and Dunsmuir Reservoirs; 3) terminal reservoir tunnel and outlet conduit inspections; 4) phase 2 terminal reservoir spillway evaluations; 5) stilling basin evaluations and improvement plans; and 6) spillway drain evaluations.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Dam Operational Upgrades	19,149,000	0	0	19,149,000

Project Appropriations	
Prior Years	$ 21,273,000
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 21,273,000**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-26

Capital Improvement Program - Project Summary

Project: Dam Seismic Upgrades **Project Number:** 000861

Strategy: Regulatory Compliance **Program:** Dam Safety

Justification:

This project includes seismic safety evaluations to improve seismic safety as required by the California Division of Safety of Dams (DSOD).

Description:

DSOD and the District require that embankments have an acceptable factor of safety to withstand the maximum considered earthquake without an uncontrolled release of reservoir water.

Evaluations and/or safety reviews were completed at all dams in FY18. A new cycle of review will account for accumulated changes in seismic evaluation standards and safety requirements and respond to portions of the 2017 Federal Energy Regulatory Commission (FERC) Potential Failure Mode Analysis and Independent Consultant Safety Inspection.

Seismic upgrades to the soils at the toe of Camanche Dam are planned to begin in FY22 and are dependent on FERC review, approval, and subsequent directive. Updated seismic reviews using current engineering standards are planned for FY22-23 at Danville Reservoir and at Leland Reservoir in Lafayette to meet DSOD requirements.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Dam Seismic Upgrades	113,261,243	3,900,000	1,135,500	118,296,743

Project Appropriations	
Prior Years	$ 119,611,680
2022	$ 0
2023	$ 3,000,000
2024	$ 500,000
2025	$ 200,000
2026	$ 200,000
Future Years	$ 1,135,500
Total Cost	**$ 124,647,180**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-31

Capital Improvement Program - Project Summary

Project: Dam Surveillance Improvements **Project Number:** 000748

Strategy: Regulatory Compliance **Program:** Dam Safety

Justification:

Ongoing dam surveillance is required per the District's Dam Safety Program, the California Division of Safety of Dams (DSOD), and Federal Energy Regulatory Commission (FERC) license requirements. Dam instrumentation must be upgraded and replaced as needed to provide early warning of potential safety issues.

Description:

Staff regularly monitors the performance and safety of dams with routine inspections and measurements using over 2,000 instruments to measure water levels below the dams, flow through the dams and foundation, dam settlement and displacement, spillway crest tie-down loads, and earthquake ground motions.

In recent years, seismographs have been installed at Pardee and Camanche Reservoirs; seepage monitoring devices have been upgraded at multiple open-cut reservoirs; the collection and monitoring systems at the Camanche Dike two relief wells; the automated GPS topographic survey systems at Pardee and Camanche Dams; and replaced vibrating wire piezometer equipment.

FY22-26 work includes: 1) cleaning of the Camanche Main Dam relief wells; 2) design and construction of field drains below Camanche Dam; 3) evaluation of the Pardee concrete spillway tie-down anchors; 4) evaluation of erosion of unlined Pardee spillway; 5) installation of seismographs at Lafayette Reservoir; 6) operation and maintenance of an automated GPS survey system at Camanche and Pardee Dams; 7) replacement, repair, or acquisition of new instruments to monitor dam safety; 8) design and installation of a pilot automated GPS survey system at San Pablo Reservoir and evaluation of its use at Briones, Chabot, Lafayette, and Upper San Leandro Reservoirs; and 9) design and implementation of a GIS-based dam monitoring program for centralized assessment of dam surveillance parameters.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Dam Surveillance Improvements	10,736,068	0	0	10,736,068

Project Appropriations	
Prior Years	$ 12,483,322
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 12,483,322**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-29

Capital Improvement Program - Project Summary

Project: Delta Tunnel **Project Number:** 2014358

Strategy: Water Supply **Program:** Aqueduct Program

Justification:

The Mokelumne Aqueducts sections located in the Delta are vulnerable to damage from floods and seismic events. The long-term strategy for protecting the raw water supply is to construct a new tunnel across the Delta to replace the vulnerable aqueducts section. Design of the Delta Tunnel is identified in the Raw Water Master Plan as a priority project.

Description:

The Delta Tunnel (a 16.5 mile tunnel from Stockton to Bixler) will be designed to convey the full flow capacity of all three Mokelumne Aqueducts to mitigate flood and seismic hazard risks in the Delta. Work includes planning, studies, California Environmental Quality Act (CEQA) permitting, public outreach, land acquisition, design, and construction of the Delta Tunnel.

FY16-19 work included extensive geotechnical investigations to characterize the underlying geology for future tunnel construction and analysis of the existing pile-supported Mokelumne Aqueducts.

FY20-22 work includes planning, environmental studies, alternative analysis, and conceptual engineering and design. FY23-26 work will include conducting the CEQA environmental review process, agency consultation, and public outreach.

Planned FY27-31 work includes additional geotechnical investigations, environmental studies, permitting, land acquisition, and design.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Delta Tunnel	0	11,675,000	71,012,000	82,687,000

Project Appropriations	
Prior Years	$ 0
2022	$ 4,400,000
2023	$ 7,275,000
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 71,012,000
Total Cost	**$ 82,687,000**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-32

Capital Improvement Program - Project Summary

Project: Distr Sys Cathodic Protection **Project Number:** 000711

Strategy: Maintaining Infrastructure **Program:** Corrosion

Justification:

Regular upgrades to cathodic protection systems (CPS) are needed to reduce maintenance costs and extend the useful life of the water mains.

Description:

This recurring project is to repair or replace cathodic protection units for Mortar Lined & Coated Steel (ML&CS) or Mortar Lined & Plastic Coated Steel (ML&PCS) distribution water mains. The ML&PCS pipelines are protected by approximately 1,300 galvanic anode systems, which total 3,000 individual anodes. The ML&CS pipelines are protected by approximately 60 impressed current CPS.

FY21-26 work will include improving approximately 40 galvanic anode test stations annually, 20 CPSs biannually, and moving towards installing approximately 4,400 zinc anodes annually for the Copper Lateral Cathodic Protection Program.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Distr Sys Cathodic Protection	18,644,000	17,162,929	27,108,000	62,914,929

Project Appropriations	
Prior Years	-
2022	$ 0
2023	$ 1,838,929
2024	$ 5,353,000
2025	$ 4,262,000
2026	$ 5,709,000
Future Years	-
Total Cost	**-**

Lead Dept: ENG
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Distribution System Upgrades **Project Number:** 000130

Strategy: Extensions and Improvements **Program:** Pressure Zone Improvements

Justification:

Work including rezoning of existing pressure zones (PZ), valve studies, and on-call cultural resources consultants are needed to commonly restore system service levels, improve distribution system redundancy and capacity. Work is prioritized annually based on level of service and operating efficiency.

Description:

New PZ studies provide data for planning water distribution system projects, such as new reservoirs or pipelines.

PZ rezonings cover projects that rezone customers to a higher pressure zone. Projects come from a prioritized list of potential rezonings resulting from distribution system operational issues and/or verified customer complaints.

Cultural resources consultants provide on-call cultural and paleontological resource management support for planned and unplanned work, including site studies and unanticipated discoveries.

Valve studies include the design and installation of remote control Dual Tank Isolation Valves and completion of the Distribution System Valve Study to document and improve existing practices for valves, spacing, inspection, installation, maintenance, and asset management.

FY22-26 planned milestones include completion of the Distribution System Valve Study and three or more rezonings.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Distribution System Upgrades	6,119,936	0	0	6,119,936

Project Appropriations	
Prior Years	$ 9,126,808
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 9,126,808**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-35

Capital Improvement Program - Project Summary

Project: Engineering IT **Project Number:** 000112

Strategy: Extensions and Improvements **Program:** Mapping

Justification:

This is a recurring project to develop and maintain the Computer-Aided Drafting and Mapping System (CAD/CAM) and Geographic Information System (GIS). These systems are integral to the information infrastructure by providing data, engineering drawings, and maps required for infrastructure planning, emergency response, and maintenance.

Description:

This project provides maintenance and upgrades to the CAD/CAM and GIS and updates to distribution system maps and associated data. Mapping and GIS data is used District-wide and by other public agencies. CAD/CAM is also used to create design and construction drawings for all facilities and distribution system pipelines.

In FY20-21, the Geospatial Strategic Plan was implemented by making additional pipeline information electronically available, efficiently harvesting asset data from other work groups, improving database design and data quality, and automating data replication from Mapping to Information Systems department's geodatabases. In FY21, CAD systems modernization and BIM (Building Information Modeling) implementation was added to improve project coordination and collaboration, utilize 3-D modeling, and streamline workflow process.

In FY22-26, work includes GIS database and desktop software upgrades, water network data model migration, and periodic major software updates to take advantage of new functionality to ensure system integrity and increase productivity.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Engineering IT	39,279,860	12,360,672	12,414,000	64,054,532

Project Appropriations	
Prior Years	-
2022	$ 2,503,764
2023	$ 2,445,589
2024	$ 2,341,264
2025	$ 2,499,048
2026	$ 2,571,007
Future Years	-
Total Cost	**-**

Lead Dept: ENG
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Facilities Cathodic Protection **Project Number:** 2014360

Strategy: Maintaining Infrastructure **Program:** Corrosion

Justification:

Facilities Cathodic Protection (CP) monitors, maintains, and rehabilitates existing CP systems for steel water storage tanks, outlet towers, water treatment facilities, and pumping plants for effective corrosion protection.

Description:

This project will improve the existing CP systems, which include galvanic anode or impressed current CP systems for steel water storage tanks, outlet towers, water treatment facilities, and pumping plants by documenting the condition of each CP system and adjusting the CP systems when possible for effective corrosion protection.

FY21-22 work will include field reconnaissance to evaluate each facility's existing cathodic protection system and develop a master plan to perform future improvements.

FY23-26 work will include biannual design and construction projects to focus on improving facility cathodic protection.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Facilities Cathodic Protection	0	2,218,000	2,378,000	4,596,000

Project Appropriations	
Prior Years	-
2022	$ 215,000
2023	$ 77,000
2024	$ 893,000
2025	$ 82,000
2026	$ 951,000
Future Years	-
Total Cost	**-**

Lead Dept: ENG
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Hydrants Installed by DF **Project Number:** 000099

Strategy: Maintaining Infrastructure **Program:** Pipelines/Appurtenances

Justification:

This project is needed to install hydrants at the request of city and county fire districts for new developments, including urban in-fill projects, and for District projects.

Description:

This is a recurring project to install new hydrants in the service area. Most requests for new hydrants come from fire districts or developers.

Development activity has been strong in recent years, with a corresponding increase in the number of hydrants installed. In FY16-17, an average of 85 new hydrants were installed annually. In FY18-19, approximately 90 new hydrants were installed annually. In FY20-21, approximately 65 new hydrants were installed annually.

FY22-26 work will include the installation of approximately 100 hydrants per year.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Hydrants Installed by DF	27,955,000	9,685,000	6,599,000	44,239,000

Project Appropriations	
Prior Years	-
2022	$ 1,815,000
2023	$ 1,874,000
2024	$ 1,935,000
2025	$ 1,998,000
2026	$ 2,063,000
Future Years	-
Total Cost	**-**

Lead Dept: ENG
Recurring: Yes

Funding:

APPL	38%
BOND/REV	25%
OAG	37%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Large Diameter Pipelines **Project Number:** 1006298

Strategy: Maintaining Infrastructure **Program:** Pipelines/Regulators

Justification:

The replacement of large diameter transmission pipelines is required to maintain infrastructure reliability. Replacement projects are identified by the Large Diameter Pipeline Master Plan (LDPMP) risk model, which is updated every five years.

Description:

Large diameter transmission pipelines form the backbone of the distribution system. This project replaces existing transmission pipelines that are at risk of failure and installs new transmission pipelines to improve the water system.

FY20-21 work included the construction of International Blvd, Estudillo Ave, and Wildcat Berkeley projects, and design of Alameda Crossing #1, D St, East 15th St, Wildcat El Cerrito and Summit Pressure Zone (PZ) Phase 1 projects.

FY22-26 work includes Summit PZ Phase 2 and Alameda Crossing #2 and #3 design completion; Wildcat Berkeley, Wildcat El Cerrito, Summit PZ Phase 1 and Alameda Crossing #1 construction completion; and D St., East 15th St, Alameda Crossing #2, and Summit PZ Phase 2 construction start.

FY27-31 work includes completion of Summit PZ Phase 2, Berryman South Reservoir Pipeline Improvements, Alameda Crossing #2 and #3, Sequoia, Central PZ, Acalanes Aqueduct, D St, East 15th St, and four replacement projects identified in the LDPMP, which will be updated in FY25.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Large Diameter Pipelines	266,829,225	0	387,920,000	654,749,225

Project Appropriations	
Prior Years	$ 267,880,658
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 387,920,000
Total Cost	**$ 655,800,658**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-40

Capital Improvement Program - Project Summary

Project: Maloney PP & WTP Improvements **Project Number:** 2014354

Strategy: Maintaining Infrastructure **Program:** Pumping Plant Rehabilitation

Justification:

Pumping capacity in the Maloney Pressure Zone (PZ) is deficient and the switchgear that distributes power to Maloney Pumping Plant (PP) and Sobrante Water Treatment Plant (WTP) poses maintenance challenges. This project will increase PP capacity, upgrade old equipment, and provide a dedicated electrical power service to Sobrante WTP.

Description:

This project consists of Maloney PP capacity expansion, electrical improvements at Maloney PP and Sobrante WTP, installation of a standby generator, replacement of La Honda Rate Control Station (RCS), and replacement of instrumentation and controls for the Greenridge PP and La Honda RCS.

In FY20-21, staff installed and energized two power buildings, graded the site, installed equipment pads, and completed two critical system shutdowns to install new large diameter valves. Substantial progress was made on the pumping plant rehabilitation scope of work including the installation of medium and low voltage electrical equipment, interior platform, pump units 3 and 4, and ventilation improvements.

FY22-23 work includes expansion of the new Maloney PP and completion of the power cutover from Sobrante WTP to the new power building.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Maloney PP & WTP Improvements	49,751,084	0	0	49,751,084

Project Appropriations	
Prior Years	$ 49,751,084
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 49,751,084**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 01-Jan-22

Capital Improvement Program - Project Summary

Project: Miscellaneous Planning Studies **Project Number:** 2005281

Strategy: Extensions and Improvements **Program:** Pressure Zone Improvements

Justification:

Miscellaneous Planning Studies are projects that are needed to support water supply and infrastructure planning decision making and include the Enterprise Hydraulic Modeling Project and Demand Study.

Description:

This is an ongoing project to improve workflows and support decision making for infrastructure planning and prioritization, and to optimize operations for energy and water quality, and emergency preparedness. This project includes Enterprise Hydraulic Modeling to develop and maintain hydraulic models and the Demand Study to maintain and update demand projections.

In FY20-21, all of the enterprise hydraulic models were completed, hydraulic modeling software was upgraded, and the 2050 Demand Study was completed.

Planned work for FY22-26 includes ongoing administration of the hydraulic models and demand projections, as-needed updates to the hydraulic models to account for system changes, and a mid-cycle update to the demand projections to account for recent and future development and water consumption trends.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Miscellaneous Planning Studies	4,183,769	638,000	2,590,000	7,411,769

Project Appropriations	
Prior Years	$ 4,183,769
2022	$ 638,000
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 2,590,000
Total Cost	**$ 7,411,769**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-32

Capital Improvement Program - Project Summary

Project: Mok Aqueduct No 2 & 3 Relining **Project Number:** 2003494

Strategy: Water Supply **Program:** Aqueduct Program

Justification:

This project is needed to preserve the integrity of Mokelumne Aqueducts No. 2 and 3. In several areas, the cement mortar lining has failed, the steel pipe wall is corroding, and wall thickness has reduced. The new lining will prevent internal corrosion. Water quality improvements will reduce water corrosivity and extend the life of the mortar linings.

Description:

The Mokelumne Aqueduct System consists of three large diameter pipelines that convey untreated water to the District's Water Treatment Plants. This project will replace the deteriorated cement motor lining (CML) in Mokelumne Aqueducts No. 2 (MOK2) and No. 3 (MOK3) to protect the steel pipelines from internal corrosion. Inspections of the elevated Delta reach revealed that 10 miles of the CML in MOK2 and MOK3 need replacement. Inspections of MOK2 indicate that 65 miles of the below ground pipeline reaches also need CML replacement. Prior to relining, it is necessary to design and construct raw water treatment facilities to minimize corrosion.

FY22-23 work includes design and the start of construction of the raw water treatment facilities and MOK2 Relining Phase 1. FY24-26 work includes construction of the raw water treatment facilities and design of the MOK3 relining above-ground portion.

FY27-31 work includes construction of the MOK3 above-ground relining, and design and construction of the MOK2 below-ground relining.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Mok Aqueduct No 2 & 3 Relining	48,796,347	22,455,176	291,430,000	362,681,523

Project Appropriations	
Prior Years	$ 48,796,347
2022	$ 19,255,176
2023	$ 0
2024	$ 3,200,000
2025	$ 0
2026	$ 0
Future Years	$ 291,430,000
Total Cost	**$ 362,681,523**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-34

Capital Improvement Program - Project Summary

Project: Mokelumne Aqueducts Recoating **Project Number:** 2001487

Strategy: Water Supply **Program:** Aqueduct Program

Justification:

Recoating the Mokelumne Aqueducts protects them from the corrosive Delta environment, prevents deterioration and breaks, and prolongs their useful life.

Description:

This project continues the ongoing removal of existing lead-based paint and recoating above-ground sections of the Mokelumne Aqueducts in the Delta. The work typically takes place during the dry summer season and temporarily shuts down during the wet and cooler winter.

FY22-26 work includes recoating the approximately 60 gully crossings for Aqueduct No. 1 - Phase 13 of the Mokelumne Aqueduct Recoating Project. The remaining gully crossings for Aqueduct No. 1 will be recoated in FY27-31.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Mokelumne Aqueducts Recoating	25,513,945	0	1,418,823	26,932,768

Project Appropriations	
Prior Years	$ 45,025,153
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 1,418,823
Total Cost	**$ 46,443,976**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-28

Capital Improvement Program - Project Summary

Project: New Service Installations **Project Number:** 000101

Strategy: Maintaining Infrastructure **Program:** Pipelines/Appurtenances

Justification:

New accounts require new services to be installed to furnish water to developments.

Description:

This is an ongoing project to install new services. Services include taps on the main, laterals, and meter sets. Work consists of adding services due to system expansion and urban in-fill projects, and excludes the replacement of old services or service laterals. The need for installing new services has been increasing as housing development trends have elevated demand for new services.

724 new services were installed in FY18. In FY20-21, approximately 600 new services were installed, which was lower than expected due to COVID-19's shelter-in-place order.

In FY22-26, approximately 700 new services are expected to be installed annually.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
New Service Installations	249,085,200	80,037,000	71,551,000	400,673,200

Project Appropriations	
Prior Years	-
2022	$ 15,000,000
2023	$ 15,488,000
2024	$ 15,991,000
2025	$ 16,511,000
2026	$ 17,047,000
Future Years	-
Total Cost	**-**

Lead Dept: ENG
Recurring: Yes

Funding: APPL 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Open-Cut Reservoir Program **Project Number:** 000241

Strategy: Maintaining Infrastructure **Program:** Reservoir Rehab Program

Justification:

Open-cut reservoir rehabilitation, replacement, and demolition projects are necessary to remove hazardous materials, reduce maintenance costs, improve safety, and improve water quality by optimizing storage in the distribution system.

Description:

The Open-Cut Reservoir Program includes the rehabilitation and replacement of open-cut reservoirs.

FY20-21 work included construction completion of South Reservoir in Castro Valley and Summit Reservoir in Berkeley, the commencement of construction of the San Pablo Clearwell Replacement Project, and planning for the replacement of Central Reservoir in Oakland, the District's largest distribution reservoir.

FY22-26 work includes construction completion of the San Pablo Clearwell Replacement Project, demolition of Seneca Reservoir in Oakland, planning and design for the Central Reservoir replacement, and the commencement of two major open-cut design projects: replacement of Leland Reservoir in Lafayette and Almond Reservoir in Castro Valley.

FY27-31 work includes construction of the replacement reservoirs for Central, Leland, and Almond.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Open-Cut Reservoir Program	231,627,377	220,726,000	128,150,000	580,503,377

Project Appropriations	
Prior Years	$ 241,634,891
2022	$ 0
2023	$ 81,956,000
2024	$ 55,921,000
2025	$ 46,724,000
2026	$ 36,125,000
Future Years	$ 128,150,000
Total Cost	**$ 590,510,891**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-36

Capital Improvement Program - Project Summary

Project: Pipeline Rebuild **Project Number:** 000554

Strategy: Maintaining Infrastructure **Program:** Pipelines/Regulators

Justification:

Planned replacement of deteriorating pipelines is needed to maintain the reliability of the distribution infrastructure. Replacing portions of the 3,800 miles of distribution system piping on an annual basis mitigates the costs and service disruptions associated with emergency repairs and reduces water loss. Plant Inspections verify compliance with District specifications.

Description:

The Pipeline Rebuild Program is focused on the continued replacement and renewal of failing pipelines in the distribution system. This program will ramp up replacement and renewal at a rate sufficient to maintain high system reliability, and continue to evaluate areas for cost reductions through efficiencies.

This program also includes inspection of purchased water system components at the manufacturers' facility, including pipe, fittings, mechanical items, various types of valves and hydrants.

In FY20, the Pipeline Rebuild Program achieved its goal to replace 17.5 miles of pipeline, and is on track to meet the FY21 goal of 20 miles. The annual replacement mileage goal will increase to 22.5 miles in FY23-24 and 25 miles in FY25-26. The mileage replacement goal will be reviewed and reassessed in FY22-26 but the current projection is that the goal will increase annually by 2.5 miles up to 40 miles in FY32.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Pipeline Rebuild	366,887,745	372,215,856	660,052,061	1,399,155,662

Project Appropriations	
Prior Years	-
2022	$ 60,525,018
2023	$ 70,231,685
2024	$ 72,514,214
2025	$ 83,121,741
2026	$ 85,823,198
Future Years	-
Total Cost	**-**

Lead Dept: ENG
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Pipeline Relocations **Project Number:** 000108

Strategy: Maintaining Infrastructure **Program:** Pipelines/Regulators

Justification:

The project is needed to relocate distribution system pipelines as required due to various projects by public agencies (cities, counties, Caltrans, BART, etc.) and private applicants.

Description:

This is an ongoing project to relocate pipelines to accommodate projects from other agencies, such as roadway improvements, bridge replacements, or rail system expansions. The work is non-discretionary and difficult to forecast since it is dependent on the schedule of other agencies. The District is obligated to bear the cost of pipeline relocations originating from street improvement projects of most cities and counties. Costs for pipeline relocations driven by private applicants and agencies, such as Caltrans and BART, are typically reimbursable.

FY22-26 anticipated work includes the design and construction of approximately 1.5 miles of pipeline relocations per year, which includes 0.5 mile of reimbursable and 1.0 mile of non-reimbursable work.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Pipeline Relocations	69,674,416	22,981,000	33,191,000	125,846,416

Project Appropriations	
Prior Years	-
2022	$ 0
2023	$ 5,473,000
2024	$ 5,650,000
2025	$ 5,834,000
2026	$ 6,024,000
Future Years	-
Total Cost	**-**

Lead Dept: ENG
Recurring: Yes

Funding:

APPL	10%
BOND/REV	73%
OAG	17%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Pipeline System Extensions **Project Number:** 000104

Strategy: Maintaining Infrastructure **Program:** Pipelines/Regulators

Justification:

This project is needed to satisfy the District's obligation to provide service to new customers within the service area.

Description:

This is an ongoing project for pipelines to serve new customers via Applicant Extension Agreements. Annual workload is estimated from projections of land development activity and recent trends in the Water Service Estimate activity from the New Business Office.

FY22-26 work will include approximately 8-10 miles per year of system extensions.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Pipeline System Extensions	62,633,567	52,270,000	35,617,000	150,520,567

Project Appropriations	
Prior Years	-
2022	$ 9,796,000
2023	$ 10,115,000
2024	$ 10,443,000
2025	$ 10,783,000
2026	$ 11,133,000
Future Years	-
Total Cost	**-**

Lead Dept: ENG
Recurring: Yes

Funding: APPL 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Pipeline System Improvements **Project Number:** 000110

Strategy: Maintaining Infrastructure **Program:** Pipelines/Regulators

Justification:

This program is needed to maintain reliable potable water service to customers by improving various components of the distribution system and addressing areas such as water quality, capacity, maintainability, and reliability.

Description:

This is an ongoing program that focuses on projects to improve water quality, system performance, capacity, reliability, and maintainability of the distribution system.

FY21 accomplishments include design and construction of the Glen Pipeline and Southern Skyline Pipeline Improvement Projects, design start construction of the pipeline improvements in Orinda, and design and construction of approximately 1.5 miles of pipeline system improvement and 4-inch reliability replacements projects.

FY22-26 work will include design and construction of Grand Ave Phase 2 Pipeline, 2,000 feet of 24-inch pipeline for the Alcosta Rate Control Station, one mile per year of pipeline system improvements, and 0.5 miles of 4-inch reliability replacements.

FY27-31 work will include the design and construction of one mile per year of pipeline system improvements and 0.5 miles of 4-inch reliability replacements.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Pipeline System Improvements	58,355,644	26,053,000	19,550,000	103,958,644

Project Appropriations	
Prior Years	-
2022	$ 0
2023	$ 4,253,000
2024	$ 4,649,000
2025	$ 10,142,000
2026	$ 7,009,000
Future Years	-
Total Cost	**-**

Lead Dept: ENG
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Pressure Zone Improvements **Project Number:** 001424

Strategy: Extensions and Improvements **Program:** Pressure Zone Improvements

Justification:

Pressure Zone Improvements identify, schedule, and coordinate improvements to Distribution System facilities and pipelines to meet level of service standards, improve system reliability, improve water quality, minimize maintenance, and replace or rehabilitate aging infrastructure.

Description:

This is an ongoing project to develop and prioritize infrastructure improvement recommendations to address Pressure Zone (PZ) operations. The project includes the Pumping Plant Criticality Study to determine the relative criticality of pumping plants, the Distribution System Master Plan (DSMP) to prioritize and schedule all PZ recommendations, the Collaborative and Holistic Pipeline Plan (CHPP) to develop a blueprint to inform the selection and sizing of pipeline replacements, and PZ Studies to recommend improvements to address pressure zone and regional operations.

FY20-21 accomplishments include the Faria PZ customer rezoning, Pumping Plant Criticality Study, and CHPP pilot studies and procedures.

Planned work for FY22-26 include completion of the Maloney PZ Planning Study, Colorados PZI Update, Swainland Reservoir Study, East of Hills System Study, Lake Chabot Golf Course service relocation, biennial updates to the DSMP, and CHPP blueprints for each PZ.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Pressure Zone Improvements	36,276,874	0	0	36,276,874

Project Appropriations	
Prior Years	$ 37,348,804
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 37,348,804**

Lead Dept: ENG
Recurring: No

Funding:

BOND/REV	80%
SCC	20%

In Service Date: 30-Jun-40

Capital Improvement Program - Project Summary

Project: Pumping Plant Rehabilitation **Project Number:** 001252

Strategy: Maintaining Infrastructure **Program:** Pumping Plant Rehabilitation

Justification:

This project is needed to upgrade pumping plants to conform with current District standards to ensure efficient, reliable, and safe operation.

Description:

The Distribution Pumping Plant Infrastructure Rehabilitation Plan (IRP) was updated in 2020 and identifies the highest priority pumping plants (PP) for rehabilitation, replacement, or demolition.

In FY20, construction contracts were awarded for the replacement of University and Bayfair PP; rehabilitation of Fire Trail, Jensen No. 1, Maloney, and Greenridge PP; and demolition of Peralta and May PP. In FY21, construction contracts were awarded for replacement of Westside PP, demolition of Encinal PP, and rehabilitation of San Ramon and Los Altos PP.

FY22-26 work includes planning, design and/or construction at 31 of the 130 distribution PP, including: Bayfair, Peralta, May, University, San Ramon, Los Altos, Westside, Encinal, Madrone, Palo Seco, Fay Hill, Ridgewood, Crest, Hill Mutual, Bryant PP Complex (Bryant No. 1, Bryant No. 2, Colorados, and Leland), Montclair, Summit West, Aqueduct, Berryman West, Castenada, Welle, Rolph, Donald, Castle Hill, Fontaine, Proctor, Valory, Echo Springs, and Crockett PP. New facilities that include planning, design, and/or construction in FY22-26 include Happy Valley, Sunnyside, Wildcat, and Tice PP and a new Southern Loop PP and Rate Control Station.

FY27-31 will include work at existing Larkey, Summit North, Pearl, Stott, Quarry and Summit South PP and a new Withers PP.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Pumping Plant Rehabilitation	162,591,981	201,700,000	87,740,000	452,031,981

Project Appropriations	
Prior Years	$ 212,073,034
2022	$ 0
2023	$ 35,400,000
2024	$ 57,040,000
2025	$ 38,600,000
2026	$ 70,660,000
Future Years	$ 87,740,000
Total Cost	**$ 501,513,034**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-35

Capital Improvement Program - Project Summary

Project: Rate Control Station Rehab **Project Number:** 1002590

Strategy: Maintaining Infrastructure **Program:** Pipelines/Regulators

Justification:

This project is needed to rehabilitate rate control stations (RCS) that present safety hazards, corrosion damage, flooding, poor ventilation, and remote-monitoring malfunctions.

Description:

Currently, there are 37 RCS facilities in operation with many older than 50 years. This project involves the planning, rehabilitation, and long-term maintenance work needed to support distribution operations. Elements include pressure zone improvement work such as installing new facilities and demolishing obsolete facilities to improve flow control within and between pressure zones; and rehabilitation improvements such as major repairs and equipment upgrades.

FY20-21 work included planning and initiating design for the 82nd Avenue RCS.

In FY22-26, work continues with design and construction at 82nd Avenue; initiation of planning of Alcosta, Dunsmuir, and Webster; and planning, design, and construction of Golf Links, Ney, and Victoria RCSs.

FY27-31 work includes design and/or construction for Alcosta, Bollinger, Castro Valley, Dunsmuir and Webster RCS.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Rate Control Station Rehab	9,326,000	6,447,000	7,765,000	23,538,000

Project Appropriations	
Prior Years	$ 9,488,000
2022	$ 0
2023	$ 0
2024	$ 2,175,000
2025	$ 647,000
2026	$ 3,625,000
Future Years	$ 7,765,000
Total Cost	**$ 23,700,000**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-35

Capital Improvement Program - Project Summary

Project: Raw Water Infrastructure **Project Number:** 1000810

Strategy: Water Supply **Program:** Aqueduct Program

Justification:

The project is needed to maintain the integrity of the raw water system, facilitate effective and rapid response following an emergency, and improve the function of the system.

Description:

This project consists of evaluating and improving the untreated raw water system to reliably meet operational requirements.

In FY20-21, the District completed the Notice of Exemption and initiated design for Lafayette 1 (LAF1) Relining and the planning phase of Briones Pumping Plant (PP) Upgrades; and completed the FY20 Aqueduct Temperature Anchor Survey.

FY22-26 work includes: design of LAF1 relining; planning and design of Pardee Tunnel Access Improvements; continuing to monitor and retrofit the temperature anchors on Mokelumne Aqueduct #1; completing the inspection of San Pablo and Upper San Leandro (USL) Raw Water (RW) Tunnels; design of Jones Tract scour protection; planning for Moraga RW PP Rehab/Upgrades; planning for the protection of exposed aqueducts at the Old River Crossing; planning, design, and construction of Briones PP improvements; the Concord Fault Crossing Plan; and design and construction of the Pardee Center RW Tank Replacement.

FY27-31 work includes Pardee Tunnel Access Improvements construction, Mokelumne Aqueduct #3 base isolator improvements, and the 2030 Raw Water Master Plan.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Raw Water Infrastructure	70,501,463	36,138,709	126,437,000	233,077,172

Project Appropriations	
Prior Years	$ 88,687,610
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 2,616,709
2026	$ 33,522,000
Future Years	$ 126,437,000
Total Cost	**$ 251,263,319**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-31

Capital Improvement Program - Project Summary

Project: Regulator Rehabilitation **Project Number:** 000398

Strategy: Maintaining Infrastructure **Program:** Pipelines/Regulators

Justification:

This project is needed to repair and/or replace deteriorated and obsolete equipment to address safety hazards and restore operational reliability; construct new facilities and upgrade existing facilities to increase flow capacity, meet fire flow requirements, and improve operational flexibility; and to decommission or remove existing facilities that are no longer needed.

Description:

Currently, there are 76 regulator facilities in operation with many older than 50 years. This project involves the planning, rehabilitation, and long-term maintenance responsibilities to support distribution operations. Elements include pressure zone improvement work, such as installing new facilities and demolishing obsolete facilities to improve flow control within and between pressure zones; and rehabilitation improvements, such as major repairs and equipment upgrades.

FY20-21 work included completing the rehabilitation of Black Feather Regulator, initiating construction for Painted Pony Regulator and planning for Campus, Circle, Crockett, Cull Creek, Keller, Orion, and Redwood Regulators.

FY22-26 work involves planning, design, and/or construction at the following regulator facilities: Ascot, Campus, Circle, Columbia, Crockett, Cull Creek, Girvin, Gramercy, Henry, Keller, La Loma, Orion, Painted Pony, Pinehaven, Redwood, and Villareal.

FY27-31 work involves construction at Girvin, La Loma, and Oakmont Regulators.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Regulator Rehabilitation	13,650,014	3,658,000	9,401,000	26,709,014

Project Appropriations	
Prior Years	$ 20,108,000
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 2,388,000
2026	$ 1,270,000
Future Years	$ 9,401,000
Total Cost	**$ 33,167,000**

Lead Dept: ENG
Recurring: No

Funding:

SCC	10%
BOND/REV	90%

In Service Date: 30-Jun-32

Capital Improvement Program - Project Summary

Project: Reservoir Rehab/Maintenance **Project Number:** 000716

Strategy: Maintaining Infrastructure **Program:** Reservoir Rehab Program

Justification:

This project is needed to rehabilitate, replace, and decommission reservoirs to maximize the utility of the distribution reservoirs and improve water quality.

Description:

This project includes the rehabilitation and replacement of the 165 steel, concrete, and redwood reservoirs and pressure vessels to maintain the existing infrastructure, improve roof safety, improve water quality, and prioritize work through the Infrastructure Rehabilitation Plan (IRP).

In FY20-21, construction was completed on projects at Arcadian, Larkey, Rheem, Bacon, Mendocino, Pearl, Carisbrook, Faria No. 1, and Faria No. 2 reservoirs. Construction work began at University No. 2, Birch No. 1 and No. 2, Cull Creek, Sherwick, Acorn No. 1, Derby, Scenic, and Scenic East reservoirs. Design work for Castenada No. 1 and No. 2, Glen, and Mulholland reservoirs was completed in FY21. In addition, the reservoir roof fall protection program addressed roof safety issues at six reservoirs in the Pardee Reservoir area.

FY22-26 work includes construction completion at University No. 2, Birch No. 1 and No. 2, Cull Creek, Sherwick, Acorn No. 1, Derby, Scenic, Scenic East, Castenada No. 1 and No. 2, Glen, and Mulholland reservoirs. Design and construction work will commence for Encinal, Crest, Hill Mutual, Country Club, Madison, Norris, Grizzly, Castle Hill, Arroyo, Carter, City Line, Holly, Woods, Verde, Luzon, Dos Osos, Welle, and Rolph reservoirs. Planning work to support upcoming projects and the reservoir roof safety program will continue.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Reservoir Rehab/Maintenance	190,364,927	136,766,000	92,412,000	419,542,927

Project Appropriations	
Prior Years	$ 197,877,146
2022	$ 32,158,000
2023	$ 30,700,000
2024	$ 15,055,000
2025	$ 19,445,000
2026	$ 39,408,000
Future Years	$ 92,412,000
Total Cost	**$ 427,055,146**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-32

Capital Improvement Program - Project Summary

Project: Reservoir Tower Modifications **Project Number:** 000672

Strategy: Regulatory Compliance **Program:** Dam Safety

Justification:

The California Division of Safety of Dams requires outlet works to remain functional after a major earthquake; failure of a reservoir tower could cause an uncontrolled release of water or prevent the withdrawal of water from the reservoir.

Description:

This project includes the seismic retrofit of six reservoir towers: Pardee Reservoir and the five Terminal Reservoirs.

Seismic evaluation of Pardee Tower in prior years identified leakage in Pardee Tunnel, which was then inspected in FY18 and found to be in satisfactory condition. Retrofits to Chabot Tower were completed in FY18 as part of the Chabot Dam Seismic Upgrade Project. Retrofits to the Upper San Leandro and San Pablo Towers were completed in FY19.

Upcoming work is planned at Briones and Lafayette Reservoir Towers, which require upgrades to resist earthquake loads. Planning and design of the Briones Tower upgrades started in FY16, with construction planned for FY22-23. Improvements to the mechanical components and their controls are also being designed. The isolation valve of the Briones Tower is currently at the bottom of a 250 feet deep shaft and access to it is difficult and unsafe. The isolation valve will be relocated to a more accessible location.

Lafayette Tower modifications include seismic and gate control upgrades, and modifications to the tower to act as a spillway capable of handling the revised Probable Maximum Flood. Planning, permitting, and design studies are underway. Completion of California Environmental Quality Act and design work will occur in FY22-23, with construction planned for FY23-24.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Reservoir Tower Modifications	33,636,276	4,000,000	0	37,636,276

Project Appropriations	
Prior Years	$ 34,532,000
2022	$ 2,000,000
2023	$ 2,000,000
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 38,532,000**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-24

Capital Improvement Program - Project Summary

Project: Security Improvements **Project Number:** 1005899

Strategy: Facilities, Servc and Equip **Program:** Security

Justification:

This project includes design and construction of critical security improvements recommended in the Security Vulnerability Assessment. In addition, to provide secure workplaces; maintain safe and reliable water and wastewater services.

Description:

FY21 work includes the upgrade of the Centralized Security System, and miscellaneous security improvements to various facilities to increase personnel safety and deter vandalism. In FY21, a five-year security consultant contract was awarded to develop security standards.

FY22-26 work includes security improvements for service centers and yards, key pumping plants and reservoirs, aqueduct facilities, upcountry facilities, and water treatment plants. Funding is also included for miscellaneous security improvements to various facilities as needed to address regulatory requirements and personnel safety concerns.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Security Improvements	10,062,021	10,030,862	23,182,000	43,274,883

Project Appropriations	
Prior Years	$ 28,113,800
2022	$ 0
2023	$ 0
2024	$ 2,228,862
2025	$ 2,635,000
2026	$ 5,167,000
Future Years	$ 23,182,000
Total Cost	**$ 61,326,662**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-32

Capital Improvement Program - Project Summary

Project: Service Lateral Replacements **Project Number:** 000654

Strategy: Maintaining Infrastructure **Program:** Polybutylene Lateral Replcmt

Justification:

This project is needed to manage the cost-effective replacement of defective and/or failed service laterals.

Description:

This project manages all lateral replacements under one program, and includes the planned replacements of polybutylene laterals and copper laterals, and unplanned replacements for all lateral material types.

The District recognizes the need to identify and replace laterals within areas that have suffered high failure rates. This program continues the practice of pre-emptively replacing polybutylene and copper service laterals where cost-effective opportunities arise.

FY22-26 work includes replacement of approximately 130 planned copper service laterals and 1,100 unplanned service lateral replacements per year.

In FY22, approximately 100 planned polybutylene service laterals will be replaced and then the planned polybutylene service lateral replacements project will be discontinued.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Service Lateral Replacements	227,024,500	62,954,000	71,546,000	361,524,500

Project Appropriations	
Prior Years	$ 240,691,000
2022	$ 0
2023	$ 14,992,000
2024	$ 15,479,000
2025	$ 15,982,000
2026	$ 16,501,000
Future Years	$ 71,546,000
Total Cost	**$ 375,191,000**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-30

Capital Improvement Program - Project Summary

Project: Trans Main Cathodic Protection **Project Number:** 003026

Strategy: Maintaining Infrastructure **Program:** Corrosion

Justification:

Transmission mains make up the highest likelihood of failure pipelines and would have the highest cost for replacement and repair if damaged. Many cathodic protection (CP) systems have reached the end of their useful life and need rehabilitation to continue to control pipeline corrosion and prevent leaks and breaks.

Description:

This project will investigate and prioritize CP upgrades for transmission mains and large diameter pipelines, and reconfigure obsolete CP systems.

FY22-26 work includes improvements to the CP systems for the Upper San Leandro Raw Water Pipeline and the South 30 Aqueduct. Transmission main improvements will include design and installation of remote monitoring for each of the transmission main CP rectifier power supplies.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Trans Main Cathodic Protection	4,796,000	988,429	4,161,000	9,945,429

Project Appropriations	
Prior Years	-
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 988,429
Future Years	-
Total Cost	**-**

Lead Dept: ENG
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Treatment Plant Upgrades **Project Number:** 000437

Strategy: Water Quality **Program:** Water Treatment Upgrade

Justification:

The project is needed to comply with water quality regulations and improve the safety, reliability, and operation of the water treatment plants (WTP).

Description:

FY20-21 work included design completion and the start of construction of Orinda WTP filter air scour, Sobrante WTP (SOWTP) control system modernization, and maintenance and safety improvements. It also included design of San Pablo Reservoir water quality (HOS), chemical safety, Orinda WTP disinfection (UV/CCB), Upper San Leandro (USL) WTP reliability and control system improvements.

FY22-23 work includes construction of Orinda WTP disinfection, USL WTP reliability, USL WTP control system modernization, San Pablo Reservoir HOS, and chemical system safety improvements; design of Walnut Creek (WC) WTP filters 1-4 and Lafayette WTP control system improvements; planning for WCWTP pretreatment and ozone; and Briones and Pardee Reservoirs water quality improvements. FY24-26 improvements include construction of Orinda WTP disinfection, USL WTP reliability improvements; design of SOWTP reliability and WCWTP pretreatment and ozone improvements; design and construction of Lafayette WTP control system improvements; construction of WCWTP filters 1-4; and completion of chemical system safety improvements.

FY27-31 work includes SOWTP reliability improvements construction and WCWTP pretreatment and ozone design and construction.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Treatment Plant Upgrades	411,981,202	189,989,000	475,000,000	1,076,970,202

Project Appropriations	
Prior Years	$ 456,479,032
2022	$ 128,100,000
2023	$ 0
2024	$ 25,553,000
2025	$ 36,336,000
2026	$ 0
Future Years	$ 475,000,000
Total Cost	**$**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-34

Capital Improvement Program - Project Summary

Project: Trench Soils Management **Project Number:** 000652

Strategy: Regulatory Compliance **Program:** Trench Spoils

Justification:

The project is needed to ensure adequate capacity for ongoing and future operations at District-Owned Storage Sites (DOSS), continued regulatory compliance, and cost-effective and sustainable practices to manage trench soils.

Description:

Trench soils are generally stockpiled for future reuse or disposal at three DOSS: Briones in Orinda, Miller Road in Castro Valley, and Amador in San Ramon. Trench soils production has been increasing under the Pipeline Rebuild Program. This project includes coordination between multiple stakeholders on the generation, management, and final end use of all trench soils, operation and regulatory compliance at the DOSS, and implementation of recommendations from the Trench Soils Management Plan (TSMP) to more efficiently and sustainably manage trench soils.

FY20-21 accomplishments include: off-haul and reuse of 116,000 cubic yards of trench soils from Miller Road; initiation of a pilot project to manage vacuum excavation slurry; completion of the TSMP; and entering into a purchase option agreement for an old quarry site for permanent placement of trench soils.

FY22-26 program priorities include environmental review and potential purchase of the quarry site and continuing ongoing efforts and implementing TSMP recommendations, including long-term solutions for slurry waste, management of the DOSS, and development of contracts for more frequent off-hauls.

FY27-31 efforts will focus on the development of the quarry site and ongoing operation and maintenance of the DOSS.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Trench Soils Management	41,980,449	48,871,000	45,527,000	136,378,449

Project Appropriations	
Prior Years	$ 45,221,786
2022	$ 9,326,000
2023	$ 20,909,000
2024	$ 2,050,000
2025	$ 16,586,000
2026	$ 0
Future Years	$ 45,527,000
Total Cost	**$ 139,619,786**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-40

Capital Improvement Program - Project Summary

Project: West of Hills Master Plan **Project Number:** 2001475

Strategy: Extensions and Improvements **Program:** Pressure Zone Improvements

Justification:

The project is needed to improve water transmission and water treatment plant capacities to address deficiencies and meet future water demands in the West of Hills (WOH) distribution system, decommission the San Pablo Water Treatment Plant (WTP), and relocate the Fontaine Pumping Plant (PP) in Oakland away from the Hayward Fault.

Description:

The WOH Master Plan is a comprehensive regional plan that addresses water treatment plant storage and transmission capacity for the WOH area, focusing on the Central, Aqueduct, and Upper San Leandro Pressure Zones. The WOH Master Plan recommended improvements at three water treatment plants; two pumping plants; five water storage reservoirs; and approximately 120,000 feet of transmission pipelines. In FY19, an additional project was recommended to decommission the San Pablo WTP.

This project includes completing the environmental documentation for the recommended improvements. Individual projects will be grouped together into several Environmental Impact Reports (EIR), Mitigated Negative Declarations (MND), and Notice of Exemptions (NOE). In FY20-21, planning started on the Wildcat PP MND, Fontaine PP MND, Sobrante WTP EIR, and WOH Central Pipelines EIR. Planned work for FY22-26 includes completing the projects started in FY20-21 and starting the WOH Southern Pipelines EIR in FY25.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
West of Hills Master Plan	23,381,430	0	0	23,381,430

Project Appropriations	
Prior Years	$ 24,366,430
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 24,366,430**

Lead Dept: ENG
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-28

Capital Improvement Program - Project Summary

Project: Contingency Project Water **Project Number:** 001300

Strategy: Non-Program Specific **Program:** Non-Program Specific

Justification:

This project is required to ensure timely response to unanticipated critical work, as well as specific projects that are contingent upon the receipt of grants or other outside funding. Rapid response is critical for maintaining regulatory compliance, public safety, employee safety or addressing other unanticipated essential needs.

Description:

This is an ongoing project to address unanticipated needs that may arise before the next budget preparation cycle. Typical examples include replacement or repairs to facilities and equipment as a result of failures or safety deficiencies, new projects, or the acceleration of planned projects requiring funding before the next budget cycle.

Funds are also set aside for projects where grants are being sought in the event that the grant application is successful and funding is received, such as habitat enhancement and restoration, watershed fencing and trails, Bay Area Regional Desalination Project, water conservation projects, and East Bayshore recycled water.

In FY22, funds have been set aside for possible grant funding for Mokelumne River restoration work, and for leak detection surveys to prepare for water loss performance standards in compliance with Senate Bill 555. In FY23, funds have been set aside for extending trails at the Camanche Recreation Area.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Contingency Earmark - Water	12,948,500	3,568,000	0	16,516,500

Project Appropriations	
Prior Years	$ 37,643,611
2022	$ 3,068,000
2023	$ 500,000
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 41,211,611**

Lead Dept: FIN
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-40

Capital Improvement Program - Project Summary

Project: ERF Purchases for Copiers **Project Number:** 2014193

Strategy: Facilities, Servc and Equip **Program:** Communications

Justification:

Effective FY21, based on converting to a new financial system, Equipment Replacement Fund (ERF) purchases will be funded in capital as they often result in assets.

Description:

The ERF was established to address planning and funding for the replacement of specified equipment on a regular, predictable replacement schedule. This project is for the purchase of new and replacement copiers throughout the District.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
ERF Purchases for Copiers	239,754	50,000	250,000	539,754

Project Appropriations	
Prior Years	-
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 50,000
Future Years	-
Total Cost	**-**

Lead Dept: FIN
Recurring: Yes

Funding:

ERF	80%
BOND/REV	20%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Data & Telecom Infrastructure **Project Number:** 000363

Strategy: Facilities, Servc and Equip **Program:** Communications

Justification:

The District supports a myriad of disparate, older phone systems interconnected via a Centrex-Mate service offering. This project provides a single, geographically redundant and manageable telecommunications service.

Description:

This project upgrades the networking cables, equipment, and telephony circuits at office locations outside of the Oakland Administration Building to implement a Voice over IP (VoIP) phone system. Currently, many District facilities are utilizing VoIP phone technology.

In FY20-21, the telephony work at the Adeline Maintenance Complex was completed as was installation of five SIP Telephony trunks at various locations for inbound/outbound call geographic diversity. The goals for FY22 are the migration of the Wastewater Treatment plant, and the Reclamation and Wet Weather facilities. The FY23 goal is to complete the migration of the remaining facilities. The VoIP phone system implementation requires the existing network cabling to be brought up to specification, and the replacement of telephones, network switches, voice gateways, telephony circuits and porting of telephone numbers.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Data & Telecom Infrastructure	853,757	330,000	500,000	1,683,757

Project Appropriations	
Prior Years	$ 3,602,756
2022	$ 0
2023	$ 0
2024	$ 150,000
2025	$ 80,000
2026	$ 100,000
Future Years	$ 500,000
Total Cost	**$ 4,432,756**

Lead Dept: ISD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-30

Capital Improvement Program - Project Summary

Project: ERF Current DSS/Server/Network **Project Number:** 2014182

Strategy: Facilities, Servc and Equip **Program:** Communications

Justification:

Effective FY21, based on converting to a new financial system, Equipment Replacement Fund (ERF) purchases will be funded in capital as they often result in assets.

Description:

The ERF was established to address planning and funding for the replacement of specified equipment on a regular, predictable replacement schedule. This project is for annual purchases of a limited amount of Data Security Standard (DSS), server and network equipment.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
ERF Current DSS/Server/Network	1,319,619	8,852,260	3,623,630	13,795,509

Project Appropriations	
Prior Years	-
2022	$ 2,945,000
2023	$ 798,630
2024	$ 895,000
2025	$ 1,720,000
2026	$ 2,493,630
Future Years	-
Total Cost	**-**

Lead Dept: ISD
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: ERF Current PCs/Desktop/Laptop **Project Number:** 2014179

Strategy: Facilities, Servc and Equip **Program:** Communications

Justification:

Effective FY21, based on converting to a new financial system, Equipment Replacement Fund (ERF) purchases will be funded in capital as they often result in assets.

Description:

The ERF was established to address planning and funding for the replacement of specified equipment on a regular, predictable replacement schedule. This project is for annual purchases of a limited amount of personal computers and laptops.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
ERF Current PCs/Desktop/Laptop	777,901	325,000	935,000	2,037,901

Project Appropriations	
Prior Years	-
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 140,000
2026	$ 185,000
Future Years	-
Total Cost	**-**

Lead Dept: ISD

Recurring: Yes

Funding:

BOND/REV	40%
ERF	60%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: ERF Smoothg DSS/Server/Network **Project Number:** 2014186

Strategy: Facilities, Servc and Equip **Program:** Communications

Justification:

Effective FY21, based on converting to a new financial system, Equipment Replacement Fund (ERF) purchases will be funded in capital as they often result in assets.

Description:

The ERF was established to address planning and funding for the replacement of specified equipment on a regular, predictable replacement schedule. This project is for periodic large purchases of Data Security Standard (DSS), server and network equipment.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
ERF Smoothg DSS/Server/Network	623,000	912,000	1,110,000	2,645,000

Project Appropriations	
Prior Years	-
2022	$ 0
2023	$ 0
2024	$ 272,000
2025	$ 0
2026	$ 640,000
Future Years	-
Total Cost	**-**

Lead Dept: ISD
Recurring: Yes

Funding:

BOND/REV	60%
ERF	40%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: ERF Smoothg PCs/Desktop/Laptop **Project Number:** 2014184

Strategy: Facilities, Servc and Equip **Program:** Communications

Justification:

Effective FY21, based on converting to a new financial system, Equipment Replacement Fund (ERF) purchases will be funded in capital as they often result in assets.

Description:

The ERF was established to address planning and funding for the replacement of specified equipment on a regular, predictable replacement schedule. This project is for periodic large purchases of personal computers and laptops.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
ERF Smoothg PCs/Desktop/Laptop	1,148,000	1,822,000	3,000,000	5,970,000

Project Appropriations	
Prior Years	-
2022	$ 0
2023	$ 0
2024	$ 1,822,000
2025	$ 0
2026	$ 0
Future Years	-
Total Cost	**-**

Lead Dept: ISD
Recurring: Yes

Funding:

BOND/REV	60%
ERF	40%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: FIS / MMIS Replacement **Project Number:** 2003539

Strategy: Facilities, Servc and Equip **Program:** Communications

Justification:

The Financial Information System is a PeopleSoft product that is no longer supported and is difficult to maintain. A new purchasing/accounting/inventory system will reduce the risk of system failure, reduce vendor dependence, and improve system integration with other applications.

Description:

This project is a joint effort of the Finance, Information Systems, and user departments to replace both the Financial Information System (FIS) and the Materials Management Information System (MMIS) with a new financial, budget, procurement and vendor management system to reduce risks associated with vendor dependence. Evaluating and selecting a replacement alternative and vendor was completed in FY19, along with an implementation plan. The FIS replacement alternative was evaluated along with the MMIS replacement to ensure the necessary functionality between the systems is addressed. Implementation of the new system is underway and is scheduled for completion in FY22.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
FIS/MMIS Implementation	13,642,084	0	0	13,642,084

Project Appropriations	
Prior Years	$ 16,459,155
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 16,459,155**

Lead Dept: ISD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-22

Capital Improvement Program - Project Summary

Project: HRIS Replacement **Project Number:** 2003543

Strategy: Facilities, Servc and Equip **Program:** Communications

Justification:

The PeopleSoft Human Resources Information System (HRIS) is reaching the end of its useful life and support for the product is winding down. Loss of support would increase the risk of failure of Human Resource functions and make it difficult to implement required tax and regulatory updates.

Description:

This project is a joint effort of the Information Systems, Human Resources and user departments to replace HRIS. Documenting high-level requirements for all modules was completed in FY21 and will facilitate the Requests for Proposals and selection process for the system replacement. Preparing a Requests for Proposals, evaluating and selecting alternatives is underway, and continue implementing of the new system modules is anticipated in FY24.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
HRIS Replacement	8,700,000	875,000	0	9,575,000

Project Appropriations	
Prior Years	$ 8,700,000
2022	$ 875,000
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 9,575,000**

Lead Dept: ISD

Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-23

Capital Improvement Program - Project Summary

Project: Work Mgmt Systems Replacement **Project Number:** 2009564

Strategy: Facilities, Servc and Equip **Program:** Communications

Justification:

The existing work management systems (WMS) consists of multiple standalone applications written in outdated languages and provide overlapping functionality. This project consolidates the functionality into a single application to minimize maintenance and improve the ability to leverage information between work groups to ensure a reliable system for field maintenance work.

Description:

This project is a joint effort of Information Systems, Operation Maintenance and user departments to replace the group of WMS which include the general work order system, concrete order system, paving order system and the asset and infrastructure management system. Evaluating and selecting replacement alternatives is scheduled for FY21-FY22, followed by creating an implementation plan, selecting a vendor and implementing a new WMS in FY22-23.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Work Mgmt Systems Replacement	4,750,000	7,250,000	0	12,000,000

Project Appropriations	
Prior Years	$ 4,750,000
2022	$ 7,250,000
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 12,000,000**

Lead Dept: ISD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-25

Capital Improvement Program - Project Summary

Project: Meter Replacements **Project Number:** 000738

Strategy: Maintaining Infrastructure **Program:** Pipelines/Appurtenances

Justification:

Meters need to be replaced periodically to accurately record water use and bill customers, and meter boxes need to be replaced periodically to eliminate tripping liability. New meter installations are included as part of the new service installation cost.

Description:

This is an ongoing project to replace water meters and meter boxes at the end of their useful life, and to replace meters that are believed to be reading inaccurately. In FY20, approximately 11,900 residential meters, 1,240 small commercial meters and 11 large commercial meters were replaced. Approximately 18,000 meters were replaced in FY21. In future years, replacements are planned to total 20,500 meters per year to improve reading accuracy.

In FY19, a grant was received and 10,000 meters were replaced with an integrated system of smart meters under the new Advanced Metering Infrastructure (AMI) pilot project. The project also includes equipment to collect data from these automated meters as the District considers replacing the current meters with AMI meters.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Planned Meter Replacements	41,022,357	23,329,000	27,100,000	91,451,357

Project Appropriations	
Prior Years	-
2022	$ 4,394,000
2023	$ 4,524,000
2024	$ 4,663,000
2025	$ 4,801,000
2026	$ 4,947,000
Future Years	-
Total Cost	**-**

Lead Dept: MCD

Recurring: Yes

Funding:

GRANTS	7%
BOND/REV	93%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Pipeline Appurtenances **Project Number:** 000218

Strategy: Maintaining Infrastructure **Program:** Pipelines/Appurtenances

Justification:

Inoperable water main appurtenances can cause distribution system outages or extend the duration of system outages, adversely affecting customers. Replacement of these appurtenances improves system reliability. This project also includes corrective maintenance on the valves and appurtenances throughout the distribution system.

Description:

This is an ongoing project to replace distribution system isolation valves, blow-off assemblies, air valves and other appurtenances that have reached the end of their useful lives, or no longer meet current installation practices. The goal is to inspect and operate 10 percent of distribution valves annually. The Large Valve Master Plan has identified a number of appurtenances that need to be upgraded to ensure system reliability.

Due to increased funding within cities and counties for paving restoration and street reconstruction, gate valve pots were upgraded to G-5's in FY19-21, and upgrades will continue into FY22-23. These upgrades improve access during emergency and routine valve operation, and while performing maintenance activities.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Annual Appurtenance Work	15,158,970	7,144,000	29,502,000	51,804,970

Project Appropriations	
Prior Years	-
2022	$ 1,332,000
2023	$ 1,379,000
2024	$ 1,427,000
2025	$ 1,477,000
2026	$ 1,529,000
Future Years	-
Total Cost	**-**

Lead Dept: MCD
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Veh & Hvy Equip Additions, Wtr **Project Number:** 000528

Strategy: Facilities, Servc and Equip **Program:** Vehicle/Equipment

Justification:

Provide staff with the necessary equipment to ensure field productivity and reduce operating costs by limiting the need to rent equipment.

Description:

This is an ongoing project to acquire additions to the fleet resulting from new positions that require a vehicle to perform necessary job responsibilities, or changing demands on the existing work force and redirection of priorities. Vehicles and equipment includes backhoes, dump trucks, trailers, utility trucks, sedans or SUVs, and saw trucks and water truck.

In FY20-23, necessary equipment will be purchased to outfit additional staff including new pipeline rebuild crews, replace long-term leased vehicles and decrease the reliance on fully manned and operated contracts.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Fleet & Equip Additions	30,248,564	6,643,000	5,000,000	41,891,564

Project Appropriations	
Prior Years	-
2022	$ 1,944,000
2023	$ 1,699,000
2024	$ 1,000,000
2025	$ 1,000,000
2026	$ 1,000,000
Future Years	-
Total Cost	**-**

Lead Dept: MCD
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Vehicle Replacements **Project Number:** 000526

Strategy: Facilities, Servc and Equip **Program:** Vehicle/Equipment

Justification:

This is an ongoing project to replace existing vehicles and construction equipment. Under the replacement policy, all vehicles that meet or exceed specific thresholds of age, mileage, engine run hours and cost per mile are systematically evaluated. A major consideration is the impact of equipment failure on productivity.

Description:

The District's Vehicle Study indicates that the criteria used for evaluating replacement needs provides the best means of fleet management for replacing vehicles and equipment in a timely and cost effective manner.

In FY22-23, 87 vehicles and pieces of equipment need to be replaced including 28 construction trucks, 10 dump trucks, and 11 service/vector/utility trucks. In addition, 13 backhoes need to be replaced due to regulatory compliance requirements, and the California Air Resources Board requires 14 vehicles/equipment to be replaced.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Fleet & Equip Repl/Purchases	111,689,369	32,013,000	30,000,000	173,702,369
Fleet Telematics System	0	500,000	0	500,000

Project Appropriations	
Prior Years	-
2022	$ 8,300,000
2023	$ 6,700,000
2024	$ 6,098,000
2025	$ 5,615,000
2026	$ 5,800,000
Future Years	-
Total Cost	**-**

Lead Dept: MCD
Recurring: Yes

Funding: VRF 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: East Bay Watershed Rec Projs **Project Number:** 000198

Strategy: Resource Management **Program:** Watershed Recreation

Justification:

Public recreation facilities and watershed lands need to be managed to ensure public health and safety, environmental protection and availability of a clean water supply for customers.

Description:

Work is prioritized in accordance with the East Bay Watershed Master Plan, Range Resource Management Plan, Fire Management Plan, and regulatory requirements. Projects include upgrades and enhancements to facilities, and watersheds at San Pablo Reservoir Recreation Area, Lafayette Reservoir Recreation Area, Orinda Watershed Headquarters, and East Bay terminal reservoir dams and watershed lands.

Projects completed in FY20-21 include: paving upgrades, hazard tree reduction, and picnic area renovations at Lafayette and San Pablo Reservoir Recreation Areas; upgraded signage at Lafayette Recreation Area and at Watershed Staging Areas; and upgraded restrooms at Lafayette. Watershed boundary fence was upgraded, habitat protection fencing was installed and habitat ponds supporting sensitive resources were upgraded.

Projects planned for FY22-26 include: upgrading the sewer force main and lift station, rental boat dock, and crew locker room/shop at Lafayette Reservoir Recreation Area; and upgrading the sewer force main, all-access dock, and roadway paving at San Pablo Reservoir Recreation Area. Watershed projects include staging area upgrades; implementation of watershed fire management strategies; a new roof on Orinda Watershed Headquarters administrative, warehouse, and vehicle storage buildings; conference room technology upgrades; and parking lot paving upgrades.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Lafayette Rec Infrastructure	5,887,000	0	0	5,887,000
East Bay Watershed Mgmt	3,029,713	1,850,000	0	4,879,713
San Pablo Rec Infrastructure	2,334,993	150,000	0	2,484,993
Orinda Watershed HQ	723,500	0	0	723,500

Project Appropriations	
Prior Years	$ 14,673,202
2022	$ 350,000
2023	$ 350,000
2024	$ 400,000
2025	$ 575,000
2026	$ 325,000
Future Years	$ 0
Total Cost	**$ 16,673,202**

Lead Dept: NRD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-26

Capital Improvement Program - Project Summary

Project: F&W Projects and Mok Hatchery **Project Number:** 1002592

Strategy: Resource Management **Program:** Watershed Recreation

Justification:

This project is required to comply with agreements with regulatory agencies to maximize hatchery fish production, to protect and enhance the natural in-river production of anadromous fish, and implement habitat and species protection and enhancement measures required by the East Bay Habitat Conservation Plan (HCP).

Description:

This project includes the purchase and installation of equipment needed to: 1) operate the Mokelumne River Fish Hatchery (MRFH) to ensure compliance with the California Department of Fish and Wildlife operation agreement, and 2) meet the fisheries monitoring and assessment requirements in the Mokelumne River Endangered Species Act listings (ESA), and the Sacramento-San Joaquin Delta operations. The project also includes species and habitat protection and enhancement measures as required by the HCP and development of the San Leandro Creek Fish Management Plan.

FY22-26 planned work in the Mokelumne Watershed includes implementing habitat enhancement and construction activities related to the Water Quality Control Plan Voluntary Agreement and improved infrastructure at the MRFH and the hatchery staff residences. Feasibility studies to improve hatchery and river water quality will also be conducted. In the East Bay Watershed planned work includes habitat enhancements for the California red-legged frog; monitoring of the Alameda whipsnake; invasive species control; and San Leandro Fish Management Plan development.

Future work plans include a fish transport barge, upgrades to MRFH to meet new regulatory requirements, and installation of a passive integrated transponder tag reader to support fish monitoring requirements.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
River and Watershed	2,075,331	1,350,000	0	3,425,331
Moke River Hatchery	2,869,673	350,000	0	3,219,673

Project Appropriations	
Prior Years	$ 5,811,332
2022	$ 0
2023	$ 350,000
2024	$ 500,000
2025	$ 450,000
2026	$ 400,000
Future Years	$ 0
Total Cost	**$ 7,511,332**

Lead Dept: NRD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-26

Capital Improvement Program - Project Summary

Project: Mokelumne Watershed Rec HQ **Project Number:** 000158

Strategy: Resource Management **Program:** Watershed Recreation

Justification:

Warehouse and office facilities are needed due to the condition, size, and lack of critical office and crew facilities in the current headquarters.

Description:

This project replaced the Mokelumne headquarters that accommodates 22 staff with a pre-engineered modular administration building with energy efficient and sustainable features.

Phase 2 consists of a back-up generator, construction of a modular warehouse/shop building, site improvements and vehicle access improvements. Planning, design, and construction of these improvements are planned for FY22-23.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Mok Watershed HQ - Phase 2	3,648,500	0	0	3,648,500

Project Appropriations	
Prior Years	$ 6,759,500
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 6,759,500**

Lead Dept: NRD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 31-Jan-24

Capital Improvement Program - Project Summary

Project: Mokelumne Watershed Rec Projs **Project Number:** 2008687

Strategy: Resource Management **Program:** Watershed Recreation

Justification:

Planned improvements address public safety issues and regulatory requirements for the public, and staff facilities in the Mokelumne Watershed.

Description:

In accordance with the Mokelumne Watershed Master Plan, Range and Fire plans, and regulatory requirements, work includes upgrades and enhancements to watershed land, facilities and recreation areas.

In FY22-26, watershed projects include replacement of non-fleet supported marine equipment and regulatory buoy lines, upgrade and replacement of trail sanitation facilities, replacement of watershed boundary fencing, and repair of storm damaged roads and trails. Watershed headquarters projects include safety improvements and paving of the vehicle entrance, improving access for emergency vehicles, and security fencing installation.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Mokelumne Watershed Mgmt	1,468,960	1,765,000	0	3,233,960
Mokelumne Watershed Headqtrs	1,430,301	0	0	1,430,301

Project Appropriations	
Prior Years	$ 6,266,284
2022	$ 575,000
2023	$ 350,000
2024	$ 385,000
2025	$ 220,000
2026	$ 235,000
Future Years	$ 0
Total Cost	**$ 8,031,284**

Lead Dept: NRD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-40

Capital Improvement Program - Project Summary

Project: Pardee/Cam Rec Areas Impr Plan **Project Number:** 2003500

Strategy: Resource Management **Program:** Recreation Areas

Justification:

The Camanche and Pardee Recreation Areas are over 50 years old and require upgrades to the utilities, structures and traffic circulation for continued safe operations.

Description:

The Pardee and Camanche Recreation Area facilities require periodic upgrades and replacements. This project includes improvements to the roads, parking lots, fuel docks, launch ramps and docks, covered boat berths, stores, recreation halls, maintenance facilities, campgrounds, concession structures, and bathroom and shower buildings.

In FY22-26, recreation improvement projects include ongoing maintenance and improvement of recreation area facilities not covered under Maintenance and Capital Improvement Funds, including design and construction of a new restroom/shower facility in the Oaks campground at Pardee Recreation area, a feasibility study of a lead reclamation effort at the Camanche Hills Hunting Preserve, and a habitat enhancement program also at the Hunting Preserve.

In FY22-26, Mokelumne River Day Use Area projects include design and construction of a new ADA interpretive trail, improvement of access roads and public parking areas, installation of electronic entrance gate, and the installation of a new restroom facility.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Pardee Recreation Area	6,947,312	0	0	6,947,312
Mokelumne River Day Use Area	0	575,000	0	575,000
Camanche Hills Hunting Preserv	0	215,000	0	215,000

Project Appropriations	
Prior Years	$ 10,204,000
2022	$ 300,000
2023	$ 260,000
2024	$ 210,000
2025	$ 10,000
2026	$ 10,000
Future Years	$ 0
Total Cost	**$ 10,994,000**

Lead Dept: NRD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-40

Capital Improvement Program - Project Summary

Project: Penn Mine Remediation **Project Number:** 001337

Strategy: Regulatory Compliance **Program:** Penn Mine

Justification:

Remediation work at Penn Mine landfill was required per a now-rescinded Environmental Protection Agency Order, and a settlement agreement with the State Water Resources Control Board. The Regional Water Quality Control Board (RWQCB) has directed the District to conduct an environmental assessment and remediation of the three mine tailing ponds.

Description:

This project evaluates and implements long-term remedial solutions for two sites: former Penn Mine and Poison Lake, with the goal of restoring the Penn Mine site to pre-mining conditions.

Recent accomplishments for Penn Mine include continued leachate removal, and the bi-annual groundwater monitoring was conducted and the report delivered to the RWQCB. The report documents a downward trend in leachate production since the landfill cap was repaired in 2013.

Planned activities for FY22-26 include continued leachate removal and bi-annual reporting of groundwater conditions, site visits and removal of a weir from an onsite stream.

Recent accomplishments for Poison Lake include completion of the remediation project which involved scraping and capping surface mine waste and armoring the drainage channels with boulders and re-seeding bare areas which have now filled in with grasses. The annual surface water quality monitoring was conducted and the report delivered to the RWQCB.

Planned activities for FY22-26 include post-remediation monitoring and surface water quality monitoring and reporting to evaluate any potential impacts from the site to the reservoir.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Mine Restorations	15,486,820	227,000	0	15,713,820

Project Appropriations	
Prior Years	$ 18,221,472
2022	$ 0
2023	$ 0
2024	$ 73,300
2025	$ 73,300
2026	$ 80,400
Future Years	$ 0
Total Cost	**$ 18,448,472**

Lead Dept: OSD
Recurring: No

Funding: OAG 100%

In Service Date: 30-Jun-33

Capital Improvement Program - Project Summary

Project: Water Loss Control **Project Number:** 2012651

Strategy: Water Supply **Program:** Water Supply Mgmt Program

Justification:

This project prepares for compliance with California Senate Bill 555, Water Loss Management.

Description:

This project implements compliance measures associated with California Senate Bill 555, Water Loss Management. The project is composed of activities to reduce apparent and real water losses through meter replacement, leak detection, and pressure management. Accomplishments in FY20-21 include doubling the size of the automated acoustic leak detection network, meeting the key performance indicator for the infrastructure leakage index, completion of a Metering Improvements Plan, and commencement of the first water loss control master plan.

Planned work in FY22-26 includes completion of the design and construction phases of improvements to flow meters for water treatment plants and large customers, completion of the water loss control master plan, completion of two manual leak detection surveys, and annual verification of water treatment plant flow rates to improve the accuracy of the water audit. Planned work in FY27-31 includes completion of construction of improvements to flow meters for additional large customers and compliance with the State Water Resources Control Board's regulatory limit for water loss.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Water Loss Control	13,202,000	17,055,000	5,000,000	35,257,000

Project Appropriations	
Prior Years	$ 13,202,000
2022	$ 5,308,000
2023	$ 2,160,000
2024	$ 5,587,000
2025	$ 2,000,000
2026	$ 2,000,000
Future Years	$ 5,000,000
Total Cost	**$ 35,257,000**

Lead Dept: OSD

Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-40

Capital Improvement Program - Project Summary

Project: Contingency Project Wastewater **Project Number:** 000477

Strategy: Non-Program Specific **Program:** WW Non-Program Specific

Justification:

This project is required to ensure timely response to unanticipated critical work, as well as specific projects that are contingent upon the receipt of grants or other outside funding. Rapid response is critical for maintaining regulatory compliance, public safety, employee safety or addressing other unanticipated essential needs.

Description:

This is an ongoing project to provide funding for unanticipated needs that may arise before the next budget preparation cycle. Typical examples include replacement or repairs to facilities and equipment as a result of failures or safety deficiencies, new projects, or the acceleration of planned projects requiring funding before the next budget cycle.

Funds can also be set aside for projects where grants are being sought in the event that the grant application is successful and funding is received, such as a pending grant application for design of a renewable natural gas facility. Prior appropriations might also be used for temporary dewatering expansion to accommodate food waste deliveries and long-term contracting.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Contingency General - WW	12,009,000	0	0	12,009,000

Project Appropriations	
Prior Years	$ 18,719,000
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 18,719,000**

Lead Dept: WAS
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-40

Capital Improvement Program - Project Summary

Project: Dewatering **Project Number:** 2014083

Strategy: Maintaining Infrastructure **Program:** WW Infrastructure Program

Justification:

To maintain and upgrade the solids dewatering process at the Main Wastewater Treatment Plant (MWWTP), which is necessary to produce beneficial use biosolids from the wastewater treatment process. The Dewatering Building requires significant improvements to remedy a myriad of issues related to this aging facility and equipment.

Description:

Replacement of the Dewatering Building is one of the largest projects in the Wastewater Department Capital Improvement Program. In recent years the dewatering process has required a great deal of staff time due to aging equipment, limited capacity, and impacts from Resource Recovery trucked wastes.

The New Dewatering Building will replace the existing building and include new feed pumps, dewatering equipment, cake storage hoppers, polymer feed equipment, and odor control facilities, all designed to meet the latest seismic codes. In FY23, the planning phase of the new Dewatering Building will begin, followed in FY24 by design, which is expected to take two years. The construction phase is expected to take four years, with completion scheduled for FY29.

The existing Dewatering Building will continue to be used for the secondary solids thickening process. and improvements will be made including upgrades to the building's odor control system and seismic retrofits to protect life safety.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Dewatering	3,043,000	88,427,000	11,409,000	102,879,000

Project Appropriations	
Prior Years	$ 3,043,000
2022	$ 0
2023	$ 13,117,000
2024	$ 0
2025	$ 0
2026	$ 75,310,000
Future Years	$ 11,409,000
Total Cost	**$ 102,879,000**

Lead Dept: WAS
Recurring: No

Funding: BOND/REV 100%

In Service Date: 01-Jan-33

Capital Improvement Program - Project Summary

Project: Digesters **Project Number:** 2014082

Strategy: Maintaining Infrastructure **Program:** WW Infrastructure Program

Justification:

To maintain and upgrade the digestion process at the Main Wastewater Treatment Plant (MWWTP) to convert sludge from primary and secondary treatment, as well as high strength waste, into biogas and biosolids for beneficial use.

Description:

The District has eleven digesters, two blend tanks, and numerous pieces of support equipment including pumps, mixers, heat exchangers, and biogas storage covers that work together to provide the appropriate conditions to convert sludge from the wastewater treatment process and trucked high strength waste into biogas and biosolids fit for beneficial use. The digester system operates at an elevated temperature and can include abrasive and damaging materials from sludge and high strength wastes, which result in the need for capital improvements.

In recent years, the digesters have been upgraded with improved covers and mixers. Under Phase 3 of the upgrades, two digesters are scheduled for new covers and mixing systems with construction having begun in FY21. These digesters will also be seismically retrofitted to prevent catastrophic collapse in the event of an earthquake. Construction will be completed in FY22. Phase 4 of the work to upgrade the remaining three digesters is planned to start in FY28.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Digesters	36,322,404	0	18,200,000	54,522,404

Project Appropriations	
Prior Years	$ 36,322,404
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 18,200,000
Total Cost	**$ 54,522,404**

Lead Dept: WAS
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-31

Capital Improvement Program - Project Summary

Project: Effluent Discharge **Project Number:** 2014079

Strategy: Regulatory Compliance **Program:** WW Regulatory Compliance

Justification:

To maintain and upgrade infrastructure necessary for disinfection and dechlorination of Main Wastewater Treatment Plant (MWWTP) effluent and conveyance to its final discharge in the San Francisco Bay. This infrastructure is critical for meeting strict permit requirements and for maintaining flow-through capacity at the MWWTP.

Description:

As the final stage of liquid-stream treatment at the MWWTP, treated wastewater is dosed with chlorine (or sodium hypochlorite) and conveyed through the 9,000-foot long land section of the effluent outfall pipe to the Dechlorination Facility. At the Dechlorination Facility, sodium bisulfite is added to react with any remaining chlorine, and water quality samples are collected to ensure a chlorine-free discharge to the San Francisco Bay. The final conveyance is through 7,500-foot long section of subaqueous outfall pipe.

Tasks over the next five years include a hydraulic study and rehabilitation of pumps at the Effluent Pump Station, as well as rehabilitation and improvements to the Dechlorination Facility. Seismic improvement projects are also within this task for the Effluent Pump Station and the outfall later in the 10-year Capital Improvement Program.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Effluent Discharge	13,312,500	3,837,000	27,730,000	44,879,500

Project Appropriations	
Prior Years	$ 13,312,500
2022	$ 1,857,000
2023	$ 0
2024	$ 400,000
2025	$ 1,580,000
2026	$ 0
Future Years	$ 27,730,000
Total Cost	**$ 44,879,500**

Lead Dept: WAS
Recurring: No

Funding: BOND/REV 100%

In Service Date: 01-Jan-31

Capital Improvement Program - Project Summary

Project: Electricals and Controls **Project Number:** 2014084

Strategy: Maintaining Infrastructure **Program:** WW Infrastructure Program

Justification:

To replace aging equipment and improve the seismic performance and reliability of the electrical power distribution and control systems to prevent outages and support business continuity. The power distribution system is critical to operating all equipment at the Main Wastewater Treatment Plant (MWWTP). The distributed control system is critical to process optimization.

Description:

Several large variable frequency drives (VFD) greater than 100 hp have reached the end of their useful service life. Some of the VFD that will be replaced are the four return activated sludge pump drives and the digester hot water recirculation pump drives for the anaerobic digesters. Aging motor control centers will be replaced for the aerated grit removal process and the oxygen reactors. This work will occur within FY22.

Another task is to replace the Ovation control system. This will be synchronized with replacements of computers and servers, which typically need replacement at five-year intervals. These will include operations and engineering workstations, servers, network equipment, and associated software.

Based on seismic evaluations, two phases of seismic improvements have been identified for the electrical system at the MWWTP. Phase 1 will address immediate needs, such as improved bracing and supports for electrical distribution lines between the main substation and the power generation station, and improved unit anchorage for substations throughout the MWWTP. Phase 2 will address reliability needs following completion of an Electrical Master Plan in FY23.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Electricals and Controls	34,672,662	8,681,000	3,750,000	47,103,662

Project Appropriations	
Prior Years	$ 34,672,662
2022	$ 0
2023	$ 7,931,000
2024	$ 250,000
2025	$ 250,000
2026	$ 250,000
Future Years	$ 3,750,000
Total Cost	**$ 47,103,662**

Lead Dept: WAS
Recurring: No

Funding: BOND/REV 100%

In Service Date: 01-Jan-28

Capital Improvement Program - Project Summary

Project: General Wastewater **Project Number:** 2014086

Strategy: Maintaining Infrastructure **Program:** WW Infrastructure Program

Justification:

To conduct needed maintenance on facilities vital to wastewater conveyance and treatment, but are not limited to a single treatment process category.

Description:

Project tasks include efforts related to management and construction of work on buildings that serve multiple treatment processes. This project features the periodic replacement of capital equipment, major projects for protective coatings plant-wide, and software and vehicle additions.

Two of the larger tasks in this project are seismic retrofits of the Maintenance Building and the Operations Center, two buildings that are heavily used and were prioritized in the Main Wastewater Treatment Plant (MWWTP) seismic evaluation. Those efforts are scheduled to occur between FY22 and FY26. Other seismic tasks include retrofit of various concrete masonry buildings at the MWWTP, the Field Services Building, and the Administration Building.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
General Wastewater	82,668,144	58,757,000	24,450,000	165,875,144

Project Appropriations	
Prior Years	-
2022	$ 21,733,000
2023	$ 6,739,000
2024	$ 8,546,000
2025	$ 14,940,000
2026	$ 6,799,000
Future Years	-
Total Cost	**-**

Lead Dept: WAS

Recurring: Yes

Funding:

ERF	19%
BOND/REV	81%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Interceptors and Pump Stations **Project Number:** 2014073

Strategy: Maintaining Infrastructure **Program:** WW Infrastructure Program

Justification:

To rehabilitate aging gravity interceptors, force mains, and pump stations that convey wastewater from the satellite agencies to the Main Wastewater Treatment Plant (MWWTP), as well as improve emergency access and response for such facilities.

Description:

Interceptor tasks include rehabilitation of underground piping, select manholes and tie-in structures. Pipe rehabilitation efforts will be conducted for the older interceptors that have not been addressed in recent projects. Locations include Second Street and the Embarcadero in Oakland, Buena Vista Avenue and other locations in Alameda, and crossings of the Alameda Channel.

Pump Station tasks include rehabilitation of equipment and piping, as well as improvement of emergency access and functions at several stations. In FY22, the 40-year-old Pump Station M in Alameda will be rehabilitated, and access will be improved for making bypass connections during an emergency. Other projects include construction for the Special Structures Rehabilitation Phase 1, rehabilitation of Pump Stations L in Oakland, and Force Main Access Improvements. Work planned in later years includes the Second Street and Embarcadero Interceptors, Special Structures Rehab Phase 2, and Pump Station A in Albany, C in Alameda, and H in Oakland.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Interceptors and Pump Stations	58,889,779	52,576,000	31,685,000	143,150,779

Project Appropriations	
Prior Years	$ 58,889,779
2022	$ 11,794,000
2023	$ 4,319,000
2024	$ 4,890,000
2025	$ 14,446,000
2026	$ 17,127,000
Future Years	$ 31,685,000
Total Cost	**$ 143,150,779**

Lead Dept: WAS
Recurring: No

Funding:

BOND/REV	84%
ERF	16%

In Service Date: 01-Jan-31

Capital Improvement Program - Project Summary

Project: Nutrients **Project Number:** 2014080

Strategy: Regulatory Compliance **Program:** WW Regulatory Compliance

Justification:

A nutrient loadcap for nitrogen is anticipated in the upcoming San Francisco Regional Water Quality Control Board Watershed Permit, expected in 2024, which will require the District to meet stricter effluent limits for nitrogen.

Description:

The current nutrient watershed permit will expire in mid-2024, and the next five-year permit is expected to impose a nutrient discharge load cap. To meet this effluent load cap, it is expected that the District will be required to implement a process to treat high ammonia in the centrate generated in the dewatering process. However, other studies are planned to determine the feasibility of other nutrient reduction improvements that can be made with existing facilities at the Main Wastewater Treatment Plant (MWWTP). These studies will include pilot and full-scale testing to evaluate sidestream nutrient treatment/recovery technologies and explore innovative approaches to nitrogen reduction. Nutrient studies will start in FY22, and the planning phase of the sidestream treatment project will start in FY23.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Nutrients	2,751,000	15,020,000	78,900,000	96,671,000

Project Appropriations	
Prior Years	$ 2,751,000
2022	$ 200,000
2023	$ 13,720,000
2024	$ 300,000
2025	$ 400,000
2026	$ 400,000
Future Years	$ 78,900,000
Total Cost	**$ 96,671,000**

Lead Dept: WAS
Recurring: No

Funding: BOND/REV 100%

In Service Date: 01-Jan-32

Capital Improvement Program - Project Summary

Project: Power Generation and Biogas **Project Number:** 2014078

Strategy: Maintaining Infrastructure **Program:** WW Infrastructure Program

Justification:

The Power Generation Station (PGS) and biogas system provides a means to utilize biogas produced in the digesters to generate renewable electricity and produce heat for the digesters. Maintaining these aging facilities provides a source of renewable electricity and reduces the need to flare biogas.

Description:

This project is to rehabilitate and maintain the biogas and power generation equipment, flares, piping, and related components to maximize renewable energy generation and minimize flaring of biogas in a safe manner. Much of PGS and the biogas piping were installed in the 1980s, and the newer components, the turbine, support equipment, and piping, are sensitive to adverse conditions and require more maintenance attention to prevent downtime.

This project is intended to minimize downtime by increasing reliability of the power generation components in both normal operation and during grid power outages to improve overall plant reliability. PGS Reliability Improvements Phase 3 is ongoing with construction planned to begin in FY22. Phase 4 will follow starting in FY24. The design for upgrades to the original flares will be complete in FY21, and construction is planned for FY22.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Power Generation and Biogas	29,851,849	5,208,000	0	35,059,849

Project Appropriations	
Prior Years	$ 29,851,849
2022	$ 208,000
2023	$ 0
2024	$ 5,000,000
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 35,059,849**

Lead Dept: WAS
Recurring: No

Funding: BOND/REV 100%

In Service Date: 01-Jan-26

Capital Improvement Program - Project Summary

Project: Preliminary Treatment **Project Number:** 2014075

Strategy: Maintaining Infrastructure **Program:** WW Infrastructure Program

Justification:

To rehabilitate and begin seismic retrofit of the Primary Sedimentation Tanks (PST), channels, and galleries to extend the life of concrete assets, many of which are original to the Main Wastewater Treatment Plant (MWWTP) construction in 1950.

Description:

This project includes the final phase of concrete rehabilitation for the PST followed by seismic retrofits. The rehabilitation work includes replacing three primary influent channel control gates (large rectangular butterfly valves); and rehabilitating and coating concrete roof and walls in the influent channel adjacent to the gates, and in upstream areas that were not addressed in previous phases.

The PST will be seismically retrofitted beginning in FY24. Phase 1 will encompass tanks 1-10 and the adjoining influent channels and gallery and effluent channel. The project will include relocating the Blower Building, retrofitting the influent channel and gallery joints at various locations, strengthening the south wall of the influent channel and gallery, strengthening or bracing tank walls, strengthening the roof slab of the effluent channel and its connection to the sed tanks, and adding exterior pile foundations at four expansion joints. Phase 2 will begin in FY26 and addresses the Influent Channels and Gallery with Vortex Grit facilities.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Preliminary Treatment	29,232,000	47,017,000	2,400,000	78,649,000

Project Appropriations	
Prior Years	$ 29,232,000
2022	$ 1,200,000
2023	$ 3,387,000
2024	$ 200,000
2025	$ 42,230,000
2026	$ 0
Future Years	$ 2,400,000
Total Cost	**$ 78,649,000**

Lead Dept: WAS
Recurring: No

Funding: BOND/REV 100%

In Service Date: 01-Jan-30

Capital Improvement Program - Project Summary

Project: Primary Treatment **Project Number:** 2014076

Strategy: Maintaining Infrastructure **Program:** WW Infrastructure Program

Justification:

To rehabilitate and begin seismic retrofit of the Primary Sedimentation Tanks (PST), channels, and galleries to extend the life of concrete assets, many of which are original to the Main Wastewater Treatment Plant (MWWTP) construction in 1950.

Description:

This project includes the final phase of concrete rehabilitation for the PST followed by seismic retrofits. The rehabilitation work includes replacing three primary influent channel control gates (large rectangular butterfly valves); and rehabilitating and coating concrete roof and walls in the influent channel adjacent to the gates, and in upstream areas that were not addressed in previous phases.

The PST will be seismically retrofitted beginning in FY24. Phase 1 will encompass tanks 1-10 and the adjoining influent channels and gallery and effluent channel. The project will include relocating the Blower Building, retrofitting the influent channel and gallery joints at various locations, strengthening the south wall of the influent channel and gallery, strengthening or bracing tank walls, strengthening the roof slab of the effluent channel and its connection to the sed tanks, and adding exterior pile foundations at four expansion joints. Phase 2 will begin in FY26 and addresses the Influent Channels and Gallery with Vortex Grit facilities.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Primary Treatment	22,591,100	57,661,000	0	80,252,100

Project Appropriations	
Prior Years	$ 22,591,100
2022	$ 2,130,000
2023	$ 0
2024	$ 5,107,000
2025	$ 0
2026	$ 50,424,000
Future Years	$ 0
Total Cost	**$ 80,252,100**

Lead Dept: WAS
Recurring: No

Funding: BOND/REV 100%

In Service Date: 01-Jan-31

Capital Improvement Program - Project Summary

Project: Resource Recovery **Project Number:** 2014081

Strategy: Maintaining Infrastructure **Program:** WW Infrastructure Program

Justification:

To rehabilitate and upgrade facilities associated with trucked waste receiving from the Resource Recovery Program. Trucked waste provides additional feedstock to produce biogas, and revenue for the Wastewater Department.

Description:

An initial project task is to implement odor control improvements that include a new three-stage treatment system serving the Fats, Oils, and Grease (FOG) and High Strength Waste (HSL) receiving stations and blend tanks. This project also involves safety improvements and improved drainage to prevent odors and plugging of drains. The design for this project was completed in FY21, and construction is planned to start in FY22.

Another task is creating a new degritting facility for trucked waste. This project follows the successful pilot testing performed in FY20 and involves design and construction of a new building and hydrocyclone-classifiers, a local odor control unit, pumps, and associated piping. Temporary improvements will be made in FY22, with the main project starting after FY28.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Resource Recovery	18,413,000	2,376,000	8,403,000	29,192,000

Project Appropriations	
Prior Years	$ 18,413,000
2022	$ 1,000,000
2023	$ 0
2024	$ 0
2025	$ 1,376,000
2026	$ 0
Future Years	$ 8,403,000
Total Cost	**$ 29,192,000**

Lead Dept: WAS
Recurring: No

Funding: BOND/REV 100%

In Service Date: 01-Jan-32

Capital Improvement Program - Project Summary

Project: Secondary Treatment **Project Number:** 2014077

Strategy: Maintaining Infrastructure **Program:** WW Infrastructure Program

Justification:

To rehabilitate and upgrade structures associated with Secondary Treatment, all of which were constructed in the 1970s and are showing their advanced age and evidence of deterioration. The facilities include the Oxygen Production Plant where liquid oxygen is produced, the Oxygen Reactors where oxygen is mixed with the wastewater, and the Secondary Clarifiers.

Description:

Major project tasks are to rehabilitate the Oxygen Production Plant, Reactors and Secondary Clarifiers in multiple phases to keep some units in service while the others are rehabilitated.

Rehabilitation of the Oxygen Production Plant includes upgrading the control system which is over 40 years old. Planning and design will take place in FY21-22, and construction in FY23-24.

Rehabilitation of the Oxygen Reactors includes concrete resurfacing of interior walls and columns, coating of the roof slabs, strengthening the interior support columns, recoating or replacing sections of piping, and refurbishing the aerator gear boxes. The design for the first of four phases was completed in FY21, and construction should be completed in FY22.

Rehabilitation of the Secondary Clarifiers includes concrete work, replacement of the clarifier mechanisms, resurfacing or replacing other mechanical components, and replacing the baffles to improve performance. Phase 1 of the project previously rehabilitated three of the twelve clarifiers. The design for Phase 2 was completed in FY21 and construction should be completed in FY22.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Secondary Treatment	37,756,000	14,788,000	37,337,000	89,881,000

Project Appropriations	
Prior Years	$ 37,756,000
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 4,288,000
2026	$ 10,500,000
Future Years	$ 37,337,000
Total Cost	**$ 89,881,000**

Lead Dept: WAS
Recurring: No

Funding: BOND/REV 100%

In Service Date: 01-Jan-32

Capital Improvement Program - Project Summary

Project: Utilities and Sitework **Project Number:** 2014085

Strategy: Maintaining Infrastructure **Program:** WW Infrastructure Program

Justification:

To rehabilitate and improve utility systems at the Main Wastewater Treatment Plant (MWWTP), including chemical piping, compressed air (plant air), washdown water, potable water, natural gas, and drains; and sitework. These pipes are 50 to 70 years old, or convey corrosive chemicals, such as hypochlorite, that contribute to shorter useful lives and require replacement.

Description:

This project includes tasks related to rehabilitating and constructing piping for all utilities located at the MWWTP including process piping, hypochlorite and other chemicals, compressed air (plant air), washdown water (3W), potable water, natural gas, drain pipes, and other underground piping. This project also includes sitework, such as landscaping, paving, and grading projects. A multi-phase project to improve and replace hypochlorite piping around the plant has begun, with Phase 2 to be completed in FY22, and Phase 3 beginning in FY22. Design for the Process Piping Replacement Project was completed in FY21, and construction will be completed in FY22.

The 3W pumps and piping will be assessed and improved, including the surge and cathodic protection systems. A new connection to the recycled water system will be included as back-up supply. Construction is planned through FY25. Portions of the 3W piping will be assessed starting in FY22.

The Plant Gallery Drains project will address ponding in the galleries and difficulty emptying tanks and basins when necessary for maintenance. Phase 1 improvements were recently completed. The design for Phase 2 improvements will begin in FY22.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Utilities and Sitework	35,298,592	13,305,000	0	48,603,592

Project Appropriations	
Prior Years	$ 35,298,592
2022	$ 5,728,000
2023	$ 200,000
2024	$ 4,177,000
2025	$ 0
2026	$ 3,200,000
Future Years	$ 0
Total Cost	**$ 48,603,592**

Lead Dept: WAS
Recurring: No

Funding: BOND/REV 100%

In Service Date: 01-Jan-28

Capital Improvement Program - Project Summary

Project: Wet Weather Facilities **Project Number:** 2014074

Strategy: Regulatory Compliance **Program:** WW Regulatory Compliance

Justification:

To conduct mandated work required under the Inflow and Infiltration Program and to maintain Wet Weather Facilities (WWF) for reliable performance during wet weather events.

Description:

This project includes ongoing, annual implementation of the regional private sewer lateral ordinance, flow modeling, and reporting, as required by the Consent Decree issued by United States Environmental Protection Agency and Regional Water Quality Control Board. Work also includes studies to identify additional wet weather flow reductions.

Tasks also include assessing and correct deficiencies in the large diameter influent magnetic flow meters at the Oakport WWF and Point Isabel WWF. Compliance with increasingly stringent regulations requires accurate flow metering. Many of the flow meters at these locations are more than 30 years old, and their reliability and accuracy have deteriorated. In some cases, the meter manufacturer no longer exists, which makes calibration and repair difficult. The Parshall flumes at Oakport, Point Isabel, and San Antonio Creek WWF will be inspected for physical deficiencies (such as damage to liner and concrete) and rehabilitated. Design is scheduled to start for this work in FY22 with construction completed in FY24.

This project also includes tasks for chemical tank rehabilitation, wet well liner repair, and concrete restoration at the WWFs. This work is scheduled to start FY23.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Wet Weather Facilities	28,579,000	9,052,000	300,000	37,931,000

Project Appropriations	
Prior Years	$ 28,579,000
2022	$ 8,257,000
2023	$ 795,000
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 300,000
Total Cost	**$ 37,931,000**

Lead Dept: WAS
Recurring: No

Funding: BOND/REV 100%

In Service Date: 01-Jan-31

Capital Improvement Program - Project Summary

Project: Arc Flash, Mitigate, Proj. Mgn **Project Number:** 2001485

Strategy: Maintaining Infrastructure **Program:** Electrical Hazard Prevent Pgm

Justification:

To comply with the Occupational Safety and Health Administration (OSHA) standard for electrical safety in the workplace. The standard involves identifying and analyzing electrical hazards, educating the workforce on those hazards, and implementing safeguards to protect the workers.

Description:

This project performs studies and remediation work at various facilities to reduce arc flash hazards.

Work has been completed at the Oakland Administration Building, the Adeline Maintenance Center buildings, the hydro electric plants, water treatment plants, and various pumping plants. Work in FY22-26 includes completing in-progress studies and remediating conditions at additional pumping plants, lift stations and other facilities.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Arc Flash, Mitigate, Proj. Mgn	1,616,566	450,000	900,000	2,966,566

Project Appropriations	
Prior Years	$ 3,136,000
2022	$ 0
2023	$ 0
2024	$ 150,000
2025	$ 150,000
2026	$ 150,000
Future Years	$ 900,000
Total Cost	**$ 4,486,000**

Lead Dept: WOD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-32

Capital Improvement Program - Project Summary

Project: Diesel Engine Retrofit **Project Number:** 1002588

Strategy: Facilities, Servc and Equip **Program:** Vehicle/Equipment

Justification:

The California Air Resources Board (CARB) establishes and enforces regulations for air emissions. Fines and civil actions can result from noncompliance with established deadlines. These projects are required to comply with CARB.

Description:

This project will install Best Available Control Technology on off-road, on-road, portable and stationary diesel engines to comply with air quality regulations.

All portable diesel engines greater than 50 HP must meet regulations for diesel particulate matter. FY22-23 purchases include ten portable generators to meet backup power requirements to address PG&E Public Safety Power Shutoffs in response to severe weather.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Diesel Engine Retrofit	10,528,000	4,151,000	3,925,000	18,604,000

Project Appropriations	
Prior Years	$ 10,528,000
2022	$ 2,650,000
2023	$ 727,000
2024	$ 774,000
2025	$ 0
2026	$ 0
Future Years	$ 3,925,000
Total Cost	**$ 18,604,000**

Lead Dept: WOD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-28

Capital Improvement Program - Project Summary

Project: Distrib Sys Wtr Quality Imprv **Project Number:** 000919

Strategy: Water Quality **Program:** Water Quality Improvement

Justification:

Improvements to the distribution system are necessary to address water quality issues.

Description:

This project provides ongoing improvements related to water quality in the distribution system which is composed of over 4,100 miles of pipeline and 165 reservoirs.

In FY22-23, a chloramine boosting station will be relocated from Tice Reservoir to Summit North in El Cerrito, and a new station will be installed at Welle Reservoir in Crockett. Also, electrical or hydraulic mixers will be installed at reservoirs where needed and practical to improve water quality.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Distrib Sys Wtr Quality Imprv	9,074,825	6,620,000	0	15,694,825
Chloramine Boosting Stations	2,528,000	0	0	2,528,000
Reservoir Mixing System	720,000	0	0	720,000

Project Appropriations	
Prior Years	-
2022	$ 2,750,000
2023	$ 0
2024	$ 3,250,000
2025	$ 570,000
2026	$ 50,000
Future Years	-
Total Cost	**-**

Lead Dept: WOD
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Enhanced Power Revenue **Project Number:** 1002593

Strategy: Water Supply **Program:** Supply Reservoirs

Justification:

Developing cost-effective renewable generation and improving energy efficiency to reduce the reliance on energy purchases and greenhouse gas emissions supports the District's Energy Policy.

Description:

This project provides ongoing funding for the development of renewable generation projects or purchase of renewable energy to support the Energy Policy goal to reduce indirect greenhouse gas emissions to zero by 2030. The project also supports efforts to fund projects that directly reduce energy consumption.

In FY22-23 efforts to develop a five megawatt photovoltaic project on the watershed lands in Orinda continue with a focus on PG&E interconnection, environmental permitting, approvals from the City and construction.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Enhanced Power Revenue	3,432,866	0	0	3,432,866

Project Appropriations	
Prior Years	-
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	-
Total Cost	**-**

Lead Dept: WOD
Recurring: Yes

Funding:

BOND/REV	81%
GRANTS	19%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Facility Paving Project **Project Number:** 000089

Strategy: Maintaining Infrastructure **Program:** Reservoir Rehab Program

Justification:

Aging paving at local facilities are in need of restoration and this project provides a systematic and long-term approach to optimizing pavement maintenance.

Description:

This project maintains and replaces distribution reservoir access roads, other facility roads, and parking areas.

Planned work in FY22-26 includes paving repairs and replacements for reservoir access roads, Adeline Maintenance Center facilities, and Service Yards.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Facility Paving	2,513,874	4,420,000	0	6,933,874

Project Appropriations	
Prior Years	$ 3,829,909
2022	$ 578,000
2023	$ 915,000
2024	$ 945,000
2025	$ 975,000
2026	$ 1,007,000
Future Years	$ 0
Total Cost	**$ 8,249,909**

Lead Dept: WOD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-30

Capital Improvement Program - Project Summary

Project: Fueling Facility Upgrades **Project Number:** 1002589

Strategy: Facilities, Servc and Equip **Program:** Vehicle/Equipment

Justification:

This project is required to replace equipment that is at the end of its useful life. Most of the fuel dispenser units that will be replaced are over 30 years old and require frequent repairs.

Description:

This project includes planning, design and construction to upgrade fueling facilities. Improvements scheduled for FY22-23 include replacing fuel dispensers at 16 sites, and installing the Enhanced Vapor Recovery Phase II equipment for the above ground storage tanks.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Fuel Facility Improvements	14,577,404	3,000,000	0	17,577,404

Project Appropriations	
Prior Years	$ 16,046,000
2022	$ 3,000,000
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 0
Future Years	$ 0
Total Cost	**$ 19,046,000**

Lead Dept: WOD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 31-Dec-23

Capital Improvement Program - Project Summary

Project: Minor Facility Improvements **Project Number:** 1002676

Strategy: Facilities, Servc and Equip **Program:** Area Service Center/Bldg Prog

Justification:

Each year various relatively low-cost improvements and modifications to facilities are required. Most involve equipment or structural issues impacting facility integrity, or health and safety issues.

Description:

This project consists of low-cost capital improvements to facilities that do not require extensive planning or design, or justify a stand alone project. The project also includes cost sharing with the Wastewater System for laboratory upgrades and equipment.

In FY22, projects include replacing HVAC equipment at the Adeline Maintenance Center (AMC) Shops building; LED lighting upgrades at the Administration Building (AB) garage; AB elevator lighting upgrades for four cars; slab reinforcements and replacement of a standard milling machine with a computer controlled milling machine for the Central Machine Shop (CMS); and the rehabilitation of one kitchenette at the main AB.

In FY23, projects include replacement of a standard lathe with a computer controlled lathe at CMS; AB elevator lighting upgrades for three cars; window film replacement and painting of the building exterior at the AMC Campus; and the rehabilitation of two kitchenettes at the AB.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Minor Facilities Work	9,143,389	6,569,000	0	15,712,389

Project Appropriations	
Prior Years	-
2022	$ 1,350,000
2023	$ 3,590,000
2024	$ 656,000
2025	$ 473,000
2026	$ 500,000
Future Years	-
Total Cost	**-**

Lead Dept: WOD
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Minor WTP Capital Work **Project Number:** 2003502

Strategy: Water Quality **Program:** Water Treatment Upgrade

Justification:

Each year various relatively low-cost improvements and modifications to existing Water Treatment Plants (WTP) are required. Most involve equipment or structural problems impacting facility integrity, or health and safety issues.

Description:

This project consists of low-cost capital improvements to facilities that do not require extensive planning or design, or justify a stand alone project. This project may also address small infrastructure improvements that were unanticipated but are critical for WTP operations.

Work in FY20-24 includes replacement of two 36-inch butterfly valves at the wash water basins, re-coating of the solids handling ponds, purchase of new filter valves, and improvements to the ammonia feed system at Orinda WTP; purchase of new variable frequency drive controllers for all chemical pumps at Sobrante WTP; replacement of both sedimentation isolation gates at Sobrante WTP; replenishment of filter media at Upper San Leandro WTP; and purchase of new chemical metering pumps and equipment at various WTPs.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
WTP Capital Improvements	5,151,931	3,379,000	0	8,530,931

Project Appropriations	
Prior Years	-
2022	$ 630,000
2023	$ 652,000
2024	$ 675,000
2025	$ 699,000
2026	$ 723,000
Future Years	-
Total Cost	**-**

Lead Dept: WOD
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: OP/NET System **Project Number:** 000628

Strategy: Extensions and Improvements **Program:** OP/NET

Justification:

The OP/NET System, consisting of the Industrial Control System (ICS), the Supervisory Control and Data Acquisition (SCADA) system, and Remote Terminal Units (RTU) is necessary for the operation of the water system. Hardware, software and components need replacement and upgrades to ensure system reliability and security.

Description:

This project consists of ongoing component upgrades and replacements for the OP/NET System to ensure that it reliably and securely obtains water system information and reports process data to system operators, engineers and planners. The OP/NET System includes the Security System, SCADA system at more than 20 locations, wired and wireless communication networks, monitoring and control equipment at over 300 facilities, and distributed control systems to provide operations staff with the ability to control and monitor water production, treatment, distribution, hydroelectric power generation and field facilities.

In FY20-21, the SCADA system was upgraded with new software and hardware; high speed SCADA communication lines and industrial network routers were added; the wireless broadband communications network was expanded; and over 40 RTUs were replaced. The Distributed Control Systems at Orinda and Walnut Creek Water Treatment Plants were upgraded. In addition, cybersecurity vulnerability mitigations were completed to secure the ICS that includes water control, building management control, centralized security, and wastewater control systems.

In FY22-26, upgrade of the SCADA system and ICS infrastructure will continue, and deployment of additional wireless communication and security/network equipment will coincide with the RTU replacement project. Also, another ICS cybersecurity assessment will be performed followed by any mitigations recommended by the assessment.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Op/Net Sys Improvements	16,050,733	4,888,200	5,950,000	26,888,933

Project Appropriations	
Prior Years	-
2022	$ 0
2023	$ 1,542,800
2024	$ 1,168,800
2025	$ 1,079,400
2026	$ 1,097,200
Future Years	-
Total Cost	**-**

Lead Dept: WOD

Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Pardee Ctr Cap Maint & Imprvmt **Project Number:** 2001367

Strategy: Water Supply **Program:** Supply Reservoirs

Justification:

This project is needed to rehabilitate or replace infrastructure and equipment to improve operating efficiency and reliability and meet regulatory compliance with water and wastewater systems and facilities.

Description:

This project provides for replacement and improvements to the Pardee Center Water Treatment Plant, Wastewater Treatment Plant, potable water system, collection system, buildings and grounds, roads, conference center, chemical plant and aqueduct flow control infrastructure to ensure safe and reliable systems that comply with operational and regulatory requirements.

FY22-31 work includes replacement of power poles; replacement of siding, flooring, HVAC systems, etc. on several buildings; purchase of a storage building; exterior painting of the warehouse and shops; rehabilitation of the elevated fire water tank; replacement of the Pardee Ridge emergency generator; and replacement of the 800MHz radio system.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Pardee Ctr Cap Maint & Imprvmt	1,234,352	3,216,236	1,346,795	5,797,383

Project Appropriations	
Prior Years	-
2022	$ 1,208,054
2023	$ 1,102,030
2024	$ 373,488
2025	$ 319,885
2026	$ 212,779
Future Years	-
Total Cost	**-**

Lead Dept: WOD
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Powerhouse Improvements **Project Number:** 2001368

Strategy: Water Supply **Program:** Supply Reservoirs

Justification:

This project is needed to rehabilitate or replace aging powerhouse infrastructure and equipment to improve operating efficiency and reliability and meet river flow commitments set forth by hydrology, water rights priorities, agreements, decrees and directives from state and federal regulatory agencies.

Description:

This project provides for replacement and improvements of electrical and mechanical equipment such as turbines, generators, breakers, protective relays, valves, pipeline and conduits to ensure reliable power production, management of river flows, and remote operation and monitoring of critical systems.

FY22-31 work consists of purchasing a Vanguard timing test set and time travel analyzer; upgrading a generator and programmable logic controller; replacing piping and valves; overhauling a turbine; upgrading a lube oil system and transformer; replacing relays, disconnect switches, and oil-filled circuit breakers; installing digital fault recorders; and upgrading instrumentation.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Powerhouse Improvements	11,470,708	4,394,877	4,203,166	20,068,751
FSCC Capital Improvements	0	949,699	120,562	1,070,261

Project Appropriations	
Prior Years	-
2022	$ 1,295,700
2023	$ 1,496,357
2024	$ 618,465
2025	$ 607,231
2026	$ 1,326,823
Future Years	-
Total Cost	**-**

Lead Dept: WOD
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Raw Wtr Aq O&M Imprvmts **Project Number:** 001316

Strategy: Water Supply **Program:** Aqueduct Program

Justification:

This project is needed to improve or replace aging raw water conveyance system infrastructure, and improve operating efficiency and reliability to meet water supply demands and regulatory requirements.

Description:

This project provides infrastructure improvements to facilitate the safe and reliable operation of the raw water aqueducts, pipelines, pumping plants and other facilities.

In FY22-26, plans include improvements to raw water pipeline appurtenances, support cradles, culvert replacement, fencing, and structure rehabilitation. This project also provides for improvements of Delta levees and Freeport Regional Water Authority facilities and equipment.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Raw Wtr Aqueduct Imprvmts	24,406,184	7,336,882	7,444,487	39,187,553

Project Appropriations	
Prior Years	-
2022	$ 1,552,725
2023	$ 1,223,563
2024	$ 1,440,947
2025	$ 1,597,440
2026	$ 1,522,207
Future Years	-
Total Cost	**-**

Lead Dept: WOD
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Rec Area Cap Maint & Imprvmt **Project Number:** 2001369

Strategy: Water Supply **Program:** Supply Reservoirs

Justification:

This project ensures compliance with regulatory agency requirements and maintains recreation facilities in safe condition.

Description:

This project provides for replacement and improvements to the water and wastewater treatment plants, potable water systems, waste collection systems, dams, dikes and watershed lands at the Pardee and Camanche recreation areas. Much of the work is required to maintain regulatory compliance.

FY20-31 work includes replacing the Pardee Recreation Area Water Treatment Plant (WTP); connecting the cross lake pipeline to the Camanche North Shore system at China Gulch, along with replacing a steel bolted water tank, paving and piping; and upgrading the motor control center and replacing potable water isolation valves at the Camanche South Shore WTP.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Rec Area Cap Maint & Imprvmt	2,607,049	4,475,139	1,749,486	8,831,674

Project Appropriations	
Prior Years	-
2022	$ 750,942
2023	$ 1,714,687
2024	$ 345,900
2025	$ 1,192,501
2026	$ 471,109
Future Years	-
Total Cost	**-**

Lead Dept: WOD
Recurring: Yes

Funding: BOND/REV 100%

In Service Date: Recurring

Capital Improvement Program - Project Summary

Project: Small Capital Improvements **Project Number:** 2006310

Strategy: Maintaining Infrastructure **Program:** Pumping Plant Rehabilitation

Justification:

This project replaces critical electrical, mechanical, instrument, and structural components at distribution and treatment facilities that have reached the end of their useful life. Failure of the components can affect water service to customers, fire suppression capability and water quality.

Description:

This project provides small and urgent capital improvements to maintain the reliability and safety of pumping plants, reservoirs, regulators, treatment plants, rate control stations, and administration buildings. There are 425 of these facilities, of which 66 have improvements scheduled in the Infrastructure Rehabilitation Plan (IRP) in the next 10 years. This project provides improvements and the accelerated replacement of failed or unreliable components in some of the 66 facilities slated for eventual rehabilitation. Such improvements are smaller in scale than the typical project under the IRP.

Projects completed in FY20-21 include installation of soft starters at seven pumping plants; replacement of roofs at seven pumping plants and small facilities; replacement of controls at two pumping plants; installation of generator transfer switches and signals at 32 pumping plants; and repair or replacement of motors at Summit North (El Cerrito), Colorados (Lafayette), Oak Knoll (El Cerrito), Nicholl Knob (Richmond), and several other smaller pumping plants.

Planned projects for FY22-23 include replacement of electrical and control components at 10 or more pumping plants as well as the replacement of 150 turbidimeters at water treatment plants. Other work includes repair and replacement of motors, valves, piping, instrumentation, retaining walls and roofs at various pumping plants, water treatment plants, regulators and rate control stations.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Small Capital Improvements	14,359,126	15,542,700	18,350,000	48,251,826

Project Appropriations	
Prior Years	$ 17,038,620
2022	$ 2,913,000
2023	$ 3,008,000
2024	$ 3,105,000
2025	$ 3,206,000
2026	$ 3,310,700
Future Years	$ 18,350,000
Total Cost	**$ 50,931,320**

Lead Dept: WOD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-40

Capital Improvement Program - Project Summary

Project: Upcountry WW Trmt Imprvmts **Project Number:** 1000816

Strategy: Regulatory Compliance **Program:** Remediation

Justification:

Improvements to the upcountry wastewater systems are needed to protect the environment from spills and overflows, and to maintain permit requirements issued by the CA Regional Water Quality Control Board.

Description:

The Upcountry Wastewater Improvement Program includes multiple projects to upgrade the wastewater collection, treatment and disposal systems serving the Pardee and Camanche facilities. An Upcountry Utility Infrastructure Master Plan recommends upgrading the collection facilities to meet new regulatory requirements.

FY21-22 priorities include completing design and construction of the sewer collection system improvements at Camanche South Shore (CASS). Design and construction for improvements to the collection system at Camanche North Shore (CANS) will take place in FY23-24. Design and construction for the collection systems at Pardee Center (PACT) and Pardee Recreation Area (PARA) will take place in FY24-25.

The objectives of these improvement projects are to meet District and State of California standards; reconnect the mobile homes to the wastewater collection system; correct system layout deficiencies; and increased system dependability with the installation of backup power to crucial lift stations.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Upcountry WW Trmt Imprvmts	20,358,449	27,950,000	8,000,000	56,308,449

Project Appropriations	
Prior Years	$ 32,057,000
2022	$ 9,600,000
2023	$ 0
2024	$ 10,350,000
2025	$ 0
2026	$ 8,000,000
Future Years	$ 8,000,000
Total Cost	**$ 68,007,000**

Lead Dept: WOD

Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-29

Capital Improvement Program - Project Summary

Project: Wtr Supply Monitoring System **Project Number:** 000065

Strategy: Water Supply **Program:** Supply Reservoirs

Justification:

Reliable and timely hydrologic, meteorologic, flow and water quality data is required to meet operational needs. Improved data quality, reliability and water supply forecasting is needed for expanded hydrologic monitoring in the East Bay and Mokelumne watersheds.

Description:

This project provides for the development and improvement of a system for monitoring the Mokelumne and East Bay Watersheds for precipitation, diversion, water flow and storage level. This monitoring system provides near real-time information for operation and forecasting plans. Work includes monitoring on the Upper and Lower Mokelumne, Pardee, Camanche and East Bay watersheds and reservoirs.

FY22-FY32 plans include equipment and telemetry upgrades, new monitoring stations, station rehabilitation/relocations, station safety improvements and improved flow measurement capabilities during high flow events.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Wtr Supply Monitoring System	867,649	638,000	451,000	1,956,649

Project Appropriations	
Prior Years	$ 2,081,000
2022	$ 120,000
2023	$ 88,000
2024	$ 103,000
2025	$ 180,000
2026	$ 147,000
Future Years	$ 451,000
Total Cost	**$ 3,170,000**

Lead Dept: WOD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 30-Jun-32

Capital Improvement Program - Project Summary

Project: East Bayshore **Project Number:** 1005395

Strategy: Water Supply **Program:** Water Recycling

Justification:

The District has set a goal of providing 20 MGD of recycled water by the year 2040, thereby offsetting the demand for potable water. This project will contribute to that goal and supports the Strategic Plan goal of Long-Term Water Supply through water recycling.

Description:

The East Bayshore Recycled Water Project will ultimately provide 2.3 MGD of recycled water to customers in Albany, Berkeley, Emeryville, Oakland, and Alameda. The project includes Phases 1A (0.4MGD), 1B (0.25 MGD), and 2 (1.7MGD). Phase 1A began operating in 2008 and currently delivers 0.2 MGD to customers in Oakland and Emeryville. A water quality improvements pilot study will be conducted to develop design criteria and operations parameters for treatment improvements which may be implemented in FY24-25.

Phase 1B will expand service by an additional 0.25 MGD, for total estimated Phases 1A and 1B supply of 0.65 MGD. The planned timeframe for implementation is FY30-34.

Phase 2, estimated at 1.7 MGD, is planned for implementation in FY35-40. Recycled water will be provided to Alameda, Emeryville, Berkeley, and Oakland. The crossing of the estuary (slip lining of existing pipe) will be completed in FY25-30. The remainder of the facilities including expansion through Alameda, Berkeley, Emeryville, and Oakland would be completed by FY40 and include pipelines, treatment expansion, a possible booster pump station, and customer retrofits.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
East Bayshore	73,753,768	19,139,431	100,000,000	192,893,199

Project Appropriations	
Prior Years	$ 73,753,768
2022	$ 0
2023	$ 3,041,634
2024	$ 8,891,843
2025	$ 3,545,365
2026	$ 3,660,589
Future Years	$ 100,000,000
Total Cost	**$ 192,893,199**

Lead Dept: WRD
Recurring: No

Funding:

BOND/REV	30%
SCC	70%

In Service Date: 30-Jun-40

Capital Improvement Program - Project Summary

Project: RARE Water Project **Project Number:** 2004604

Strategy: Water Supply **Program:** Water Recycling

Justification:

This project is required to meet the District's contractual obligation to provide high-purity recycled water to the Chevron refinery in Richmond for use as boiler feedwater. In addition, this project helps the District to meet its water recycling goal of providing 20 MGD of recycled water by the year 2040 and supports the District's Strategic Plan Long-Term Water Supply goal.

Description:

Phase 1 of the Richmond Advanced Recycled Expansion (RARE) Water Project was completed in 2010 and provides 3.5 MGD of recycled water to Chevron for boiler feedwater applications to conserve the use of potable water. Facilities consist of a high-purity recycled water treatment plant at Chevron, an influent pump station, flow equalization, and a standby generator at the West County Wastewater District treatment plant.

In FY22 and beyond, equipment will be replaced at the RARE high-purity recycled water treatment plant including the microfiltration modules, reverse osmosis feed pumps, and reverse osmosis membranes. These replacements are to be funded by Chevron.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
RARE - Chevron Funded	56,612,514	3,497,248	5,100,000	65,209,762
RARE - EBMUD Funded	4,936,551	0	0	4,936,551

Project Appropriations	
Prior Years	$ 64,937,000
2022	$ 224,401
2023	$ 567,875
2024	$ 1,168,611
2025	$ 1,081,771
2026	$ 454,590
Future Years	$ 5,100,000
Total Cost	**$ 73,534,248**

Lead Dept: WRD

Recurring: No

Funding:

SCC	6%
OAG	94%

In Service Date: 30-Jun-36

Capital Improvement Program - Project Summary

Project: SRV Recycled Water Program **Project Number:** 1005224

Strategy: Water Supply **Program:** Water Recycling

Justification:

The District has set a goal of providing 20 MGD of recycled water by the year 2040, thereby offsetting the demand for potable water. This project will contribute to that goal and supports the Strategic Plan goal of Long-Term Water Supply.

Description:

Expansion of the Dublin San Ramon-EBMUD Recycled Water Authority (DERWA) tertiary treatment facilities from 9.7 MGD to 16.2 MGD was completed in FY20 to provide capacity as the distribution system is expanded and additional customers are connected. Ongoing treatment plant capital replacement costs are needed for operations and maintenance. Additional supplemental supplies will need to be secured over the next few years to meet peak demands and future expansions.

EBMUD's portion of the San Ramon Valley Recycled Water Program includes customer retrofits and connecting customers to the distribution system; implementation of distribution systems in San Ramon, Danville and Blackhawk; and planning/property purchase of Pump Stations 3 and 4. Phase 1 began operating in 2006 and delivers up to 0.7 MGD of recycled water to EBMUD customers in San Ramon.

Phase 2 distribution pipelines have been completed, and customer retrofits were completed in FY21. The Phase 3 pump station on the border between San Ramon and Danville will be completed in FY26 with distribution pipelines to be implemented in FY27. Phase 3 site retrofits will be completed in FY27-28.

Phase 5 improvements in Blackhawk West is anticipated to be completed in FY31. The Phase 4 pump station and pipelines in Blackhawk will be completed post FY31. Timing of all phases will be contingent on demand needs and supplemental supplies.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
San Ramon Valley RW	41,117,956	6,650,977	25,500,000	73,268,933
DERWA	47,274,146	0	0	47,274,146

Project Appropriations	
Prior Years	$ 88,392,102
2022	$ 0
2023	$ 5,872,442
2024	$ 0
2025	$ 500,098
2026	$ 278,437
Future Years	$ 25,500,000
Total Cost	**$ 120,543,079**

Lead Dept: WRD
Recurring: No

Funding:

BOND/REV	30%
SCC	70%

In Service Date: 30-Jun-40

Capital Improvement Program - Project Summary

Project: Sup Supply and Regional Plng **Project Number:** 000460

Strategy: Water Supply **Program:** Water Supply Mgmt Program

Justification:

This project is needed to ensure the reliability of the water supply into the future, particularly during dry years, emergencies, and in response to changing climate and legislation. The programs and projects support the Strategic Plan goals for Long-Term Water Supply and Water Quality and Environmental Protection.

Description:

The District continually works to develop programs and projects to help ensure the reliability of its long-term water supply, taking into account droughts and climate change.

Key projects in FY22-26 include evaluating the Los Vaqueros Reservoir Expansion, developing and implementing water transfer and exchange opportunities, participating in the Upper Mokelumne Regional Water Authority and the Bay Area Regional Reliability partnership, investigating groundwater banking opportunities in both San Joaquin and Sacramento County, and developing and protecting the East Bay Plain Subbasin.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Imported Water Facilities	2,881,185	50,188,654	98,000,000	151,069,839
GroundwaterResourceDevelopment	27,747,500	0	75,000,000	102,747,500
Local Regional Partnerships	19,122,540	0	6,800,000	25,922,540
Water Transfers	12,821,000	0	0	12,821,000
SGMA Compliance	7,983,057	509,135	0	8,492,192

Project Appropriations	
Prior Years	$ 140,406,834
2022	$ 1,976,716
2023	$ 8,214,238
2024	$ 1,987,835
2025	$ 1,902,000
2026	$ 36,617,000
Future Years	$ 179,800,000
Total Cost	**$ 370,904,623**

Lead Dept: WRD
Recurring: No

Funding:

BOND/REV	30%
SCC	14%
GRANTS	56%

In Service Date: 31-Dec-40

Capital Improvement Program - Project Summary

Project: Water Recycling WSMP **Project Number:** 000890

Strategy: Water Supply **Program:** Water Recycling

Justification:

The District's Water Supply Management Program (WSMP) has set a goal of providing 20 MGD of recycled water by the year 2040, thereby offsetting the demand for potable water. These projects will contribute to the goal and supports the Strategic Plan goal of Long-Term Water Supply.

Description:

The Recycled Water Master Plan was updated in FY18-19. This project consists of: (1) updating the master plan every 5 years; (2) coordinating the implementation of golf course funded satellite treatment plants including potential projects at the Diablo Country Club in FY24 and Sequoyah Country Club; (3) further evaluation and implementation of the first phase of the Phillips 66 recycled water project in Rodeo in FY26-31; (4) rehabilitation of the San Leandro pump station project by FY29; (5) evaluation and development of potential recycled water opportunities in Contra Costa County in the long term; and (6) expansion of the recycled water truck program and residential fill station.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Water Recycling Planning	10,750,144	5,942,847	0	16,692,991

Project Appropriations	
Prior Years	$ 17,587,909
2022	$ 0
2023	$ 0
2024	$ 0
2025	$ 0
2026	$ 5,942,847
Future Years	$ 0
Total Cost	**$ 23,530,756**

Lead Dept: WRD

Recurring: No

Funding:

BOND/REV	30%
SCC	70%

In Service Date: 30-Jun-40

Capital Improvement Program - Project Summary

Project: Water Rights, Licenses & Plans **Project Number:** 2014434

Strategy: Water Supply **Program:** Water Supply Mgmt Program

Justification:

This project is needed to meet regulatory guidelines to protect the Districts' facilities that are necessary to divert and store water to ensure a reliable high-quality water supply for customers, along with the ability to generate hydropower. The project will also assist the District in qualifying for grant funding from the state.

Description:

The Urban Water Management Plan (UWMP) serves as the District long-term water supply master plan, assessing supply and demand conditions, analyzing future water needs, and identifying capital projects that would improve water supply reliability in the Upper Mokelumne River Watershed and within the East Bay.

The District's Federal Energy Regulatory Commission License 2916 is major asset and is scheduled for renewal in March 2031. Renewal tasks may include investigating biological and cultural resources as well as public safety requirements, and hiring consultants and conducting studies that will need to occur during the relicensing effort.

The District has water right entitlements that are associated with its major storage reservoirs and hydropower facilities. Tasks are related to assessments and improvements that would protect the value of this asset. Water rights related tasks to support specific capital projects are also part of this project such as Los Vaqueros Reservoir expansion or the Demonstration Recharge Extraction and Aquifer Management project in San Joaquin.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
Water Rights, Licenses & Plans	0	3,150,000	5,450,000	8,600,000

Project Appropriations	
Prior Years	$ 0
2022	$ 350,000
2023	$ 250,000
2024	$ 700,000
2025	$ 850,000
2026	$ 1,000,000
Future Years	$ 5,450,000
Total Cost	**$ 8,600,000**

Lead Dept: WRD
Recurring: No

Funding: BOND/REV 100%

In Service Date: 01-Jan-30

Capital Improvement Program - Project Summary

Project: No Richmond Recy Wtr Fac Impr **Project Number:** 000876

Strategy: Water Supply **Program:** Water Recycling

Justification:

This project is required to meet the District's contractual obligations to provide recycled water to the Chevron Richmond refinery. In addition, this project helps the District to meet its water recycling goal of providing 20 MGD of recycled water by the year 2040 and supports the strategic plan goal of long-term water supply.

Description:

This project includes upgrades at the North Richmond Water Recycling Plant (NRWRP) that are needed to maintain the facility and continue to meet the District's contractual obligations to the Chevron Richmond refinery. In FY22-26, this project will include clarifier and thickener drive replacements, air compressor replacements, polymer improvements, process water pipe replacements, and other improvements.

Active Segment Appropriations	Prior Yrs	FY22-26	Future Yrs	Total
NRWRP Routine Capital Maint	5,379,335	2,140,367	3,200,000	10,719,702
No. Richmond Improvements/Exp	6,465,496	3,245,336	0	9,710,832

Project Appropriations	
Prior Years	$ 17,624,183
2022	$ 460,662
2023	$ 2,410,548
2024	$ 1,345,683
2025	$ 589,207
2026	$ 579,603
Future Years	$ 3,200,000
Total Cost	**$ 26,209,886**

Lead Dept: WRP

Recurring: No

Funding:

BOND/REV	30%
SCC	70%

In Service Date: 30-Jun-40

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