Biennial Budget Fiscal Years 2024 & 2025

Volume 2: Capital Award Summaries

City Cente



East Bay Municipal Utility District Biennial Budget Fiscal Years 2024 & 2025

Volume 1: Water & Wastewater Systems Operating and Capital

Volume 2: Capital Award Summaries

Adopted by the Board of Directors June 13, 2023

EBMUD Fact:

The Claremont Tunnel, which carries drinking water to more than 800,000 EBMUD customers, underwent a major upgrade in the mid 2000s to protect it from earthquakes.



Overview of Volume 2

About Capital Award Summaries

This volume contains a summary for each Award that has work planned in Fiscal Year 2024 (FY 2024) through Fiscal Year 2028 (FY 2028), which is the five-year horizon for the District's published Capital Improvement Program (CIP). Throughout this book, Award and Project may be used interchangeably, though internally, Projects are components or subdivisions of Awards.

Award Summaries

The award summaries are presented in alphabetical order, first by Award Purpose and then by Award Name. The primary information provided is:

- Award Purpose: Groups Awards together, primarily as an organizational tool, often around major asset classes or key strategies. Examples include Pipelines Distribution System, Raw Water System, and Sustainable Energy.
- Award Number: Supports public and internal reference, as the Award Number is part of Board documents, including when capital contracts are approved.
- Award Name: Provides the name of the Award, typically without abbreviations or initialisms.
- Lead Department: Indicates which Department is primarily responsible for the project.
- In Service Date: Provides either the expected completion date of the Award or indicates it is a recurring project, which are projects that perform similar work each year for the foreseeable future, such as Meter Replacements.
- **Cash Flow:** Planned direct expenses each year, including both District labor and benefit costs that directly support the Award, as well as payments to external vendors for materials, supplies or services.
- **Appropriation:** Amount of expenditure requested for Board approval in both FY 2024 and FY 2025.
- **Funding Sources:** Funding is drawn from multiple sources, though Bond or Revenue funding is the single largest source.

ABOUT THE TABLE OF CONTENTS

Below is a visual guide to reading the Table of Contents. Also note that at the end of each system's section of this volume, there are two indexes – one for Awards sorted by award number, and another for Awards sorted by award name.

Award Purposes 🔪

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CIP Structure

The Capital Improvement Program (CIP), an iterative process that involves the Office of Budget and Performance, project managers and Senior Management staff, communicates the District's planned infrastructure investments for the next five years by identifying and prioritizing capital needs. Developed biennially and incorporated into the District-wide budget, the CIP is the District's opportunity to address new and ongoing capital needs.

For the FY 2024 and FY 2025 budget, the District restructured the organization of the CIP. The following flow charts and table illustrate the changes to the structure of the District's capital work.

Capital Improvement Program Organization Flowchart (from highest level to lowest level)



Under this new structure, the top organizing feature is the Award Purpose, which is a group of related Awards, combined to facilitate planning, reporting and decision-making.

APPROPRIATION AND CASH FLOW OVERVIEW

There are two ways that the District considers the financial planning for the CIP: appropriations and cash flows.

- Capital appropriations are funds approved biennially by the Board to be spent on capital projects. Appropriation authority may be less than planned cash flow in some years as there may be existing appropriation authority from prior budget cycles; this is the case for several Awards this year, particularly those with relatively low cash flows. On the other hand, appropriation authority may exceed planned cash flows if there is an expectation that construction or other primary implementation phases will begin in the FY 2024 or FY 2025 budget, as it is typically necessary to ensure full appropriation authority is provided for a contract before it can be approved. Additionally, cash flows may be lower than appropriations to ensure sufficient expenditure authority if actual expenses exceed planned expenses. Appropriations are controlled at the Award level and vary from year-to-year depending upon the funding needs of the projected work and existing appropriations at the end of the prior year.
- Capital cash flows are a projection of the annual costs of each project over the planning horizon, on a year-by-year basis. Cash flows have typically been reported in the budget for five years, but in the current planning cycle, the District considered the full ten-year cash-flow projection in order to understand long-term project needs. Staff will continue to broaden the planning and reporting horizon to increase transparency of long-term infrastructure needs.



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Water System

Appropriations Overview

The Water System's FY 2024 capital appropriation will increase by \$123.2 million or 29.5 percent from FY 2023. In FY 2025, the appropriation decreases by 33.5 percent from FY 2024. The first year's increase aligns with the CIP's increasing size and scope and is particularly high due to several notable multi-year contracts that will be advertised for bid in FY 2024, while the work will be completed in FY 2025 and later. Appropriations for multi-year contracts are typically appropriated in the first year of the contract, to ensure funds are available when contracts are awarded. While the FY 2025 appropriations will decrease, important work continues in the second year.

Water System FY 2024 & FY 2025 Appropriations by Award Purpose



Appropriations shown by Award Purpose excludes Capital Support as it is not for a specific Award Purpose and instead is part of all Award Purposes.



Cash Flow Overview

Overview

The FY 2024 – FY 2028 CIP is supported by capital cash flows that incorporate the following changes from previous CIP development processes:

- Cash flows are reported in the budget for five years, but this year there was an increased focus on the full 10-year projection of expenses. Forecasting out-years allows management and project managers to anticipate the funding needs for critical infrastructure initiatives. This is especially true as some key capital work will not be completed in the five-year horizon, so a longer-term scenario allows greater insight into needs. The longer-term outlook for rates increases also becomes clearer by extending the projection window.
- Multiple scenarios, with varied cash flow projections and associated rate increases, were developed to represent a projection of the annual costs of the CIP for long-term projects. This allowed for experimentation in the development phase with different approaches to completing a vast amount of critical infrastructure improvements. In most cases projects were deferred, as opposed to changed in their scope or canceled.

The following chart shows the overall capital cash flow by Award Purpose, with Award Purposes with less than \$70 million in expected five-year cash flow summarized into the "All Other" category.



Water System Cash Flows Five-Year Summary by Award Purpose (Excluding Capital Support)



District-Wide Building Facility Improvements

Award Number:

7000148

Award Name:

ARC FLASH, MITIGATION, PROJECT MANAGEMENT

Lead Department:	In Service Date:
Water Operations	6/30/2032

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	600	120	120	120	120	120		
Appropriation	300	150	150					



This project supports the District's efforts to comply with the Occupational Safety and Health Administration (OSHA) standards 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.

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 hydroelectric plants, water treatment plants, and various pumping plants. Upcoming work includes completing in-progress studies and remediating conditions at additional pumping plants, lift stations, and other facilities.



District-Wide Building Facility Improvements

Award Number:

7000126

Award Name:

BUILDING FACILITIES IMPROVEMENTS

Lead Departmer	nt:	In Service Date:				
Engineering & Construction		6/30/2035				
Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	70,750	6,130	22,098	22,327	10,805	9,390
Appropriation	50,096	38,833	11,263			



Improvements to building systems and equipment provide and maintain safe workspaces, reduce operating and maintenance costs, minimize energy use, reduce the carbon footprint, and ensure optimal use of occupied facilities to meet the District's changing operational needs.

In FY 2022 - FY 2023, work included the construction of the HVAC systems and Data Center reliability improvements, as well as carpeting replacement 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.

FY 2024 - FY 2028 work at the AB includes roofing systems rehabilitation and upgrades to the fiber optic cabling and electrical systems. Work at the AMC includes HVAC and lighting upgrades, and parking and building interiors improvements to optimize space utilization. A master plan to electrify the District's fleet will be completed, and a phased installation of electric vehicle (EV) charging stations at District facilities will commence. 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 will be completed. In support of Pipeline Rebuild and maintenance of the District's pipelines, new service centers in West Oakland and at the Oakport Storage Center will be completed.

FY 2029 - FY 2033 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.



District-Wide Building Facility Improvements

Award Number:

7100002

Award Name:

FACILITIES CATHODIC PROTECTION

Lead Department:	In Service Date:
Engineering & Construction	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection		
Cash Flow	1,947	65	434	447	71	930		
Appropriation	980	-	980					



This project will improve the existing cathodic protection (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.

FY 2023 - FY 2024 work will include field reconnaissance to evaluate each facility's existing cathodic protection system and develop a master plan to perform future improvements.

FY 2025 - 2028 work will include biannual design and construction projects to focus on improving facility cathodic protection.



District-Wide Building Facility Improvements

Award Number:

7000326

Award Name:

FACILITY PAVING

Lead Departmer	nt:
Water Operation	s

In Service Date: 6/30/2040

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	13,680	2,904	2,408	3,064	2,256	3,048		
Appropriation	6,640	3,630	3,010					



This project maintains and replaces distribution reservoir access roads, other facility roads, and parking areas. Planned work in FY 2024 - FY 2028 includes paving repairs and replacements for reservoir access roads, pumping plant parking areas, Adeline Maintenance Center facilities, and Service Yards.

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



District-Wide Building Facility Improvements

Award Number:

7000161

Award Name:

MINOR FACILITIES WORK

Lead Department:	
Water Operations	

In Service Date: **RECURRING**

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	8,419	2,817	1,131	1,198	1,397	1,877	
Appropriation	4,963	3,550	1,413				



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

Planned work in FY 2024 - FY 2028 includes replacing HVAC equipment at the Adeline Maintenance Center (AMC); slab reinforcements and replacement of a standard milling machine with a computer-controlled milling machine for the Central Machine Shop (CMS); window film replacement and painting of the building exterior at the AMC Campus; and the rehabilitation of two kitchenettes at the Administrative Building (AB).

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



District-Wide Building Facility Improvements

Award Number:

7000102

Award Name:

MOKELUMNE WATERSHED HEADQUARTERS

Lead Department:	In Service Date:
Natural Resources Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	68	20	48	-	-	-	
Appropriation	-	-	-				



The Mokelumne Watershed Headquarters is the epicenter of upcountry watershed and recreation management. This award includes capital improvements to the Mokelumne Watershed Headquarters buildings, including staffed offices and a warehouse/shops building. Projects planned in FY 2024 - FY 2028 include electrical modifications to accommodate an HVAC replacement, and paving improvements.



District-Wide Building Facility Improvements

Award Number:

7000264

Award Name:

MOKELUMNE WATERSHED HEADQUARTERS – PHASE 2

Lead Department:	In Service Date:
Natural Resources Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	2,317	280	2,037	-	-	-	
Appropriation	-	-	-				



This award is for one-time major capital development of the new Mokelumne Watershed Headquarters complex. First established in 2006, Phase 1 included new warehouse and office facilities that were needed due to the condition, size, and lack of staff facilities in the existing headquarters. The project incorporated energy efficient and sustainable features. In FY 2024 - FY 2028, Phase 2 may consist of a back-up generator, construction of a modular warehouse/shop building, site improvements and vehicle access improvements.



District-Wide Building Facility Improvements

Award Number:

7000228

Award Name:

ORINDA WATERSHED HEADQUARTERS

Lead Department:	In Service Date:
Natural Resources Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	220	80	140	-	-	-	
Appropriation	200	100	100				



The Orinda Watershed Headquarters is the epicenter of East Bay watershed and recreation management. This award includes capital improvements to the East Bay Watershed Headquarters buildings, including staffed offices and a warehouse/shops building. Projects planned in FY 2024 - FY 2028 include a parking lot resurfacing and roof replacements for most buildings.



District-Wide Building Facility Improvements

Award Number:

7000305

Award Name:

SMALL CAPITAL IMPROVEMENTS

Lead Department:	In Service Date:
Water Operations	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	13,257	2,485	2,566	2,648	2,734	2,824	
Appropriation	6,000	2,900	3,100				



This project provides 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, many of which 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 facilities slated for eventual rehabilitation. Such improvements are smaller in scale than the typical project under the IRP.

Planned projects for FY 2024 - FY 2028 include replacement of electrical and control components at multiple pumping plants as well as the replacement of 100 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.

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



Environmental Resources & Remediation

Award Number:

7000012

Award Name:

EAST BAY WATERSHED MANAGEMENT

Lead Department:	In Service Date:
Natural Resources Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	5,768	1,248	1,168	1,088	1,008	1,256	
Appropriation	-	-	-				



Watershed lands are managed to ensure public health and safety, environmental protection, and availability of a clean water supply for customers. 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 that address regulatory, safety, and water quality concerns, as well as improvements to grazing allotments, fencing, fire-access roads, watershed trails, and other structures found in the watershed.

In FY 2024 - FY 2025, work will continue to remove dead and dying pines in the San Pablo watershed, other wildlands fire fuel reduction efforts, establish a new fuel break, and update perimeter fencing.



Environmental Resources & Remediation

Award Number:

7000048

Award Name:

MINE RESTORATIONS

Lead Department:	In Service Date:
Operations & Maintenance Support	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	314	58	58	64	64	70		
Appropriation	146	73	73					



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 bi-annual groundwater monitoring was conducted and reported to the Regional Water Quality Control Board (RWQCB). The report documents a downward trend in leachate production since the landfill cap was repaired in 2013. Planned activities for FY 2024 - FY 2028 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, armoring the drainage channels with boulders, and landscaping bare areas for protective purposes. The annual surface water quality monitoring was conducted and the report delivered to the RWQCB.

Planned activities for FY 2024 - FY 2028 include post-remediation monitoring and surface water quality monitoring and reporting to evaluate any potential impacts from the site to the reservoir.



Environmental Resources & Remediation

Award Number:

7000240

Award Name:

MOKELUMNE RIVER FISH HATCHERY

Lead Department:	In Service Date:
Natural Resources Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	3,568	1,040	1,320	64	264	880		
Appropriation	2,500	1,000	1,500					



Operation of the Mokelumne River Fish Hatchery requires compliance with agreements with regulatory agencies to maximize hatchery fish production, and to protect and enhance the natural in-river production of anadromous fish. This award includes capital upgrades and replacements of the main and ancillary hatchery facilities, in compliance with the Mokelumne River Fish Hatchery operation agreement with the California Department of Fish and Wildlife.

In FY 2024 - FY 2028, planned work includes the purchase of a replacement planting truck, new electrical infrastructure for a new steelhead rearing building, new generator and transfer switches, bird netting, and lift station. Another project includes planning and design work related to completed temperature control device and ozonation feasibility studies.



Environmental Resources & Remediation

Award Number:

7000010

Award Name:

MOKELUMNE WATERSHED MANAGEMENT

Lead Department:	In Service Date:
Natural Resources Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	924	172	152	292	136	172		
Appropriation	_	_	_					



Watershed lands are managed to ensure public health and safety, environmental protection, and availability of a clean water supply for customers. Work is prioritized in accordance with the Mokelumne Watershed Master Plan, Rangeland Management Plan, Fire Management Plan, and regulatory requirements. Projects include upgrades that address regulatory, safety, and water quality concerns, as well as improvements to grazing allotments, fencing, fire-access roads, watershed trails, and other structures found in the watershed.

In FY 2024 - FY 2028, the key priorities are to begin the development of a new 10-mile section of the Mokelumne Coast to Crest Trail, replace restraining and regulatory buoys in the reservoirs, and update perimeter fencing.



Environmental Resources & Remediation

Award Number:

7000070

Award Name:

RIVER AND WATERSHED

Lead Department:

Natural Resources Department

In Service Date: **RECURRING**

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	2,360	538	594	640	396	192		
Appropriation	1,500	750	750					



Natural resources management requires compliance with regulatory agencies to implement habitat and species protections and enhancement measures, including those required by the East Bay Habitat Conservation Plan and Safe Harbor Agreements.

In FY 2024 - FY 2028, projects include implementing enhancement measures required by the Habitat Conservation Plan such as habitat analysis and vegetation mapping to support Alameda whipsnake and California red-legged frog populations, fish passage improvements on creeks, and a new electrofishing vessel, development of a San Leandro Creek Fish Management Plan, floodplain restoration and diversion screens required under Voluntary Agreements with the State Water Resources Control Board, and various replacements of river monitoring equipment.



Environmental Resources & Remediation

Award Number:

7000042

Award Name:

TRENCH SOILS MANAGEMENT

Lead Department:	In Service Date:
Operations & Maintenance Support	6/30/2040

Cash Flow and Appropriation (\$ Thousands)							
FY 2024 FY 2025 FY 2026 FY 2027 FY 2028 Total Budget Budget Projection Projection Projection							
Cash Flow	60,215	16,515	7,604	18,476	5,562	12,058	
Appropriation	30,159	20,644	9,515				



This project is necessary 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.

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.

Priorities during the five-year CIP include continuing ongoing efforts to implement TSMP recommendations, including evaluating long-term solutions for trench soils, management of the DOSS, implementing Board direction on trench soils, and continued compliance with regulations.



Environmental Resources & Remediation

Award Number:

7000074

Award Name:

UPCOUNTRY WASTEWATER TREATMENT IMPROVEMENTS

Lead Department:	In Service Date:
Water Operations	10/31/2029

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	37,960	800	10,320	14,800	9,240	2,800		
Appropriation	15,900	2,700	13,200					



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. FY 2024 - FY 2025 priorities include completing design in FY 2024 and starting construction of the sewer collection system improvements at Camanche South Shore (CASS) in FY 2025. Design and construction for improvements to the collection system at Camanche North Shore (CANS) will take place in FY 2025 - FY 2026. Design and construction for the collection systems at Pardee Center (PACT) and Pardee Recreation Area (PARA) will take place in FY 2025 - FY 2026. The objectives of these improvement projects are to meet District and State of California standards; connect 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.



New Business Infrastructure

Award Number:

7000015

Award Name:

HYDRANTS INSTALLED BY DISTRICT FORCES

Lead Department:	In Service Date:
Engineering & Construction	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	8,750	1,648	1,698	1,748	1,801	1,855		
Appropriation	2,246	124	2,122					



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 FY 2024 - FY 2028 approximately 100 hydrants per year are expected to be installed.



New Business Infrastructure

Award Number:

7000014

Award Name:

New Service Installations

Lead Department:	In Service Date:
Engineering & Construction	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
Total FY 2024 FY 2025 FY 2026 FY 2027 FY 2028 Budget Budget Projection Projection Projection							
Cash Flow	65,622	12,360	12,731	13,113	13,506	13,911	
Appropriation	26,664	10,750	15,914				



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.

In FY 2024 - FY 2028, approximately 700 new services are expected to be installed annually.



New Business Infrastructure

Award Number:

7000005

Award Name:

PIPELINE SYSTEM EXTENSIONS

Lead Department:	In Service Date:
Engineering & Construction	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	43,748	8,240	8,487	8,742	9,005	9,274	
Appropriation	16,603	5,994	10,609				



This ongoing project establishes additional pipeline 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.

FY 2024 - FY 2028 work will include approximately 8-10 miles per year of system extensions.



Pipelines - Distribution System

Award Number:

7000164

Award Name:

ANNUAL APPURTENANCE WORK

Lead Department:	In Service Date:
Maintenance & Construction Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	6,123	1,142	1,182	1,223	1,266	1,310		
Appropriation	2,800	1,400	1,400					



This ongoing project will 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 in FY 2019 - FY 2021, and will continue into FY 2024 - FY 2025. These upgrades improve access during emergency and routine valve operation, and while performing maintenance activities.



Pipelines - Distribution System

Award Number:

7000030

Award Name:

DISTRIBUTION SYSTEM CATHODIC PROTECTION

Lead Department:	In Service Date:
Engineering & Construction	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	11,864	2,638	1,678	2,798	1,780	2,970	
Appropriation	_	_	-				



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 Cathodic Protection System (CPS).

FY 2024 - FY 2029 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.



Pipelines - Distribution System

Award Number:

7000003

Award Name:

PIPELINE REBUILD

Engineering & Construction

In Service Date: RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	323,470	53,931	61,002	63,454	71,143	73,939		
Appropriation	113,279	37,027	76,252					



Pipeline Rebuild is focused on the continued replacement and renewal of failing pipelines in the distribution system. This project 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 initiative also includes inspection of purchased water system components at the manufacturers' facility, including pipe, fittings, mechanical items, valves, and hydrants.

In FY 2022, Pipeline Rebuild achieved its goal to replace 20 miles of pipeline and is on track to meet the FY 2023 goal of 22.5 miles. The annual replacement mileage goal will increase to 25 miles in FY 2025 and 30 miles by FY 2029.



Pipelines - Distribution System

Award Number:

7000006

Award Name:

PIPELINE RELOCATIONS

Lead Department:	In Service Date:
Engineering & Construction	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	19,598	3,692	3,801	3,916	4,034	4,154
Appropriation	5,240	489	4,751			



This project relocates pipelines on an ongoing basis 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 due to the dependence on other agencies' schedules. 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.

FY 2024 - FY 2028 anticipated work includes the design and construction of approximately 1.5 miles of pipeline relocations per year, which includes 0.5 miles of reimbursable and 1.0 miles of non-reimbursable work.



Pipelines - Distribution System

Award Number:

7000024

Award Name:

PIPELINE SYSTEM IMPROVEMENTS

Lead Department:	In Service Date:
Engineering & Construction	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	18,966	3,090	3,316	3,421	5,660	3,478
Appropriation	_	_	_			



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

FY 2022 - FY 2023 accomplishments include design and construction of the Pershing Drive Pipeline Improvements Project in San Leandro, Excelsior Avenue Pipeline Improvements, and Oceanview Drive Pipeline Improvements Projects in Oakland. The award focuses on the design of approximately 1-mile of pipeline system improvements and 0.5 miles of 4-inch reliability replacements projects per year.

FY 2024 - FY 2028 work will include design and construction of the Tappan Terrace Improvements Project in Orinda and East 29th Street in Oakland, which contribute to the 1-mile per year of pipeline system improvements and 0.5 miles of 4-inch reliability replacements.

FY 2029 - FY 2033 work will include the design and construction of 1-mile per year of pipeline system improvements and 0.5 miles of 4-inch reliability replacements.



Pipelines - Distribution System

Award Number:

7000041

Award Name:

SERVICE LATERAL REPLACEMENTS

Lead Department:	In Service Date:
Engineering & Construction	6/30/2030

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	54,272	9,888	10,609	10,927	11,255	11,593
Appropriation	19,174	5,913	13,261			



This award manages all service lateral replacements for planned replacements of copper service laterals and unplanned replacements for all service lateral material types.

FY 2022 - FY 2023 work continued to replace polybutylene and copper laterals as planned replacements. Starting in FY 2023, the planned polybutylene service lateral replacements program was discontinued.

FY 2024 - FY 2028 work includes replacement of approximately 130 planned copper service laterals and 1,100 unplanned service lateral replacements per year.


Pipelines - Transmission

Award Number:

7000043

Award Name:

AQUEDUCT CATHODIC PROTECTION

Lead Department:	In Service Date:
Engineering & Construction	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	2,174	410	422	434	448	461
Appropriation	_	_	-			



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.

FY 2023 - FY 2024 work includes site evaluations to determine the status of each CPS and prioritization of improvement projects. FY 2025 - FY 2028 work includes replacing obsolete and inefficient rectifier power supplies and improving obsolete deep well anode beds.

FY 2029 - FY 2033 work will continue to evaluate, repair, replace, and improve CPS as necessary to maintain aqueduct cathodic protection.



Pipelines - Transmission

Award Number:

7000254

Award Name:

LARGE DIAMETER PIPELINES

Lead Department:	In Service Date:
Engineering & Construction	6/30/2040

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	89,637	29,416	24,974	17,884	13,119	4,243
Appropriation	28,140	27,984	156			



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.

FY 2022 - FY 2023 work included the completion of Wildcat Berkeley construction and near completion of Summit Pressure Zone (PZ) Phase 1 pipeline construction. Design of Oakland Inner Harbor Crossing Pipeline and Wildcat El Cerrito were completed.

FY 2024 - FY 2028 work includes construction of Wildcat El Cerrito and Oakland Inner Harbor Crossing; completion of design and construction of Summit PZ Phase 2, San Leandro Channel Crossing, and Crockett Aqueduct Relocation; and completion of design of Tidal Canal Crossing and Sequoia Aqueduct Pipeline. The Large Diameter Pipelines Master Plan (LDPMP) will be updated in FY 2025.

Projects beyond FY 2028 include South 30 Pipeline Improvements, Summit PZ Phase 3, Genoa Pipeline, Central PZ Pipelines, Crockett Discharge Pipeline, and other replacement projects to be identified in the FY 2025 Large Diameter Pipeline Master Plan update.



Pipelines - Transmission

Award Number:

7000055

Award Name:

TRANSMISSION MAIN CATHODIC PROTECTION

Lead Department:	In Service Date:
Engineering & Construction	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	4,402	1,330	79	1,411	84	1,497
Appropriation	_	_	-			



This project will investigate and prioritize cathodic protection (CP) upgrades for transmission mains and large diameter pipelines and reconfigure obsolete CP systems.

FY 2024 - 2028 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.



Pressure Zone Studies

Award Number: 7100001

Award Name:

DELTA TUNNEL

Lead Department:

Engineering & Construction

In Service Date: 6/30/2032

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Proiection	FY 2027 Projection	FY 2028 Proiection
Cash Flow	14,900	1,792	1,846	1,902	3,986	5,375
Appropriation	-	-	-			



The Mokelumne Aqueducts Resiliency Project includes a 16.5-mile tunnel from Stockton to Bixler that 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.

FY 2016 - FY 2019 work included extensive geotechnical investigations to characterize the underlying geology for future tunnel construction and analysis of the existing pile-supported Mokelumne Aqueducts. FY 2020 - FY 2023 work included planning, environmental studies, alternative analysis, and conceptual engineering and design.

FY 2024 - FY 2027 work will include conducting the CEQA environmental review process, agency consultation, and public outreach. Planned FY 2028 - FY 2032 work includes additional geotechnical investigations, environmental studies, permitting, land acquisition, and design.



Pressure Zone Studies

Award Number:

7000215

Award Name:

DISTRIBUTION SYSTEM UPGRADES

Lead Department:	In Service Date:
Engineering & Construction	6/30/2035

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	3,459	537	1,656	439	408	419
Appropriation	-	-	-			



New pressure zone (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 recommendations of the Distribution System Valve Study that documented and improved existing practices for valves, spacing, inspection, installation, maintenance, and asset management.

FY 2022 - FY 2023 accomplishments include the completion of the Distribution System Valve Study and two rezonings. FY 2024 - FY 2028 planned milestones include installation of distribution valves per recommendations of the Distribution System Valve Study, and completion of the Withers Reservoir Service Relocations and one or more rezoning.



Pressure Zone Studies

Award Number:

7000271

Award Name:

MISCELLANEOUS PLANNING STUDIES

Lead Department:	In Service Date:
Engineering & Construction	6/30/2032

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	2,034	289	59	262	450	974
Appropriation	-	-	-			



This is an ongoing project to improve workflows and support decision-making for infrastructure planning and prioritization, and to optimize operations for energy, 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 FY 2022 - FY 2023 accomplishments included ongoing administration of the hydraulic models and demand projections and upgrade of the Info360 software and database that integrates Supervisory Control and Data Acquisition (SCADA) data into hydraulic models.

Planned work for FY 2024 - FY 2028 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.



Pressure Zone Studies

Award Number:

7000065

Award Name:

PRESSURE ZONE IMPROVEMENTS

Lead Department:	In Service Date:
Engineering & Construction	6/30/2040

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	3,729	1,680	853	470	364	362	
Appropriation	-	-	-				



This is an ongoing project to develop and prioritize infrastructure improvement recommendations to address pressure zone (PZ) operations. The project includes the Resilient Grid Study to improve the recovery of water service after a major seismic event, 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.

FY 2022 - FY 2023 accomplishments included the Colorados PZI Study Update, the Joaquin Miller PZI Study, completion of the CHPP blueprint procedures and webpage viewer, approximately 30 percent of the CHPP PZ blueprints, and an update to the DSMP.

Planned work for FY 2024 - FY 2028 include completion of the Maloney PZ Planning Study, East of Hills System Study, Lake Chabot Golf Course service relocation, Joaquin Miller Pumping Plant Study, Summit PZ Study, Resilient Grid Study, and the remaining 70 percent of the CHPP PZ blueprints.



Pressure Zone Studies

Award Number:

7000224

Award Name:

WEST OF HILLS MASTER PLAN

Lead Department:	In Service Date:
Engineering & Construction	6/30/2028

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	3,558	1,407	642	743	766	-	
Appropriation	-	-	-				



The West of Hills (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 FY 2019, an additional project was recommended to decommission the San Pablo Water Treatment Plant (WTP).

The WOH Master Plan 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 FY 2022 - FY 2023, the Fontaine Pumping Plant (PP) MND was completed and approved, and planning started on the Wildcat PP MND, Sobrante WTP EIR, and WOH Central Pipelines MND. Planned work for FY 2024 - FY 2028 includes completing the environmental documentation started in FY 2022 - FY 2023 and starting the WOH Southern Pipelines EIR in FY 2025.



Process & System-Wide Improvements

Award Number:

7000272

Award Name:

DATA & TELECOM INFRASTRUCTURE

Lead Department:	In Service Date:
Information Services Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	600	200	200	200	-	-	
Appropriation	241	121	121				



The Voice over IP (VoIP) telephone system implementation requires the existing network cabling to be brought up to high-speed data specifications, the replacement of telephones, network switches, voice gateways, telephony circuits and porting of digital and analog telephone numbers. The project will migrate 337 digital and analog telephone lines to VoIP services at 18 locations, and replace 524 older IP telephone sets at the existing VoIP locations. The VoIP project will be executed over the next three years, averaging 6 sites migrated per year. Once completed the District will have more than 2,000 VoIP phones in operation.



Process & System-Wide Improvements

Award Number:

7000007

Award Name:

ENGINEERING IT

Lead Department:

Engineering & Construction

In Service Date: RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 2028 Projection								
Cash Flow	11,174	2,841	2,087	2,009	2,080	2,157		
Appropriation	6,258	3,649	2,609					



This project provides maintenance and upgrades to the Computer-Aided Design and Manufacturing (CAD/CAM), Geographic Information System (GIS), and 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. This work also identifies areas to improve drafting and design workflows, update the Computer-Aided Design (CAD) process, and incorporate Building Information Modeling (BIM).

In FY 2024 - FY 2028, 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. The Pipeline Infrastructure Division CAD systems were converted from Bentley MicroStation to Autodesk AutoCAD Civil 3D in FY 2023.



Process & System-Wide Improvements

Award Number:

7000343

Award Name:

EQUIPMENT REPLACEMENT FUND: CURRENT DATA SECURITY STANDARD (DSS), SERVER & NETWORK EQUIPMENT

Lead Department:	In Service Date:
Information Services Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	5,267	684	1,344	1,963	812	464	
Appropriation	591	199	392				



This Equipment Replacement Fund (ERF) serves to replace major computing equipment in the server rooms and wiring closets to support the compute infrastructure. Equipment includes large data storage systems, backend servers, and core networking equipment, including routers and switches. Each equipment category has a unique technology refresh cycle. Networking equipment without moving parts has a longer cycle whereas disk storage units require more frequent replacements. The "smoothing" award appropriates funds for the lifecycle replacement on an ongoing basis; the "current" award replaces assets on an as-needed basis. This allows for expansion of storage systems to house the ever-increasing amount of data that the District is generating, the number of applications supporting the business and reliable data communications between District locations.



100%

100%

Process & System-Wide Improvements

Award Number:

7000342

Award Name:

EQUIPMENT REPLACEMENT FUND: CURRENT PCS, DESKTOPS, LAPTOPS

Lead Department:	In Service Date:
Information Services Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 2028 Projection							
Cash Flow	716	28	216	148	176	148	
Appropriation	305	35	270				



This Equipment Replacement Fund (ERF) serves to replace aging desktop and laptop computers that have reached the end of their useful lives. Typically desktop computers are replaced on a five-year cycle and laptops are replaced on a four-year cycle due to wear and tear on the portable equipment. The "smoothing" award appropriates funds for the lifecycle replacement on an ongoing basis; the "current" award replaces assets on an as-needed basis. Additionally, as we install new software to upgrade to the newest Windows operating system, more computing power is required. Desktop and laptop computers (like other technologies) will offer more powerful computer power for the same or less money with each year of release. The ERF is designed to meet the ever-increasing demand from District users in order to perform their work.



Process & System-Wide Improvements

Award Number:

7000344

Award Name:

EQUIPMENT REPLACEMENT FUND: PURCHASES FOR COPIERS

Lead Department:	In Service Date:
Finance	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	200	40	40	40	40	40	
Appropriation	-	-	-				



This ongoing effort supports the acquisition and maintenance of print solutions District-wide, on an asneeded basis.



Process & System-Wide Improvements

Award Number:

7000359

Award Name:

EQUIPMENT REPLACEMENT FUND: SMOOTHING DATA SECURITY STANDARD (DSS), SERVER & NETWORK EQUIPMENT

Lead Department:	In Service Date:
Information Services Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	1,228	716	-	512	-	-
Appropriation	272	272	_			



Funding Sources	Funding (%)
Applicant Funded Projects	
Bond/Revenue Funded Projects	100%
Equipment Replacement Fund	
Grants	
Outside Agency	
Future Water Supply	
Vehicle Replacement Fund	
Total Funding Sources	100%

This Equipment Replacement Fund (ERF) serves to replace major computing equipment in the server rooms and wiring closets to support the compute infrastructure. Equipment includes large data storage systems, backend servers, and core networking equipment, including routers and switches. Each equipment category has a unique technology refresh cycle. Networking equipment without moving parts has a longer cycle whereas disk storage units require more frequent replacements. The "smoothing" award appropriates funds for the lifecycle replacement on an ongoing basis; the "current" award replaces assets on an as-needed basis. This allows for expansion of storage systems to house the ever-increasing amount of data that the District is generating, the number of applications supporting the business and reliable data communications between District locations.



Process & System-Wide Improvements

Award Number:

7000358

Award Name:

EQUIPMENT REPLACEMENT FUND: SMOOTHING PCs, DESKTOPS, LAPTOPS

Lead Department:	In Service Date:
Information Services Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	2,376	2,376	-	-	-	-
Appropriation	1,822	1,822	-			



This Equipment Replacement Fund (ERF) serves to replace aging desktop and laptop computers that have reached the end of their useful lives. Typically desktop computers are replaced on a five-year cycle and laptops are replaced on a four-year cycle due to wear and tear on the portable equipment. The "smoothing" award appropriates funds for the lifecycle replacement on an ongoing basis; the "current" award replaces assets on an as-needed basis. Additionally, as we install new software to upgrade to the newest Windows operating system, more computing power is required. Desktop and laptop computers (like other technologies) will offer more powerful computer power for the same or less money with each year of release. The ERF is designed to meet the ever-increasing demand from District users in order to perform their work.



Process & System-Wide Improvements

Award Number:

7000200

Award Name:

HRIS REPLACEMENT

Lead Department:	In Service Date:
Information Services Department	6/30/2027

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	9,600	800	800	4,000	4,000	-
Appropriation	4,000	2,000	2,000			



The PeopleSoft Human Resources Information System (HRIS) is reaching the end of its useful life and support for the product is limited. Loss of support would increase the risk of failure of the District's human resources (HR) functions and make it difficult to implement required tax and regulatory updates.

This project is a joint effort of the Information Systems, Human Resources and user departments to replace the HRIS system. The project will be delivered in two phases: Phase 1 will replace the Retirement System; Phase 2 will replace the Core HR functionality and retire the PeopleSoft system. Development of the Retirement System began in April 2023. Preparing a Requests for Proposals, evaluating and selecting alternatives for the Core HR system will take place in FY 2024.



Process & System-Wide Improvements

Award Number:

7000029

Award Name:

OP/NET SYSTEM IMPROVEMENTS

Lead Department:	In Service Date:
Water Operations	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	7,335	1,570	2,618	742	768	1,637
Appropriation	5,236	2,663	2,573			



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, Supervisory Control and Data Acquisition (SCADA) system, wired and wireless communication networks, monitoring and control equipment at over 300 facilities, and distributed control systems (DCS) to provide operations staff with the ability to control and monitor water production, treatment, distribution, hydroelectric power generation and field facilities. Hardware, software, and components need replacements and upgrades to ensure reliability and security.

In FY 2022 - FY 2026, 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.

In FY 2024 - FY 2025, the core SCADA system will get upgraded with new hardware and software to ensure up-to-date security and features. As cybersecurity concern rises across the country, an up-to-date SCADA system assures the District will receive the latest patches to any vulnerabilities. In addition, SCADA display will also get updated to incorporate latest industry standards.



Process & System-Wide Improvements

Award Number:

7000165

Award Name:

PLANNED METER REPLACEMENTS

Lead Department:	In Service Date:
Maintenance & Construction Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	25,713	5,667	5,667	4,751	4,751	4,876
Appropriation	14,168	7,084	7,084			



This ongoing project replaces water meters and meter boxes at the end of their useful lives, and replaces meters that are believed to be reading inaccurately. In FY 2020, approximately 11,900 residential meters, 1,240 small commercial meters, and 11 large commercial meters were replaced. Approximately 18,000 meters were replaced in FY 2021. In future years, replacements are planned to total 20,500 meters per year to improve reading accuracy. In FY 2019, 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.



Process & System-Wide Improvements

Award Number:

7000085

Award Name:

SECURITY IMPROVEMENTS

Lead Department:	In Service Date:
Engineering & Construction	6/30/2023

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	19,292	2,159	3,178	3,173	5,070	5,713
Appropriation	14,483	3,906	10,577			



This project will upgrade of the Centralized Security System using the latest security guidelines and standards.

FY 2024 - FY 2028 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.



Process & System-Wide Improvements

Award Number:

7000325

Award Name:

WATER LOSS CONTROL

Lead Department:	In Service Date:
Operations & Maintenance Support	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	21,710	5,964	6,925	3,319	2,371	3,131
Appropriation	16,109	7,455	8,654			



This project supports compliance 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. Previous accomplishments included 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 FY 2024 - FY 2028 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 FY 2028 - FY 2032 includes completion of construction of improvements to flow meters for accuracy of the water audit. Planned work in FY 2028 - FY 2032 includes completion of construction of improvements to flow meters for accuracy of the water audit. Planned work in FY 2028 - FY 2032 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.



Process & System-Wide Improvements

Award Number:

7000317

Award Name:

WORK MANAGEMENT SYSTEMS REPLACEMENT

Lead Department:	In Service Date:
Information Services Department	6/30/2027

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	15,990	-	2,807	10,142	1,506	1,534
Appropriation	4,546	985	3,561			



The existing workplace technology environment consists of multiple standalone applications that are written in outdated languages and provide overlapping functionality. This project consolidates the functionality into a single application that will minimize maintenance and improve the ability to leverage information between work groups to ensure a reliable system for field maintenance work.

This project is a joint effort of Information Systems, Operation Maintenance and user departments to replace the group of work management systems (WMS) which include the general work order system, concrete order system, paving order system, and the asset and infrastructure management system. The District supports multiple WMS applications that are written in outdated software and difficult to maintain. Evaluating and selecting replacement alternatives is in progress and planning for vendor selection and implementation will begin in FY 2024.



Pumping Plants

Award Number:

7000033

Award Name:

PUMPING PLANT REHABILITATION

Lead Department:	In Service Date:
Engineering & Construction	6/30/2035

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	126,820	29,219	30,223	18,886	21,301	27,190
Appropriation	12,222	7,014	5,208			



The Distribution Pumping Plant Infrastructure Rehabilitation Plan (IRP) was updated in 2022 and identifies the highest priority pumping plants (PP) for rehabilitation, replacement, or demolition.

In FY 2022, construction contracts were awarded for replacement of Westside PP, demolition of Encinal PP, and rehabilitation of Madrone and Palo Seco Pumping Plants.

FY 2023 - FY 2028 work includes planning, design and/or construction at 29 of the 130 distribution PP, including: Westside, Encinal, Madrone, Palo Seco, Fay Hill, Ridgewood, Crest, Hill Mutual, Bryant PP Complex (Bryant No. 1, Bryant No. 2, Colorados, and Leland), Montclair, Proctor, Dos Osos, Summit West, Aqueduct, Berryman West, Castenada, Welle, Rolph, Castle Hill, Fontaine, Valory, Echo Springs, Summit North, Crockett, Quarry, and Summit South PPs . New facilities that include planning, design, and/or construction in FY 2023 - FY 2028 include Happy Valley, Sunnyside, Wildcat, Tice, Withers and a new Southern Loop PP and Rate Control Station.

FY 2029 - FY 2032 will include work at existing Pearl, Stott, and Donald PP.



Raw Water System

Award Number:

7000185

Award Name:

MOKELUMNE AQUEDUCTS NUMBER 2 & 3 RELINING

Lead Department:	In Service Date:
Engineering & Construction	6/30/2034

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	48,554	10,094	17,840	14,744	5,236	640
Appropriation	41,871	41,871	-			



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.

FY 2024 - FY 2025 work includes design of two miles of above ground MOK2 relining, researching new cement mortar lining mix designs, and pre-design of raw water treatment facilities for corrosion control. FY 2026 work includes construction of two miles of above ground MOK2 relining.

FY 2026 - FY 2028 work includes design and construction of above ground MOK3 relining. FY 2028 - FY 2042 work includes design and construction of remaining underground MOK2 relining.



Raw Water System

Award Number:

7000155

Award Name:

MOKELUMNE AQUEDUCTS RECOATING

Lead Department:	In Service Date:
Engineering & Construction	6/30/2028

Cash Flow and Appropriation (\$ Thousands)						
TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 2028 Projection					FY 2028 Projection	
Cash Flow	6,924	1,648	1,698	1,748	810	1,020
Appropriation	3.294	3,294	-			



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.

FY 2024 - FY 2028 work includes recoating the approximately 60 gully crossings for Aqueduct No. 1 - Phase 13 of the Mokelumne Aqueduct Recoating Project.



Raw Water System

Award Number:

7000061

Award Name:

RAW WATER INFRASTRUCTURE

Lead Department:	In Service Date:
Engineering & Construction	6/30/2031

Cash Flow and Appropriation (\$ Thousands)						
TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 2028 Projection					FY 2028 Projection	
Cash Flow	36,027	3,366	3,710	4,950	5,010	18,992
Appropriation	_	_	-			



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

FY 2024 - FY 2028 work includes: abandon Upper San Leandro (USL) #1 pipeline, design of the Mokelumne Aqueduct 3 base isolator improvements, planning and design of the Briones Upgrades and Rehabilitation, research the installation of a fiber optic monitoring system at the Concord Green Valley fault, planning and design of the Old River cover restoration, planning and design of the Jones Tract Scour Protection, design of LAF1 Relining; design and construction of the Mokelumne Aqueduct 1 bent replacement at station 2480, planning and design of the Moraga Raw Water Pumping Plant Rehabilitation, planning and design of Pardee Tunnel Access Improvements, and design and construction of the Pardee Center elevated tank replacement.

FY 2029 - FY 2031 work includes developing the 2030 Raw Water Master Plan, Mokelumne Aqueduct 2 base isolator improvement construction, Briones upgrades and rehabilitation construction, Old River cover restoration construction, Jones Tract Scour Protection construction, Lafayette Reservoir Relining construction, Moraga Raw Water Pumping Plant Rehabilitation construction, and Pardee Tunnel Access Improvements construction.



Raw Water System

Award Number:

7000045

Award Name:

RAW WATER AQUEDUCT IMPROVEMENTS

Lead Department:	In Service Date:
Water Operations	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 2028 Projection					FY 2028 Projection	
Cash Flow	5,923	1,189	1,436	1,214	971	1,113
Appropriation	3,242	1,449	1,793			



This project provides infrastructure improvements to facilitate the safe and reliable operation of the raw water aqueducts and wasteways, pumping plants, terminal reservoir facilities, three service yards and over 100 miles of right of way. In FY 2024 - FY 2030, plans include improvements, repair, and capital replacements of facilities such as pipelines, pumping plants, and wasteways; service yards; fences, gates, and structures along the right-of-way; outlet towers and associated appurtenances, spillways, drains; and support equipment/materials to extend the useful life of these facilities.

This project also provides for improvements to the Delta levees for the protection of the Mokelumne Aqueducts. The District works collaboratively with the Reclamation Districts on these projects.



Recreation Areas & Facilities

Award Number:

7100004

Award Name:

CAMANCHE HILLS HUNTING PRESERVE

Lead Department:	In Service Date:
Natural Resources Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	320	120	120	80	-	-
Appropriation	300	150	150			



Recreation Areas are managed to ensure public health and safety, and environmental protection. Typical projects are the capital upgrades and replacements of facilities within the Recreation Areas, including structures, utility infrastructure, launch ramps and docks, recreation halls, parking lots, maintenance facilities, campgrounds, roads, trails, and fences. The main project at the Camanche Hills Hunting Preserve for FY 2024 - FY 2025 is a feasibility study of the abatement of lead in the soil as a result of years of lead shot used for hunting, including CEQA compliance, and replacement of solar-powered well-water systems.



Recreation Areas & Facilities

Award Number:

7100009

Award Name:

CAMANCHE REC AREA IMPROVEMENT

Lead Department:	In Service Date:
Natural Resources Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	800	400	400	-	-	-
Appropriation	1,000	1,000	-			



Recreation Areas are managed to ensure public health and safety, and environmental protection. Typical projects are the capital upgrades and replacements of facilities within the Recreation Areas, including structures, utility infrastructure, launch ramps and docks, recreation halls, parking lots, maintenance facilities, campgrounds, roads, trails, and fences. There are no projects planned at the Camanche North Shore and South Shore Recreation Area in FY 2024 - FY 2025; however, cash flows are established to ensure a funding source during a transition to a new concessionaire for the recreation area.



Recreation Areas & Facilities

Award Number:

7000263

Award Name:

LAFAYETTE RECREATION INFRASTRUCTURE

Lead Department:	In Service Date:
Natural Resources Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	TotalFY 2024FY 2025FY 2026FY 2027FY 202BudgetBudgetBudgetProjectionProjectionProjection					FY 2028 Projection
Cash Flow	2,080	1,240	440	320	40	40
Appropriation	1,000	1,000	-			



Recreation Areas are managed to ensure public health and safety, and environmental protection. Typical projects are the capital upgrades and replacements of facilities within the Recreation Areas, including structures, utility infrastructure, launch ramps and docks, recreation halls, parking lots, maintenance facilities, campgrounds, roads, trails, and fences. Key projects at the Lafayette Recreation Area for FY 2024 - FY 2028 is the completion of a sewer lift station and force main replacement project, replacement of the rental boat dock, as well as hazardous tree removal and fuels management.



Recreation Areas & Facilities

Award Number:

7100005

Award Name:

MOKELUMNE RIVER DAY USE AREA

Lead Department:	In Service Date:
Natural Resources Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	460	-	-	120	180	160
Appropriation	_	-	-			



Recreation Areas are managed to ensure public health and safety, and environmental protection. Typical projects are the capital upgrades and replacements of facilities within the Recreation Areas, including structures, utility infrastructure, launch ramps and docks, recreation halls, parking lots, maintenance facilities, campgrounds, roads, trails, and fences. Projects planned at the Mokelumne River Day Use Area in FY 2024 - FY 2028 include the re-development of the area to accommodate recreation, habitat restoration, education, and connecting the Mokelumne River Fish Hatchery and Camanche Dam, that could include a new Americans with Disabilities Act (ADA)-accessible, interpretive trail or raised boardwalk.



Recreation Areas & Facilities

Award Number:

7000196

Award Name:

PARDEE RECREATION AREA

Natural Resources Department RECURRING	Lead Department:	In Service Date:
	Natural Resources Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection	
Cash Flow	1,360	-	200	280	880	-	
Appropriation	_	_	_				



Recreation Areas are managed to ensure public health and safety, and environmental protection. Typical projects are the capital upgrades and replacements of facilities within the Recreation Areas, including structures, utility infrastructure, launch ramps and docks, recreation halls, parking lots, maintenance facilities, campgrounds, roads, trails, and fences. The main project at the Pardee Recreation Area for FY 2024 - FY 2028 is the replacement of the marina undercarriage, and a new restroom/shower facility in the Oaks Campground.



Recreation Areas & Facilities

Award Number:

7000300

Award Name:

RECREATION AREA CAPITAL MAINTENANCE & IMPROVEMENTS

Lead Department:	In Service Date:
Water Operations	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	5,030	1,564	2,156	560	383	367	
Appropriation	4,619	1,925	2,694				



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. Work is required to meet water and wastewater demands and maintain regulatory compliance.

FY 2024 - FY 2030 work includes Camanche South Shore WTP raw water supply improvements, electrical system improvements, performing comprehensive assessments of wastewater collections systems, wastewater pond improvements, rehabilitation or replacement of water distribution tanks; and replacement of and improvements to treated water distribution system pipeline and valves.



Recreation Areas & Facilities

Award Number:

7000289

Award Name:

SAN PABLO RECREATION INFRASTRUCTURE

Lead Department:	In Service Date:
Natural Resources Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection	
Cash Flow	1,076	796	20	220	20	20	
Appropriation	-	-	-				



Recreation Areas are managed to ensure public health and safety, and environmental protection. Typical projects are the capital upgrades and replacements of facilities within the Recreation Areas, including structures, utility infrastructure, launch ramps and docks, recreation halls, parking lots, maintenance facilities, campgrounds, roads, trails, and fences. The main project at the San Pablo Recreation Area for FY 2024 - FY 2025 is the completion of a sewer lift station and force main replacement project, as well as hazardous tree removal and fuels management.



Regulators & Rate Control Stations

Award Number:

7000089

Award Name:

RATE CONTROL STATION REHABILITATION

Lead Department:	In Service Date:
Engineering & Construction	6/30/2035

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	25,603	3,873	8,546	1,609	8,329	3,246	
Appropriation	14,523	11,808	2,715				



Currently, there are 30 rate control station (RCS) facilities, many of which have been in operation for more 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.

FY 2024 - FY 2025 work includes planning for Clayton-Fairmount, Webster, Church Street, Golf Links, Victoria, and Ney RCS; design for Church Street, Golf Links, Victoria, and Ney RCS; and initiating construction for the 82nd Avenue RCS.

In FY 2026 - FY 2028, work continues with construction of Clayton-Fairmount, Webster, Church Street, Golf Links, Victoria, and Ney RCS.

FY 2029 - FY 2033 work includes planning, design, and construction of 73rd Avenue, Genoa No. 1, Genoa No. 2, Hollis, John, Castro Valley, and Dunsmuir RCS.



Regulators & Rate Control Stations

Award Number:

7000223

Award Name:

REGULATOR REHABILITATION

Lead Department:	In Service Date:
Engineering & Construction	6/30/2032

Cash Flow and Appropriation (\$ Thousands)							
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection	
Cash Flow	13,565	74	666	4,472	2,314	6,038	
Appropriation	-	-	-				



Currently, there are 75 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.

FY 2024 - FY 2025 work involves planning and design for Knight, Oakmont Memorial Park, Columbia, and Henry regulators.

FY 2026 - FY 2029 work involves construction of Knight, Oakmont Memorial Park, Columbia, and Henry regulators; and planning, design and construction of Ascot, Girvin, La Loma, Kensington, and Redwood regulators.



Reservoirs - Distribution

Award Number:

7000319

Award Name:

CHLORAMINE BOOSTING STATIONS

Lead Department:	In Service Date:
Water Operations	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	2,320	960	760	600	-	-	
Appropriation	2,150	1,200	950				



This project funds the purchase and installation of Chloramine Boosting Stations (CBS) or Chloramine Trim Stations at distribution reservoirs that suffer from chronic low chloramine levels. This work helps protect public health, maintain regulatory levels of the distribution water, and reduces or eliminates the labor-intensive manual treatment of distribution reservoirs.

In FY 2023 - FY 2024, following the installation of a new electric service, a CBS will be installed at the Welle Reservoir followed by the installation of a remote-controlled valve at Welle Pumping Plant to assist in the distribution of CBS treated water to Ralph Pressure Zone. In FY 2024 - FY 2026 the installation of Chloramine Trim Stations at North Reservoir, Maloney Reservoir and Argyle Reservoir will help alleviate chronic low chloramine levels.


Reservoirs - Distribution

Award Number:

7000021

Award Name:

DISTRIBUTION SYSTEM WATER QUALITY IMPROVEMENTS

Lead Department:	In Service Date:
Water Operations	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	6,564	4,272	1,481	289	257	266		
Appropriation	7,164	5,827	1,338					



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

In FY 2024 - FY 2025, water age modeling of proposed water quality improvement project will evaluate the effectiveness of proposed improvements before investments are made to distribution system improvements. The purchase and installation of chloramine analyzers at distribution reservoirs throughout the distribution system will improve water quality monitoring and meet the goal of five installations per year. Air leaks in the Upper San Leandro (USL) hypolimnetic oxygenation system will be repaired in FY 2024.



Reservoirs - Distribution

Award Number: 7000017

Award Name:

OPEN-CUT RESERVOIR PROGRAM

Lead Department:	In Service Date:
Engineering & Construction	6/30/2036

Cash Flow and Appropriation (\$ Thousands)							
Total FY 2024 FY 2025 FY 2026 FY 2027 FY 2028 Budget Budget Projection Projection Projection							
Cash Flow	47,780	5,356	2,716	5,158	19,306	15,245	
Appropriation	48,621	45,244	3,377				



Open-Cut Reservoir includes the rehabilitation, replacement, and demolition of aging open-cut reservoirs.

FY 2022 - FY 2023 work included construction of the San Pablo Clearwell Replacement Project, demolition of Seneca Reservoir in Oakland, design for the Danville odor control project, and planning for the replacement of Central Reservoir in Oakland and Almond Reservoir in Castro Valley.

FY 2024 - FY 2025 work includes design for the replacement of the Central Reservoir in Oakland and Almond Reservoir in Castro Valley.

FY 2026 - FY 2028 work includes construction of the Central Reservoir and Almond Reservoir replacement projects, and the start of design work for the replacement of Leland Reservoir in Lafayette, Maloney Reservoir in Pinole, and 39th Avenue Reservoir in Oakland.



Reservoirs - Distribution

Award Number:

7000309

Award Name:

RESERVOIR LEAK REPAIR

Lead Department:

Water Operations

In Service Date: **RECURRING**

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	440	120	80	80	80	80		
Appropriation	250	150	100					



This project funds emergency leak repair of distribution reservoirs with divers.

In FY 2025 the Watson Reservoir, which typically requires extensive leak repair every five years, is due for repairs and will continue to require repairs approximately every five years until the liner or complete replacement is completed.



Reservoirs - Distribution

Award Number:

7000323

Award Name:

RESERVOIR MIXING SYSTEM

Lead Department:	In Service Date:
Water Operations	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	200	40	40	40	40	40		
Appropriation	60	30	30					



This project funds the purchase and installations of distribution reservoir mixers to improve water quality.

In FY 2024 this award will fund the purchase and installation of a passive mixer on the Inlet/Outlet line at Berkeley View Reservoir and the purchase and installation of mixers at other distribution reservoirs as needed.



Reservoirs - Distribution

Award Number:

7000031

Award Name:

RESERVOIR REHABILITATION AND MAINTENANCE

Lead Department:	In Service Date:
Engineering & Construction	6/30/2032

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	72,534	20,328	18,358	14,104	7,100	12,644		
Appropriation	1,740	-	1,740					



This project includes the rehabilitation and replacement of the District's 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 FY 2022 - FY 2023, construction was completed on projects at University No. 2, Birch No. 1 and No. 2, Cull Creek, and Sherwick. Construction work began at Acorn No. 1, Derby, Scenic, Scenic East, Castenada No. 1 and No. 2, Glen, and Mulholland reservoirs. In addition, design work started on Grizzly, Castle Hill, Knife No. 1, Wiedemann No. 1, Crest, Hill Mutual, Madrone, Encinal, Swainland, Ridgewood, Arroyo, and Carter reservoirs.

In FY 2024 - FY 2028, design and construction work is planned for Acorn No. 1, Derby, Scenic, Scenic East, Castenada No. 1 and No. 2, Glen, Mulholland No. 1 and No. 2, Grizzly, Castle Hill, Knife No. 1, Wiedemann No. 1, Crest, Hill Mutual, Madrone, Encinal, Swainland, Ridgewood, Arroyo, Carter, Dos Osos, Welle, Rolph, Ardith, Selby, Verde, Luzon, Tice, Reliez, City Line, Holly, and Woods reservoirs. Planning work to support upcoming projects will continue.



Reservoirs - Supply

Award Number:

7000068

Award Name:

DAM OPERATIONAL UPGRADES

Lead Department:	In Service Date:
Engineering & Construction	6/30/2026

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	9,972	2,497	2,781	929	2,838	928		
Appropriation	5,518	5,359	159					



This project involves undertaking improvements to various dams and reservoirs to allow continued safe operation of the facilities. FY 2022 - FY 2023 accomplishments include: (1) dam breach analyses at Pardee and Camanche dams and dikes per the Federal Energy Regulatory Commission (FERC) requirements, (2) developing new inundation maps for the six non-jurisdictional open cut reservoirs (distribution system reservoirs) in the East Bay, (3) Unmanned Aerial Vehicle (UAV)-based spillway pilot studies and planning, (4) stilling basin cleaning and inspection, and (5) spillway drain inspections and evaluations.

FY 2024 - FY 2028 work includes: (1) developing new inundation maps for Pardee and Camanche dams and dikes in response to recommendations from the FERC 8th Part 12D inspection report, (2) lining and roof repairs at Lafayette and Dunsmuir Reservoirs, (3) implementing spillway activities such as installation of additional instrumentation and further non-destructive testing based on findings from pilot studies and evaluations, (4) terminal reservoir tunnel and outlet conduit inspections, and (5) risk evaluation studies, as part of an overall risk assessment of the District's dam facilities.



Reservoirs - Supply

Award Number: 7000131

Award Name:

DAM SEISMIC UPGRADES

Lead Department:	In Service Date:
Engineering & Construction	6/30/2031

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 2028 Projection							
Cash Flow	1,741	496	44	68	510	623	
Appropriation	_	_	-				



This project includes the seismic evaluation, design, and retrofit of the District's dams. FY 2022 - FY 2023 accomplishments include the evaluation and testing of the post-tensioned anchors at Pardee Spillway and starting a new cycle of review at the local reservoirs to account for accumulated changes in seismic evaluation standards.

FY 2024 - FY 2028 work includes (1) completing the seismic study of the Camanche spillway and outlet, Pardee Dam, and Pardee South Spillway, (2) seismic upgrades to the soils at the toe of Camanche Dam following FERC review, approval, and subsequent directive, (3) completing the current cycle of review at local reservoirs, (4) continued environmental mitigation for San Pablo Dam, and (5) responding to portions of the Federal Energy Regulatory Commission (FERC) Potential Failure Mode Analysis and Independent Consultant Safety Inspection.



Reservoirs - Supply

Award Number:

7000167

Award Name:

DAM SURVEILLANCE IMPROVEMENTS

Lead Department:	In Service Date:
Engineering & Construction	6/30/2029

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 2028 Projection							
Cash Flow	4,642	338	849	699	1,226	1,530	
Appropriation	-	-	-				



The District regularly monitors the performance and safety of its dams with routine inspections and measurements using more than 2,000 instruments including: piezometers to measure water levels in the dams and foundations, seepage weirs and relief wells to measure flow through the dams and foundations, and survey instruments and markers to measure dam settlement and displacement, load cells to measure spillway crest tie-down loads, and seismographs to measure earthquake ground motions.

FY 2023 - FY 2028 work includes: 1) piezometer rehabilitation and upgrades at Camanche and Pardee reservoirs; 2) Hydrological Surveillance Improvements at Camanche and Pardee reservoirs, including design and construction of replacement field drains and flume (MD-SDS) downstream of Camanche Main Dam; 3) cleaning of the Camanche Dike 2 relief wells; 4) installation of seismographs at Lafayette Reservoir; 5) piezometer rehabilitation and upgrades at Briones Dam to replace failed pneumatic piezometers; 6) Briones Dam Left Abutment Drainage Tunnel cleaning, 7) instrumenting Upper San Leandro (USL) Clearwell underdrain with a Supervisory Control and Data Acquisition (SCADA) system; 8) operation and maintenance of an automated Global Positioning System (GPS) survey system at Camanche and Pardee Dams; 9) design and installation of automated GPS survey systems and remote-controlled high-resolution dam cameras at the Terminal Dams; and 10) design and implementation of an automatic data acquisitioned surveillance data and Geographic Information System (GIS)-based dam monitoring program for centralized assessment of dam surveillance parameters and allow for rapid and comprehensive safety evaluations following an extreme event.



Reservoirs - Supply

Award Number:

7000034

Award Name:

Reservoir Tower Modifications

Lead Department:	In Service Date:
Engineering & Construction	6/30/2024

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	13,470	9,731	2,546	-	450	742	
Appropriation	6.151	6,151	-				



This project includes the seismic evaluation, design, and retrofit of six reservoir towers: Pardee Reservoir and the five Terminal Reservoirs. The seismic evaluation of Pardee Tower identified leakage in Pardee Tunnel, which was 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 FY 2019. In FY 2023, the design of the Briones tower retrofit was completed, and the design of Lafayette Tower is underway.

FY 2024 - FY 2028 work includes: (1) construction of the Briones Tower retrofit, (2) design and construction of the Lafayette Tower retrofit, (3) design and construction of the Briones Tower isolation valve relocation, and (4) risk evaluation studies of towers, as part of an overall risk assessment of the District's dam facilities.



Reservoirs - Supply

Award Number:

7000225

Award Name:

WATER SUPPLY MONITORING SYSTEM

Lead Department:	In Service Date:
Water Operations	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	1,084	598	144	86	79	177		
Appropriation	743	599	144					



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 Mokelumne, Lower Mokelumne, Pardee, Camanche and East Bay watersheds and reservoirs. FY 2024 - FY 2030 plans include AQPI X-Band radar installation support, bathymetric surveys of Chabot and Camanche reservoirs, equipment upgrades, telemetry upgrades, new monitoring stations, station rehabilitations and relocations, station safety improvements, time-series software upgrades, and improved flow measurement capabilities during high flow events.



Supplemental Supply, Regional Agreements

Award Number:

7000067

Award Name:

GROUNDWATER RESOURCE DEVELOPMENT

Lead Department:	In Service Date:
Water Resources	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	9,890	931	1,454	771	616	6,118		
Appropriation	1,000	1,000	-					



The District is actively investigating and developing groundwater resources through the Bayside program, the Demonstration Recharge Extraction and Aquifer Management (DREAM) pilot in San Joaquin County, and feasibility investigations into groundwater banking in Sacramento County. These groundwater programs and projects support the District's Strategic Plan goals for Long-Term Water Supply by providing supplemental water supply for droughts and emergencies, increasing adaptability to climate change by allowing storage of water when available. Funding in FY 2024 and FY 2025 is to abandon the Bayside well and monitoring wells on the Oro Loma property if the lease ends on 8/31/24. Funding for a new Bayside Phase 1 well on EBMUD's property is included in FY 2026 though FY 2033. This includes an environmental impact report (EIR), design and construction, and securing permitting and approvals to incorporate Bayside Phase 1 into the District's operations. Operation of the DREAM Pilot Project in San Joaquin County is included in FY 2024 through FY 2033. Discussions and negotiations of larger San Joaquin County groundwater banking project will occur in FY 2024 through FY 2027, and planning, design, and construction of the larger project will start in FY 2028 and is expected to be completed in FY 2033. Bayside Phase 2 is expected to begin after FY 2033.



Supplemental Supply, Regional Agreements

Award Number:

7000324

Award Name:

IMPORTED WATER FACILITIES

Lead Department:	In Service Date:
Water Resources	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	39,847	4,942	7,222	6,658	4,954	16,070	
Appropriation	10,000	6,000	4,000				



The District is evaluating potential participation in the proposed expansion of Los Vaqueros Reservoir with eight other water agencies. The project supports the District's Strategic Plan goals for Long-term Water Supply and Water Quality and Environmental Protection by providing supplemental water supply for droughts and emergencies, increasing adaptability to climate change by allowing storage of water when available, and making water supply available for wildlife refuges.

Funding in FY 2024 through FY 2030 includes planning and design of the expanded reservoir and associated facilities, design, and construction of variable frequency drives at the Walnut Creek Raw Water Pumping Plant (WC VFDs), which EBMUD will be reimbursed for with a \$23.7 million grant, and budget for staff to complete environmental work, secure a water supply, and negotiate with the Joint-Powers Authority. Most of the reservoir construction costs occur after FY 2026.



Supplemental Supply, Regional Agreements

Award Number:

7000076

Award Name:

LOCAL REGIONAL PARTNERSHIPS

Lead Department:	In Service Date:
Water Resources	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	904	127	131	209	215	222	
Appropriation	-	-	-				



EBMUD, together with seven other Bay Area water agencies, formed the Bay Area Regional Reliability (BARR) Project to improve regional water reliability during droughts and emergencies. BARR supports the District's Strategic Plan goal for Long-Term Water Supply and meets the objective to integrate long-term water supply strategies and infrastructure planning efforts with regional partnerships.

Funding in FY 2024 through FY 2033 includes planning, design and construction for a drought mitigation measure project from the BARR Drought Contingency Plan or to develop a project based on recommendations from the Bay Area Shared Water Access Program (SWAP).



Supplemental Supply, Regional Agreements

Award Number:

7000314

Award Name:

SGMA COMPLIANCE

Lead Department: Water Resources

In Service Date: RECURRING

Cash Flow and Appropriation (\$ Thousands)							
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection	
Cash Flow	1,709	226	612	699	40	131	
Appropriation	1,000	1,000	-				



In 2016 under the Sustainable Groundwater Management Act (SGMA), the District and the City of Hayward (Hayward) became the Groundwater Sustainability Agencies (GSAs) for the portions of East Bay Plain Subbasin (Subbasin) that underlie their respective service areas. As GSAs, the District and Hayward are required to complete a Groundwater Sustainability Plan (GSP) for the Subbasin and implement associated management actions. The work supports the District's Strategic Plan goals for Water Quality and Environmental Protection and Long-term Water Supply by protecting the Sub-basin and integrating local groundwater into the District's water supplies.

Work is funded through a cost sharing agreement with Hayward and grants. Funding in FY 2024 through FY 2026 includes installing monitoring wells and stream gauges necessary to implement anticipated management actions. Funding in FY 2027 to FY 2033 includes additional updates to the GSP and anticipated needs to implement management actions.



Supplemental Supply, Regional Agreements

Award Number:

7100007

Award Name:

WATER RIGHTS, LICENSES & PLANS

Lead Department:	In Service Date:
Water Resources	12/31/2032

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	9,020	2,312	2,548	2,160	1,000	1,000		
Appropriation	7,000	3,000	4,000					



The Urban Water Management Plan (UWMP) serves as the District's 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. Consulting services will be required to conduct probability-based approach to climate change impacts analysis, improve data and tools (i.e., software, machine learning tools, instrumentation) for the existing hydrologic model, feasibility analysis for reoperation, and data mining for census-based data in the service area.

The District's Federal Energy Regulatory Commission License 2916 is a 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. Consulting services are necessary to support required studies for 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, expansion of Demonstration Recharge Extraction and Aquifer Management project in San Joaquin and implementing terms of the Protest Dismissal Agreement for the Camanche Permit Extension.

The District also has a need to evaluate and review State and Federal modeling of proposed projects to protect existing assets (e.g., Freeport and water rights), and consulting services are necessary to augment existing staff expertise related to CALSIMII, CALSIM3, DSM2, SCHISM, and other large scale modeling applications in California.



Supplemental Supply, Regional Agreements

Award Number: 7000267

Award Name:

WATER TRANSFERS

Lead Department:

Water Resources

In Service Date: **Recurring**

Cash Flow and Appropriation (\$ Thousands)								
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection		
Cash Flow	1,857	817	534	178	114	214		
Appropriation	-	_	-					



This project includes budget to develop and implement water transfer projects to provide dry year water for EBMUD in accordance with the District's Strategic Plan long-term water supply goal. Efforts funded include technical studies, environmental studies, and development of contracts with the Bureau of Reclamation and agreements with partner agencies. Water Transfers include a long-term water transfer project with Placer County Water Agency, two 5-year projects (through 2030) with Yuba Water Agency, and short/long term projects with Sycamore Mutual/Sac Valley Settlement Contractors.



Sustainable Energy

Award Number: 7000273

1000210

Award Name:

ENHANCED POWER REVENUE

Lead Department:	In Service Date:
Water Operations	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
Total FY 2024 FY 2025 FY 2026 FY 2027 FY 2028 Budget Budget Projection Projection Projection								
Cash Flow	2,877	2,381	176	160	80	80		
Appropriation	3,196	2,976	220					



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 and energy expenses.

Construction of the 5 MW Duffel photovoltaic project will be complete in FY 2024 and will begin saving the District approximately \$750,000 per year in energy purchases at various water distribution, treatment and possibly wastewater facilities. In support of the project Enhanced Power Revenue CIP will fund completion of the electrical interconnect to the grid, environmental mitigations measures, permitting fees and required impact measures, landscape screening, compliance oversight and reporting.



Sustainable Energy

Award Number:

7100006

Award Name:

FSCC CAPITAL IMPROVEMENTS

Lead Department:	In Service Date:
Water Operations	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	4,649	1,114	2,492	443	275	326		
Appropriation	4,863	1,596	3,267					



This project provides for replacement and improvements to Folsom South Canal Connection (FSCC) facilities and equipment.

FY 2024 - FY 2030 work includes improvements to the hypo and captor feed and storage systems; a study to evaluate invasive species treatment strategy; variable frequency drive (VFD) motor and programmable logic controller/human machine interface (PLC/HMI) upgrades, flowmeter replacement, and replacement of the backup generators.



Sustainable Energy

Award Number: 7000117

Award Name:

POWERHOUSE IMPROVEMENTS

Lead Department:	In Service Date:
Water Operations	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
Total FY 2024 FY 2025 FY 2026 FY 2027 FY 2028 Budget Budget Projection Projection Projection								
Cash Flow	8,015	2,064	995	835	2,097	2,024		
Appropriation	3,822	2,579	1,243					



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.

FY 2024 - FY 2030 work consists of upgrading powerhouse controls and programmable logic controllers, overhauling turbines, high voltage circuit breaker and transformer replacement, security improvements and access road improvements.



Vehicles, Equipment & Related Facilities

Award Number:

7000066

Award Name:

DIESEL ENGINE RETROFIT

Lead Department:
Water Operations

In Service Date: 6/30/2028

Cash Flow and Appropriation (\$ Thousands)						
	TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 2028 Projection					FY 2028 Projection
Cash Flow	5,218	1,680	582	619	1,536	802
Appropriation	2,700	2,000	700			



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.

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 horsepower must meet regulations for diesel particulate matter. Recent purchases included one 1500 kW portable generator and two portable pumps to help meet backup power requirements to address Pacific Gas & Electric (PG&E) Public Safety Power Shutoffs in response to severe weather.



Vehicles, Equipment & Related Facilities

Award Number:

7000023

Award Name:

FLEET & EQUIPMENT ADDITIONS

Lead Department:	In Service Date:
Maintenance & Construction Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 2028 Projection					FY 2028 Projection
Cash Flow	9,812	3,600	292	2,880	80	2,960
Appropriation	4,780	4,500	280			



This ongoing project serves 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 workforce and redirection of priorities. Vehicles and equipment includes backhoes, dump trucks, trailers, utility trucks, sedans or SUVs, saw trucks and water trucks.

In FY 2024 - FY 2025, necessary equipment will be purchased to outfit additional staff, including new Pipeline Rebuild crews, replace long-term leased vehicles, and decrease the reliance on contracting out.



Vehicles, Equipment & Related Facilities

Award Number:

7000022

Award Name:

FLEET & EQUIPMENT REPLACEMENT & PURCHASES

Lead Department:	In Service Date:
Maintenance & Construction Department	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 2028 Projection					FY 2028 Projection
Cash Flow	25,002	6,814	4,109	4,640	4,640	4,800
Appropriation	13,437	8,517	4,920			



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 FY 2024 - FY 2025, 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 as well. This award manages the replacement process for vehicles and equipment system-wide.



Vehicles, Equipment & Related Facilities

Award Number:

7000139

Award Name:

FUEL FACILITY IMPROVEMENTS

Lead Department:	In Service Date:
Water Operations	10/31/2026

Cash Flow and Appropriation (\$ Thousands)						
TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 2028 Projection					FY 2028 Projection	
Cash Flow	12,380	7,700	1,200	1,160	1,160	1,160
Appropriation	11,125	9,625	1,500			



The California Air Resources Board (CARB) establishes and enforces regulations to reduce air pollutants. Fines and civil actions can result from noncompliance with established regulations and deadlines. This project is required to replace equipment that is at the end of its useful life and comply with CARB standards. Many of the fuel dispenser units and backup generator tanks are more than 30 years old and require frequent repairs.

This project includes planning, design, and construction to upgrade fueling facilities and backup generator tank systems. Improvements scheduled for FY 2024 - FY 2025 include replacing fuel dispensers at 20 sites, installing Enhanced Vapor Recovery Phase II equipment, and upgrading tank monitoring systems for aboveground and underground storage tanks.



Water Recycling & Conservation

Award Number:

7000036

Award Name:

DSRSD-EBMUD RECYCLED WATER AUTHORITY (DERWA)

Lead Department:	In Service Date:
Water Resources	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 2028 Projection					FY 2028 Projection
Cash Flow	1,422	642	470	94	106	110
Appropriation	_	_	-			



DSRSD-EBMUD Recycled Water Authority (DERWA) is a joint project with Dublin San Ramon Service District (DSRSD); Recycled water (from DSRSD) for landscape irrigation in San Ramon, Danville and Blackhawk. Includes DERWA capital projects identified in the DERWA capital budget that EBMUD pays a share of costs: treatment plant expansion, securing supplemental supplies including backup potable water from EBMUD Amador Pressure zone, local groundwater, and Livermore supplies, treatment plant replacement costs, and VFD and SCADA improvements. Supplemental supplies are anticipated to be secured by 2024. Treatment plant equipment replacement is on-going annually. Treatment plant expansion is anticipated post 2028 pending demand and supplemental supplies. DERWA supports the District's strategic planning goal of long-term water supply through water recycling.



Water Recycling & Conservation

Award Number:

7000035

Award Name:

EAST BAYSHORE

Lead Department: Water Resources

In Service Date: RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjection					FY 2028 Projection
Cash Flow	55,415	2,915	4,700	7,734	8,776	31,290
Appropriation	7,000	4,500	2,500			



Phase 1A will provide up to 0.4 MGD to Emeryville and Oakland. Pipeline extension could be completed by FY 2026. A water quality improvements pilot will be conducted to develop design criteria and operations parameters for implementation in FY 2024 - FY 2025.

Phase 1B will add 0.25 MGD, for a total estimated supply of 0.65 MGD. Implementations are planned for completion in FY30-34. Phase 2, estimated at 1.7 MGD, is planned for implementation in FY35-40. Phase 2 will supply Alameda, Emeryville, Berkeley, and Oakland. The estuary crossing (slip-lining existing pipe) will be completed in FY 2025 - FY 2030. The rest of the facilities will be completed by FY40 that includes pipelines, treatment expansion, a possible booster pump station, and customer retrofits.

Funding is also included for routine O&M and microfiltration membranes replacements that take place every 5-7 years. EBRWP supports the District's Strategic Plan goal of Long-term Water Supply through water recycling.



Water Recycling & Conservation

Award Number:

7000315

Award Name:

NORTH RICHMOND WATER RECYCLING PLANT (NRWRP)

Lead Department:	In Service Date:
Water Resources	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	3,334	426	1,234	1,355	320	-		
Appropriation	_	_	-					



The North Richmond Water Recycling Plant (NRWRP) provides advanced treatment to wastewater effluent from West County Wastewater District. Some of the recycled water produced at NRWRP is further treated in the Richmond Advanced Recycled Expansion (RARE) Water Project, which is a separate award. The bulk of NRWRP water is used for Chevron refinery's cooling towers. NRWRP improvements include chemical feed pump replacements, pneumatic valves upgrades, clarifier and thickener drive replacements, process water pipe replacements, and other improvements in FY 2024 - FY 2027.



Water Recycling & Conservation

Award Number:

7000098

Award Name:

NORTH RICHMOND WATER RECYCLING PLANT (NRWRP) ROUTINE CAPITAL MAINTENANCE

Lead Department:	In Service Date:
Water Resources	RECURRING

Cash Flow and Appropriation (\$ Thousands)							
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetProjectionProjectionProjection							
Cash Flow	2,166	408	420	433	446	459	
Appropriation	-	_	-				



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. The North Richmond Water Recycling Plant (NRWRP) provides advanced treatment to wastewater effluent from West County Wastewater District. Some of the recycled water produced at NRWRP is further treated in the Richmond Advanced Recycled Expansion (RARE) Water Project, which is a separate award. The bulk of NRWRP water is used for Chevron refinery's cooling towers.

This project includes upgrades at the NRWRP that are needed to maintain the facility and continue to meet the District's contractual obligations to the Chevron Richmond refinery. In FY 2024 - FY 2028, this project will rehabilitate or upgrade various equipment at the NRWRP to prevent equipment failures and process interruptions. Work includes sodium hypochlorite and sulfuric acid feed pump drive replacement, evaluation of main process pneumatic valves to determine fail open/closed status during a power outage to prevent spills and maintain regulatory compliance, clarifier and solid handling thickener drives replacement, sludge thickener tanks re-coating and piping modifications for proper tank drawdown, replacement of corroded process pipes, and demolition of abandoned facilities and equipment.



Water Recycling & Conservation

Award Number:

7000160

Award Name:

RICHMOND ADVANCED RECYCLING EXPANSION (RARE) - CHEVRON FUNDED

Lead Department:	In Service Date:
Water Resources	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	4,649	2,255	470	1,081	405	438		
Appropriation	5,000	2,500	2,500					



Capital improvements for the Phase 1 Richmond Advanced Recycled Expansion (RARE) Water Project which provides 3.5 MGD of recycled water to Chevron for boiler feedwater applications to conserve the use of potable water. In FY 2024 and beyond, equipment will be replaced at the RARE including the microfiltration modules, instruments and analyzers, and reverse osmosis membranes. These replacements are to be funded by Chevron per existing contract. RARE supports the District's Strategic Plan goal of Long-term Water Supply through water recycling.



Water Recycling & Conservation

Award Number:

7000238

Award Name:

RICHMOND ADVANCED RECYCLING EXPANSION (RARE) - EBMUD FUNDED

Lead Department:	In Service Date:
Water Resources	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	120	22	23	24	25	26		
Appropriation	-	-	-					



Project management and planning for implementation of future phases/expansion of the Richmond Advanced Recycled Expansion (RARE) Water Project. This award also includes design and construction of future expansions of the RARE treatment plant up to 5.0 MGD beyond FY 2033. RARE supports the District's strategic planning goal of long-term water supply through water recycling.



Water Recycling & Conservation

Award Number:

7000071

Award Name:

SAN RAMON VALLEY RECYCLED WATER

Lead Department:	In Service Date:
Water Resources	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
FY 2024 FY 2025 FY 2026 FY 2027 FY 2028 Total Budget Budget Projection Projection Projection								
Cash Flow	7,662	86	353	363	3,539	3,320		
Appropriation		-	-					



EBMUD, together with seven other Bay Area water agencies, formed the Bay Area Regional Reliability (BARR) Project to improve regional water reliability during droughts and emergencies. BARR supports the District's Strategic Plan goal for Long-Term Water Supply and meets the objective to integrate long-term water supply strategies and infrastructure planning efforts with regional partnerships.

Funding in FY 2024 through FY 2033 includes planning, design and construction for a drought mitigation measure project from the BARR Drought Contingency Plan or to develop a project based on recommendations from the Bay Area Shared Water Access Program (SWAP).

Planning, CEQA and property purchase of Pump Station R3000 was completed in FY 2019. Design for Pump Station R3000 is anticipated to begin in FY 2025 with construction completion in FY 2027 - FY 2028. Design for Phases 3A, 3B, is anticipated for FY 2027 - FY 2028 with construction in FY 2029 - FY 2030. Phase 3 site retrofits will be completed from FY 2029 - FY 2030.

Phase 5 (Blackhawk West) is anticipated to be completed in FY 2033. The Pump Station R4000 and pipelines in Blackhawk will be completed FY 2036.

These projects are needed to meet the District's Strategic Plan goal of Long-term Water Supply through water recycling.



Water Recycling & Conservation

Award Number:

7000306

Award Name:

WATER CONSERVATION SERVICES

Lead Department:	In Service Date:
Customer & Community Services	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection								
Cash Flow	6,061	1,904	1,236	954	973	994		
Appropriation	-	-	-					



As part of the 2050 Demand Study, the District's water conservation goal was increased to achieve 70 million gallons per day of water conservation by the year 2050. This award covers implementation of activities to help meet that goal and to comply with state water use efficiency regulations. The Water Conservation Strategic Plan update completed in FY 2021 provides a roadmap for meeting this target.

Over the next five years, the Water Conservation Program will continue to offer rebates, incentives, educational programs, and water management tools to help customers use water efficiently. The rebate program will continue to support landscape transformations to reduce outdoor water use. Educational programming includes the WaterSmart Gardener program and K-12 educational initiatives. Another important component of the program will be expanding the District's software capabilities to offer improved tools like a customer facing web portal, home water reports, water budgets, and leak alerts. The District is also developing several new conservation initiatives specifically intended to help low income customers save water. The District is also participating in a Proposition 1 Regional Water Conservation grant that funds rebates, training, and other activities.

An important driver for the program will be compliance with the State's new Long Term Water Use Efficiency framework. These new regulations will require the District to calculate and meet an annual water use objective based on use by residential customers and dedicated irrigation meters as well as water loss. The regulations will also require the District to implement and report on best management practices for the commercial, industrial, and institutional sector.



Water Recycling & Conservation

Award Number: 7000246

Award Name:

WATER RECYCLING PLANNING

Lead Department:

Water Resources

In Service Date: **Recurring**

Coop Flow and Appropriation (S They could be							
Cash Flow and Appropriation (\$ Thousands)							
Total FY 2024 FY 2025 FY 2026 FY 2027 FY 2020 Budget Budget Projection Projection Projection							
Cash Flow	8,492	528	286	1,320	2,807	3,551	
Appropriation		_	-				



This award includes (1) updating the Recycled Water Master Plan every 5 years; (2) coordinating the implementation of customer satellite treatment plants including potential projects at the Diablo Country Club, Sequoyah Country Club, and Rossmoor Community; (3) further evaluation and implementation of the first phase of the Phillips 66 recycled water project in Rodeo; (4) rehabilitation of the San Leandro pump station project; (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. These projects support the District's Strategic Plan goal of Long-term Water Supply through water recycling.



Water Treatment

Award Number: 7000299

Award Name:

PARDEE CENTER CAPITAL MAINTENANCE & IMPROVEMENTS

Lead Department:	In Service Date:
Water Operations	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
TotalFY 2024FY 2025FY 2026FY 2027FY 2027BudgetBudgetBudgetProjectionProjection						FY 2028 Projection
Cash Flow	8,031	2,353	3,482	720	662	814
Appropriation	7,293	2,940	4,353			



This project provides for replacement and improvements to the Pardee Center Wastewater Treatment Plant, office and lodging buildings and grounds, roads, conference center, and power poles to ensure safe and reliable systems that comply with operational and regulatory requirements.

FY 2024 - FY 2030 work includes replacement of power poles, replacement of HVAC systems, renovations of crew office facilities and lodging facilities, siding and roof replacements, paving, and security improvements.



Water Treatment

Award Number: 7000090

7000090

Award Name:

TREATMENT PLANT UPGRADES

Lead Department:	In Service Date:
Engineering & Construction	6/30/2034

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	520,817	89,215	122,598	127,394	112,664	68,946
Appropriation	87,953	87,953	-			



FY 2023 work included construction of the San Pablo Reservoir Hypolimnetic Oxygenation System (HOS), Orinda Water Treatment Plant (WTP) Disinfection and Chemical Safety System Improvements Project, start of construction of the Upper San Leandro (USL) WTP Maintenance and Reliability and USL and Sobrante Chemical Safety System Improvements Project, the USL Control System Improvements Project, and the completion of construction of the Orinda WTP Scouring Air and Maintenance Improvements Project and the Sobrante Maintenance Safety Improvements Project.

FY 2024 - FY 2025 work includes construction of Orinda WTP Disinfection and the Chemical Safety System Improvements Project, USL WTP Maintenance and Reliability and USL and Sobrante Chemical Safety System Improvements projects, USL WTP control system modernization, and San Pablo Reservoir HOS; design and start of construction of Walnut Creek (WC) WTP Filters Upgrade Project, Lafayette WTP Interim Improvements Project, Walnut Creek WTP and Lafayette Chemical Safety Systems Project, and Lafayette Control Systems Improvements Project; California Environmental Quality Act (CEQA) and Planning for WC WTP pretreatment and ozone and Briones and Pardee reservoirs water quality improvements. Pre-design for the Walnut Creek WTP Pretreatment and Ozone Project will also begin.

FY 2026 - FY 2028 work includes construction of the WC WTP Pretreatment and Ozone Improvements Project and design of Sobrante WTP Maintenance and Improvements Projects.



Water Treatment

Award Number: 7000197

Award Name:

WATER TREATMENT PLANT CAPITAL IMPROVEMENTS

Lead Department:	In Service Date:
Water Operations	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 Projection					FY 2028 Projection	
Cash Flow	2,895	540	559	578	598	619
Appropriation	1,374	675	699			



Water Treatment Plants (WTPs) are structures that improve the quality of water to make it appropriate for distribution in our public water system. Currently, the District has treatment plants in Orinda, Walnut Creek, Lafayette, Upper San Leandro, El Sobrante, and San Pablo.

Each year various improvements and modifications to existing WTPs are required. Most involve equipment or structural problems impacting facility integrity, or health and safety issues. Upcoming work includes replacement of new filter valves at Orinda WTP, new radar level sensors for all filters at Orinda WTP, new free ammonia analyzers at all WTPs, purchase of new variable frequency drive controllers at various WTPs, new lift station pumps at various WTPs and various paving jobs at all WTPs. Any emergency that requires immediate replacement of WTP equipment is also included.



Water Contingency

Award Number: 7000355

Award Name:

CONTINGENCY GENERAL - WATER

Lead Department:	In Service Date:
Finance	RECURRING

Cash Flow and Appropriation (\$ Thousands)								
	TotalFY 2024FY 2025FY 2026FY 2027FY 2028BudgetBudgetBudgetProjectionProjectionProjection							
Cash Flow	-	-	-	-	-	-		
Appropriation	70,000	20,000	50,000					



This Award 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. As the Capital Improvement Program grows, the Contingency appropriation is growing to accommodate potential cost changes as well as provide for opportunities to reinvest in infrastructure when awarded funding from external parties. The Contingency Award is only intended to provide appropriations to existing Awards approved by the Board in the event of material unexpected cost increases or due to unexpected emergencies, without requiring the Board amend the budget, and without each Award incurring its own contingency, which could significantly increase overall capital appropriations. The Contingency Award does not incur costs directly.

Transfers of these contingency Appropriations are uncommon. Costs that significantly exceed budgeted expectations are reported to the Board under existing policies. Transfers out of the Capital Contingency Awards are approved by the Director of Finance and the General Manager is informed when the amount is greater than \$2.5 million.


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EBMUD Fact:

EBMUD's Customer Assistance Program, which provides discounts on water and wastewater services to households in need, was established in 1987.



Wastewater System

Appropriations Overview

The Wastewater System's FY 2024 capital appropriation will increase by \$31.6 million or 58.4 percent from FY 2023. In FY 2025, the appropriation increases an additional \$1.6 million, or 1.8 percent, from FY 2024. The first year's increase aligns with the CIP's increasing size and scope and is particularly elevated due to multi-year contracts that will be advertised for bid in FY 2024, while the work will be completed in FY 2025 or later. Appropriations for multi-year contracts are appropriated at once to ensure funds are available when contracts are awarded. While the second year's appropriations are nearly flat, the capital work appropriated for in FY 2024 will continue into future years.

Wastewater System Appropriations by Award Purpose for FY 2024 & FY 2025



Appropriations shown by Award Purpose excludes capital support as it is not for a specific Award Purpose and instead is part of all Award Purposes.



Cash Flow Overview

Overview

The FY 2024 - FY 2028 CIP is supported by capital cash flows that incorporate the following changes from previous CIP development processes:

- Cash flows are reported in the budget for five years, but this year there was an increased focus on the full 10-year projection of expenses. Forecasting out-years allows management and project managers to anticipate the funding needs for critical infrastructure initiatives. This is especially true as some key capital work will not be completed in the five-year horizon, so a longer-term scenario allows greater insight into needs. The longer-term outlook for rates increases also becomes clearer by extending the projection window.
- Multiple scenarios, with varied cash flow projections and associated rate increases, were • developed to represent a projection of the annual costs of the CIP for long-term projects. This allowed for experimentation in the development phase with different approaches to completing a vast amount of critical infrastructure improvements. In most cases projects were deferred, as opposed to changed in their scope or canceled.

Total 100 90.1 90 Total 80 67.6 70 Total Total Thousands Main Wastewater Treatment 57.4 54.8 Plant 60 Total 46.4 Wastewater Remote Facilities 50 40 Wastewater System-Wide Improvements 30 20 10 FY 2024 FY 2025 FY 2026 FY 2027 FY 2028

The following chart shows the system's total five-year capital cash flow by Award Purpose.

Wastewater System Budgeted Cash Flows Five-Year Summary (Excluding Capital Support)



Main Wastewater Treatment Plant

Award Number:

7000330

Award Name:

PRELIMINARY TREATMENT

Lead Department:	In Service Date:
Wastewater	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	42,083	1,763	6,482	13,891	11,962	7,984
Appropriation	9,494	3,494	6,000			



Preliminary Treatment refers to all processes for wastewater following entrance to the Main Wastewater Treatment Plant (MWWTP) and leading up to Primary Treatment. This includes coarse screening, pumping, fine screening, and grit removal. Preliminary Treatment structures and equipment are critical for bringing wastewater into and through the MWWTP. Screening and grit removal provide the rapid removal of large, abrasive contaminants such as trash and pebbles. Removal of these contaminants at the start of treatment protects all downstream equipment.

The major task in this project is the Influent Pump Station (IPS) Resiliency Project, which will address mechanical, electrical, and seismic needs of the IPS. The IPS is a four-story building built in 1950 through which all wastewater must pass. Much of the equipment in the IPS was last replaced in the early 1990s. Given that the Influent Pump Station cannot be taken offline, extensive study is being conducted to carefully sequence this work. Design work will continue through FY 2025, and construction will ramp up in FY 2026. Electrical improvements will also be made for operational flexibility during unplanned outages and to facilitate equipment maintenance. Another task in this award is replacement of grit dewatering equipment and piping. That task will be in design through FY 2026 and in construction beginning in FY 2027.



Main Wastewater Treatment Plant

Award Number:

7000331

Award Name:

PRIMARY TREATMENT

Lead Department:

In Service Date: **Recurring**

Wastewater

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	1,878	-	-	-	96	1,782
Appropriation	-	-	-			



This project includes the final phase of concrete rehabilitation for the Primary Sedimentation Tanks (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 FY 2028. Phase 1 will address the Influent Channels and gallery and the Vortex Grit tanks. It will feature additions to the corner pile foundation. Phase 2 will follow and 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.



Main Wastewater Treatment Plant

Award Number:

7000332

Award Name:

SECONDARY TREATMENT

Lead Department:	In Service Date:
Wastewater	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 2028 Projection					FY 2028 Projection	
Cash Flow	37,663	8,772	8,212	5,588	7,521	7,570
Appropriation	12,647	9,635	3,012			



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. Construction on this task will continue through FY 25. 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 first phase will be complete in FY 2024, and subsequent phases are scheduled immediately after. 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.



Main Wastewater Treatment Plant

Award Number:

7000333

Award Name:

POWER GENERATION AND BIOGAS

Lead Department:	In Service Date:
Wastewater	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	8,013	1,470	1,514	-	1,643	3,386
Appropriation	3,730	3,730	-			



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.

This project will 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 extend through FY 2025. Phase 4 will begin in FY 2027.



Main Wastewater Treatment Plant

Award Number:

7000334

Award Name:

EFFLUENT DISCHARGE

Lead Department:

In Service Date: RECURRING

Wastewater

Cash Flow and Appropriation (\$ Thousands)						
TotalFY 2024 BudgetFY 2025 BudgetFY 2026 ProjectionFY 2027 ProjectionFY 202 Projection					FY 2028 Projection	
Cash Flow	4,999	1,440	824	1,358	1,224	153
Appropriation	1,060	-	1,060			



This project will 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.

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 rehabilitation and improvements to the Dechlorination Facility. Seismic improvement projects are also planned for the Effluent Pump Station and the outfall beginning in FY 2028.



Main Wastewater Treatment Plant

Award Number:	
7000335	
Award Name:	
NUTRIENTS	
Lead Department:	In Service Date:
Wastewater	Recurring

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	47,451	1,028	3,576	5,355	13,991	23,501
Appropriation	14,502	2,270	12,232			



A nutrient load cap 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.

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.



Main Wastewater Treatment Plant

Award Number:

7000336

Award Name:

RESOURCE RECOVERY

Lead Department:	In Service Date:
Wastewater	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	9,369	2,592	2,794	2,273	1,562	148
Appropriation	11,527	10,046	1,480			



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

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. This project is underway and will be in construction through FY 2027. Beginning in FY 2028, a new degritting facility will be constructed for trucked waste. The facility concept was based on successful pilot testing and involves design and construction of a new building and hydrocyclone-classifiers, a local odor control unit, pumps, and associated piping.



Main Wastewater Treatment Plant

Award Number:

7000337

Award Name:

DIGESTERS

Lead Department:

In Service Date: **Recurring**

Wastewater

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	4,480	4,480	-	-	-	-
Appropriation	5,600	5,600	-			



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 FY 2021. These digesters will also be seismically retrofitted to prevent catastrophic collapse in the event of an earthquake. Construction will be completed in FY 2024. Phase 4 of the work to complete the remaining upgrades to the three oldest digesters is planned to start in FY 2031.



8 ion ,207

Award Purpose:

Main Wastewater Treatment Plant

Award Number:

7000338

Award Name:

Wastewater

DEWATERING

Lead Department:

In Service Date: **Recurring**

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 202 Project
Cash Flow	27,473	800	1,978	2,631	5,857	16
Appropriation	14.082	1.000	13.082			



The Dewatering Building requires significant improvements to remedy a myriad of issues related to this aging facility and equipment. It is critical 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.

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 FY 2024, the planning phase of the new Dewatering Building will continue, followed in FY 2025 by design, which is expected to take two years. The construction phase is expected to take five years, with completion scheduled for FY 2031. 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.



Main Wastewater Treatment Plant

Award Number:

7000339

Award Name:

ELECTRICALS & CONTROLS

Lead Department:	In Service Date:
Wastewater	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	12,362	3,196	3,148	2,877	2,150	990
Appropriation	7,804	6,100	1,704			



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. This project will 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.

Within the five-year CIP, the second phase of seismic improvements will be conducted for the electrical system at the MWWTP. That work will address reliability needs following completion of an Electrical Master Plan in FY 2024. Other work in this award includes 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. Also within this award is the replacement of several large variable frequency drives (VFD) greater than 100 hp that have reached the end of their useful service life.



Main Wastewater Treatment Plant

Award Number:

7000340

Award Name:

UTILITIES & SITEWORK

Lead Department:	In Service Date:
Wastewater	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	11,228	2,360	1,641	1,025	2,229	3,973
Appropriation	6,283	4,726	1,557			



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

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 the third and final phase to be completed in FY 2025. The 3W pumps and piping will be assessed and improved in this task, including the surge and cathodic protection systems. Portions of the 3W piping will be assessed and replaced. Improvements will be made to the Plant Gallery Drains to address ponding in the galleries and difficulty emptying tanks and basins.



Remote Facilities

Award Number:

7000328

Award Name:

INTERCEPTORS AND PUMP STATIONS

Lead Department:	In Service Date:
Wastewater	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	58,404	8,507	15,572	10,007	9,704	14,614
Appropriation	38,676	5,704	32,972			



This project aims 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. 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 the North Interceptor in Emeryville, the South Interceptor in Oakland, the Alameda Interceptor, 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. Other projects include construction for the Special Structures Rehabilitation Phase 1, rehabilitation of Pump Stations H and 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.



Remote Facilities

Award Number: 7000329

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Award Name:

WET WEATHER FACILITIES

Lead Department:	In Service Date:
Wastewater	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	5,407	504	613	690	1,352	2,248
Appropriation	1,757	1,340	417			



This project will conduct mandated work required under the Inflow and Infiltration Program and to maintain Wet Weather Facilities (WWF) for reliable performance during wet weather events. This project includes 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. Other tasks in this project focus on rehabilitation of the WWF, such as assessing and correcting 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, and many of the flow meters at these locations are more than 30 years old. This project also includes ongoing chemical tank replacements, concrete restoration, and site security enhancements at the WWFs.



System-Wide Improvements

Award Number:

7000341

Award Name:

GENERAL WASTEWATER

Lead Department:	In Service Date:
Wastewater	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	45,385	9,518	8,419	11,668	8,263	7,517
Appropriation	32,848	25,929	6,919			



This project features the periodic replacement of capital equipment, asset management efforts system-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 have already begun and are scheduled to conclude in FY 2027. Other seismic tasks include retrofit of various concrete masonry buildings at the MWWTP, the Field Services Building, and the Administration Building.



Wastewater Contingency

Award Number:

7000354

Award Name:

CONTINGENCY GENERAL – WASTEWATER

Lead Department:	In Service Date:
Wastewater	RECURRING

Cash Flow and Appropriation (\$ Thousands)						
	Total	FY 2024 Budget	FY 2025 Budget	FY 2026 Projection	FY 2027 Projection	FY 2028 Projection
Cash Flow	-	-	-	-	-	-
Appropriation	5,700	2,500	3,200			



This Award 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. As the Capital Improvement Program grows, the Contingency appropriation is growing to accommodate potential cost changes as well as provide for opportunities to reinvest in infrastructure when awarded funding from external parties. The Contingency Award is only intended to provide appropriations to existing Awards approved by the Board in the event of material unexpected cost increases or due to unexpected emergencies, without requiring the Board amend the budget, and without each Award incurring its own contingency, which could significantly increase overall capital appropriations. The Contingency Award does not incur costs directly.

Transfers of these contingency Appropriations are uncommon. Costs that significantly exceed budgeted expectations are reported to the Board under existing policies. Transfers out of the Capital Contingency Awards are approved by the Director of Finance and the General Manager is informed when the amount is greater than \$2.5 million.



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