

City Service Area

Environmental and Utility Services



**Fourth Street 84-in Interceptor
Phase VI-A Project
(tunneling operation)**



Water Pollution Control Plant

Mission: Delivering world class utility services and programs to improve our health, environment, and economy.

The Sanitary Sewer System Capital Improvement Program (CIP) constructs sewer improvement projects that enhance sewer capacity to meet economic development goals and rehabilitates existing sewers to minimize sanitary sewer overflows.

The Storm Sewer System CIP continues to replace or rehabilitate pump stations to reduce the risk of local flooding during storm events and storm water quality improvements for regulatory compliance. The program addresses the drainage needs in residential neighborhoods, business districts, and walking routes to schools and public facilities.

The Water Pollution Control Plant (Plant) is a regional advanced wastewater treatment facility that serves the cities of San José, Santa Clara, and Milpitas, as well as the Cupertino Sanitary District, West Valley Sanitation District, County Sanitation Districts 2-3, and Burbank Sanitary District. The Plant is one of the largest tertiary wastewater treatment works in the western United States, serving more than 1.4 million residents and approximately 17,000 businesses. A major master planning effort was completed in late 2013, resulting in Environmental Impact Report certification and formal adoption of a 30-year master plan. The master plan provides the framework for over \$1.0 billion in new construction at the Plant over the next 10 to 15 years, and responds to aging infrastructure, future regulations, population growth, and treatment technology improvements.

The Water Utility System CIP ensures reliable utility infrastructure for the San José Municipal Water System and includes the construction of new facilities, maintenance of existing infrastructure, and improvements to existing facilities.

CSA CAPITAL PROGRAMS

- Sanitary Sewer System
- Storm Sewer System
- Water Pollution Control Plant
- Water Utility System

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Recent Accomplishments

- Various Sanitary Sewer rehabilitation and repair projects replaced aging pipeline or improved serviceability throughout the system, including Trimble Road and Capewood Lane Sanitary Sewer Improvements; Rincon Avenue – Virginia Avenue Sanitary Sewer Improvements; and a variety of sub-projects within the Cast Iron Pipe – Remove and Replace and Condition Assessment Sewer Repairs allocations
- The Aviso Storm Pump Station project built a new 110 CFS storm pump station and force main system to work in series with the existing pump station to alleviate the community of Alviso from a 100-year flood event (completed in August 2019)
- The Water Pollution CIP awarded four major construction contracts, totaling approximately \$163 million: 96-inch and 87-inch Settled Sewage Rehabilitation, New Headworks, Nitrification Clarifiers Rehabilitation – Phase 1, and Switchgear M4 Replacement & G3/G3A Removal

Program Highlights

Sanitary Sewer System Capital Program

2021-2025 Adopted CIP: \$198.2 million

Sanitary Sewer Rehabilitation Projects:

- Almaden Supplement Sewer Rehabilitation (North)
- Urgent Rehabilitation and Repair Projects

Sanitary Sewer Interceptor/Capacity Improvement Projects:

- Fourth Street 84-inch Interceptor Phase VII-A Project
- Sierra Road Sanitary Sewer Improvement
- Blossom Hill Road and Leigh Avenue Sanitary Sewer Improvement

Storm Sewer System Capital Program

2021-2025 Adopted CIP: \$119.8 million

- Citywide Outfall Improvement
- Storm Pump Station Rehabilitation and Replacement
- Measure T - Storm Drain Improvements at Charcot Avenue
- Stockton-Cinnabar and Stockton-Taylor Storm Drain System Improvement

Water Pollution Control Capital Program

2021-2025 Adopted CIP: \$1.2 billion

Wastewater Treatment:

- New Headworks
- East Primary Rehabilitation, Seismic Retrofit, and Odor Control
- Aeration Tanks and Blower Rehabilitation
- Secondary Clarifier Rehabilitation
- Filter Rehabilitation
- Final Effluent Pump Station & Stormwater Channel Improvements

Biosolids:

- Digested Sludge Dewatering Facility
- Digester and Thickener Facilities Upgrade

Electrical Systems and Power Generation:

- Energy Generation Improvements

Advanced Process Control & Automation:

- Advanced Facility Control and Meter Replacement

Water Utility System Capital Program

2021-2025 Adopted CIP: \$51.5 million

- Annual Water Main Replacement Program
- North San Jose Reliability Well Construction
- Water Resources Administration and Operations Facility

CSA OUTCOMES

(Supported by the Capital Programs)

- ✓ Reliable Utility Infrastructure
- ✓ Healthy Streams, Rivers, Marsh and Bay
- ✓ Safe, Reliable and Sufficient Water Supply

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Performance Measures

A set of consistent and comprehensive performance measurements along with targets and goals has been established for the entire capital program and adopted for each individual CSA. Measures focus on schedule (cycle time) and project delivery cost. Please see the Budget Guide section narrative for additional information on capital performance measurements.

Outcome: Quality CIP Projects Delivered On-Time and On-Budget

Strategic Goals	CSA Performance Measures	2018-2019 Actual ¹	2019-2020 Target	2019-2020 Estimate	2020-2021 Target	5-Year Goal
Environmental and Utility Services CSA delivers quality Capital Improvement Program (CIP) projects on-time and on-budget	1. % of CIP projects delivered within 2 months of approved baseline schedule ²	100% (30/30)	85%	94% (15/16)	85%	85%
	2. % of CIP projects that are completed within the approved baseline budget ³	88% (29/33)	90%	100% (25/25)	90%	90%

¹ The 2018-2019 Actual number of projects may vary from the 2018-2019 Estimate, as documented in the 2019-2020 Adopted Budget, because of revision to the date of estimated beneficial use of the project being revised and the project expected to be delivered in the following fiscal year. Also, the number of projects may change with the inclusion of projects in the 2018-2019 Actual not originally included in the 2018-2019 Adopted Budget Estimate due to incomplete project information at that time.

² Projects are considered “delivered” when they are available for their intended use and are considered “on schedule” if delivered within two months of baseline schedule.

³ Projects are considered “completed” when final cost accounting has occurred and the project has been accepted. Projects are considered “on budget” when the total expenditures do not exceed 101% of the baseline budget.

In 2019-2020, the Environmental and Utility Services CSA estimates to deliver 15 of 16 (94%) projects within two months of the approved baseline schedule, which is above the performance target of 85%. Some of the notable capital projects delivered in 2019-2020 include a number of sanitary sewer improvements and condition assessments at various locations, and the Alviso Storm Pump Station Project.

In 2019-2020, 25 of 25 (100%) projects were estimated to be completed within their baseline budgets, which is above the one-year performance target of 90%. A few of the notable capital projects completed in 2019-2020 include the Rincon Avenue and Virginia Avenue Sanitary Sewer Improvement, the Trimble Road and Amberwood Lane Sanitary Sewer Improvement, the Willow Street Sanitary Pump Station Rehabilitation, and multiple cast iron sewer replacements. The CSA continues to work to strengthen the alignment of project scopes, schedules, and budgets, while also accounting for external market conditions that may affect the delivery of capital projects. Staff relies heavily on the cost estimating and tracking tools that are available through the City’s Capital Project Management System (CPMS). These tools allow project management staff to effectively track project costs on an ongoing basis and assist in ensuring that expenditures remain within budgeted levels.

Capital Program Summary by City Service Area

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	<u>2020-2021 Budget</u>	<u>2021-2025 CIP Budget</u>	<u>Total Budget (All Years)</u>	<u>Start Date</u>	<u>End Date</u>
<u>Sanitary Sewer System</u>					
60 inch Brick Interceptor, Phase VIA and VIB	1,954,000	1,954,000	37,798,474	3rd Qtr. 2009	2nd Qtr. 2021
Almaden Supplement Sewer Rehabilitation (North)	200,000	3,130,000	3,130,000	3rd Qtr. 2020	2nd Qtr. 2022
Blossom Hill Road and Leigh Avenue Sanitary Sewer Improvement	200,000	5,400,000	5,400,000	2nd Qtr. 2021	2nd Qtr. 2022
Bollinger Road - Moorpark Avenue - Williams Road Sanitary Sewer Improv	1,355,000	1,355,000	9,576,910	3rd Qtr. 2012	4th Qtr. 2020
Capital Program and Public Works Department Support Service Costs	2,202,000	10,966,000	*	Ongoing	Ongoing
Cast Iron Pipe - Remove and Replace	5,000,000	25,000,000	*	Ongoing	Ongoing
City Hall Debt Service Fund	328,000	1,681,000	*	Ongoing	Ongoing
Condition Assessment Sewer Repairs	6,000,000	30,000,000	*	Ongoing	Ongoing
Fee Administration - Sanitary Sewer	85,000	425,000	*	Ongoing	Ongoing
Flow Monitoring Program (Master Planning)	900,000	3,500,000	*	Ongoing	Ongoing
Fourth Major Interceptor, Phase VIIA		5,500,000	5,500,000	3rd Qtr. 2021	2nd Qtr. 2023
Immediate Replacement and Diversion Projects	5,400,000	28,950,000	*	Ongoing	Ongoing
Inflow and Infiltration Reduction	200,000	1,000,000	*	Ongoing	Ongoing
Infrastructure - Sanitary Sewer Condition Assessment	3,200,000	16,000,000	*	Ongoing	Ongoing
Infrastructure Management System	49,000	261,000	*	Ongoing	Ongoing
Master Planning Updates	1,600,000	8,225,000	*	Ongoing	Ongoing
McKee Avenue Sanitary Sewer Improvement		1,500,000	1,500,000	3rd Qtr. 2022	2nd Qtr. 2023
Miscellaneous Capacity Improvements	1,314,000	1,314,000	1,500,000	3rd Qtr. 2019	2nd Qtr. 2021
Montague Sanitary Sewer Pump Station Reserve	2,000,000	2,000,000	2,000,000	N/A	N/A
Payments to West Valley Sanitation District	10,000	50,000	*	Ongoing	Ongoing
Permit Review and Inspection for Outside Agencies - Sanitary Sewer	25,000	125,000	*	Ongoing	Ongoing
Preliminary Engineering - Sanitary Sewer	950,000	4,750,000	*	Ongoing	Ongoing
Program Management - Sanitary Sewer	300,000	1,500,000	*	Ongoing	Ongoing
Public Art Allocation	94,000	605,000	*	Ongoing	Ongoing
Public Works Engineering Services Equipment (Materials Lab)	40,000	200,000	*	Ongoing	Ongoing
Rehabilitation of Sanitary Sewer Pump Stations	1,782,000	1,782,000	*	Ongoing	Ongoing
Reinforced Concrete Pipe Rehabilitation Program	500,000	2,500,000	*	Ongoing	Ongoing
Sierra Road Sanitary Sewer Improvement	2,300,000	2,500,000	2,500,000	3rd Qtr. 2020	3rd Qtr. 2021
Technology Drive Sanitary Sewer Improvement		2,500,000	2,500,000	3rd Qtr. 2024	2nd Qtr. 2025

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	<u>2020-2021 Budget</u>	<u>2021-2025 CIP Budget</u>	<u>Total Budget (All Years)</u>	<u>Start Date</u>	<u>End Date</u>
Urgent Rehabilitation and Repair Projects	7,000,000	31,000,000	*	Ongoing	Ongoing
Westmont Avenue and Harriet Avenue Sanitary Sewer Improvements	475,000	475,000	5,211,825	3rd Qtr. 2017	2nd Qtr. 2021
Total: Construction/Non-Construction	45,463,000	196,148,000			
Ending Fund Balance	11,192,532	2,007,532			**
Total: Sanitary Sewer System	56,655,532	198,155,532			**

Storm Sewer System

2017 Flood - Bailey Ave Storm Drain Inlet Repair	245,000	245,000	630,000	3rd Qtr. 2017	2nd Qtr. 2021
Alviso Storm Pump Station	120,000	120,000	2,548,743	3rd Qtr. 2013	3rd Qtr. 2020
Caltrans - LTC Reserve	4,500,000	4,500,000	4,500,000	N/A	N/A
Capital Program and Public Works Department Support Service Costs	613,000	2,517,000	*	Ongoing	Ongoing
Charcot Storm Pump Rental	300,000	1,500,000	*	Ongoing	Ongoing
City Hall Debt Service Fund	141,000	725,000	*	Ongoing	Ongoing
Citywide Outfall Improvements	4,200,000	16,560,000	*	Ongoing	Ongoing
Condition Assessment Storm Sewer Repairs	400,000	1,000,000	*	Ongoing	Ongoing
Fee Administration - Storm Sewer	25,000	125,000	*	Ongoing	Ongoing
Flow Monitoring Program	330,000	1,695,000	*	Ongoing	Ongoing
General Fund - Interest Income	12,000	60,000	*	Ongoing	Ongoing
Green Infrastructure Improvements	1,230,000	3,030,000	*	Ongoing	Ongoing
Infrastructure Management System	10,000	50,000	*	Ongoing	Ongoing
Large Trash Capture Devices	2,950,000	3,400,000	5,069,404	3rd Qtr. 2014	2nd Qtr. 2024
Measure T - Admin Reserve Storm Sewer		513,000	513,000	N/A	N/A
Measure T - Admin Storm Sewer	29,000	279,000	*	Ongoing	Ongoing
Measure T - Clean Water Projects	518,000	23,706,000	24,443,000	3rd Qtr. 2019	2nd Qtr. 2024
Measure T - Public Art Storm Sewer	26,000	443,000	*	Ongoing	Ongoing
Measure T - Storm Drain Improvements at Charcot Avenue	1,364,000	27,596,000	28,268,000	3rd Qtr. 2019	2nd Qtr. 2024
Permit Review and Inspection for Outside Agencies - Storm Sewer	50,000	250,000	*	Ongoing	Ongoing
Preliminary Engineering - Storm Sewer	180,000	900,000	*	Ongoing	Ongoing
Program Management - Storm Sewer	150,000	750,000	*	Ongoing	Ongoing
Public Art Allocation	30,000	109,000	*	Ongoing	Ongoing

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	<u>2020-2021 Budget</u>	<u>2021-2025 CIP Budget</u>	<u>Total Budget (All Years)</u>	<u>Start Date</u>	<u>End Date</u>
San Jose Watershed Invasive Species Removal and Engagement	410,000	810,000	*	Ongoing	Ongoing
Stockton-Cinnabar and Stockton-Taylor Storm Drain System Improvement	980,000	2,480,000	2,500,000	3rd Qtr. 2019	2nd Qtr. 2024
Storm Pump Station Rehabilitation and Replacement	3,060,000	9,560,000	*	Ongoing	Ongoing
Storm Sewer Improvements	1,200,000	3,200,000	*	Ongoing	Ongoing
Storm Sewer Master Plan - City-wide	1,100,000	5,425,000	*	Ongoing	Ongoing
Urgent Storm Drain Repair Projects	<u>530,000</u>	<u>1,530,000</u>	*	Ongoing	Ongoing
Total: Construction/Non-Construction	24,703,000	113,078,000			
Ending Fund Balance	679,820	6,692,820	**		
Total: Storm Sewer System	25,382,820	119,770,820	**		

Water Pollution Control

Additional Digester Upgrades		62,096,000	64,475,000	3rd Qtr. 2021	4th Qtr. 2027
Advanced Facility Control and Meter Replacement	6,143,000	6,873,000	26,938,870	3rd Qtr. 2010	2nd Qtr. 2023
Aeration Tanks and Blower Rehabilitation	4,790,000	72,847,000	119,676,047	2nd Qtr. 2015	1st Qtr. 2029
Capital Program and Public Works Department Support Service Costs	677,000	2,768,000	*	Ongoing	Ongoing
City Hall Debt Service Fund	94,000	482,000	*	Ongoing	Ongoing
Clean Water Financing Authority Debt Service Payment Fund	5,526,000	5,526,000	*	Ongoing	Ongoing
Debt Service Repayment for Plant Capital Improvement Projects	4,426,000	364,329,000	*	Ongoing	Ongoing
Digested Sludge Dewatering Facility	129,109,000	136,470,000	149,134,279	3rd Qtr. 2014	3rd Qtr. 2023
Digester and Thickener Facilities Upgrade	5,784,000	5,784,000	59,922,401	3rd Qtr. 2006	2nd Qtr. 2021
East Primary Rehabilitation, Seismic Retrofit, and Odor Control	1,000,000	107,785,000	112,888,000	3rd Qtr. 2010	1st Qtr. 2030
Energy Generation Improvements	2,568,000	2,568,000	52,702,228	1st Qtr. 2012	1st Qtr. 2021
Equipment Replacement	1,663,000	8,315,000	*	Ongoing	Ongoing
Equipment Replacement Reserve	5,000,000	5,000,000	5,000,000	N/A	N/A
Facility Wide Water Systems Improvements	4,005,000	13,834,000	15,130,715	3rd Qtr. 2014	1st Qtr. 2025
Filter Rehabilitation	48,842,000	51,289,000	53,230,304	3rd Qtr. 2014	3rd Qtr. 2023
Final Effluent Pump Station & Stormwater Channel Improvements	2,335,000	45,338,000	47,358,000	3rd Qtr. 2019	2nd Qtr. 2025
Flood Protection	1,428,000	1,428,000	1,546,141	3rd Qtr. 2017	2nd Qtr. 2021
Headworks Improvements	2,238,000	2,472,000	17,330,657	1st Qtr. 2013	3rd Qtr. 2023
Hydraulic Capacity Engineering	25,000	125,000	*	Ongoing	Ongoing

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	<u>2020-2021 Budget</u>	<u>2021-2025 CIP Budget</u>	<u>Total Budget (All Years)</u>	<u>Start Date</u>	<u>End Date</u>
Hydraulic Capacity Enhancements Reserve	3,666,000	3,666,000	*	Ongoing	Ongoing
Legacy Lagoons Biosolids Remediation	1,295,000	1,295,000	8,037,066	2nd Qtr. 2020	4th Qtr. 2020
New Headworks	9,946,000	11,940,000	143,367,891	3rd Qtr. 2012	3rd Qtr. 2023
Nitrification Clarifier Rehabilitation	19,485,000	56,958,000	93,778,182	3rd Qtr. 2009	2nd Qtr. 2025
Outfall Bridge and Levee Improvements	533,000	1,102,000	7,798,633	3rd Qtr. 2014	1st Qtr. 2022
Owner Controlled Insurance Program	4,839,000	11,207,000	16,497,000	2nd Qtr. 2017	2nd Qtr. 2024
Payment for Clean Water Financing Authority Trustee	5,000	10,000	*	Ongoing	Ongoing
Plant Electrical Reliability	1,017,000	1,710,000	8,616,455	3rd Qtr. 2003	2nd Qtr. 2022
Plant Infrastructure Improvements	1,000,000	5,000,000	*	Ongoing	Ongoing
Preliminary Engineering - Water Pollution Control	1,000,000	5,000,000	*	Ongoing	Ongoing
Program Management - Water Pollution Control	13,720,000	44,228,000	*	Ongoing	Ongoing
Secondary Clarifier Rehabilitation		3,398,000	26,455,000	3rd Qtr. 2023	4th Qtr. 2031
Storm Drain System Improvements	1,083,000	13,658,000	14,243,931	4th Qtr. 2017	2nd Qtr. 2024
Support Building Improvements	4,314,000	19,340,000	53,014,058	2nd Qtr. 2015	4th Qtr. 2033
Treatment Plant Distributed Control System	745,000	745,000	7,057,105	1st Qtr. 2012	2nd Qtr. 2021
Urgent and Unscheduled Treatment Plant Rehabilitation	1,500,000	7,500,000	*	Ongoing	Ongoing
Various Infrastructure Decommissioning	469,000	22,220,000	22,220,000	3rd Qtr. 2020	2nd Qtr. 2024
Yard Piping and Road Improvements	<u>13,319,000</u>	<u>105,427,000</u>	117,442,860	3rd Qtr. 2011	1st Qtr. 2028
Total: Construction/Non-Construction	303,589,000	1,209,733,000			
Ending Fund Balance	<u>2,126,267</u>	<u>4,032,267</u>	**		
Total: Water Pollution Control	305,715,267	1,213,765,267	**		

Water Utility System

Advance System Design	200,000	1,000,000	*	Ongoing	Ongoing
Annual Water Main Replacement	3,017,000	10,817,000	*	Ongoing	Ongoing
Backup Generator Replacement	199,000	199,000	*	Ongoing	Ongoing
Capital Program and Public Works Department Support Service Costs	9,000	42,000	*	Ongoing	Ongoing
City Hall Debt Service Fund	6,000	30,000	*	Ongoing	Ongoing
Evergreen Reliability Well		200,000	200,000	3rd Qtr. 2024	2nd Qtr. 2027
Facility Sites Improvement	269,000	269,000	280,000	3rd Qtr. 2018	2nd Qtr. 2021

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	<u>2020-2021 Budget</u>	<u>2021-2025 CIP Budget</u>	<u>Total Budget (All Years)</u>	<u>Start Date</u>	<u>End Date</u>
Fowler Pump Station Replacement	250,000	250,000	3,665,411	3rd Qtr. 2017	2nd Qtr. 2021
GIS Support	65,000	325,000	*	Ongoing	Ongoing
Infrastructure Improvements	820,000	4,200,000	*	Ongoing	Ongoing
Major Facilities Fee Administration	15,000	75,000	*	Ongoing	Ongoing
Master Plan Engineering	175,000	930,000	*	Ongoing	Ongoing
Meter Installations	50,000	250,000	*	Ongoing	Ongoing
North San José Reliability Well Construction	950,000	1,100,000	1,460,000	3rd Qtr. 2019	2nd Qtr. 2022
North San José Well Development and Construction	1,920,000	3,920,000	4,060,000	3rd Qtr. 2019	2nd Qtr. 2022
Preliminary Engineering - Water	150,000	800,000	*	Ongoing	Ongoing
Public Art Funding	2,000	10,000	*	Ongoing	Ongoing
Safety and Security Improvements	486,000	886,000	*	Ongoing	Ongoing
Service Installations	200,000	1,000,000	*	Ongoing	Ongoing
System Growth Related Projects Reserve	1,600,000	1,600,000	1,600,000	N/A	N/A
System Maintenance/Repairs	760,000	3,880,000	*	Ongoing	Ongoing
System Rehabilitation/Replacement Reserve	3,400,000	4,650,000	4,650,000	N/A	N/A
Tuers Road Site Improvements	30,000	30,000	204,293	3rd Qtr. 2018	2nd Qtr. 2021
Water Resources Administration & Operations Facility	<u>2,500,000</u>	<u>14,500,000</u>	14,500,000	3rd Qtr. 2020	2nd Qtr. 2025
Total: Construction/Non-Construction	17,073,000	50,963,000	30,619,704	318,308	434,548
Ending Fund Balance	<u>2,591,475</u>	<u>586,475</u>	**		
Total: Water Utility System	19,664,475	51,549,475	**		
CSA Total: Construction/Non-Construction	390,828,000	1,569,922,000	**		
Ending Fund Balance	<u>16,590,094</u>	<u>13,319,094</u>	**		
CSA Total:	<u>407,418,094</u>	<u>1,583,241,094</u>	**		

* Total Budget information is not provided due to the ongoing nature of this project.

** The 2020-2021 through 2023-2024 Ending Balance are excluded from the FIVE-YEAR TOTAL USE OF FUNDS to avoid multiple counting of the same funds.