

CAPITAL IMPROVEMENT PROGRAM

2024 UPDATE

FY23-24 to FY33-34



SVCW

Silicon Valley Clean Water

One Drop at a Time

February 2024

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2024 UPDATE



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ACKNOWLEDGEMENTS

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The Capital Improvement Program (CIP)

Silicon Valley Clean Water (SVCW) has prepared this CIP 2024 Update as an ongoing update to the Program. The CIP was first developed in 2008, and has been updated every 1-2 years since that time, with the most recent update in January 2022 (2022 Update). The 2024 Update provides continued and current information on projects that allow for adequate planning and funding of the capital facilities. Public agencies develop and maintain a Capital Improvement Program (CIP) to ensure those capital facilities necessary for the operation, maintenance, and expansion of the wastewater conveyance, treatment and disposal systems are provided. A CIP allows an agency to make informed decisions about the rates it collects from its service area customers to ensure the rates are adequate to offset the expenditures. This CIP includes projects related to the Wastewater Treatment Plant (the Plant, WWTP), and the Conveyance System, which includes remote pump stations, transmission sewer pipelines (Influent Force Main, Belmont FM, tunnel and gravity sewer) and effluent outfall. Future treatment for Nutrients, as will be required by the Regional Water Quality Control Board, are included in the CIP. Recycled water treatment and distribution facilities owned by the City of Redwood City are not included in this CIP.

The wastewater treatment plant has been well operated since its startup in 1980. SVCW has enjoyed the benefits of a well-designed, Federal/State/Local funded facility with good reliability. As the plant ages, major electrical, mechanical, structural, and instrumentation components require replacement and rehabilitation to ensure a continued useful life into SVCW's future.

Reliable and efficient operation and maintenance of the Plant and Conveyance System infrastructure are required for ensuring the continued health and protection of the public and the environment and for meeting the effluent quality and discharge requirements set forth in SVCW's NPDES permit (NPDES Permit No. CA0038369). Other regulatory permit requirements are also placed upon SVCW, including air quality, odor control, safety, and record-keeping. The various regulatory permits under which SVCW operates require expenditure of capital to ensure that fines are not levied against SVCW for violations and to meet possible future, restrictive changes to the permits. It is also necessary to upgrade the facilities to improve operations in an effort to reduce costs as well as improving the facility's operational reliability. Finally, it is necessary to expend capital funds to match the capacity needs of the service area.

The operational integrity of the existing facilities as well as facility improvements needed to address future regulatory changes, wet weather treatment capacity increases, and safety were evaluated and integrated into the original 2008 CIP 10-Year plan. Each project was developed by defining the project scope, estimating the necessary budget required to complete the defined project, setting a year to implement the project and allocating expenditures to a specific funding source.

The timeframe of this CIP 2024 Update covers the fiscal years beginning in 2023-2024 and extends to fiscal year 2033-2034. Projects that have been completed in the time period previous to this update have been removed from the program. This 2024 Update includes a snapshot of expenditures over the next 10 years.

An agency's CIP requires ongoing refinement, with defined projects and their scopes and budgets reviewed at least once a year. In this respect, this document is a "living document"; it will continue to be reviewed, refined, and updated as needed.

SVCW Capital Facilities

Silicon Valley Clean Water (SVCW) is a Joint Powers Authority comprised of the City of Belmont, City of Redwood City, City of San Carlos, and West Bay Sanitary District (member agencies). SVCW owns and operates a wastewater treatment plant, including support facilities necessary for the operation and maintenance of the treatment plant, wastewater conveyance system force mains, five wastewater conveyance pump stations, and an effluent outfall into the San Francisco Bay. Land upon which the pump stations and connection structures are located are owned by the individual member agencies. SVCW also leases and utilizes the Flow Equalization Facilities (FEF) owned by the West Bay Sanitary District and located in Menlo Park.

Wastewater Conveyance System: Force Mains, Gravity Pipelines, and Pump Stations

The conveyance system conveys flow from each of the member agencies via a combination of pump stations, force mains, and gravity pipelines. The original SVCW conveyance system was nearing the end of its useful life, and in 2013, SVCW began to plan for the construction program to rehabilitate it. The Regional Environmental Conveyance Sewer Upgrade (RESCU) program which is currently in the construction/acceptance phase, is replacing and/or rehabilitating almost every pump station and pipeline in the conveyance system.

As of February 2024, the wastewater is being conveyed by a combination of old, new, and rehabilitated facilities, as described below.

Gravity pipeline:

The gravity pipeline is an approximately 3.3 mile long, 11 and 10 foot diameter pipeline that conveys wastewater from the Bair Island Drop Structure (BIDS) to the Receiving Lift Station (RLS) at the treatment plant site. The flow enters the tunnel in two locations: BIDS and the San Carlos Drop Structure (SCDS). The gravity pipeline construction was completed in 2022 and it is currently in operation.

Menlo Park Pump Station and Segment 1 and 2 Force Mains:

Flow from West Bay Sanitary District is pumped by the Menlo Park Pump Station through a 33” Reinforced Concrete Pipe (RCP) force main (Segment 1) and a 48” HDPE force main (Segment 2) that flows into BIDS. The Menlo Park Pump Station rehabilitation is almost complete and acceptance testing is currently underway. Segment 1 was not rehabilitated or replaced as part of RESCU. Segment 2 construction was completed in 2015.

Redwood City Pump Station

Redwood City flow is pumped by the Redwood City Pump Station into Segment 2. During wet weather, the new Redwood City Pump Station wet weather pumps will also boost the West Bay Sanitary District flow to convey the flow through Segment 2 to BIDS. The new Redwood City Pump Station is currently under construction and expected to be completed in late 2024.

San Carlos Connection Structure

The San Carlos Connection Structure (formerly the San Carlos Pump Station) contains piping, flow metering and sampling equipment for connecting the San Carlos collection system and that Belmont Gravity Pipeline (BGP) flows to the SCDS. The connection to the San Carlos collection system has been completed. The connection to the BGP will be complete in late February 2024. Acceptance test of the system will be completed in March, 2023.

Belmont Gravity Pipeline

The original Belmont Pump Station will be demolished with the completion of the Belmont Gravity Pipeline (BGP) Project, which will connect the Belmont collection system to the Gravity Pipeline at the San Carlos Connection Structure. The work will be substantially complete in February 2024, with acceptance testing of the pipeline completed in March.

Wastewater Treatment Plant

SVCW's Wastewater Treatment Plant is located in the Redwood Shores area of Redwood City. The Plant processes all wastewater delivered to the Plant from the member agencies' service areas via the conveyance system. The Plant is comprised of liquid and solids treatment processes.

Liquid Processing

The wastewater from the conveyance system is lifted out of the deep Gravity Pipeline by the Receiving Lift Station (RLS) and into the Headworks. In the Headworks, large screenings and grit are removed from the flow and conveyed to dumpsters for disposal. The flow then enters the Influent Pipeline (IPL) which conveys the flow by gravity to the Plant's primary sedimentation tanks (PSTs). The PSTs provide solids removal to the raw sewage. The PST process is followed by biological treatment that consists of roughing with fixed film reactors (FFR) and aeration polishing in the aeration basins (AB). The water in the aeration basins is then directed to the secondary sedimentation tanks (SST) for separation of solids from the liquid. The SST process generates relatively clear effluent that flows to the dual media filters (DMF). Filtration followed by disinfection with sodium hypochloride concludes the treatment of the liquid stream in the Plant. Disinfected and dechlorinated tertiary effluent is then pumped to the bay via

a 66-inch diameter outfall. During summer months, the filtered water is sent to the City of Redwood City Recycled Water Storage and Distribution facilities at the northwest side of the treatment plant.

Solids Processing

The Plant processes a solids stream that is predominantly made up of a primary sludge and waste activated sludge. Primary sludge consists of settled solids and primary scum (a slurry with floated oil/grease/scum) withdrawn from the primary clarifiers. The waste activated sludge (WAS) is derived from the aeration basins. In addition to the primary sludge, the primary scum and the WAS, the anaerobic digesters also receive grease and oily wastewater delivered to the grease receiving station at the Plant. With mixing and heating, the anaerobic digesters stabilize the sludge and produce sufficient digester gas to fire co-generation engines that generate electricity to power much of the electrical demand within the Plant.

The digested solids are withdrawn and transferred to Rotary Presses to reduce its volume. The two Rotary Presses were installed in 2016 as replacement for a centrifuge that was installed at the inception of the treatment facilities. The centrifuge was beyond its useful life, had no redundancy, and high levels of maintenance were required. Dewatered biosolids are then transferred to either solar drying beds or to BioForce Tech facilities for further drying readying for ultimate disposal. The sludge in the drying beds is dried to 50%-75% solids and is loaded onto trucks for disposal off-site. Offsite disposal is contracted with a biosolids handling company and is disposed in accordance with government regulations. Biosolids directed to BFT are further dried, undergo pyrolysis, and the “biochar” is then sold to end users as fertilizer. In summary, the primary function of the solids handling facilities is to stabilize the organic solids, reclaim the heat value of the organic solids for power generation and reduce the sludge volume to minimize the cost of disposal.

Plant Site Characteristics

The treatment processes selected for the Plant are typical for a tertiary treatment plant. However, the arrangement of the facilities in the Plant makes it unique. The treatment process tanks were built primarily on the same level; however, the lighter structures were built on top of the process concrete tanks making the facility a “double deck” plant.

The ground immediately beneath the Plant is predominantly young bay mud which is highly liquid and inadequate for supporting heavy loads. This required the installation of deep reinforced concrete piles to support the process tank structures. The administration building and laboratory were placed on top of the PST, while the FFR were placed on top of the chlorine contact tanks (CCT). Placing the lighter facilities on top of the heavier liquid bearing concrete tanks reduces the overall construction costs but creates unique maintenance issues. The PST and the CCT are completely covered; access to the tanks for maintenance and servicing the mechanisms installed inside the tanks is through hatches.

Outfall

Approximately 1.25 miles of 66-inch diameter pipe carries treated effluent from the Plant for discharge to the San Francisco Bay. The outfall is reinforced concrete pipe equipped with a multiport diffuser and extends approximately 6700 feet offshore in the main shipping channel of the San Francisco Bay for a deep-water discharge. An on-shore portion of the effluent pipeline was replaced in 2005 and the remainder of the on-shore pipeline was replaced in 2015/2016; the replacement pipe is 63-inch diameter HDPE pipe material.

Location and Process Codes

SVCW has undertaken implementation of a new Enterprise Resource Planning program which changes the financial, asset and work management, and human resources functions of the agency. To this end, a new system to track capital assets is currently being adopted. There are location and process codes established to enable tracking to occur. The location and process codes are shown in the list below.

Location Codes of SVCW

00	General
01	West Bay S.D.
02	Redwood City
04	San Carlos
05	Belmont
06	Booster Pump Station
10	33-inch FM
11	48-inch FM
12	54-inch FM
13	Belmont Force Main
15	Gravity Pipeline
20	Flow Equalization
30	Front of Plant
50	Wastewater Treatment Plant
51	Admin/Control Building
52	Laboratory Building
53	Maintenance Building
54	Warehouse
55	1404 Radio Road
56	1406 Radio Road
65	Fair Oaks
66	Harbor Sanitary Muni. District
67	Redwood Shores
68	Port of Redwood City

Process Codes of SVCW

00	General
05	Pretreatment
06	Influent
10	Conveyance Pumping
15	Flow Equalization
20	Conveyance Pipelines
25	Drop Connection
27	Energy Management
35	Odor Control
42	Fine Screening
45	Lift Pumping
47	Storm Water
50	Primary Sedimentation
52	F.F.R.
54	Nutrient Removal
55	Aeration
56	Secondary Clarifiers
60	Filtration
62	Disinfection
64	Dechlorination
70	Recycled Water DSP
71	Sludge Thickening
72	Sludge Digestion
74	Sludge Dewatering

72 Outfall

75 Sludge Drying
78 Sludge Disposal
81 FOG and Organic Waste
90 Effluent
92 Recycled Water (non-DSP)
95 Pollution Prevention

Master Capital Projects List

Organization of Master Capital Projects List

From the original 2008 CIP through the 2013 Update, projects contained within the CIP were categorized into sixteen Programs. Starting with the 2020 Update, as the focus of the Programs has moved from repair, replacement, and automation to a preventative and predictive maintenance approach, Program listings have been refined. There are now seven Programs in the CIP.

- Conveyance System
- Structural Rehabilitation
- Underslab and Above Grade Piping Rehabilitation
- Mechanical, Electrical, & Instrumentation Rehabilitation
- Site Civil Rehabilitation
- Process Efficiency and Regulatory Mandates
- CIP Support

Under the original CIP, four master plans were prepared (Conveyance System; force main and pump stations, Energy System, Biosolids, and Corrosion/Odor Control). The results of the master plans facilitated completion of the 2011 CIP Update. Completion of subsequent updates was facilitated by needs identified during the course of construction in the treatment plant and further work on the conveyance system program. As construction has progressed on many large and far-reaching projects, facilities either related to the specific construction or ancillary to the construction have been identified as needing replacement. Additionally, a Capacity Study was completed that identified four new projects that need to be completed for SVCW to reliably treat its projected wet weather flows. These changes were reflected in the 2013 Update.

Since the 2013 Update, the primary change to projects identified is reflected in the conveyance system programs; pipelines and pump stations. Beginning in 2013, as planning and community outreach began for the conveyance system program elements and as tunnel-construction methods in the bay area developed, the projects identified for the conveyance system changed. The 2015 Update reflected the latest information for the conveyance system programs. Additionally, the regulatory climate is shifting to require treatment plants to remove nutrients (nitrogen and phosphorous). Scientific studies are ongoing for the impact to the bay from treatment facility contributions but it is considered a given that nutrient removal will be required in future NPDES permits. A project to address nutrient removal requirements was also a factor contributing to the large allocated budget increase in the 2015 Update. Also in the 2015 Update, inflationary impacts were added to all relative projects; a task that had not been done since the original 2008 CIP which used 2007 dollar values.

The 2018 Update included updated budgets resulting from inflationary factors (escalated from 2017 dollars and brought to mid-point of construction). This Update also included a reduction in the Nutrient

Removal Program costs, as new information continues to be garnered from the Regional Water Quality Control Board and its efforts in concert with Bay Area Clean Water Agencies to more fully define issues with nutrients in the San Francisco Bay.

The 2020 Update represented a change in approach to capital project planning. Now that the majority of the processes and equipment have been upgraded over the last, almost twelve years, the focus of the CIP is on maintaining the assets. Some of the projects that were initiated in 2008 have already shown signs of age and failure. In particular, concrete coatings and instrumentation equipment have expected lives of approximately 10 years. This 2020 Update removed completed projects from the master list of projects, providing a view forward of the work that is envisioned to be completed over the next 10 years.

The 2022 Update further refined the program as the asset management program is developed and projects are identified to rehabilitate plant processes. Specifically, a new program was added to address the rehabilitation of underslab and above grade piping. Much of this process piping is original to the plant construction, and it is difficult to access for inspection and rehabilitation efforts.

The following pages include the master list of 2024 CIP Update projects.

2024 Update Project #	Launch Date	2024 Update Project Name	Project Description	Discretionary/ Non-discretionary	2022 CIP Budget	Spent as of 06/30/23	2024 Budget	Budget Increase (Decrease)	2024 Budget Remaining
CIP Program Totals					\$ 783,084,169	\$ 606,273,093	\$ 976,204,710	\$ 193,120,541	\$ 445,817,967
Conveyance System									
6008	2011	Tunnel and Gravity Pipeline	Installation of gravity pipeline, using tunneling construction methods for conveying wastewater to the plant.	Construction in Progress	264,357,794	253,611,870	258,056,964	(6,300,830)	4,445,094
9500	2020	RESCU Administrative Activities	Holds programmatic management costs including Owners' Representative consulting fees (Kennedy Jenks) and Owner-Controlled Insurance Program (OCIP) costs.	Construction in Progress	15,303,048	13,491,737	17,319,759	2,016,711	3,828,022
9501	2017	Pump Stations Improvements	Rehabilitate Menlo Park Pump Station, Replace Redwood City Pump Station, convert Belmont Conveyance to a gravity sewer in order to convey 2040 flows to the new tunnel constructed under the Gravity Pipeline Project.	Construction in Progress	132,289,099	98,005,172	132,995,694	706,595	34,990,522
9502	2017	Front-of-the-Plant	Construct a Receiving Lift Station, Headworks and connecting piping as part of the RESCU Program.	Construction in Progress	162,209,435	147,277,712	174,186,959	11,977,524	26,909,247
6018	2022	Decommission 54-Inch Force Main	Disinfect and prepare force main for future use.	Non-discretionary	500,000	-	500,000	-	500,000
6019	2033	33" Force Main Replacement	Replace Segment 1 pipeline. Cost estimate assumes open cut construction with bypass.	Non-discretionary	-	-	73,040,000	73,040,000	73,040,000
Subtotal					574,659,376	512,386,491	656,099,376	81,440,000	143,712,885
Structural Rehabilitation									
9071	2008	Plant Gallery Floor and Wall Crack Sealing	Seal gallery floors to prevent infiltration of GW. Unplug in-slab drain pipes.	Non-discretionary	500,000	201,943	500,000	-	298,057
9096	2008	Plant Architectural Painting	Plant-wide painting including pumps, piping, equipment and structures. Painting necessary to prevent corrosion & for longevity of Plant's assets.	Non-discretionary	1,038,692	428,722	1,038,692	-	609,970
9097	2008	Plant Deck Re-coating	Add painted walkway under the Plant Control building.	Non-discretionary	50,000	2,685	50,000	-	47,316
9215	2013	Digester #1 Rehabilitation	Repair of coatings and structural elements in Digester #1. Project includes replacement of the two mix nozzles, two wall penetrations and the upper and lower vertical mix pipe manifold as previously included in CIP #9170. Also include interior coating of 24-inch horizontal mix piping as previously included in CIP #9171.	Construction in Progress	3,400,000	4,194,708	4,400,000	1,000,000	205,292
9244	2020	Digester 3 Cleaning and Rehab	Clean, inspect and rehabilitate Digester 3. Previous rehab completed August 2011	Non-discretionary	2,414,000	91,874	4,680,000	2,266,000	4,588,126
9245	2020	Digester 2 Cleaning and Rehab	Clean, inspect and rehabilitate Digester 2. Previous rehab completed April 2013	Non-discretionary	2,272,000	67,251	8,200,000	5,928,000	8,132,749
9259		Primary Effluent Structural Rehabilitation	Replace primary weirs and launders plus hatch replacement and concrete resurfacing.	Non-discretionary	4,260,000	-	4,260,000	-	4,260,000
Subtotal					13,934,692	4,987,183	23,128,692	9,194,000	18,141,508
Underslab and Above Grade Piping Rehabilitation									
9600	2022	Buried and Exposed Process Pipe Repair	Identify process piping that needs rehabilitation/replacement. New projects will be developed that utilize budget from this project.	Non-discretionary	16,920,000	872,700	17,600,000	680,000	16,727,300
9602		Phase 2 Buried and Exposed Process Pipe Repair	Rehabilitate/replace second tier priority piping	Non-discretionary	-	-	12,800,000	12,800,000	12,800,000
9120	2008	RAS Pump Suction Pipe Replacement	Slip-line the in-slab pipe. The high content of solids in sludge piping wears the pipe out over time; the RAS piping is thin due to the continued abrasion of the sludge transported through it.	Construction in Progress	3,800,000	2,567,570	3,892,000	92,000	1,324,430
9601	2022	WAS Suction Pipe Rehab	Rehabilitate or replace waste activated sludge suction piping. Condition is anticipated to be similar to RAS suction pipe.	Non-discretionary	2,100,000	-	2,130,000	30,000	2,130,000
Subtotal					22,820,000	3,440,270	36,422,000	13,602,000	32,981,730
Mechanical, Electrical, and Instrumentation Rehabilitation									
9017	2008	Plant #1 Water System Pipe Repair and Supply Upgrade	Rehabilitate potable water system: replace air gap tank, hydropneumatic tank, and pumps.	Non-discretionary	1,032,287	697,932	1,238,745	206,457	540,813
9223	2013	Final Effluent Pump Replacement	Replace pumps and vfd's.	Non-discretionary	2,836,241	344,093	16,000,000	13,163,759	15,655,907
9242	2020	Fixed Film Reactor Rehabilitation	Remove and replace media, perform structural improvements, improve inlet piping.	Non-discretionary	29,820,000	1,872,734	48,190,000	18,370,000	46,317,266
9246	2020	Activated Sludge Process Rehabilitation	Evaluate instrumentation and mechanical and electrical equipment associated with the Activated Sludge Process. Replace and Rehabilitate as needed.	Non-discretionary	1,900,000	-	1,900,000	-	1,900,000
9247	2020	SHB Electrical Rehabilitation	Evaluate Electrical and Standby Power systems in SHB. Replace and Rehabilitate as needed.	Non-discretionary	4,374,381	40,651	4,374,381	-	4,333,730
9248	2020	Cogeneration Engine System Rehabilitation	Evaluate cogeneration system, including engines, generators, gas conditioning system, instrumentation. Replace and Rehabilitate as needed.	Non-discretionary	1,900,000	-	1,900,000	-	1,900,000
9249	2020	Fine Screening Process Rehabilitation	Evaluate instrumentation and mechanical and electrical equipment associated with the Fine Screening Process. Replace and Rehabilitate as needed.	Non-discretionary	900,000	-	900,000	-	900,000
9250	2020	Wet Side Power Rehabilitation	Evaluate Electrical and Standby Power systems on "wet side" of plant. Replace and Rehabilitate as needed.	Non-discretionary	2,200,000	8,639	2,200,000	-	2,191,361
9260		Dewatered Biosolids Conveyor Replacement	Replace thickened solids conveyors with shaftless screw type conveyors.	Non-discretionary	-	-	2,300,000	2,300,000	2,300,000
9261		Elevators 1 - 4 Rehabilitation	Rehabilitate elevators and upgrade electronics.	Non-discretionary	-	-	4,000,000	4,000,000	4,000,000
9262		Secondary Clarifier Rehabilitation	Rehabilitate tanks and collectors in secondary clarifier process.	Non-discretionary	-	-	30,000,000	30,000,000	30,000,000
9263		Hypo System Upgrade	Sodium hypochloride system piping and pumping system upgrades	Non-discretionary	-	-	2,000,000	2,000,000	2,000,000
9264		DMF Media Replacement and Underdrain Rehabilitation	Replace underdrains in DMFs 1-5, replace filter media, replace Spent Backwash pumps and pipes	Non-discretionary	-	-	9,700,000	9,700,000	9,700,000
Subtotal					44,962,909	2,964,050	124,703,126	79,740,217	121,739,076
Site Civil Rehabilitation									
9103	2008	Landscape Impoundment Improvements	Project is slated to provide improvements to the impoundment. Work in addition to what was originally intended may be done for future Plant process needs.	Construction in Progress	200,000	138,211	200,000	-	61,789
9131	2008	Plant Service Road Resurfacing-Phase 2	Plant site grading and paving.	Construction in Progress	1,188,996	402,722	4,000,000	2,811,004	3,597,278
9237	2017	Radio Road Habitat Grading Project	Change grading and provide piping to the area behind the dog park to make a suitable habitat for birds	Discretionary	3,823,448	41,315	3,823,448	-	3,782,133

2024 Update Project #	Launch Date	2024 Update Project Name	Project Description	Discretionary/ Non-discretionary	2022 CIP Budget	Spent as of 06/30/23	2024 Budget	Budget Increase (Decrease)	2024 Budget Remaining
9265		Levee Repair	Placeholder budget for repair of levee system protecting plant. Budget will be defined after alternatives analysis process.	Non-discretionary			20,000,000	20,000,000	20,000,000
Subtotal					5,212,444	582,248	28,023,448	22,811,004	27,441,199
Process Efficiency and Regulatory Mandates									
9257	2022	Food Waste Improvements	Capital improvements to increase reliability and efficiency of Food Waste Acceptance Facility.	Discretionary	2,000,000	88,703	3,320,000	1,320,000	3,231,297
9231	2015	BioforceTech Dryer System	Work with BioforceTech for half-scale biosolids drying Facility. SVCW to provide suitable site and utilities; Bioforce Tech to construct and operate. Budget added for agreement with BFT for purchasing the equipment.	Discretionary	3,950,621	3,850,447	3,950,621	-	100,174
9232	2015	Long Term Strategic Recycled Water Planning	SVCW would begin collaboration with outside stakeholders for long-term planning of recycled water expansion as a drought proof water supply, explore IPR/DPR treatment requirements etc. Budget is for staff time to attend meetings and begin long-term planning, plus work with consultants on conceptual studies. No construction dollars are included. Large scale expansion of recycled water treatment may offset dollars spend on future nutrient removal compliance	Discretionary	200,000	246,356	300,000	100,000	53,644
9236	2018	CEC SAF-MBR	Build a pilot facility using CEC grant monies and in-kind services using a new treatment process developed at Stanford University. The process is called Staged Anaerobic Fluidized-Bed Membrane Bioreactor (SAF-MBR). This process could facilitate nutrient removal, recycled water production and, possibly, replace SVCW's secondary treatment processes.	Discretionary	644,010	717,295	717,295	73,285	-
9243	2020	PST Thickening Project	Replace Primary Sludge Pumps and add VFDs to support thickening in the PSTs once the Headworks is complete. Change discharge piping to deliver directly into the digesters.	Non-discretionary	2,000,000	20,334	15,370,000	13,370,000	15,349,666
9254	2020	Waste Gas Burner Replacement	Replace "candlestick" type waste gas burner with new technology if required by BAAQMD	Non-discretionary	2,000,000		2,000,000	-	2,000,000
9401	2023	Side Stream Treatment	Treatment of sidestreams for nutrient removal.	Non-discretionary	10,510,000	73,098	17,160,000	6,650,000	17,086,902
9258	2022	Capital Support for Process Engineering	Minor capital projects to support research that may improve efficiency or reliability of plant processes.	Discretionary	2,000,000	19,881	2,000,000	-	1,980,119
9266		Hot Water Loop Expansion	Expand Hot Water Loop to further reduce energy use.	Discretionary			500,000	500,000	500,000
9267		BioforceTech Integration	Integrate BioforceTech controls into plant control system	Non-discretionary			500,000	500,000	500,000
9268		Decommission Underground Storage Tank	Comply with State requirement to decommission single-walled UST by July 2025.	Non-discretionary			300,000	300,000	300,000
9403	2027	Main Stream Nutrient Removal	Comply with anticipated 2034 NPDES permit requirements for removing nitrogen from effluent.	Non-discretionary			50,000,000	50,000,000	50,000,000
9269		Biogas Utilization Project	Install Linear Generator or other technology to efficiently convert biogas to electricity for plant use	Discretionary			8,000,000	8,000,000	8,000,000
9402		Facilities plan	Facilities plan	Discretionary			2,500,000	2,500,000	2,500,000
Subtotal					23,304,631	5,016,114	106,617,916	83,313,285	101,601,802
CIP Support									
9130	2008	Capital Improvement Engineering	Funds staff required to coordinate and implement the Capital Improvement Program.	Non-discretionary	40,000	24,253	40,000	-	15,747
9158	2011	CIP Financial Assistance	State Water Resources Control Board SRF construction loan assistance. Funding received for Admin Building and WWTP Improvements and planning loan for Conveyance System. Future applications will be submitted for Conveyance System and Future Treatment Plant projects. Budget includes ongoing compliance with loan requirements.	Non-discretionary	1,170,153	986,134	1,170,153	-	184,019
Subtotal					1,210,153	1,010,387	1,210,153	-	199,766
Retired Projects									
6003	2008	Influent Force Main Emergency Repair	As-needed repairs if leaks in the influent force main occur.		2,882,920	2,882,920	-	(2,882,920)	
9128	2008	PST 3 & 4 Protective Coatings	Complete with 9080 - PST Collector System Replacement		3,334,217	3,334,199	-	(3,334,217)	
9168	2011	Thickening Improvements - Phase I	Replace thickeners technology with Rotary Drum Thickeners, installed in the Solids Handling Building.		4,741,437	4,146,025	-	(4,741,437)	
9808	2017	In-Plant Power (12kV) Rehabilitation	Repair of 12 kV settling between Control Building and Solids Handling Building.		3,512,890	2,572,822	-	(3,512,890)	
9235	2015	Digester Gas Storage	Construct storage for digester gas gas equalization in support of optimizing the cogeneration engine operation/electricity output. Gas production expected to rise with introduction of co-digestion materials (food waste and FOG). Project Budget has been transferred to project 9229.		42,949	42,949	-	(42,949)	
9400	2015	Nutrient Removal	Perform studies to determine the plant's ability to perform nutrient removal using existing infrastructure.		774,661	794,260	-	(774,661)	
9107	2008	CCT Concrete and Steel Protective Coating Replacement	Recoat walls and Ceiling of CCT		5,608,246	4,537,803	-	(5,608,246)	
9807	2017	12 kV Primary Switchgear	Install a new 12 kV feed to the plant that will serve the new loads from Receiving Lift Station. This new new switchgear will also be tied to existing cogen system to allow export/import of power to PG&E after Rule 21 modifications. New solar and energy storage will be also tied to this new switchgear.		12,403,729	11,665,120	-	(12,403,729)	
9810	2017	Energy Storage	Install 1MW/2MWh energy storage system that uses Lithium-Ion battery.		1,100,000	1,079,574	-	(1,100,000)	
9229	2015	Food Waste: Receiving Station and Digester Improvements	Plan, Design and Construct Receiving Station for Accepting Food Waste from SBWMA. After initial capital investment to support pilot, project has been put on hold.		2,072,348	2,048,550	-	(2,072,348)	
9041	2008	Underground Fuel Tank Replacement	Underground Storage Tank regulations require removal of this tank. Remove 15,000 gallon underground fuel (diesel) tank and replace with a tank that meets regulatory requirements when necessary. Electrical costs include conduit and wiring for new underground tank leak detection equipment necessitated by moving the tank.		270,000	277,226	-	(270,000)	

2024 Update Project #	Launch Date	2024 Update Project Name	Project Description	Discretionary/ Non-discretionary	2022 CIP Budget	Spent as of 06/30/23	2024 Budget	Budget Increase (Decrease)	2024 Budget Remaining
9078	2008	10-Yr CIP Program Annual Updates	Update the 10-Year CIP and costs annually or as needed to ensure that projects are scheduled and funds are available each year		71,653	-	-	(71,653)	
9159	2011	OCIP Funding	Repository for funding the OCIP and payment to Aon for management of the program for first five years. New OCIP program being evaluated in 2015.		5,654,147	-	-	(5,654,147)	
9033	2008	Plant Electrical System Panel Replacement	Complete replacement and addition of additional panels and subpanels		4,300,000	4,247,660	-	(4,300,000)	
9034	2008	Electrical Conductor and Small Panel Replacement	Multiple year project to replace old and corroded electrical cabling, lighting panels, and other electrical equipment throughout the Plant.		2,963,054	309,299	-	(2,963,054)	
9080	2008	Primary Sedimentation Tanks Collector System Re	Replace or rebuild collector drive system, including chains and filghts; one tank every 2 years.		4,410,000	4,390,404	-	(4,410,000)	
9240	2020	Standby Generators Feed Relocation and Electrical Panel Upgrades	Relocate feeders for standby generators 4 and 5 to connect to 12kV switchgear and provide power to all plant processes. Replace aging panels.		4,800,000	4,973,310	-	(4,800,000)	
9255	2021	3W Capacity Upgrades Project	Add new 3W pumps, piping, and a strainer to address redundancy and capacity issues with the current system.		5,100,000	362,342	-	(5,100,000)	
9251	2020	Laboratory HVAC Rehabilitation	Replace Air Handling Unit, Motor Control Centers, supply and exhaust fans, and control system for laboratory HVAC system, which is over 25 years old		3,241,363	3,571,623	-	(3,241,363)	
9503	2017	WWTP Improvements Phase II	Construct rotary presses for sludge dewatering, replace blowers for Activated Sludge Process, replace Backwash Pumps.		13,195,442	12,527,661	-	(13,195,442)	
9105	2008	ERP Implementation (Cogsdale)	Phase 2 of the IMMS; use for CIP information management.		3,082,038	2,830,435	-	(3,082,038)	
9196	2012	Electronic O&M Manuals	Develop Electronic O&M manuals to replace existing paper manuals. Extent of e-manuals will be determined to coincide with full plant automation requirements.		1,187,870	1,324,984	-	(1,187,870)	
8025	2008	No. 3 Water Control System	Provide VFD control of 3 water pumps as well as instrumentation and piping to assure reliable supply.		100,000	111,908	-	(100,000)	
9241	2020	Primary Effluent Channel Recoating	Recoat Primary Effluent Channel, replace PST effluent launders, replace hatches on primary deck		3,402,000	3,073,777	-	(3,402,000)	
9256	2022	Spent Backwash Pump System Rehabilitation	Replace spent backwash pumps and rehabilitate suction piping		2,700,000	-	-	(2,700,000)	
9252	2020	Repair of Final Effluent Pump Suction Piping	Inspect and repair Final Effluent Pump Suction Piping between CCT Wet Pits A and B and the Pumps.		429,000	17,400	-	(429,000)	-
9014	2008	Process Tanks Concrete and Steel Protective Coati	Apply coatings to process tanks and steel approximately every ten years.		5,600,000	4,764,097	-	(5,600,000)	-
Subtotal					96,979,964	75,886,349	-	(12,173,054)	-
Totals					783,084,169	606,273,093	976,204,710	193,120,541	445,817,967

Appendix A

Developing the CIP

Appendix A

Developing the CIP and CIP Updates

The original effort of preparing a comprehensive CIP 10-Year Plan resulted in a significant list of capital projects requiring implementation to ensure that SVCW's facility assets are managed and maintained in good working condition. A capital project is defined as an improvement or replacement of an existing asset with a value equal to or higher than \$20,000 and a life expectancy beyond five years. Expansion projects (Stage 2) are not included in this CIP. Each project is identified by Location Code, is assigned a CIP Project number and placed into a Program.

Sources of CIP Update Projects

The original list of 131 projects in the 2008 CIP resulted from combining several outstanding lists of identified improvements that had been compiled over years of operation and maintenance of the facilities. The majority of projects were derived from lists kept by the Operations, Maintenance, Technical Services departments, and the Manager.

For preparing the Updates, Program Managers were requested to prepare revised lists of projects that they could identify after having been involved in the CIP for multiple years. Some of the revisions resulted from master planning efforts from which new facility needs were identified while some of the revisions resulted from projects being combined or merged to take advantage of potential efficiencies. The majority of projects arose from needs being identified during construction projects. Finally, some projects were deleted entirely if they were found unnecessary for accomplishing the overall goal of ensuring longevity for the SVCW facilities.

Criteria Used for Identifying Projects

The following criteria were established early in the CIP development process to assist in identifying needed improvements. The same criteria are maintained for the CIP Updates.

Regulatory Compliance/Process Reliability. This is a mandatory requirement based upon SVCW's various permits, federal, state and local regulations, laws, and codes. It includes providing and maintaining process reliability to ensure that regulatory compliance is achieved.

End of Useful Life/Catastrophic Failure Avoidance. This represents those pieces of equipment, structures, and other facilities that have reached the end of their useful life and, if not replaced or rehabilitated, will experience an unavoidable failure. This category also includes equipment that has become obsolete and is no longer supported by the original manufacturers. In the 2020 update, this criteria has changed, as SVCW has taken on a philosophy of preventative maintenance to avoid the expense and unpredictable nature of running equipment to the end of its useful life. The criteria is now called **Preventative Maintenance**

Safety. The identified project includes a repair, replacement, modification or expansion aspect that relates to public or worker safety.

Efficiency and Functional Improvement. Efficiency refers to specific equipment, facilities and work methods that represents a means to reduce operating cost. A functional improvement will increase the efficiency and effectiveness of how a particular facility or work method is maintained and/or operated.

Plant Appearance. Projects that will enhance, improve, and modify the appearance of the treatment plant; onsite buildings and facilities are included in this category. The importance of Plant appearance rests on public perception of the plant and SVCW as a whole. “Public” includes recipients of tours (children and adults), Commission members and other elected officials, regulatory personnel on site visits, and others.

CIP Cost Estimating Methodology

A key element to the CIP planning process is determining costs for each of the identified projects and allocating the costs to specific funding sources. Information on funding sources is included in Appendix B.

For the CIP Updates, Program Managers prepared update cost estimates for each of the projects within a particular Program. The cost estimates include construction costs and soft costs as described below.

CIP budgets for individual projects are comprised of five elements or “phases” of the capital project. The five phases are: Planning, Design, Construction, Construction Management, and Project Management. Some projects may include all phases; others, such as studies, may include only one phase.

For the most part, the cost element that is independently estimated is the Construction phase budget. The other cost elements are percentages of the Construction phase (except in special cases such as study-only projects). These phases are termed “soft costs”. In addition to the soft costs and in recognition that the cost estimating for this level of project planning is inherently rough, a “Confidence Level” factor may be applied to the final Construction + Soft Costs estimates.

The methodology for estimating the Construction phase cost is described below. The percentages used to derive the other phases of the capital project and the confidence level factor follow.

Construction Phase Budget

The construction cost estimating procedure utilized the following guidelines:

- Estimate construction costs in 2007 dollars for the original projects, 2010 dollars for the projects added in the 2011 Update, 2011 dollars for the projects added in the 2012 Update, 2012 dollars for the projects added in the 2013 update.
- Bring all construction costs for new projects identified for the 2015 Update to 2015 dollars and for the 2017 Update to October 2017 dollars.
- Estimate mid-points of construction and escalate costs to that point for the 2018 Update; this represents the base costs.
- Projects to be implemented in future years have costs represented as base costs values; i.e., future costs are not escalated except in the case of the conveyance system program.
- Construction cost estimates and the contingency factor used are based on the level of confidence that the program manager has in its estimate.
- Construction cost estimates includes costs for bonds, insurance, mobilization/demobilization, overhead, and profit. The program managers will use their best judgment as to what these amounts should be, based on the type and size of project and industry standard.
- The program manager will take into account if any testing, start-up, training, etc. will be required by the construction contractor and add in costs for these items.

Soft Costs Derivation

Soft costs derivation is based upon industry standards for typical design-bid-build projects. For other project delivery methods, the individual project soft costs were adjusted according to today's knowledge about a project. In addition, for projects involving instrumentation (SCADA or other types of software and hardware programming), soft cost percentages will be higher than for typical construction projects.

There are instances where SVCW program managers and/or the consultant preparing the cost estimates are aware that the percentages shown will not be sufficient to cover the necessary tasks or are an over-estimate of individual task costs. An example where the typical percentages would not be sufficient is: a project that involves permitting tasks or CEQA review will have higher percentages; alternatively, a project that can be implemented with in-house forces may have lower percentages assigned. Percentages indicated below are for "typical" projects.

Soft Costs for Design-Bid-Build Project Delivery Methods

Planning – 5% of Construction Cost

Design – 10% of Construction Cost

Construction Management – 18% of Construction Cost
where: Construction Management/Inspection = 10%
Design Services During Construction = 3%
Testing/Surveying/etc = 5%

Project Management – 5% of Construction Cost

Construction Change Orders – 5%

Total Soft Cost Percentage = 43%

Soft Costs for Instrumentation Projects

For Instrumentation projects, the percentage allocation should be:

Planning – 20%

Design – 25%; includes Programming

Construction Management – 40%

where: Construction Management/Inspection = 10%
Design Services During Construction = 20%
Testing, etc = 10%

Project Management – 5%

Construction Change Orders – 5%

Total Soft Cost Percentage = 95%

Staff Time and Confidence Level Factor

In the original 2008 CIP preparation, a percentage of 5% and 10% for staff time related to typical projects and instrumentation projects, respectively, was added to each project. During the course of preparation and ultimate adoption by the Commission, staff time was deleted from each project and, instead, a project listed as “Capital Improvement Engineering” was added. This project remained in the CIP Updates until the 2017 Update. Instead, staff time dedicated to CIP development is allocated to the individual projects which project managers are working. While the budgets for each project were not

increased to account for staff time, staff is working diligently to keep their work hours as efficient as possible. There may come a need to reinstate this Capital Improvement Engineering project back into future CIP Updates.

Also in the original CIP preparation, each project had a 30% confidence factor applied to the sum of the Construction phase costs + Soft Costs. Again, during the course of preparation and Commission review and adoption, these confidence factors were removed for the majority of projects. This remains true for the CIP Updates; i.e., projects do not include a 30% confidence level factor.

Appendix B

Funding Requirements

Appendix B

Funding Requirements

Financial Structure and Management

SVCW has no taxing power and therefore receives nearly all of its funding, other than interest earnings and other miscellaneous revenues, according to rules established through a Joint Powers Agreement between Member Agencies. Combined, Member Agencies pay all expenditures associated with operations, capital repairs, capital reserves, debt service, and debt reserves. Capital and Reserve allocation factors, according to the JPA, are as follows:

City of Belmont	9.45%
City of Redwood City	48.57%
City of San Carlos	15.145
West Bay Sanitary District	26.84%

Each year, the SVCW Commission adopts a budget for the following year. The budget establishes the funding requirements for each of the Members. Funding occurs in twelve monthly installments. After the close of the fiscal year, the annual payments made by each Member are reconciled against the actual expenditures allocated to each Member according to the JPA. Any difference is applied toward fund reserves held by the Authority on behalf of each Member.

Financial Planning

Member Agency sewer rates provide the underlying repayment security for all SVCW financing. SVCW prepares a Long-Range Financial Plan annually and presents it to the Commission in January, to incorporate revised CIP figures and/or funding strategies. The plan describes how each agency should consider SVCW operating and capital funding expenditures when setting sewer rates. The 2024 Long Range Financial Plan was received at the February 2024 Commission Meeting in conjunction with this CIP Update.

Appendix C

CEQA Documentation

Appendix C

CEQA Documentation

California Environmental Quality Act Compliance

SVCW will act as Lead Agency for the projects in the 2020 CIP Update. The California Environmental Quality Act (CEQA) requires that SVCW adequately assess the environmental impacts of its capital projects. Some projects in the CIP will require an Initial Study to comply with CEQA, some will require further project definition to analyze for necessary CEQA action, while some projects will fall under statutory or categorical exemption from further CEQA analysis. The Commission will consider approval of CIP projects after preparation and certification of the appropriate CEQA documentation.

For certain projects, SVCW may act as a Responsible Agency and would rely on other agencies to prepare the primary environmental documentation. These projects require Environmental Impact Reports (EIRs) or Negative Declarations, which were previously approved by other agencies.

CEQA Exemptions

The CIP itself is exempt from CEQA as a planning study (CEQA Guideline Section 15262). Some projects included in this CIP are likewise exempt under CEQA. The CEQA certifications for these projects are considered approved when the Commission adopts the 2020 Update.

The following summary lists the applicable exemptions for SVCW's CIP projects:

Statutory Exemption: CEQA Guideline 15262 – Feasibility and Planning Studies
CEQA Guideline 15269 – Emergency Project

Categorical Exemption: CEQA Guideline 15301 – Existing Facilities (repair, operation, maintenance; negligible or no expansion of an existing use)
CEQA Guideline 15302 – Replacement or Reconstruction of Existing Facilities
CEQA Guideline 15303 – New Construction or Conversion of Small Structures
CEQA Guideline 15306 – Information Collection
CEQA Guideline 15322 – Educational or Training Programs Involving No Physical Changes
CEQA Guideline 15329 – Cogeneration Projects at Existing Facilities
CEQA Guideline 15330 – Minor Actions to Prevent, Minimize, Stabilize, Mitigate, or Eliminate the Release or Threat of Release of Hazardous Waste or Hazardous Substances
CEQA Guideline 15378 – Activity is not defined as a project per guidelines.

CEQA Compliance Status

The CEQA compliance status was reviewed for all projects listed in the CIP. Each project was reviewed for the type of CEQA documentation that is required. Types of CEQA compliance are indicated in the table below.

Types of CEQA Compliance

Further Project Definition Required	In some cases, the project is not yet sufficiently defined to allow a determination to be made on the appropriate level of environmental documentation. A preliminary review of these projects will be made when the project is more clearly defined.
Exemption	A preliminary review of the project has concluded that the project designated in the table as exempt has been granted an exemption by statute or by categories established in the State CEQA Guidelines. Adoption of the CIP Budget constitutes Commission approval of the projects that are listed in the table as exempt under CEQA. Certain CIP projects noted as “Not a Project Under CEQA” are also exempt from further CEQA review.
Initial Study/ EIR/Negative Declaration	Initial Study of the project will be undertaken to determine if the project may have a significant effect on the environment. Depending on the results of the study, either a Negative Declaration or EIR will be prepared. Commission approval of the project will follow approval of the Negative Declaration or EIR.
Previous CEQA Document Approved	For these projects, CEQA compliance has already been achieved through documents previously prepared and approved. If CEQA documents were prepared by other agencies, SVCW may need to make specific findings and, subsequently, file additional documentation at the time the project receives Commission approval.

The CEQA compliance status of the various projects in the CIP is indicated in the following tables. For each project listed in the table, the type of CEQA documentation that has been completed or is anticipated to be required is indicated. The table is organized by CIP Project number. In some cases, Notices of Exemptions (NOE) are filed with the State Clearinghouse. SVCW is not required to file NOEs with the State but in some cases does so to be in compliance with State and/or Federal funding requirements or other reasons such as requests from sureties or contractors.

This analysis and approval complies with CEQA Guidelines issued by the State of California.

Project No.	Project Name	Start Date	Exempt Projects			CEQA Documentation		
			SE=Statutory CE=Categorical Exemption	Reason for Exemption	CEQA Guideline Reference	Initial Study Required?	Action Taken	Date
6008	Tunnel and Gravity Pipeline	2015				IS Required; CEQA Required	Included in EIR for Conveyance System	EIR approved April 13, 2017
6018	Decommission 54-Inch Force Main	2022				IS Required; CEQA Required	Included in EIR for Conveyance System	EIR approved April 13, 2017
6019	33" Force Main Replacement	2033				IS Required; CEQA Required		

Project No.	Project Name	Start Date	Exempt Projects			CEQA Documentation		
			SE=Statutory CE=Categorical Exemption	Reason for Exemption	CEQA Guideline Reference	Initial Study Required?	Action Taken	Date
9017	Plant #1 Water System Pipe Repair and Supply Upgrade	2008	CE	Repair of Existing Facilities	15301			
9041	Underground Fuel Tank Replacement	2008	CE	Replacement or Reconstruction of Existing Facilities	15302			
9071	Plant Gallery Floor Sealing	2008	CE	Repair of Existing Facilities	15301			
9078	10-Yr CIP Program Annual Updates	2008	CE	Not a project under CEQA	15378			

Project No.	Project Name	Start Date	Exempt Projects			CEQA Documentation		
			SE=Statutory CE=Categorical Exemption	Reason for Exemption	CEQA Guideline Reference	Initial Study Required?	Action Taken	Date
9096	Plant Architectural Painting	2009	CE	Repair of Existing Facilities	15301			
9097	Plant Deck Re-coating	2012	CE	Replacement or Reconstruction of Existing Facilities	15302			
9103	Landscape Impoundment Improvements	2015				May be included w/Conveyance System CEQA	Included in EIR for Conveyance System	EIR was approved April 13, 2017
9105	Document Management System	2008	SE	Feasibility and Planning Study	15262			

Project No.	Project Name	Start Date	Exempt Projects			CEQA Documentation		
			SE=Statutory CE=Categorical Exemption	Reason for Exemption	CEQA Guideline Reference	Initial Study Required?	Action Taken	Date
9120	RAS Pump Suction Pipe Replacement	2008	CE	Replacement or Reconstruction of Existing Facilities	15302			NOE Filed 03/30/2021
9130	Capital Improvement Engineering	2008	CE	Not a project under CEQA	15378			
9131	Plant Service Road Resurfacing- Phase 2	2008	CE	Replacement or Reconstruction of Existing Facilities	15302			
9158	State Revolving Fund Financial Assistance	2009	CE	Not a project under CEQA	15378			

Project No.	Project Name	Start Date	Exempt Projects			CEQA Documentation		
			SE=Statutory CE=Categorical Exemption	Reason for Exemption	CEQA Guideline Reference	Initial Study Required?	Action Taken	Date
9159	OCIP Funding	2009	CE	Not a project under CEQA	15378			
9215	Digester #1 Rehabilitation	2015	CE	Repair of Existing Facilities	15301			NOE Filed 03/30/2021
9223	Final Effluent Pump Replacement	2014	CE	Replacement or Reconstruction of Existing Facilities	15302			NOE Filed 03/30/2021
9231	BioforceTech Dryer System	2015	CE	Cogeneration Projects at Existing Facility	15329			NOE filed 10/01/2015 Notice of non- responsibility 11/06/2015
9232	Long Term Strategic Recycled Water Planning	2015	SE	Feasibility and Planning Study	15262			

Project No.	Project Name	Start Date	Exempt Projects			CEQA Documentation		
			SE=Statutory CE=Categorical Exemption	Reason for Exemption	CEQA Guideline Reference	Initial Study Required?	Action Taken	Date
9236	CEC SAF-MBR	2018	CE	Existing Facility	15329			NOE filed 06/03/2017
9237	Radio Road Habitat Grading Project	2017				IS Required		
9241	Primary Effluent Channel Recoating	2020	CE	Repair of Existing Facilities	15301			NOE Filed 03/30/2021
9242	Fixed Film Reactor Rehabilitation	2020	CE	Repair of Existing Facilities	15301			NOE Filed 03/30/2021
9243	PST Thickening Project	2020	CE	Replacement or Reconstruction of Existing Facilities	15302			NOE Filed 03/30/2021

Project No.	Project Name	Start Date	Exempt Projects			CEQA Documentation		
			SE=Statutory CE=Categorical Exemption	Reason for Exemption	CEQA Guideline Reference	Initial Study Required?	Action Taken	Date
9244	Digester 3 Cleaning and Rehab	2020	CE	Repair of Existing Facilities	15301			NOE Filed 03/30/2021
9245	Digester 2 Cleaning and Rehab	2020	CE	Repair of Existing Facilities	15301			NOE Filed 03/30/2021
9246	Activated Sludge Process Rehabilitation	2020	CE	Repair of Existing Facilities	15301			NOE Filed 03/30/2021
9247	SHB Electrical Rehabilitation	2020	CE	Repair of Existing Facilities	15301			
9248	Cogeneration Engine System Rehabilitation	2020	CE	Repair of Existing Facilities	15301			NOE Filed 03/30/2021
9249	Fine Screening Process Rehabilitation	2020	CE	Repair of Existing Facilities	15301			NOE Filed 03/30/2021

Project No.	Project Name	Start Date	Exempt Projects			CEQA Documentation		
			SE=Statutory CE=Categorical Exemption	Reason for Exemption	CEQA Guideline Reference	Initial Study Required?	Action Taken	Date
9250	Wet Side Power Rehabilitation	2020	CE	Repair of Existing Facilities	15301			
9252	Repair of Final Effluent Pump Suction Piping	2020	CE	Repair of Existing Facilities	15301			
9254	Waste Gas Burner Replacement	2020	CE	Replacement or Reconstruction of Existing Facilities	15302			
9256	Spent Backwash Pump System Rehabilitation	2022	CE	Replacement or Reconstruction of Existing Facilities	15302			
9257	Food Waste Improvements	2022	CE	Replacement or Reconstruction of Existing Facilities	15302			

Project No.	Project Name	Start Date	Exempt Projects			CEQA Documentation		
			SE=Statutory CE=Categorical Exemption	Reason for Exemption	CEQA Guideline Reference	Initial Study Required?	Action Taken	Date
9258	Capital Support for Process Engineering	2022	CE	Replacement or Reconstruction of Existing Facilities	15302			
9259	Primary Effluent Structural Rehabilitation	2022	CE	Replacement or Reconstruction of Existing Facilities	15302			NOE Filed 03/30/2021
9260	Dewatered Biosolids Conveyor Replacement	2025	CE	Replacement or Reconstruction of Existing Facilities	15302			
9261	Elevators 1 - 4 Rehabilitation	2024	CE	Replacement or Reconstruction of Existing Facilities	15302			
9262	Secondary Clarifier Rehabilitation	2029	CE	Replacement or Reconstruction of Existing Facilities	15302			

Project No.	Project Name	Start Date	Exempt Projects			CEQA Documentation		
			SE=Statutory CE=Categorical Exemption	Reason for Exemption	CEQA Guideline Reference	Initial Study Required?	Action Taken	Date
9263	Hypo System Upgrade	2025	CE	Repair of Existing Facilities	15301			
9264	DMF Media Replacement and Underdrain Rehabilitation	2025	CE	Replacement or Reconstruction of Existing Facilities	15302			
9265	Levee Repair	2026				IS Likely Required	Further Project Definition Required	
9266	Hot Water Loop Expansion	2029	CE	Replacement or Reconstruction of Existing Facilities	15302			
9267	BioforceTech Integration	2025	CE	Repair of Existing Facilities	15301			
9268	Decommission Underground Storage Tank	2024	CE	Repair of Existing Facilities	15301			

Project No.	Project Name	Start Date	Exempt Projects			CEQA Documentation		
			SE=Statutory CE=Categorical Exemption	Reason for Exemption	CEQA Guideline Reference	Initial Study Required?	Action Taken	Date
9269	Biogas Utilization Project	2024	CE	New Construction of Small Structures	15303			
9401	Side Stream Treatment	2018	CE	Replacement or Reconstruction of Existing Facilities	15302			NOE Filed 03/30/2021
9402	Facilities plan	2024	SE	Feasibility and Planning Study	15262			
9403	Main Stream Nutrient Removal	2031				Further Project Definition Required		
9500	RESCU Administrative Activities	2020	CE	Not a project under CEQA	15378			
9501	Pump Station Rehabilitation	2015				IS Required; CEQA Required	Included in EIR for Conveyance System	EIR approved April 13, 2017

Project No.	Project Name	Start Date	Exempt Projects			CEQA Documentation		
			SE=Statutory CE=Categorical Exemption	Reason for Exemption	CEQA Guideline Reference	Initial Study Required?	Action Taken	Date
9502	Front-of-the-Plant	2015				IS Required; CEQA Required	Included in EIR for Conveyance System	EIR approved April 13, 2017
9503	WWTP Improvements Phase II	2017	CE	Replacement or Reconstruction of Existing Facilities	15302			NOE Filed 03/30/2021
9600	Buried and Exposed Process Pipe Repair	2022	CE	Repair of Existing Facilities	15301			NOE Filed 03/30/2021
9601	WAS Influent Pipe Rehab	2022	CE	Replacement or Reconstruction of Existing Facilities	15302			NOE Filed 03/30/2021

Project No.	Project Name	Start Date	Exempt Projects			CEQA Documentation		
			SE=Statutory CE=Categorical Exemption	Reason for Exemption	CEQA Guideline Reference	Initial Study Required?	Action Taken	Date
9602	Phase 2 Buried and Exposed Process Pipe Repair	2025	CE	Replacement or Reconstruction of Existing Facilities	15302			
9807	12 kV Primary Switchgear	2017	CE	New Construction of Small Structures	15303			
9808	In-Plant Power (12kV) Rehabilitation	2017	SE	Emergency Project	15269			

Appendix D

References

Appendix D

References

Information contained in the SVCW 2020 Capital Improvement Program Update was derived from multiple sources, including written documents and staff and consultant knowledge. The following list comprises the reference basis for the project information.

SVCW 10-Year Capital Improvement Program – April 2008

- Adopted CIP inclusive of 131 Projects

SVCW 10-Year Capital Improvement Program – 2022 Update

- Adopted CIP Update

SVCW Engineering Division Staff

- Program Managers from each CIP Program

SVCW Operations & Maintenance Division Staff

- Needs assessment; discussions with O&M Department Manager

Outside Resources

- Construction Management Team
- Operations, Maintenance & Engineering Consultants
- Owners’ Advisors teams for RESCU

Capital Improvement Program Project Master Plans

- Energy System Master Plan, CDM, dated June 2009
- Biosolids Master Plan, Brown and Caldwell, dated September 2010
- Corrosion and Odor Control Master Plan, Whitley Burchett & Associates, dated June 2010
- Conveyance System Master Plan, Winzler & Kelly, draft dated December 2011

SVCW Capacity Analysis Report

- Prepared by Brown and Caldwell, October 2013
- Verification Technical Memorandum prepared by Kennedy/Jenks, April 2017

BACWA Nutrient Removal Studies

- Participation in Contracts Management Group and Permit Group