WEST COUNTY WASTEWATER

2025 West County Wastewater Ten-Year Infrastructure Improvement and Management Plan

2025 West County Wastewater Ten-Year Infrastructure Improvement and Management Plan - Executive Summary

FINAL / November 2025

carollo

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2025 Plan - WQRRP	2025 West County Wastewater Ten-Year Infrastructure Improvement and Management Plan - Water Quality and Resource Recovery Plant
ADWF	average dry weather flow
C&D	Chemical Dewatering
CIP	Capital Improvement Projects
CMU	concrete masonry unit
COC	carbon offset credit
CSO	collection system operations
DAFT	dissolved air flotation thickener
EBMUD	East Bay Municipal Utility District
EI&C	electrical, instrumentation, and controls
EQ	equalization
FOG	fats, oil, and grease
FY	fiscal year
GHG	greenhouse gas
H/R	heat recovery
HVAC	heating, ventilation, and air conditioning
I&I	inflow and infiltration
IT	information technology
LOS	levels of service
MCC	motor control center
MDB	main distribution board
mg/L	milligrams per liter
mgd	million gallons per day
MLE	Modified Ludzack-Ettinger
N/A	not applicable
NOx	nitrogen oxides
PFAS	per- and polyfluoroalkyl substances
PWWF	peak wet weather flow
R&R	rehabilitation and replacement
RARE	Richmond Advanced Recycled Expansion
RAS	return activated sludge

RDT	rotary drum thickener
SCADA	supervisory control and data acquisition
SCR	sequential catalytic reactor
SF	San Francisco
SSO	sanitary sewer overflow
V	volt
VFD	variable frequency drive
WAS	waste activated sludge
WCW	West County Wastewater
WPCP	Water Pollution Control Plant
WQRRP	Water Quality and Resource Recovery Plant

INTRODUCTION AND PURPOSE OF THE PLAN

West County Wastewater (WCW) (formerly known as West County Wastewater District, West Contra Costa Sanitary District, and the San Pablo Sanitary District) was organized on December 19, 1921, to provide service to the communities of San Pablo and North Richmond. The routes of regional significance within the current WCW service area (shown in Figure ES.1) include Interstate 80, Richmond Parkway, Appian Way, Fitzgerald Drive, San Pablo Dam Road, and San Pablo Avenue. Within WCW's 16.9-square-mile service area, WCW provides wastewater collection and treatment services to its residential, commercial, and industrial customers. The wastewater collection system includes approximately 251 miles of gravity sewer lines that range from 4 inches to 56 inches in diameter, 17 lift stations, and approximately 6 miles of force mains. All wastewater generated in WCW's collection system discharges to and is treated at the Water Quality and Resource Recovery Plant (WQRRP). WCW's service area now reaches to provide service to western Contra Costa County. WCW and the WQRRP have received the National Association of Clean Water Agencies Peak Performance Award 21 years in a row and the corresponding Platinum 17 Award for regulatory compliance excellence.

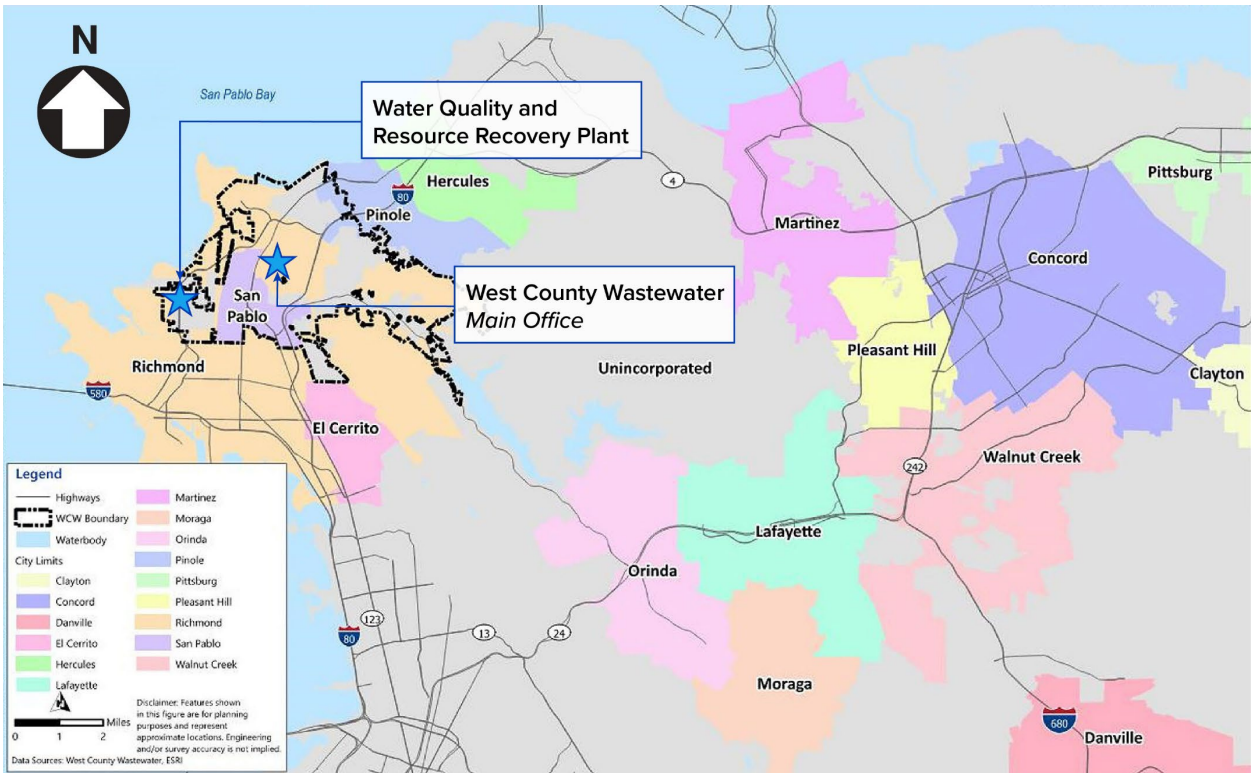

Figure ES.1 Current WCW Service Area Serves 98,300 in Western Contra Costa County

The original WCW treatment facilities consisted of a sewer system and a 24-inch outfall that collected and discharged untreated wastewater into Castro Creek, a tributary to San Francisco (SF) Bay. The plant has matured over the years to serve a growing, diverse service area and ever evolving wastewater discharge and biosolids disposal regulations. The West Contra Costa County Wastewater Management Agency was

created in 1973 to develop a regional wastewater management program for West Contra Costa County. By that time, the service area had increased to include the City of San Pablo, portions of the incorporated City of Richmond, and the unincorporated communities of Tara Hills, El Sobrante, and East Richmond Heights. As a result, the San Pablo Sanitary District and the Richmond Municipal Sanitary District joined together in 1977 under the authority of the West County Agency of Contra Costa County to meet the mutual water pollution requirements of their respective service areas. WCW's growth and evolution from 1921 to today is illustrated in Figure ES.2.

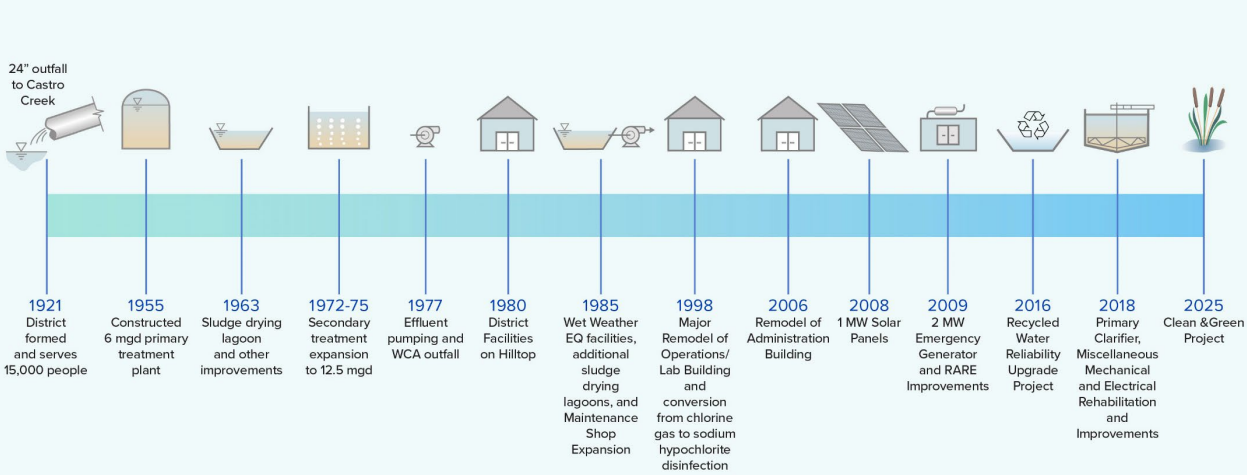

Figure ES.2 WCW WQRRP Continues to Evolve to Meet the Areas Evolving Requirements

The WQRRP has a rated average dry weather flow (ADWF) capacity of 12.5 million gallons per day (mgd) and wet weather flow capacity of 21.0 mgd. At the construction of this 2025 WCW Ten-Year Infrastructure Improvement and Management Plan (2025 Plan), WCW is nearing completion of a major upgrade of the WQRRP's solids treatment processes as part of the Clean & Green Project. The process unit additions and improvements are anticipated to be completed in 2025. This 2025 Plan reflects and discusses the facilities that the Clean & Green Project introduces to the WQRRP. Figure ES.3 is a process flow diagram of the WQRRP with the Clean & Green Project process units.

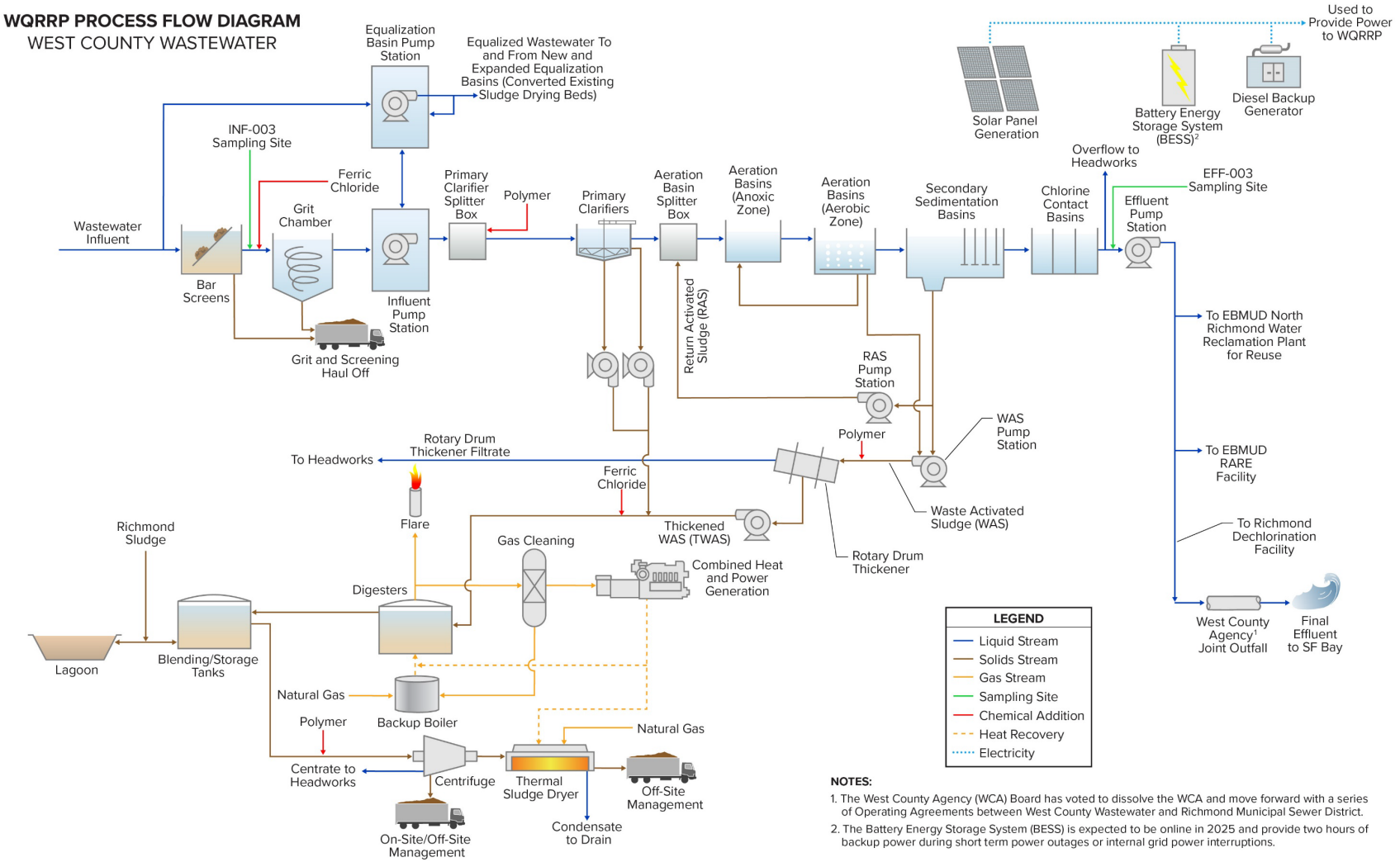

Figure ES.3 WCW WQRRP Continues to Evolve to Meet the Areas Evolving Requirements

2025 West County Wastewater Ten-Year Infrastructure Improvement and Management Plan Development and Structure

WCW initiated this 2025 Plan in 2023 to centralize the efforts of conducting the various studies and implementing multiple projects. The 2025 Plan development occurred over numerous months in close collaboration with the WCW staff, with the process being propelled forward by the visions outlined in the WCW's Strategic Plan fiscal years (FYs) 2026 to 2030 (July 2025) to align with WCW's existing principles and visions. This 2025 Plan includes the assessment of the collection system and WQRRP assets and summarizes the WCW facilities (i.e., facilities needed to support the operations, maintenance, engineering, administrative, and finance departments). The 2025 Plan is organized as follows.

- Volume 1 – 2025 WCW Ten-Year Infrastructure Improvement and Management Plan - Executive Summary.
- Volume 2 – 2025 WCW Ten-Year Infrastructure Improvement and Management Plan - Collection System (2025 Plan - Collection System).
- Volume 3 – 2025 WCW Ten-Year Infrastructure Improvement and Management Plan - WQRRP (2025 Plan - WQRRP).
- Volume 4 – 2025 WCW Ten-Year Infrastructure Improvement and Management Plan - WCW Facilities (2025 Plan - WCW Facilities).
- Volume 5 – 2025 WCW Ten-Year Infrastructure Improvement and Management Plan - Workshop and Meeting Minutes.

As the name implies, the 2025 WCW Ten-Year Infrastructure Improvement and Management Plan aimed to identify needs within the collection system, WQRRP, and WCW facilities over the next ten years. With a focus on this upcoming ten-year period, the 2025 Plan identified future process, collection system, facility, and infrastructure needs based on anticipated regulatory requirements, existing asset conditions and anticipated aging of these assets, and evaluation of related planning parameters and WCW's goals. The 2025 Plan had an overall planning period of twenty years (2025 to 2045) that provided a view beyond the next ten years, allowing for a longer term perspective of the evolving regulatory landscape, asset rehabilitation and repair needs, and overall efforts/projects to continue to allow WCW to provide high-quality service to those within their service area.

PLANNING PARAMETERS

Goals and Objectives

The goals of the 2025 Plan are the primary objectives of the plan itself and served as a framework to complete the 2025 Plan. Levels of service (LOS) were developed to guide the analysis and development of the 2025 Plan and to ensure it enables WCW to meet its goals and objectives. The LOS are a collection of measures intended to align the decisions related to the capital projects with the values and expectations of WCW's customers. They are based on regulations, stakeholder values and expectations, and WCW's own goals and initiatives.

Based on WCW's mission and vision statements and the core values and goals established in WCW's Strategic Plan (FYs 2026 to 2030), the proposed goals, LOS, screening criteria, evaluation criteria, and metrics for the 2025 Plan were developed and reviewed with staff during a Strategic Goals and Evaluation Workshop and are presented within each specific volumes of this 2025 Plan. The goals of the Strategic Plan served as the goals of this 2025 Plan. Individual sets of criteria, considerations, and metrics were developed for the collection system, the WQRRP, and WCW facilities. After reviewing feedback received from WCW, along with WCW's 10-year Capital Improvement Plan and Pipe Project Prioritization Matrix, the criteria and metrics were then further refined and finalized for use in the 2025 Plan.

The 2025 Plan goals were:

- **Infrastructure Optimization:** Adopt infrastructure maintenance and modernization strategies that maximize performance, reduce risk, and ensure reliable service in collaboration with local, regional, and national partners to further the mission of WCW.
- **Environmental Leader:** Be an environmental steward in the community through a commitment to reducing carbon emissions, maximizing resource recovery and energy production, minimizing environmental impact, and making significant strides toward becoming a carbon net-negative enterprise.
- **Integrated Systems and Innovative Solutions:** Identify and leverage information and data management systems to ensure responsible infrastructure management and promote an effective and innovative organization.
- **Organizational Capacity and Development:** Recruit, develop, inspire, and retain employees who embrace WCW's identity, values, and culture, while also providing a working environment that supports and rewards their efforts.
- **Fiscal Responsibility:** Promote financial policies and practices that support sustainability, integrity, innovation, and fiscal responsibility.
- **Engagement, Partnerships, and Advocacy:** Engage with the community, enhancing the image of WCW and building awareness of our role in keeping the community healthy.

2014 Master Plan Progress Evaluation

This 2025 Plan is an update to the District-Wide Master Plan, which was completed in 2014. Over the last decade since the District-Wide Master Plan, WCW has made tremendous strides to optimize existing assets, upgrade process units, and rehabilitate and repair assets, to continue to provide excellent customer service for those in the WCW service area, continue to meet regulatory requirements, and provide a safe and engaging workplace for WCW staff. Over the last several years, WCW has completed multiple studies, assessments, and projects of trunk sewers, the WQRRP, and WCW facilities. Some of these projects were developed and implemented in response to needs and suggested improvements documented in the Capital Improvement Projects (CIP) of the 2014 Master Plan and subsequent WCW needs. Tables ES.1 through ES.3 contain the list of 2014 Master Plan CIP recommended for implementation by the year 2024, for the collection system, WQRRP, and WCW facilities respectively, and documents the status of these projects.

Table ES.1 Review of Project Progress Presented in 2014 Master Plan Collection System CIP Plan

Project Name	Year of Completion	Length of Piping Replaced (in linear feet)
Priority Sewer Replacements Area 9, 10, and 11	2020	1,535
Area 5	2021	1,408
Areas 6 and 7	2021	953
Area 8	2021	610
Basin 7 California Avenue Project	2021	3,756
Basin 7 Chesley and Giaramita Project	2021	1,401
Basin 7 I&I Project	2020	6,529
Basin 7 Rumrill Boulevard from Market Avenue to Bush Avenue Project	2021	6,124
TOTAL LENGTH REPLACED (linear feet)		**22,316**(1)

Notes:
I&I - inflow and infiltration
(1) Per the 2014 Master Plan, 415,092 linear feet was projected to be rehabilitated and replaced and 69,750 linear feet was projected to address capacity needs.

Table ES.2 Review of Project Progress Presented in 2014 Master Plan WQRRP CIP Plan

Project Name	Project Description	Status	Pending Sections (if partially complete)	Name(s) of Implemented Project(s)
Replace 480V Breakers & Switchgear	This project includes replacement of the 480V breakers, 480V transformer, and 480V switchgear in the Electric Blower Building and construction of a new CMU building. The new CMU building houses the new switchgear and ancillary and future electrical equipment. This project was required to improve the overall electrical reliability of the WQRRP. It addressed the assets that most required near-term replacement identified as part of the condition assessment – the switchgear in the Electric Blower Building (also referred to as MCC-M). Design is currently underway.	Complete		Replacement of 480V Breakers and Switchgear
Load and Power Monitoring Study	This study would include monitoring the power usage throughout the electrical system to determine the load and capacity of the electrical distribution system.	Related project complete		Prepared Power Continuity Plans for lift stations.
Expand Plant Monitoring & Control/SCADA	This project includes ongoing expansion improvements to the Plant Monitoring and Control System, SCADA system and equipment upgrades and rehabilitation.	Partially complete	Clean & Green Project	Replacement of 480V Breakers and Switchgear, Photovoltaic System, WCW SCADA 201577 (Plant Network), Electrical Improvements Project
WQRPP (previously WPCP) Near-Term Rehabilitation – Main Switchgear Replacement	This project addresses rehabilitation needs for near-term assets in the Aeration, Plant Power, and SCADA process areas. Improvements include replacement of the main switchgear, the motor for Electric Blower No. 1, the chlorine analyzer sample line and filters, and the effluent flow recorder.	Partially complete	Chlorine analyzer sample line, filters	Miscellaneous Mechanical Improvements Project, Electrical Improvements
Garden Tract Road Enhancements	This project includes aesthetic improvements at the south end of Garden Tract Road and north side of Pittsburg Avenue. It includes landscaping and fencing designed to deter illegal trash dumping.	Not complete		
WQRPP (previously WPCP) Near-Term Rehabilitation – Seismic Retrofits to WQRPP (previously WPCP) Buildings	This project addresses rehabilitation needs for near-term assets in the Inlet Structure, EQ/Flow Control, Aeration, Effluent Pumping, DAFT, Digestion, Plant Power, and SCADA process areas. Improvements primarily include seismic retrofits to the buildings in these process areas. Improvements also include replacement of the EQ flowmeter, methane tank, the VFD for Raw Sewage Pump No. 3, and the EQ flowmeter and converter. It was assumed that the entire methane tank would be replaced. During pre-design it is recommended alternatives to replace part of the tank be evaluated.	Partially complete	Methane tank	Miscellaneous Mechanical Improvements Project, Seismic Retrofits Project
Plant Roof Replacement	This project includes replacing the roofs of various buildings at the WQRPP (previously WPCP) including the Thickener Buildings, EQ Pump Station Building, Chlorine Building, and Old Headworks. This project should be completed in conjunction with the WQRPP (previously WPCP) Near-Term Rehabilitation – Phase 2 Project because these projects include improvements to some of the same buildings.	Complete	Seismic Retrofits Project	
Plant Odor Control	This project includes new odor control facilities at the headworks, grit chamber, and the wet well for the EQ Pump Station. This project may become less of a priority if proposed residential developments near the WQRPP (previously WPCP) do not occur or are delayed.	In Progress	Clean & Green Project	
Cogeneration/FOG Feasibility Study	This study includes a cost benefit analysis of cogeneration and FOG treatment alternatives. This study should be done before the Cogeneration/Digestion Improvements.	Partially complete	FOG	Clean & Green Project
WQRPP (previously WPCP) Near-Term Rehabilitation – Primary Clarifiers and Chemical Feed Systems	This project addresses rehabilitation needs for near-term assets in the Primary Clarification and Chemical Feed Systems process areas. Improvements include replacing the sweep mechanisms of the three primary clarifiers and replacing the sodium hydroxide tank in the C&D Building.	Partially complete	Sodium hydroxide tank	Primary Clarifier Improvements
Digester No. 2 – Interior Coating	Coating interior of Digester No. 2 to extend its service life.	N/A: Digesters decommissioned, to be replaced		Clean & Green Project
WQRPP (previously WPCP) Near-Term Rehabilitation – Disinfection and RAS Pumping	This project addresses rehabilitation needs for near-term assets in the Disinfection and RAS process areas. Improvements include seismic retrofits to the C&D Building and RAS Building, replacement of the sodium hypochlorite rapid mixer, and rehabilitation of the chlorine contact basins including repairing deteriorated concrete, installing mud valves, and installing a drain pump and drainage piping.	Partially complete	Mud valves	Miscellaneous Mechanical Improvements Project
WQRPP (previously WPCP) Near-Term Rehabilitation – Roughing Filter Seismic Rehabilitation	This project includes seismic retrofits to the roughing filter, which was identified as a near-term asset due to seismic deficiencies as part of the condition assessment.	N/A: Roughing filter demolished		Recycled Water Reliability Upgrade Project

Project Name	Project Description	Status	Pending Sections (if partially complete)	Name(s) of Implemented Project(s)
MCC Replacement Project	This project includes the replacement of critical MCCs in poor condition based on the results of the condition assessment and WCW staff input. These MCCs include: ▪ MCC-A in the South Headworks Building. ▪ MCC-B in the Primary Sludge Pump Station No. 1. ▪ MCC-BB in the Primary Sludge Pump Station No. 2. ▪ MCC-C in the Electric Blower Building. ▪ MCC-D and MCC-DA in the Thickener Buildings. ▪ MCC-EPS in the Effluent Pump Station. ▪ MCC-ER. ▪ MCC-G in the C&D Building. ▪ MCC-H in the North Headworks Building. ▪ MCC-I. ▪ MCC-RS in the RAS Pump Station. This project will be completed after the 480V Breakers & Switchgear Replacement Project, as that project addresses assets with higher risk-scores and priority.	Complete		Electrical Improvements
EQ Expansion	This project includes constructing a line to and upgrading Chevron Pond No. 3. This project will reduce the risk of SSOs near the WQRPP (previously WPCP) during wet weather, improve the overall condition of the WQRPP (previously WPCP), and provide for future regionalization opportunities. An alternative to this project would be to convert a portion of the existing Sludge Drying Lagoons to EQ basins. This alternative would be evaluated as part of the initial phase of this project. This alternative would be feasible if this project were implemented after the Sludge Dewatering Improvements were implemented and the Sludge Drying Lagoons were no longer needed for sludge drying.	In progress		WQRRP EQ Basin Study, Clean & Green Project
Cogeneration/Digestion Improvements	This project includes replacing the existing cogeneration system, which includes the engine-driven blowers housed in the Engine Blower Building with a new cogeneration internal combustion engine sized to optimize digester gas use and housed in a new CMU building. This project also includes installation of SCRs to comply with NOx emissions requirements and demolition of the secondary anaerobic digester to accommodate digester gas conditioning equipment. This project will improve the energy efficiency of the WPCP gas handling and heat recovery system and meet anticipated air emissions regulations for internal combustion engines.	In progress		Clean & Green Project
Digester Gas Siloxane Removal	This project includes the installation of a gas chilling unit for removal of siloxanes from the anaerobic digester gas. Removal of siloxanes will improve the efficiency of the gas handling and heat recovery equipment and reduce maintenance requirements for this equipment. This project should be completed in conjunction with the Cogeneration/Digester Improvements project as these projects will both affect the layout and sizing of the cogeneration, gas handling, and heat recovery facilities.	In progress (digester gas treatment upgrades)		Clean & Green Project
Digester Mixing/Heating Upgrade	This project includes construction of a new boiler building, a new draft tube mixing system and a new digester heating system. It also includes demolition of the existing Maintenance Shop to provide space for the new boiler building. The new facilities will replace several aging assets that are expected to reach the end of their useful life within the planning period. The new facilities will improve the efficiency of digester heating and mixing.	In progress (mixing/heating)	Maintenance Shop not demolished	Clean & Green Project
Master Plan Updates	This study would include updating the WQRPP (previously WPCP) portion of the District-Wide Master Plan. This study would include an evaluation of flood protection needs and improvements.	In progress		2025 Plan
Digestion Long-Term Rehab	This project includes rehabilitation of long-term assets in the Digestion process area, which includes replacement of the digested sludge transfer pump and sludge recycle pump. This project should occur in conjunction with the Digester Mixing/Heating Upgrade project as both projects improve assets in the same process area.	In progress		Clean & Green Project
Ammonia Removal Improvements	This project includes improvements to convert the secondary treatment process to a conventional activated sludge process to meet an anticipated effluent ammonia concentration of 1 mg/L. Improvements include construction of a new aeration basin and support facilities, modifications to the existing aeration basins, and demolition of the roughing filter. This project is expected to take three years to complete and needs to be implemented by the time ammonia limits take effect or the roughing filter reaches the end of its useful life, whichever occurs sooner.	Complete		Recycled Water Reliability Upgrade Project

Project Name	Project Description	Status	Pending Sections (if partially complete)	Name(s) of Implemented Project(s)
Secondary Sedimentation Optimization Project	This project includes minor modifications to the baffle inlets of Sedimentation Basins No. 3 and 4. These improvements will increase the efficiency and capacity of the secondary treatment process. This project should be done in conjunction with the Ammonia Removal Improvements because both projects will upgrade the secondary treatment process capacity, and capacity upgrades are not required until ammonia regulations take effect.	In progress	Secondary Sedimentation Basins Upgrades Project	
Alkalinity Feed System	This project includes construction of an alkalinity feed system including chemical storage, feed pumps and ancillary equipment. This project will improve the reliability of the secondary treatment process with respect to meeting ammonia limits. It should be completed in conjunction with the Ammonia Removal Improvements, as both projects include improvements to the aeration process.	Complete		Recycled Water Reliability Upgrade Project
Total Nitrogen Removal Improvements	This project includes improvements to convert the secondary treatment process to an MLE process to meet an anticipated total nitrogen limit of 10 mg/L. Improvements include modifications to the aeration basins and construction of new mixed liquor return pump station. This project needs to be implemented by the time total nitrogen limits take effect.	Complete		Recycled Water Reliability Upgrade Project
Sludge Dewatering Improvements	This project includes construction of a new mechanical dewatering system to meet anticipated sludge disposal requirements. The mechanical dewatering system will include dewatering equipment housed in a building equipped, digested sludge storage, paved cake storage, dewatering centrate EQ storage and building odor control. The Sludge Drying Lagoons, with the exception of Lagoons Nos. 5, 7, and 9, will be decommissioned. This project needs to be implemented by the time sludge disposal requirements take effect.	In progress		Clean & Green Project
DAFT Long-Term Rehab	This project includes rehabilitation of long-term assets in the DAFT process area, which includes replacement of the sweep assemblies in both thickener tanks, thickened sludge pumps, thicken sludge recirculating pumps, and the thickener air compressors. This project should occur in conjunction with the Sludge Dewatering Improvements project as both projects improve assets related to solids treatment.	N/A: DAFTs to be replaced with RDTs		Clean & Green Project
SCADA Long-Term Rehab	This project includes rehabilitation of long-term assets in the SCADA process area, which includes replacing an ammonia analyzer, the influent flow ammonia meter, dissolved oxygen meters, residual analyzers, pH meters, and various flowmeters and recorders.	In progress		Replacement of 480V Breakers and Switchgear, Photovoltaic System, WCWD SCADA 201577 (Plant Network), Electrical Improvements Project, Clean & Green Project
Disinfection Long-Term Rehab	This project includes rehabilitation of long-term assets in the Disinfection process area, which includes replacing the sodium hypochlorite storage tanks when they reach the end of their useful life.	Complete		Sodium Hypochlorite Project
RAS Long-Term Rehab	This project includes rehabilitation of long-term assets in the RAS process area, which includes replacing the RAS pumps. This project should occur in conjunction with the Total Nitrogen Removal Improvements project as both projects improve assets related to RAS pumping.	Not complete		
WAS Long-Term Rehab	This project includes rehabilitation of long-term assets in the WAS process area, which includes replacing the WAS pumps. This project should occur in conjunction with the Total Nitrogen Removal Improvements project as both projects improve assets related to WAS pumping.	Not complete		
Aeration Long-Term Rehab	This project includes rehabilitation of long-term assets in the Aeration process area, which includes replacing the electric-driven blowers, the H/R heat exchanger, electric blower motors, and the VFD of Electric-Driven Blower No. 1. This project should occur in conjunction with the Total Nitrogen Removal Improvements project as both projects improve assets related to WAS pumping.	Partially complete (new high-speed turbo-electric blower)		Clean & Green Project
Secondary Sedimentation Long-Term Rehab	This project includes rehabilitation of long-term assets in the Secondary Sedimentation process area, which includes replacing the chains and flights in each secondary sedimentation basin.	In progress	Secondary Sedimentation Basins Upgrades Project	
Effluent Pumping Long-Term Rehab	This project includes rehabilitation of long-term assets in the Effluent Pumping process area, which includes replacing effluent pumps, effluent pump motors, effluent pump soft starts and controls, and VFDs Nos. 1 and 2.	Partially complete (design of electrical upgrades complete)	Construction, installation	
EQ/Flow Control Long-Term Rehab	This project includes rehabilitation of long-term assets in the EQ/Flow Control process area, which includes replacing the EQ wet well blower, wet weather flow controls, EQ Pumps Nos. 1 and 2, various gates, surface aerators, and level monitoring equipment.	Expected to commence in 2028		
Inlet Structure Long-Term Rehab	This project includes rehabilitation of long-term assets in the Inlet Structure process area, which includes replacing the grit removal blower, raw sewage pumps and raw sewage pump motors and VFDs, screen filters and compactors, the influent bypass gate, and the grit conveyor.	Partially complete (Raw sewage pump VFDs designed, rest are in construction) (WQRRP staff may be implementing VFDs independently)	Construction, installation	Clean & Green Project, Electrical Improvements Project

Project Name	Project Description	Status	Pending Sections (if partially complete)	Name(s) of Implemented Project(s)
Auxiliary Systems Long-Term Rehab	This project includes rehabilitation of long-term assets in the Inlet Structure process area, which includes replacing the storm water pumps.	Expected to commence in 2028		
Plant 2 Water System Long-Term Rehab	This project includes rehabilitation of long-term assets in the Plant 2 Water process area, which includes replacing the high-pressure impure water system and the impure water system.	Expected to commence in 2028		
Raw Sludge (Conv. Tank) Long-Term Rehab	Rehabilitation of mechanical and EI&C equipment.	Expected to commence in 2028		

Notes:
C&D - Chemical Dewatering; CMU - concrete masonry unit; DAFT - dissolved air flotation thickener; EI&C - electrical, instrumentation, and controls; EQ - equalization; FOG - fats, oil, and grease; H/R - heat recovery; MCC - motor control center; mg/L - milligrams per liter; MLE - Modified Ludzack-Ettinger; N/A - not applicable; NOx - nitrogen oxides; R&R - rehabilitation and replacement; RAS - return activated sludge: RDT - rotary drum thickener; SCADA - supervisory control and data acquisition; SCR - sequential catalytic reactors; SSO - sanitary sewer overflow; V - volt; VFD - variable frequency drive; WAS - waste activated sludge; WPCP - Water Pollution Control Plant

Table ES.3 Review of Project Progress Presented in 2014 Master Plan WCW Facilities CIP Plan

Project Name	Project Description	Status	Summary of Progress	Name(s) of Implemented Project(s)
Hilltop Switchboard Load Study	Load study to confirm the load and capacity of the Switchboard MDB located in the Administration Building.	Partially complete	Completed Power Continuity Plans of Lift Stations in 2023.	Power Continuity Plans
Near Term Improvements at Hilltop	CSO improvements and modular facilities for WCW inspectors and new staff required to implement CIP. Replacement of existing switchboard in basement and modifications to prevent water intrusion at switchboard.	Complete	Main Office (previously known as Admin Building): ▪ Switchboard replaced in 2015. ▪ Interior remodeling in 2024. CSO Building and Garage: 2021 (details in Chapter 2 of 2025 Plan - WCW Facilities).	Seismic Retrofit and Roof Replacement Project
Near Term Improvements at WQRPP (previously WPCP)	Interim improvements to administration and support functional areas within the Operations Building and replacement of HVAC system	Complete	▪ HVAC/roof replaced in 2021/2022. ▪ HVAC control system relocated into exterior closet. ▪ Upgrades made to telephone/electrical room and other IT components. ▪ Fiber optic connection has been established for improved internet reliability (no more internet connectivity issues). ▪ New SCADA installed in 2017 and upgraded in 2021 (being expanded as part of the Clean & Green Project).	
New Maintenance Facility at WQRPP (previously WPCP)	Construction of new facility located at the WQRPP (previously WPCP), including associated site work and demolition of the existing Maintenance Shop	Partially complete	Small upgrades done to Maintenance Shop. Roof replacement of existing Maintenance Shop in 2022. Preliminary Design Report (2020) created as part of the VFD/MCC Improvement Project that recommends replacing the transformer in Maintenance Building as it is undersized, as well as replacing the MCC and VFDs in the South Headworks Building's Raw Sewage Pump Station and the Effluent Pump Station building, respectively. 95 percent design drawings for new maintenance building scheduled for construction starting 2028. May be changes to building scope, but current drawings show: ▪ Single-story building. ▪ 41 occupants. ▪ Spaces for storage. ▪ Mezzanine. ▪ Offices. ▪ Locker rooms. ▪ Shop. ▪ Janitor space.	
Ops/Lab Building Improvements at WQRPP (previously WPCP)	Interior remodel of lab, administration, and locker areas	No	Women's modular locker room was added in 2022.	
New CSO and Administration Building	Construction of new facilities at the WQRPP (previously WPCP), including associated site work and demolition	No		

Notes:
CSO - collection system operations; HVAC - heating, ventilation, and air conditioning; IT - information technology; MDB - main distribution board

PLANNING ASSUMPTIONS

Growth, regulations, and climate change were key planning assumptions considered in preparing this 2025 Plan. The 2025 Plan was developed based on the data, information, materials costs, and other related information that was generally available at the time. The 2025 Plan was developed between 2023 through 2025, and based on specific data sets, modeling information, land use plans, and similar items provided by WCW and other sources. This information inherently evolves over time. As such, the conclusions, projects, data, and other plan parameters are subject to change as conditions, data, unexpected events, reorganized priorities, and other previously unidentified items become known and/or evolve.

Service Area and Growth

The approximately 16.9-square-mile service area that WCW services is an urban, residential community with the inclusions of industrial corridors along the North Shoreline area. Residential land uses dominate the developed land, accounting for 54 percent of the total acres. And within that percentage, medium-density single-family residential has the largest share, followed by low-density single-family residential, and high-density single-family residential. Commercial and industrial areas each account for 9 percent of the developed land. Public/institutional uses make up 8 percent of the developed area, open space comprises 17 percent, and other uses (e.g., rights-of-way), represent 3 percent of the developed area. There are approximately 918 acres of vacant land, accounting for approximately 10 percent of the total study area.

The current population within WCW's service area is estimated to be 96,900 based on the 2020 Decennial Census[1] and 98,300 based on the 2022 American Community Survey[2] estimates. The service area is projected to grow to approximately 119,700 by 2045 based on data from the Association of Bay Area Governments Plan Bay Area 2040.[3] The population is expected to increase by 13.2 percent over the 20-year planning period (2025 to 2045) of the 2025 Plan (about 0.62 percent per year). Based on collection system hydraulic modeling, the ADWF and the peak wet weather flow (PWWF) are projected to increase to 8.7 mgd and 59.2 mgd respectively, over the 20-year planning period of the 2025 Plan. The PWWF is expected to increase due to growth in the service area and the implementation of collection system improvements recommended in this 2025 Plan. Figure ES.4 shows the projected changes in the service area population and ADWF from 2010 to the end of the planning period in 2045.

[1] https://www.census.gov/programs-surveys/decennial-census/decade/2020/2020-census-results.html.
[2] https://www.census.gov/programs-surveys/acs/news/data-releases/2022/release-schedule.html.
[3] https://opendata.mtc.ca.gov/datasets/02fad4251017453aae21e70006c523e5_0/explore.

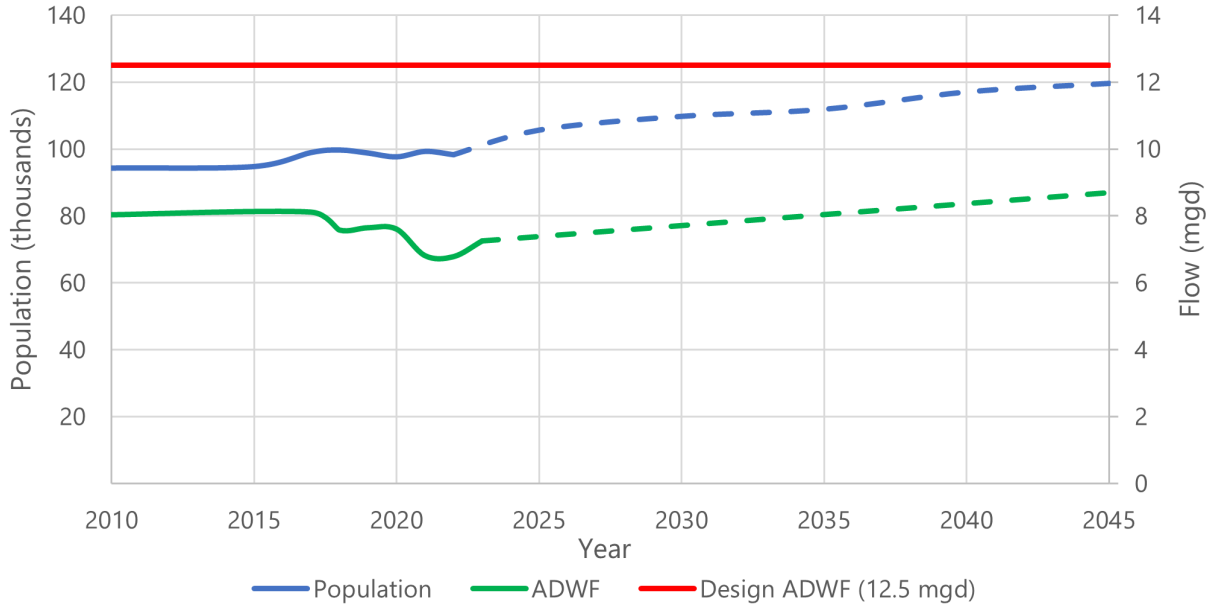

Figure ES.4 Growth Projections Over the Next Twenty Years Indicate the WQRRP Will Not Exceed Its Design and Permitted Capacity

Regulations

Major regulatory requirements and regulatory issues that affect WCW's facilities continue to advance as more data, information, and research is completed for regulators to evaluate the need for future regulatory additions and/or changes. Over WCW's history, WCW has established an excellent track record of meeting requirements placed on both the collection system and the WQRRP by regulatory agencies. Regulations continue to evolve for water quality regulations for wastewater collection, treatment, and final effluent discharge; wastewater solids and biosolids end use/disposal regulations; air quality regulations for air emissions; and other regulatory considerations, including those related to energy efficiency and reducing climate change impacts. The following are considered key items for WCW to continue to monitor moving forward as it relates to regulations:

- **Water quality:**
  - Compliance with objectives for limiting effluent discharges established by the applicable National Pollutant Discharge Elimination System permits.
  - Compliance with the interim and final effluent total inorganic nitrogen limits from the third SF Bay Nutrients Watershed Permit, Order R2-2024-0013, that went into effect on October 1, 2024.
  - Future California State Water Resources Control Board biostimulatory and biointegrity regulations requiring enhanced nutrient removal at the WQRRP.
  - Allocation of future space or treatment flexibility to accommodate future per- and polyfluoroalkyl substances (PFAS) and microplastics limits.

- **Biosolids:**
  - Allocation treatment flexibility to accommodate future PFAS and microplastics limits.
- **Air quality:**
  - Implement toxic air contaminant emissions control equipment to accommodate future NOx requirements.
- **Other:**
  - Implement mitigation measures to meet Bay Area Air District (formerly Bay Area Air Quality Management District) issued climate change goals.

Climate Change

Current scientific consensus expects a minor increase in total annual rainfall in the WCW service area. This change is currently not statistically significant and is very minor compared to year-to-year variability. The intensity of extreme precipitation events is projected to increase and the total depth of WCW's 5-year, 6-hour design storm is projected to increase by approximately 9 percent by mid-century and approximately 21 percent by end-century on average, but with a wide range of uncertainty.

Sea level has risen in SF Bay over the last 100 years and is expected to continue to rise. At the maximum sea level rise condition, almost the entire WQRRP and a larger portion of the service area, primarily on the western border, would be below sea level. To address these changing conditions, the ongoing Living Levee Project proposes to install more robust shoreline fortifications around the WQRRP and surrounding area. Assuming the levee system and land barriers surrounding the WQRRP are of adequate structural integrity, the improved levee system being constructed will protect the facility through at least 2070, and perhaps through the end of the century. Actual sea levels and the projected range of sea level rise should be evaluated regularly (at least every five years), as climate models are improving and producing more accurate results. Figure ES.5 highlights the range of projections of elevations of a 100-year flood event, top of some existing WQRRP process units, and the proposed levee elevation.

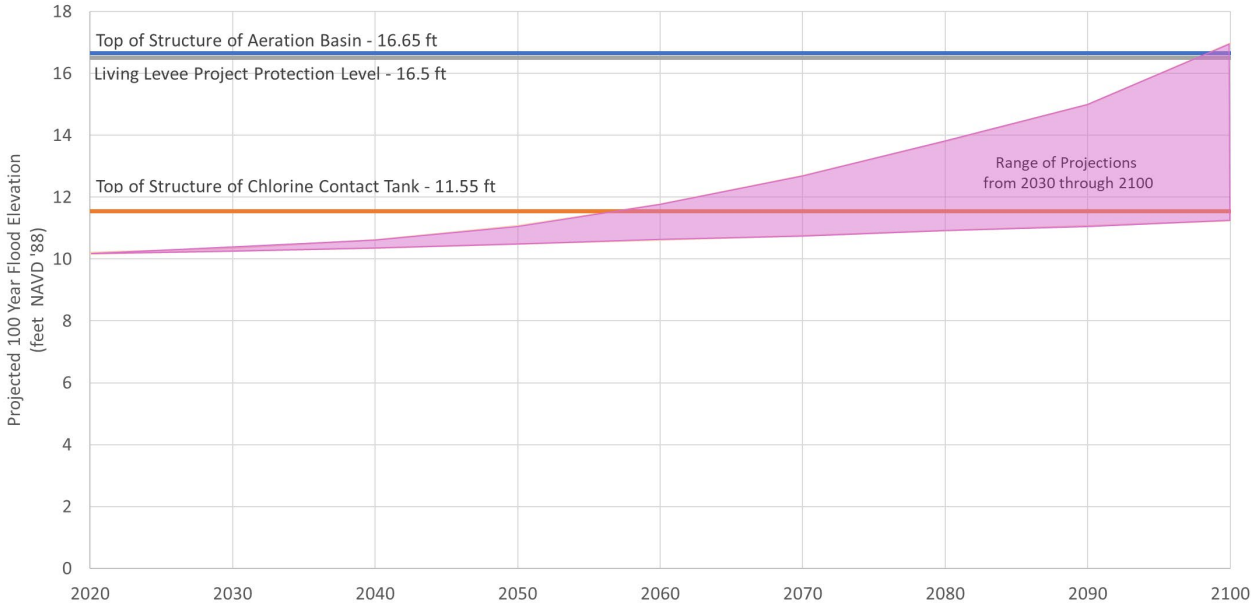

Figure ES.5 Future Projected Elevation Change of a 100-Year Acute Flood Event

WCW facilities' emissions are well below the current thresholds for California greenhouse gas (GHG) emissions reporting or the cap-and-trade program. Agencies that are not subject to the cap can participate in the cap-and-trade program by generating eligible carbon offset credits (COCs). To develop GHG emissions-reducing projects (i.e., COC generation projects), it is recommended that WCW monitor the status of offset protocols used in the voluntary and mandatory markets.

Combined Outfall With Richmond Municipal Sanitary District

The final effluent from the WQRRP is pumped nearly 5 miles and combined with the final effluent from the Richmond Municipal Sanitary District and dechlorinated. From the Richmond Municipal Sanitary District dechlorination facility, the effluent is discharged into the SF Bay through a deep-water outfall shared with the Richmond Municipal Sanitary District. Both facilities are permitted for a combined discharge capacity of 28.5 mgd ADWF. Approximately 18 to 20 percent of the total combined outfall flow comes from the WQRRP. The third SF Bay Nutrients Watershed Permit regulates the flow at the combined outfall. Beyond the SF Bay Nutrients Watershed Permit, the National Pollutant Discharge Elimination System permits also regulate flow.

Richmond Advanced Recycled Expansion Agreement

A sizable portion of the WQRRP's final effluent is conveyed to two East Bay Municipal Utility District (EBMUD) reclamation facilities for reuse, per the Richmond Advanced Recycled Expansion (RARE) Agreement between WCW and EBMUD. The reclamation facilities include the RARE water treatment plant that supplies recycled water to the Chevron Refinery in Richmond and the North Richmond Water Reclamation Plant that supplies recycled water to the Chevron Refinery. EBMUD has rights to use up to 12.5 mgd of the WQRRP's treated effluent. This agreement is assumed to stay in force for the duration of the planning period.

ASSESSMENT OF EXISTING FACILITIES

The project team conducted an assessment of the existing facilities, which included the following major efforts:

- Review of over five years of daily operating data (October 2018 to September 2023) at the WQRRP to assess performance.
- Collection of approximately one month (January 17 to February 27, 2024) of flow data in the collection system to develop and calibrate the hydraulic model. The model was used to predict capacity limitations during the 5-year, 24-hour design storm.
- Develop process models of both the current operations and future operations (including the Clean & Green Project) at the WQRRP to assess performance of the process units and check for near-term and long-term potential capacity issues.
- Visual inspections of the above-grade assets at the lift stations and WQRRP facilities to assess conditions and estimate the remaining useful life.

- Desktop analysis of below-grade assets such as the collection system gravity sewers and force mains.
- A risk-based approach to identify projects and prioritize assets for which rehabilitation or replacement is recommended within the planning period. Higher priority projects were recommended for implementation within the next five years, while the remaining projects were considered long-term improvements and were prioritized between years 6 through 20 of the planning period.

The assessment shows the WCW's CIP will not be strictly growth driven. The collection system predicts that the system will experience hydraulic limitations during the 5-year, 24-hour design storm, that some of the lift stations do not have reliable capacity to pump peak flows, and that some gravity sewers will be surcharged. Addressing each of these issues as recommended will minimize the risk of hydraulic capacity-related SSOs. Capacity improvements are recommended for some pipes and lift stations even after I&I reduction has been achieved. Figure ES.6 illustrates identified proposed sewer improvements to correct existing deficiencies and to provide service to future users within WCW's service area.

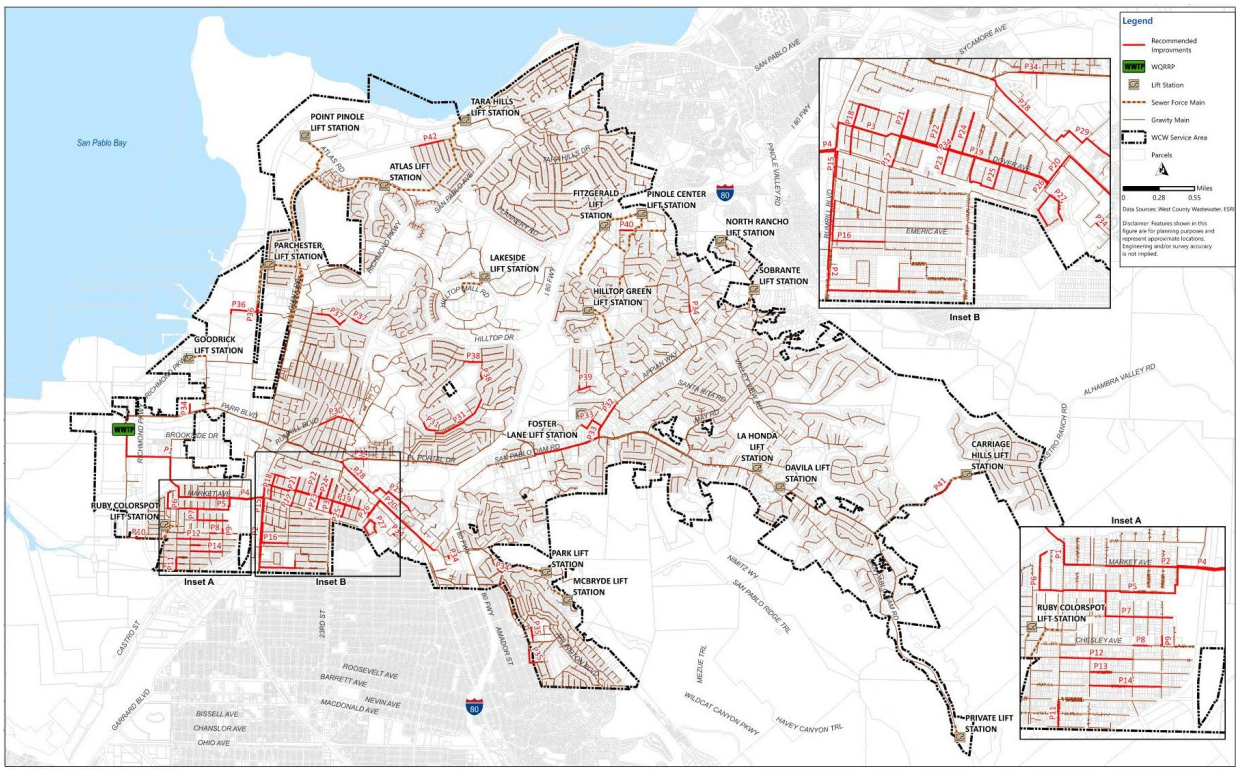

Figure ES.6 New Collection System Hydraulic Model Identified Proposed Sewer Improvements

Given age, many of the WQRRP's assets are recommended for replacement in the 20-year planning period. Although most of the process structures appear to be in reasonable condition, some of the mechanical and electrical equipment is approaching or beyond its design service life, and WCW may need to replace a considerable number of them over the course of the planning period. This includes rehabilitating the electrical distribution system and seismic retrofits of buildings which are recommended for implementation during the planning period. Collection system assets including gravity sewers, force mains, and lift station equipment should also be considered for rehabilitation or replacement during the planning period. The collection system assets generally have a longer expected service life than the WQRRP assets, but some of them will also need to be replaced over the course of the planning period.

FUTURE NEEDS AND PROJECT TRIGGERS

Early on in development of the 2025 Plan, the project team assessed the condition and capacity of the existing facilities and identified future regulations, which identified regulatory-driven requirements and helped establish future needs for WCW. In the next phase of the project, improvements were recommended to address future needs. In addition, the analysis determined if a project was triggered by one or more of the following drivers:

- **Asset Rehabilitation or Replacement:** Risk of failure of a vital facility or asset requires rehabilitation or replacement.
- **Regulatory Requirement:** Future regulations require adjustments and improvements to the WQRRP.
- **Economic Benefit:** Opportunities to save operating costs, including energy.
- **Improved Performance and Capacity Benefit:** Process improvements to increase reliability and reduce risks.
- **Policy Decision:** Improvements based on policy direction.

KEY FEATURES OF THE PLAN

Addresses Aging Infrastructure

A notable amount of infrastructure is approaching or beyond its anticipated service life or is recommended for replacement for various reasons. As a result, the focus of the recommended CIP Plan is on replacing those assets in the first five years. Replacing collection system assets as recommended will increase the overall reliability and capacity of the system and reduce the risk of SSOs. WQRRP facilities will be replaced or rebuilt to provide more efficient and cost-effective treatment by using new technologies and maximizing the use of existing infrastructure where possible. Each assessed asset received a consequence of failure (COF) score representing the relative impact to the facility if an asset were to fail. COF is a value assigned to each asset to represent relative health and safety, environmental, ability to respond, and financial effects of an asset or system failing. Figure ES.7 illustrates the WQRRP's assets' COF score distribution with a lower score indicating lower repercussions if there was a failure of the asset. Of note is that WCW is nearing the completion of the Clean & Green Project (projected for 2025) and has begun on the Secondary Sedimentation Basins Upgrades Project (projected to be completed in phases in 2025 and 2026). These will replace and introduce several new assets at the WQRRP resulting in a notable refresh to the current COF results summary.

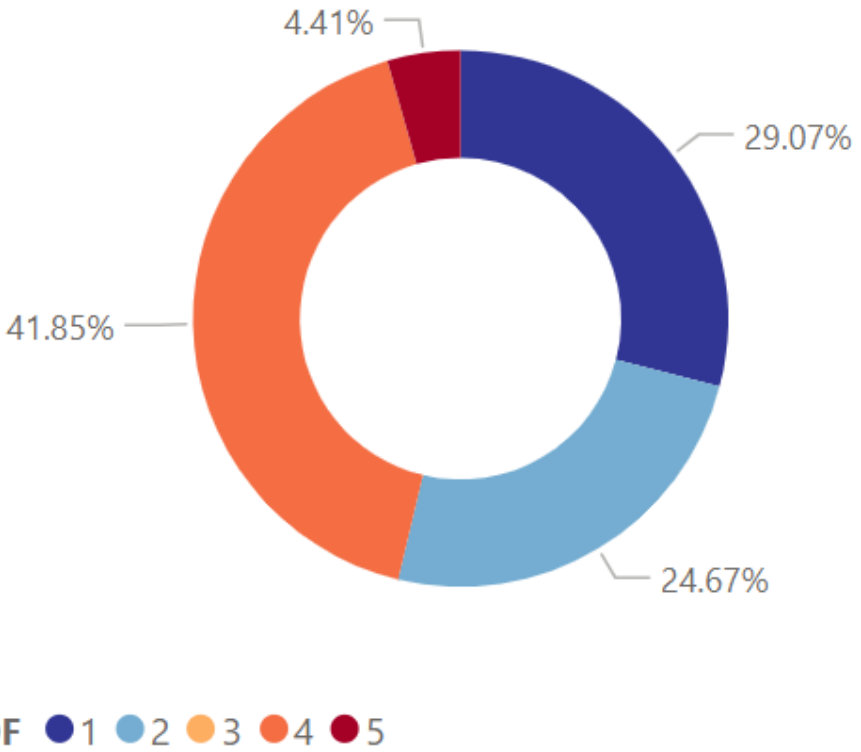

Figure ES.7 WQRRP Consequence of Failure Results Show More Than Half of the Assets Have Very Low to Low Results

Identifies Potential Performance Improvements and Cost Savings

During the WQRRP process modeling effort, an increase in the future influent nitrogen load at the WQRRP influent was identified, driven by the presence of nitrogen in the recycle stream from the new digesters back to the headworks. As the increased nitrogen load would cause an increase in aeration requirements (and by extension, energy and operational costs), it was shared that sidestream treatment may be implemented to reduce the nitrogen content in the recycle stream. It should be noted that there are no regulatory drivers for the implementation of sidestream treatment (i.e., the drivers would be providing economic benefit and improved performance and capacity benefit) and that the recommendation is driven by potential energy and operational cost savings. One sidestream treatment approach would be the use of a deammonification technology, that when compared to conventional nitrification and denitrification, may provide a reduction in air, alkalinity, and supplemental carbon, by approximately 65, 50, and 100 percent, respectively. Figure ES.8 illustrates the potential process flow of a deammonification technology that would have process influent from the dewatering centrifuge (completed as part of the Clean & Green Project).

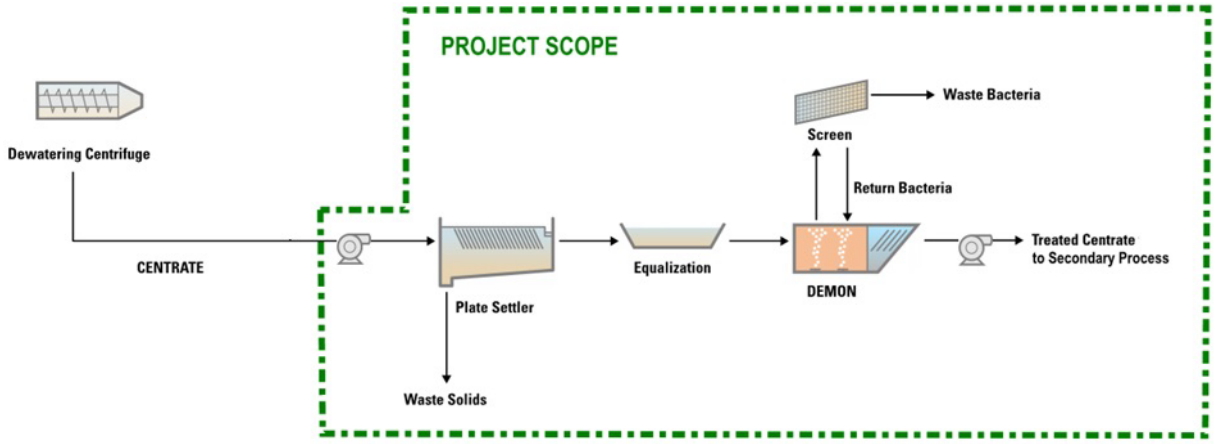

Figure ES.8 Sidestream Deammonification at the WQRRP May Provide Energy and Cost Savings

Looks Toward the Future Facility Needs of West County Wastewater

Throughout the 2025 Plan development process, WCW staff has provided collaborative feedback regarding the existing WCW facility needs at the WQRRP and Hilltop Drive (Figure ES.9) sites. To continue to provide high-quality service to WCW's customers, ratepayers, and stakeholders, enhanced facilities will improve overall performance and efficiency. The facility improvements that will be evaluated over the 2025 Plan's planning horizon include:

- **Overall WCW Needs:**
  - Large meeting space, Environmental Center at WQRRP, WQRRP New Maintenance Building Facility, storage for outreach materials, and safety and security enhancements to evolve the facilities to support WCW meetings/events and provide opportunities for engagement with WCW's customers through outreach and educational activities.
- **WQRRP:**
  - Environmental laboratory expansion and remodeling to provide adequate space and equipment to complete all regulatory-driven sampling and monitoring.
  - WQRRP staff locker room expansion to provide sufficient lockers and amenities for WCW staff.
- **Hilltop Drive Site:**
  - Interior remodeling of WCW – Main Office to optimize and modernize the space for WCW staff and customer needs.
  - CSO Maintenance Building remodeling and staff locker room expansion to provide enhanced working spaces, productive shared areas, and adequate space and amenities for WCW staff.

Figure ES.9 The WCW Hilltop Drive Facilities Include the Main Office and CSO Maintenance Building/Garage

2025 CAPITAL IMPROVEMENT PROJECT PLANS

Recommended CIP Plans and schedules with cash flow requirements for the next 20 FYs, with emphasis on the first 10 years, were developed in order to assist WCW in developing future budgets and making financial decisions and can be found in Volumes 2, 3, and 4 of this 2025 Plan. The recommended CIP Plans were developed using available information and engineering analyses performed for the 2025 Plan. The 2025 Plan did not investigate financing strategies or rate impacts. As WCW moves forward with implementing the CIP Plans over the next 20 years, updates or modifications are expected in response to new information as well as financing constraints.

The original costs and timing, as presented in the 2025 Plan - Collection System, 2025 Plan - WQRRP, and 2025 Plan - WCW Facilities, best reflect the outcome of the technical analyses and provide greater detail. Figure ES.10 presents a summary of the prospective timing of project implementation over the 20-year period.

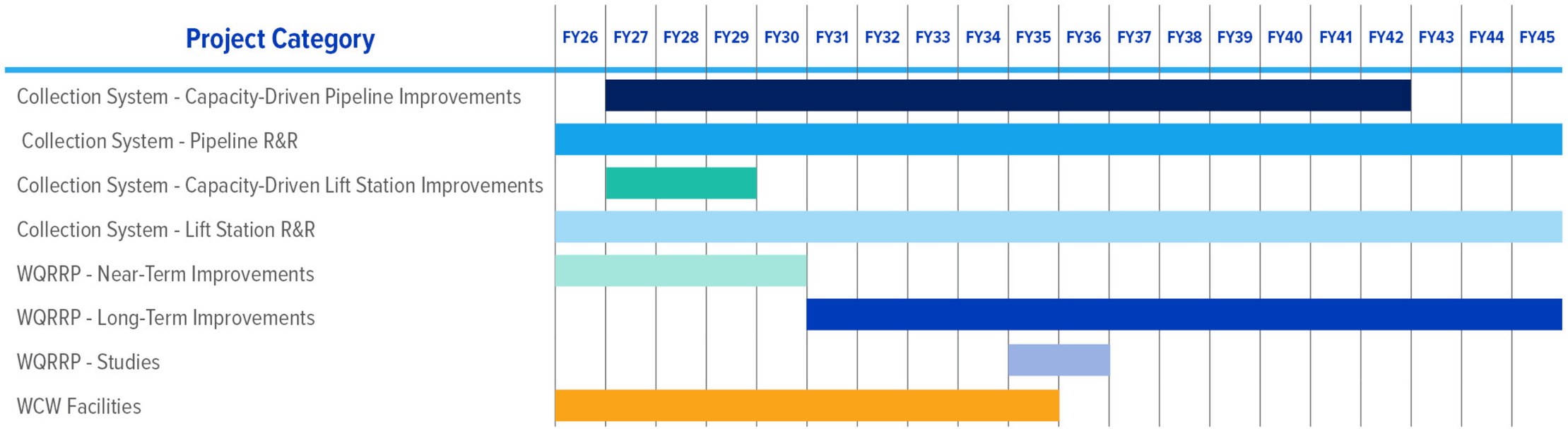

Figure ES.10 Annual Combined CIP Cashflow for Fiscal Years 2026 to 2035

The estimates documented in this Executive Summary cover the first 10 years of the 20-year planning period, since those estimates have inherently greater clarity than the estimates for the subsequent 10 years. The details of individual CIP in each of the CIP Plans can be found in Chapter 8, Chapter 8, and Chapter 5 of the 2025 Plan - Collection System, 2025 Plan - WQRRP, and 2025 Plan - WCW Facilities, respectively.

The information presented is representative of the most accurate information available at the time of the development of the project, remains consistent with WCW's goals and objectives, and reflects WCW's efforts to be cost efficient to the benefit of WCW's ratepayers and stakeholders. It should be noted that the CIP Plan is inclusive of projects that WCW identified in their current CIP Plan (10-Year Capital Improvement Project Plan prepared by the Infrastructure and Planning Department, June 4, 2025) as of the preparation of this Executive Summary. Additionally, the cost estimates and cashflows presented below account for the impact of inflation and based on discussions with, and direction from, WCW. To align with WCW's current CIP Plan, an escalation in cost was applied, with 20 percent for the next FY and 5 percent annually thereafter.

Figure ES.11 presents the total 10-year cashflow requirement for each of the CIP Plan project categories, for FYs 2026 through 2035. Figure ES.12 presents the annual cashflows for the three CIP Plans combined over the same period.

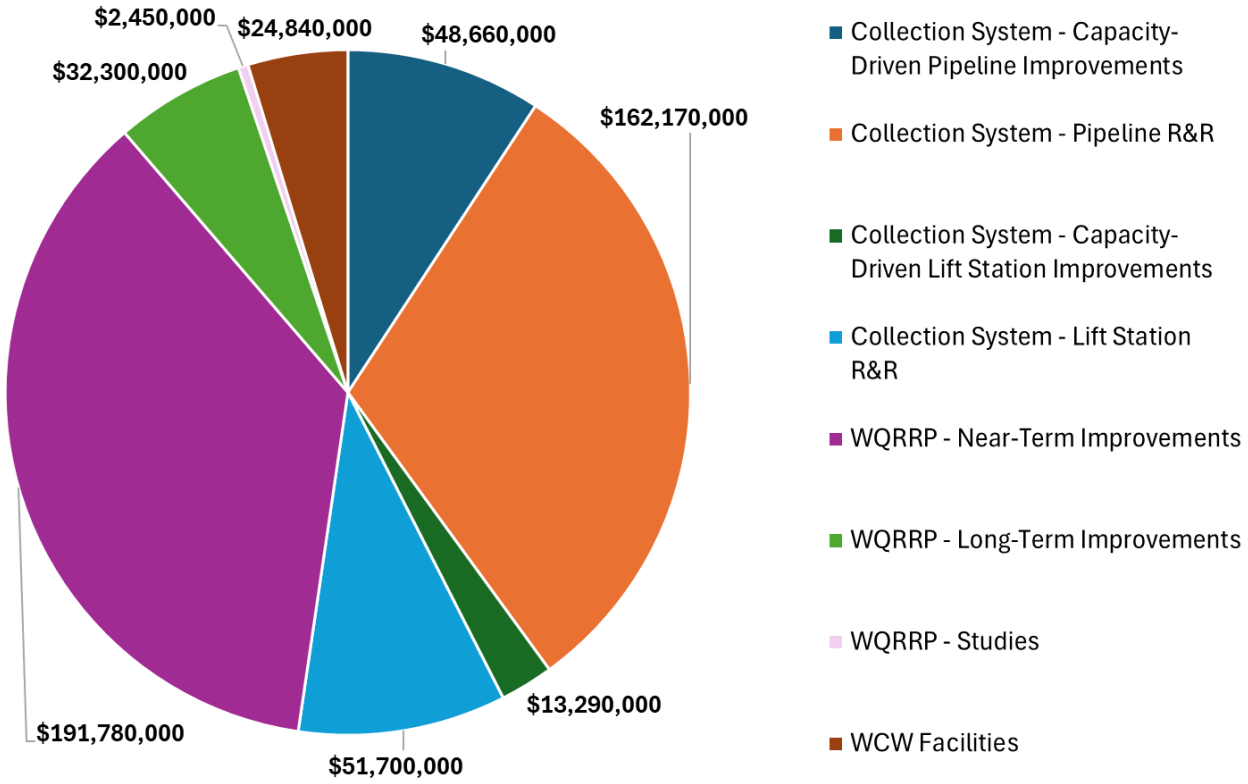

Figure ES.11 Annual Combined CIP Cashflow for Fiscal Years 2026 to 2035

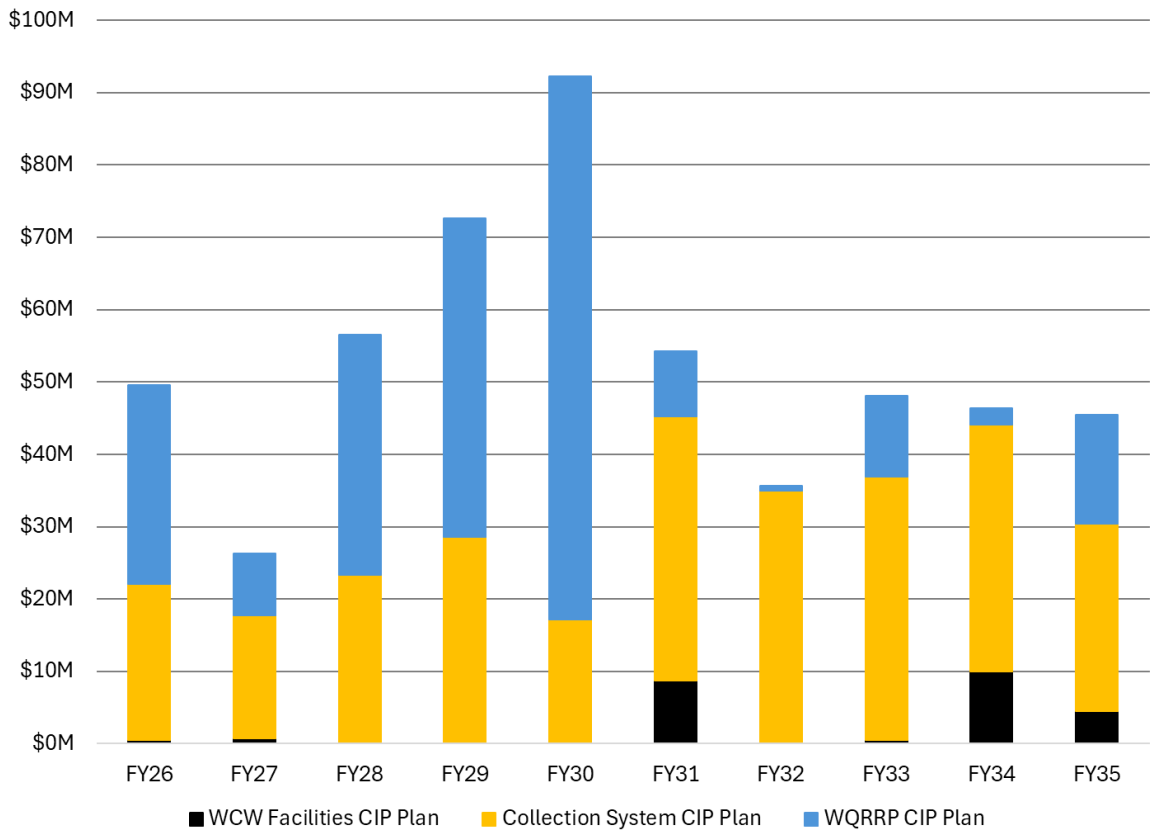

Figure ES.12 Annual Combined CIP Cashflow for Fiscal Years 2026 to 2035

Tables ES.4 through ES.7 summarize the projected annual spending on each project for the 10-Year CIP Plan through FY 2035, as well as the total projected 10-year spending for each project category and each CIP Plan. This 2025 Plan did not include, or factor in, efforts associated with the California Environmental Quality Act, Environmental Impact Report, or rate study. It is anticipated those efforts and addressing potential implications to the CIP Plan presented in this 2025 Plan, if required, will be conducted by WCW.

Table ES.4 2025 Ten-Year CIP Plan Projected Spending (Fiscal Years 2026 to 2035) – Collection System

Project Number	Project Name	Cost[1][2][3]										
		Total Project Cost[3]	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
Capacity-Driven Pipeline Improvements												
1	Interceptor Market Avenue to Plant	$1,500,000	--	$1,500,000	--	--	--	--	--	--	--	--
2	Crossing	$680,000	--	$680,000	--	--	--	--	--	--	--	--
3	Market Avenue from Rumrill Boulevard to 7th Street	$2,740,000	--	$2,740,000	--	--	--	--	--	--	--	--
4	Alfreda Boulevard	$450,000	--	$450,000	--	--	--	--	--	--	--	--
5	Ravine Way	$510,000	--	$510,000	--	--	--	--	--	--	--	--
6	Market Street to Rumrill Boulevard	$7,020,000	--	--	$7,020,000	--	--	--	--	--	--	--
7	Dover Avenue to Tyler Street to Church Lane	$4,290,000	--	--	--	$4,290,000	--	--	--	--	--	--
8	Church Lane from Villa Drive to Dover Avenue	$160,000	--	--	--	$160,000	--	--	--	--	--	--
9	San Pablo Dam Road to Powell Street	$8,020,000	--	--	--	--	$8,020,000	--	--	--	--	--
10	Silver Avenue from 7th Street to 1st Street	$5,670,000	--	--	--	--	--	$5,670,000	--	--	--	--
11	N Jade Street from Warren Drive to Silver Avenue	$1,320,000	--	--	--	--	--	$1,320,000	--	--	--	--
12	Gertrude Avenue Interceptor	$940,000	--	--	--	--	--	--	$940,000	--	--	--
13	Rumrill Boulevard from Sutter Avenue to Market Avenue	$740,000	--	--	--	--	--	--	$740,000	--	--	--
14	San Pablo Dam Road from Fariss Lane to El Portal Drive	$5,560,000	--	--	--	--	--	--	$5,560,000	--	--	--
15	Garden Road from Garden Lane to Appian Way	$1,320,000	--	--	--	--	--	--	$1,320,000	--	--	--
16	Multiple Streets	$1,610,000	--	--	--	--	--	--	--	--	--	$1,610,000
17	Sierra Avenue and Loring Avenue	$1,370,000	--	--	--	--	--	--	--	--	--	$1,370,000
18	Downstream of Parchester Force Main	$2,760,000	--	--	--	--	--	--	--	--	--	$2,760,000
19	Espanola Drive and Miner Avenue	$2,000,000	--	--	--	--	--	--	--	--	--	$2,000,000
20	El Portal Drive from San Pablo Avenue to Merritt Avenue	Project spending projected to occur between FY 2036 and FY 2045. For additional details, please refer to Chapter 8 of Volume 2 (2025 Plan - Collection System).										
21	Moyers Road from Jo Ann Drive to Loyola Avenue											
22	Wiswall Drive and Alta Mira Drive											
23	El Centro Road and Lambert Road											
24	Downstream of Carriage Hills Forcemain											
25	Lettia Road from Montalvin Drive to Jennifer Drive											
26	Chelsey Avenue											
27	Cherry Street											
28	York Street from Castro Street to Sanford Avenue											
29	San Pablo Avenue from Church Lane to Road 20											
30	Willow Road from Cherrywood Court to Church Lane											
31	Rumrill Boulevard to Market Avenue											
32	Gertrude Avenue from Hensley Street to York Street											
33	Alamo Avenue											
34	Duboce Avenue from Cherry Street to Fred Jackson Way											

Project Number	Project Name	Cost[1][2][3]										
		Total Project Cost[3]	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
35	Grove Avenue from 7th Street to Truman Street	Project spending projected to occur between FY 2036 and FY 2045. For additional details, please refer to Chapter 8 of Volume 2 (2025 Plan - Collection System).										
36	Easement from 17th Street; Rumrill Boulevard to Bush Avenue											
37	Tyler Street from Market Avenue; Market Avenue to 17th Street											
38	Folsom Avenue from 16th Street to 14th Street											
39	Tyler Street to Dover Avenue											
40	20th Street to Dover Avenue											
41	21st Street to Market Street											
42	22nd Street to Dover Avenue											
43	Mason Street from Market Street to Dover Avenue											
44	Villa Drive											
45	Easement Mitchell Way between Industrial, Commercial and Institutional, and Residential											
Subtotal - Capacity-Driven Pipeline Improvements		*$48,660,000*	--	*$5,880,000*	*$7,020,000*	*$4,450,000*	*$8,020,000*	*$6,990,000*	*$8,560,000*	--	--	*$7,740,000*
Pipeline Repair and Replacement												
1	Foster Lane Sewer Realignment[4]	$1,980,000	$200,000	--	$1,780,000	--	--	--	--	--	--	--
2	La Honda Force Main Replacement[4]	$500,000	$500,000	--	--	--	--	--	--	--	--	--
3	Force Main Condition Assessment and Replacement[4]	$7,690,000	$1,190,000	$2,500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000
4	Fitzgerald Force Main Replacement[4]	$4,010,000	--	$250,000	$3,760,000	--	--	--	--	--	--	--
5	Pinole Center Force Main Replacement[4]	$1,920,000	--	$130,000	$1,790,000	--	--	--	--	--	--	--
6	Hilltop Green Force Main - La Paloma[4]	$4,480,000	--		$130,000	--	--	$4,350,000	--	--	--	--
7	Road 20 and Standard Sewer Replacement[4]	$2,330,000	--	--	--	--	$2,330,000		--	--	--	--
8	Giant Road[4]	$840,000	--	--	--	--	$840,000		--	--	--	--
9	Ravine Way Sewer Replacement[4]	$1,870,000	--	--	--	--		$370,000	$1,500,000	--	--	--
10	Central San Pablo[4]	$11,400,000	--	--	--	--		$1,740,000	$4,860,000	--	$4,800,000	--
11	North Richmond North of Chesley Sewer Replacement[4]	$2,050,000	--	--	--	--	$400,000	$1,650,000	--	--	--	--
12	East Richmond Heights Sewer Replacement[4]	$2,520,000	--	--	--	--	--	$490,000	$2,030,000	--	--	--
13	San Pablo South of Sanford Sewer Replacement[4]	$6,770,000	--	--	--	--	--	$1,290,000	--	$5,480,000	--	--
14	Hilltop Green Pipe Sewer Replacement[4]	$2,090,000	--	--	--	--	--	$410,000	$1,680,000			
15	Hilltop North Reservoir Sewer Replacement[4]	$1,350,000	--	--	--	--	--	$260,000		$1,090,000		
16	Southeast Richmond Heights[4]	$600,000	--	--	--	--	--	$120,000	$480,000			
17	San Pablo South of Broadway Sewer Replacement[4]	$10,290,000	--	--	--	--	--	$440,000		$5,740,000	$4,110,000	
18	Miscellaneous Gravity Main Improvements	$80,810,000	$17,080,000	$50,000	$1,780,000	$2,060,000	$770,000	$6,770,000	$10,550,000	$12,310,000	$23,760,000	$5,680,000
19	Miscellaneous Force Main Improvements	$18,670,000	$1,690,000	$2,880,000	$6,180,000	$500,000	$500,000	$4,850,000	$500,000	$500,000	$570,000	$500,000
Subtotal - Pipeline Repair and Replacement		*$162,170,000*	*$20,660,000*	*$5,810,000*	*$15,920,000*	*$3,060,000*	*$5,340,000*	*$23,240,000*	*$22,100,000*	*$25,620,000*	*$33,740,000*	*$6,680,000*

Project Number	Project Name	Cost[1][2][3]										
		Total Project Cost[3]	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
Capacity-Driven Lift Station Improvements												
1	Bella Flora	$3,680,000	--	$3,680,000	--	--	--	--	--	--	--	--
2	Tara Hills	$9,610,000	--	--	--	$9,610,000	--	--	--	--	--	--
Subtotal - Capacity-Driven Lift Station Improvements		*$13,290,000*	--	*$3,680,000*	--	*$9,610,000*	--	--	--	--	--	--
Lift Station Repair and Replacement												
1	Lift Station Control System Integration (Lakeside, McBride, Park, Sobrante)	$990,000	$990,000	--	--	--	--	--	--	--	--	--
2	Lift Station Control System Upgrades	$1,580,000	--	$1,580,000	--	--	--	--	--	--	--	--
3	Parchester Lift Station Replacements and Upgrades	$800,000	--	--	$390,000	$410,000	--	--	--	--	--	--
4	D'Avila Lift Station Upgrades[4]	$3,030,000	--	--	--	$1,350,000	$1,680,000	--	--	--	--	--
5	Lift Station Security Upgrades	$230,000	--	--	--	$230,000	--	--	--	--	--	--
6	Fitzgerald Lift Station Pump Replacements	$1,260,000	--	--	--	--	$1,260,000	--	--	--	--	--
7	Lift Station Generator Plug Installation	$30,000	--	--	--	--	$30,000	--	--	--	--	--
8	Hilltop Green Lift Station Replacements and Upgrades	$2,640,000	--	--	--	--	$840,000	$880,000	$920,000	--	--	--
9	Lift Station SCADA Communication Upgrade[4]	$1,450,000	--	--	--	--	--	$1,450,000	--	--	--	--
10	Pinole Center Lift Station Generator Replacement	$2,260,000	--	--	--	--	--	$2,260,000	--	--	--	--
11	Point Pinole Lift Station Generator Replacement	$1,750,000	--	--	--	--	--	$1,750,000	--	--	--	--
12	Tara Hills Lift Station Upgrades[4]	$9,500,000	--	--	--	$9,500,000	--	--	--	--	--	--
13	Lakeside Lift Station VFD Replacements	$1,300,000	--	--	--	--	--	--	$1,300,000	--	--	--
14	Point Pinole Lift Station Pump Replacements	$2,140,000	--	--	--	--	--	--	$2,140,000	--	--	--
15	La Honda Lift Station Upgrades[4]	$3,620,000	--	--	--	--	--	--	--	$3,620,000	--	--
16	Carriage Hills Lift Station Upgrades[4]	$3,550,000	--	--	--	--	--	--	--	$3,550,000	--	--
17	Atlas Lift Station Electrical and Mechanical Replacements	$2,670,000	--	--	--	--	--	--	--	$2,670,000	--	--
18	North Rancho Lift Station Pump Replacements	$570,000	--	--	--	--	--	--	--	$570,000	--	--
19	Pinole Center Lift Station Pump Replacements	$1,170,000	--	--	--	--	--	--	--	$370,000	$390,000	$410,000
20	Parchester Lift Station Transfer Switch Replacement	$250,000	--	--	--	--	--	--	--	--	--	$250,000
21	Sobrante Lift Station Generator Replacements	$10,660,000	--	--	--	--	--	--	--	--	--	$10,660,000
22	Point Pinole Lift Station Transfer Switch Replacement	$250,000	--	--	--	--	--	--	--	--	--	$250,000
23	Fitzgerald Lift Station Wet Well Rehabilitation	Project spending projected to occur between FY 2036 and FY 2045. For additional details, please refer to Chapter 8 of Volume 2 (2025 Plan - Collection System).										
24	Hilltop Green Lift Station Valve Replacements											
25	Hilltop Green Lift Station Odor Replacement											
26	Pinole Center Lift Station Wet Well Rehabilitation											
27	Lakeside Lift Station Pump Replacements											
28	Parchester Lift Station Pump Replacement											
29	Sobrante Lift Station Pump Replacements											

Project Number	Project Name	Cost[1][2][3]										
		Total Project Cost[3]	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
30	McBryde Lift Station Replacements	Project spending projected to occur between FY 2036 and FY 2045. For additional details, please refer to Chapter 8 of Volume 2 (2025 Plan - Collection System).										
31	Park Lift Station Replacements											
32	Lakeside Lift Station Electrical Replacements											
33	Pinole Center Lift Station Vault Rehabilitation											
34	Lakeside Lift Station Wet Well Rehabilitation											
35	Parchester Lift Station Wet Well Rehabilitation											
36	North Rancho Lift Station Wet Well Rehabilitation											
Subtotal - Lift Station Repair and Replacement		*$51,700,000*	*$990,000*	*$1,580,000*	*$390,000*	*$11,490,000*	*$3,810,000*	*$6,340,000*	*$4,360,000*	*$10,780,000*	*$390,000*	*$11,570,000*
SUBTOTAL - COLLECTION SYSTEM		**$275,820,000**	**$21,650,000**	**$16,950,000**	**$23,330,000**	**$28,610,000**	**$17,170,000**	**$36,570,000**	**$35,020,000**	**$36,400,000**	**$34,130,000**	**$25,990,000**

Notes:
(1) The planning-level cost estimate herein is based on Carollo Engineers' understanding of current conditions at the project location. Based on this understanding, this estimate reflects our professional opinion of planning-level costs and is subject to change as additional information becomes available as the project planning and design proceeds. The cost estimate herein has been prepared without detailed engineering information. Since Carollo Engineers has no control over marketplace changes in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies, Carollo Engineers cannot and does not warrant or guarantee that proposals, bids or actual construction costs will not vary significantly from the costs presented herein.
(2) Costs are provided based on an Engineering News Record Construction Cost Index number of 15,405 corresponding to the San Francisco Index in February 2025. Costs are escalated to future years.
(3) Capital improvement costs include contingencies applied to the estimated construction cost to account for engineering services, construction management, and project administration. A 20 percent escalation factor was applied for FY 2026, and an escalation factor of 5 percent annually was used for the subsequent years, to align cost estimates with those in WCW's 10-Year CIP Plan (FYs 2026 to 2035).
(4) Project from WCW's 10-Year CIP Plan (prepared by the Infrastructure and Planning Department, FYs 2026 to 2035, June 4, 2025) and incorporated without modification. Future project funding request costs represent the amount of funds needed to complete the project within the 2026 to 2035 FYs.
(5) This project summarizes the results of a desktop analysis that determined relevant assets that are projected to require rehabilitation and replacement during a specific fiscal year. It is anticipated that this can be further broken down into smaller projects at WCW's discretion.

Table ES.5 2025 Ten-Year CIP Plan Projected Spending (Fiscal Years 2026 to 2035) – WQRRP

Project Number	Project Name	Cost[1][2][3]										
		Total Project Cost[3]	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
Near-Term R&R Improvements												
1	Clean and Green Project[4]	$22,590,000	$22,590,000	--	--	--	--	--	--	--	--	--
2	Sea Level Rise Protection[4]	$2,250,000	$2,250,000	--	--	--	--	--	--	--	--	--
3	Chlorine Contact Basins WaterChamp Control Panel Replacements	$190,000	$190,000	--	--	--	--	--	--	--	--	--
4	Secondary Sedimentation Basins Upgrades[4]	$11,850,000	$2,400,000	--	--	$9,450,000	--	--	--	--	--	--
5	Stormwater Diversion Project[4]	$320,000	--	$320,000	--	--	--	--	--	--	--	--
6	Eyewash Upgrades	$80,000	--	$80,000	--	--	--	--	--	--	--	--
7	Headworks Replacements and Upgrades	$35,220,000	--	$8,170,000	$8,580,000	$9,010,000	$9,460,000	--	--	--	--	--
8	Storm Water Pumps and Piping	$710,000	--	--	$710,000	--	--	--	--	--	--	--
9	2W Upgrades	$1,730,000	--	--	$1,730,000	--	--	--	--	--	--	--
10	Effluent Electrical System Upgrades[4]	$8,240,000	--	--	$1,300,000	--	$6,940,000	--	--	--	--	--
11	Equalization Replacements and Upgrades	$41,040,000	--	--	$13,020,000	$13,670,000	$14,350,000	--	--	--	--	--
12	Chemical and Dewatering Building Replacements and Upgrades	$2,610,000	--	--	$830,000	$870,000	$910,000	--	--	--	--	--
13	Aeration Basins Blower Replacements (2,3) and Electrical Upgrades[5]	$22,070,000	--	--	$7,000,000	$7,350,000	$7,720,000	--	--	--	--	--
14	Solar Replacement	$470,000	--	--	--	$470,000	--	--	--	--	--	--
15	RAS Replacements and Upgrades[5]	$10,010,000	--	--	--	$3,180,000	$3,330,000	$3,500,000	--	--	--	--
16	Site Security and Lighting Upgrades	$510,000	--	--	--	--	$510,000	--	--	--	--	--
17	3W Pump Replacements	$4,500,000	--	--	--	--	$4,500,000	--	--	--	--	--
18	Clarifier Mechanical Upgrades	$27,390,000	--	--	--	--	$27,390,000	--	--	--	--	--
Subtotal - Near-Term R&R Improvements		*$191,780,000*	*$27,430,000*	*$8,570,000*	*$33,170,000*	*$44,000,000*	*$75,110,000*	*$3,500,000*	--	--	--	--
Long-Term R&R Improvements												
1	Conduit Trench Upgrades	$220,000	--	--	--	--	--	$220,000	--	--	--	--
2	WAS Pump Upgrades	$3,770,000	--	--	--	--	--	$3,770,000	--	--	--	--
3	Sodium Hydroxide Tank Replacement	$1,130,000	--	--	--	--	--	$1,130,000	--	--	--	--
4	12 kV Building Electrical Replacements	$2,210,000	--	--	--	--	--	$400,000	$420,000	$440,000	$460,000	$490,000
5	480 Building Transformer Replacement	$220,000	--	--	--	--	--	--	$220,000	--	--	--
6	Chlorine Contact Basins Drain Pump Replacements	$530,000	--	--	--	--	--	--	--	$530,000	--	--
7	Effluent Pump Station Pump Replacements	$9,630,000	--	--	--	--	--	--	--	$9,630,000	--	--
8	Wooten Building Panel Replacements	$290,000	--	--	--	--	--	--	--	$290,000	--	--
9	Sidestream Monitoring Station Near Headworks[4]	$850,000	--	--	--	--	--	--	--	$390,000	--	$460,000
10	Raw Sludge VFD Replacements	$720,000	--	--	--	--	--	--	--	--	$720,000	--
11	480 Building Electrical Replacements	$2,270,000	--	--	--	--	--	--	--	--	$1,110,000	$1,160,000
12	Odor Control – Phase 1[4]	$8,460,000	--	--	--	--	--	--	--	--	--	$8,460,000

Project Number	Project Name	Cost[1][2][3]										
		Total Project Cost[3]	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
13	Plant Standby Generator Replacement	$2,000,000	--	--	--	--	--	--	--	--	--	$2,000,000
14	Effluent Wet Well Rehabilitation											
15	Clarifier Control Box Replacements											
16	Wooten Building Transformer Replacements											
17	Chemical and Dewatering Building Hypochlorite Pump Replacements											
18	Aeration Basins Blower Replacements I (1,4)											
19	Sidestream Treatment Installation											
20	Chemical and Dewatering Building MCC-G Replacement											
21	Headworks Valve Replacement											
22	WAS Valve Replacement											
23	Equalization Building MCC-I Replacement											
24	Aeration Basins Mixed Liquor Recirculation Pump Replacements											
25	Headworks MCC-A Replacement											
26	Raw Sludge MCC-B and RIO-B Replacements											
27	12 kV Building Transformer Replacement											
28	Equalization Basins Structural Rehabilitation											
29	Headworks Raw Sewage Pump (3,4) Replacements											
30	Effluent Pump Station Building Rehabilitation											
31	Raw Sludge Building Rehabilitation											
32	Clarifiers Rehabilitation											
33	Headworks Building Structural Rehabilitation											
34	Aeration Basins Structural Rehabilitation											
35	Equalization Basin Building Structural Rehabilitation											
36	Paint Building Rehabilitation											
37	Maintenance Building Rehabilitation											
38	RAS Building Rehabilitation											
39	Aeration Basins Blower Building Rehabilitation											
40	Waste Oil Tank Replacement											
41	Aeration Basins Blower Replacements II (1,4)											
42	Effluent Pump Station Motor Replacements											
		Project spending projected to occur between FY 2036 and FY 2045. For additional details, please refer to Chapter 8 of Volume 3 (2025 Plan - WQRRP).										
Subtotal - Long-Term R&R Improvements		*$32,300,000*	*--*	*--*	*--*	*--*	*--*	*$5,520,000*	*$640,000*	*$11,280,000*	*$2,290,000*	*$12,570,000*

Project Number	Project Name	Cost[1][2][3]										
		Total Project Cost[3]	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
Studies												
1	2035 Ten-Year Infrastructure Improvement and Management Plan - Update	$2,450,000	--	--	--	--	--	--	--	--	--	$2,450,000
2	Sidestream Treatment Feasibility Study	Project spending projected to occur between FY 2036 and FY 2045. For additional details, please refer to Chapter 8 of Volume 3 (2025 Plan - WQRRP).										
Subtotal - Studies		*$2,450,000*	--	--	--	--	--	--	--	--	--	*$2,450,000*
SUBTOTAL - WQRRP		**$226,530,000**	**$27,430,000**	**$8,570,000**	**$33,170,000**	**$44,000,000**	**$75,110,000**	**$9,020,000**	**$640,000**	**$11,280,000**	**$2,290,000**	**$15,020,000**

Notes:
(1) The planning-level cost estimate herein is based on Carollo Engineers' understanding of current conditions at the project location. Based on this understanding, this estimate reflects our professional opinion of planning-level costs and is subject to change as additional information becomes available as the project planning and design proceeds. The cost estimate herein has been prepared without detailed engineering information. Since Carollo Engineers has no control over marketplace changes in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies, Carollo Engineers cannot and does not warrant or guarantee that proposals, bids or actual construction costs will not vary significantly from the costs presented herein.
(2) Costs are provided based on an Engineering News Record Construction Cost Index number of 15,405 corresponding to the San Francisco Index in February 2025. Costs are escalated to future years.
(3) Capital improvement costs include contingencies applied to the estimated construction cost to account for engineering services, construction management, and project administration. A 20 percent escalation factor was applied for FY 2026, and an escalation factor of 5 percent annually was used for the subsequent years, to align cost estimates with those in WCW's 10-Year CIP Plan (FYs 2026 to 2035).
(4) Project from WCW's 10-Year CIP Plan (prepared by the Infrastructure and Planning Department, FYs 2026 to 2035, June 4, 2025) and incorporated without modification. Future project funding request costs represent the amount of funds needed to complete the project within the 2026 to 2035 FYs.
(5) Recommended project that fully overlaps with project from WCW's 10-Year CIP Plan.

Table ES.6 2025 Ten-Year CIP Plan Projected Spending (Fiscal Years 2026 to 2035) – WCW Facilities

Project Number	Project Name	Cost[1][2][3]										
		Total Project Cost[3]	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
1	Hilltop and WQRRP Facilities Assessment and Upgrade Project[4]	$460,000	$460,000	--	--	--	--	--	--	--	--	--
2	Space Needs and Code Assessment	$500,000	--	$500,000	--	--	--	--	--	--	--	--
3	Zero Emissions Vehicle Charging Stations Installation[4]	$250,000	--	$250,000	--	--	--	--	--	--	--	--
4	CSO Facilities Project[4]	$8,700,000	--	--	--	--	--	$8,700,000	--	--	--	--
5	Environmental Center at WQRRP[4]	$2,450,000	--	--	--	--	--	--	--	$470,000	--	$1,980,000
6	WQRRP New Maintenance Building Facility[4]	$10,000,000	--	--	--	--	--	--	--	--	$10,000,000	--
7	Training Facility[4]	$2,480,000	--	--	--	--	--	--	--	--	--	$2,480,000
SUBTOTAL - WCW FACILITIES		**$24,840,000**	**$460,000**	**$750,000**	**--**	**--**	**--**	**$8,700,000**	**--**	**$470,000**	**$10,000,000**	**$4,460,000**

Notes:
(1) The planning-level cost estimate herein is based on Carollo Engineers' understanding of current conditions at the project location. Based on this understanding, this estimate reflects our professional opinion of planning-level costs and is subject to change as additional information becomes available as the project planning and design proceeds. The cost estimate herein has been prepared without detailed engineering information. Since Carollo Engineers has no control over marketplace changes in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies, Carollo Engineers cannot and does not warrant or guarantee that proposals, bids or actual construction costs will not vary significantly from the costs presented herein.
(2) Costs are provided based on an Engineering News Record Construction Cost Index number of 15,405 corresponding to the San Francisco Index in February 2025. Costs are escalated to future years.
(3) Capital improvement costs include contingencies applied to the estimated construction cost to account for engineering services, construction management, and project administration. A 20 percent escalation factor was applied for FY 2026, and an escalation factor of 5 percent annually was used for the subsequent years, to align cost estimates with those in WCW's 10-Year CIP Plan (FYs 2026 to 2035).
(4) Project from WCW's 10-Year CIP Plan (prepared by the Infrastructure and Planning Department, FYs 2026 to 2035, June 4, 2025) and incorporated without modification. Future project funding request costs represent the amount of funds needed to complete the project within the 2026 to 2035 FYs.

Table ES.7 Ten-Year Capital Improvement Projects Plan – Summary

Section	Number of Projects[5]	Cost[1][2][3][4]										
		Ten-Year Spending	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
WCW Facilities	7	$24,840,000	$460,000	$750,000	--	--	--	$8,700,000	--	$470,000	$10,000,000	$4,460,000
Collection System	62	$275,820,000	$21,650,000	$16,950,000	$23,330,000	$28,610,000	$17,170,000	$36,570,000	$35,020,000	$36,400,000	$34,130,000	$25,990,000
WQRRP	32	$226,530,000	$27,430,000	$8,570,000	$33,170,000	$44,000,000	$75,110,000	$9,020,000	$640,000	$11,280,000	$2,290,000	$15,020,000
TOTAL	**101**	**$527,190,000**	**$49,540,000**	**$26,270,000**	**$56,500,000**	**$72,610,000**	**$92,280,000**	**$54,290,000**	**$35,660,000**	**$48,150,000**	**$46,420,000**	**$45,470,000**

Notes:
(1) The planning-level cost estimate herein is based on Carollo's understanding of current conditions at the project location. Based on this understanding, this estimate reflects our professional opinion of planning-level costs and is subject to change as additional information becomes available as the project planning and design proceeds. The cost estimate herein has been prepared without detailed engineering information. Since Carollo Engineers has no control over marketplace changes in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies, Carollo Engineers cannot and does not warrant or guarantee that proposals, bids or actual construction costs will not vary significantly from the costs presented herein.
(2) Costs are provided based on an Engineering News Record Construction Cost Index number of 15,405 corresponding to the San Francisco Index in February 2025. Costs are escalated to future years.
(3) Project from WCW's 10-Year CIP Plan (prepared by the Infrastructure and Planning Department, FYs 2026 to 2035, June 4, 2025) and incorporated without modification. Future project funding request costs represent the amount of funds needed to complete the project within the 2026 to 2035 FYs.
(4) Capital improvement costs include contingencies applied to the estimated construction cost to account for engineering services, construction management, and project administration. A 20 percent escalation factor was applied for FY 2026, and an escalation factor of 5 percent annually was used for the subsequent years, to align cost estimates with those in WCW's 10-Year CIP Plan (FYs 2026 to 2035).
(5) Additional projects are projected to occur beyond FY 2035 (i.e., between FY 2036 and FY 2045). For additional details, please refer to Chapter 8 of Volume 2 (2025 Plan - Collection System), Chapter 8 of Volume 3 (2025 Plan - WQRRP), and Chapter 5 of Volume 4 (2025 Plan - WCW Facilities).