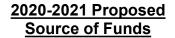
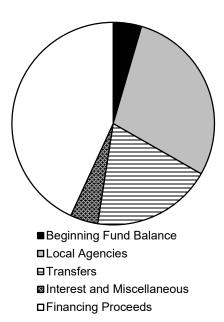
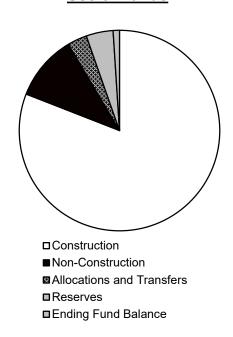
# WATER POLLUTION CONTROL 2021-2025 Capital Improvement Program

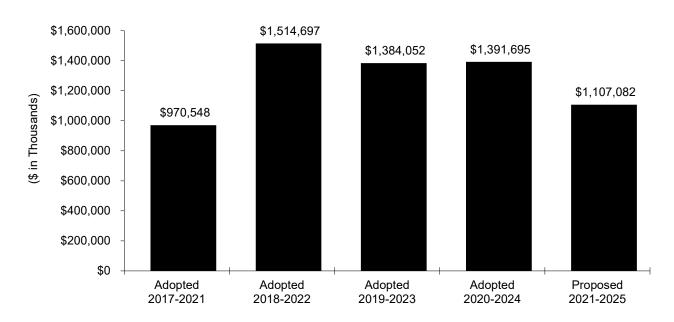




# 2020-2021 Proposed Use of Funds



#### **CIP History**



### 2021-2025 Proposed Capital Improvement Program

#### **Overview**

#### INTRODUCTION

The San José-Santa Clara Water Pollution Control Plant (Plant) is a regional wastewater treatment facility serving eight South Bay cities and four special districts including: San José, Santa Clara, Milpitas, Cupertino Sanitary District (Cupertino), West Valley Sanitation District (Campbell, Los Gatos, Monte Sereno, and Saratoga), County Sanitation Districts 2-3 (unincorporated), and Burbank Sanitary District (unincorporated). The Plant is jointly owned by the cities of San José and Santa Clara and is administered and operated by the City of San José's Environmental

| PLANT INFRASTRUCTURE                            |        |  |  |  |  |
|---|--------|--|--|--|--|
| ACRES OF LAND                                   | 2,684  |  |  |  |  |
| AVERAGE DRY WEATHER INFLUENT CAPACITY (MILLIONS | 167    |  |  |  |  |
| OF GALLONS PER DAY) AVERAGE DRY WEATHER         |        |  |  |  |  |
| INFLUENT FLOW (MILLIONS OF                      | 110    |  |  |  |  |
| GALLONS PER DAY) DRY METRIC TONS OF             | 43,500 |  |  |  |  |
| BIOSOLIDS HAULED EACH YEAR AVERAGE MEGAWATTS    |        |  |  |  |  |
| PRODUCED  | 5.6    |  |  |  |  |

Services Department (ESD). ESD is also responsible for planning, designing, and constructing capital improvements at the Plant, including water reuse facilities. On March 26, 2013, the City Council approved to change the name of the Plant to the San José-Santa Clara Regional Wastewater Facility (RWF) for use in public communications and outreach.

The 2021-2025 Proposed Capital Improvement Program (CIP) provides funding of \$1.1 billion, of which \$199.4 million is allocated in 2020-2021. The five-year CIP is developed by City staff, reviewed by the Treatment Plant Advisory Committee (TPAC), and approved by the San José City Council. The budgeted costs are allocated to each agency based on its contracted-for capacity in the Plant. Each agency is responsible for its allocated share of Plant costs, as well as the operation, maintenance, and capital costs of its own sewage collection system; debt service on bonds issued by the agency for sewer purposes; and any other sewer service related costs. Each agency is also responsible for establishing and collecting its respective sewer service and use charges, connection fees, or other charges for sewer service.

This program is part of the Environmental and Utility Services City Service Area (CSA) and supports the following outcomes: *Reliable Utility Infrastructure* and *Healthy Streams, Rivers, Marsh, and Bay.* 

#### PROGRAM PRIORITIES AND OBJECTIVES

The 2021-2025 Proposed CIP is consistent with the goals and policies outlined in the City's Envision San José 2040 General Plan. These include maintaining adequate operational capacity for wastewater treatment to accommodate the City's economic and population growth; adopting and implementing new technologies for wastewater to achieve greater safety, energy efficiency, and environmental benefit; and maintaining and operating the Plant in compliance with all applicable local, state, and federal regulatory requirements.

### 2021-2025 Proposed Capital Improvement Program

#### **Overview**

#### PROGRAM PRIORITIES AND OBJECTIVES

The development of the Proposed CIP is guided by the Plant Master Plan (PMP), a 30-year planning-level document focused on long-term rehabilitation and modernization of the Plant. On April 19, 2011, the City Council approved a preferred alternative for the Draft PMP and directed staff to proceed with a program-level environmental review of the preferred alternative. In November 2013, the City Council approved the PMP and certified the final Environmental Impact Report. In December 2013, Santa Clara's City Council took similar actions.



San José-Santa Clara Regional Wastewater Facility

The PMP recommends more than 114 capital improvement projects to be implemented over a 30-year planning period at an estimated investment level of approximately \$2 billion. The PMP assumed an implementation schedule of 2010 through 2040.

On September 24, 2013, the City Council approved a multi-year master services agreement with MWH Americas, Inc. for program management consultant services to assist with managing and implementing the RWF CIP¹. By February 2014, the consultant program management team, along with City staff, completed a project validation process that included a review and prioritization of PMP projects, along with gap projects identified through discussions with Operations and Maintenance staff. The projects included with this Proposed CIP are based on the outcome of that project validation and the completion of various programmatic studies. On October 17, 2017, the City Council approved an amendment to extend the consultant program management services through 2023 to align with the implementation of the ten-year capital program.

Program priorities for the near term include: managing long-term financing (for San José only); continuing to focus on program and project delivery; and actively managing project risks and variables to inform timing and amount of major encumbrances.

**Program Funding:** In early 2014, staff began working with representatives from the City of Santa Clara and the tributary agencies to develop a ten-year funding strategy for the CIP. On May 14, 2015, TPAC recommended approval of, and on June 2, 2015, the City Council approved the Ten-Year Funding Strategy. An update on the Ten-Year Funding Strategy was recommended for approval by TPAC on December 10, 2015 and approved by the City Council on January 12, 2016.

<sup>&</sup>lt;sup>1</sup> Effective January 1, 2017, MWH Americas, Inc. was acquired and merged with Stantec Consulting Services, Inc.

### 2021-2025 Proposed Capital Improvement Program

#### **Overview**

#### PROGRAM PRIORITIES AND OBJECTIVES

In August 2017, staff provided an update on Clean Water State Revolving Fund (SRF) funding to the City Council, which included news that the State Water Resources Control Board (SWRCB) would not be funding the Digester and Cogeneration projects. Staff continues to monitor the issue and evaluate further SRF opportunities as appropriate. However, based on the City's recent experience with this program, unless significant changes are made to the funding level, program priorities, program resources, and loan agreement terms, SRF loans do not appear to be a potential source of funding for the RWF CIP.

In October 2017, the City Council approved the establishment of a \$300 million interim financing facility (Wastewater Revenue Notes) to finance San José's portion of the capital costs. As the CIP progresses, the City will periodically pay off the interim financing facility with long-term bonds (Bond Proceeds). This strategy provides funding for the CIP at the lowest possible cost with the least amount of risk. The 2021-2025 Proposed CIP assumes the issuance of long-term bonds in 2022-2023 and the establishment of a second interim financing facility in 2023-2024. In addition, staff continues to build the operating reserves needed for issuing long-term bonds.

**Program/Project Delivery and Implementation:** Successful delivery of this large, multi-disciplinary CIP requires an integrated team of City staff, outside consultants, and contractors. The program is being delivered using a mix of City staff from the Environmental Services Department, the Public Works Department, the Planning, Building and Code Enforcement Department, the Finance Department, and the City Attorney's Office, as well as program management consultant staff and various other consultant firms.

With roughly two dozen large projects moving through the feasibility/development, design, and construction phases, the program continues to draw from the professional consultant and/or contractor community for program management, project management, subject-matter technical expertise, engineering design, and construction management services. In particular, to address the ramp up in large-scale construction projects, City staff developed a construction management strategy that has been incorporated into the 2021-2025 Proposed CIP. This includes increasing the construction management budget to provide the necessary support from Public Works and/or third-party construction management and controls consultants required for projects of this magnitude and complexity.

**Program/Project Delivery Variables:** The program team continues to develop and refine project schedules and budgets and implement regular reporting and centralized document management systems for consistent and efficient program and project delivery. The program team continues to work on developing standardized project delivery tools, design standards and specifications, control system and integration strategies, startup, commissioning, and training.

### 2021-2025 Proposed Capital Improvement Program

#### **Overview**

#### PROGRAM PRIORITIES AND OBJECTIVES

On the project delivery front, it is important to recognize that several projects in the Proposed CIP are in the feasibility/development or design phases. Staff will continue to develop and refine project scope, schedules, and budgets as the projects progress through scoping, preliminary engineering, detailed design, and bid award. To the extent possible, staff will continue to monitor and implement mitigation measures to minimize impacts to project delivery schedule and cost caused by various factors such as changes in project delivery staffing resources, long lead time items, external permit reviews and approvals, and construction bidding climate.

The spread of the novel coronavirus (COVID-19) in early 2020 has impacted capital projects citywide, particularly active construction projects. At the RWF, CIP staff have been working with contractors to continue construction where it possible to do so safely, but activity on a number projects has been halted or slowed. Given the uncertainty of COVID-19, the impact to project budgets and schedules is unknown at this time, but staff will attempt to mitigate the effect of the delays.

#### **SOURCES OF FUNDING**

Revenues for the 2021-2025 Proposed CIP are derived from several sources: transfers from the Sewer Service and Use Charge (SSUC) Fund, contributions from the City of Santa Clara and other tributary agencies, interest earnings, Calpine Metcalf Energy Center Facilities repayments, and debt-financing proceeds. Occasional transfers from the Sewage Treatment Plant Connection Fee Fund are programmed as needed per the receipt of connection fee revenue in that fund.

The SSUC Fund derives its revenues from fees imposed on San José users of the residential, commercial, and industrial sanitary sewer system. Transfers from this fund to the Plant CIP over the five years total \$227.5 million, which represents a \$24.8 million (9.8%) decrease as compared to the 2020-2024 Adopted CIP.

Contributions from the City of Santa Clara and other agencies are determined according to agreements with the participating agencies, based on financing plans, anticipated Plant expenditures, and the amount and characteristics of flows from each agency's connections to the Plant. These contributions reimburse the City for actual project expenditures. In this Proposed CIP, contributions from the City of Santa Clara and other agencies total \$241.2 million, which represents a \$73.6 million (23.4%) decrease compared to the 2020-2024 Adopted CIP.

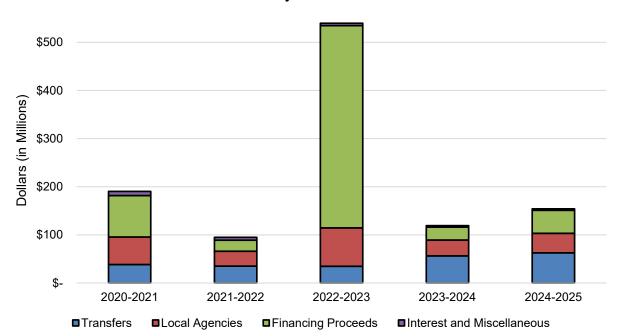
# 2021-2025 Proposed Capital Improvement Program

#### **Overview**

#### **SOURCES OF FUNDING**

To accommodate San José's portion of the project costs for the RWF, Financing Proceeds (Wastewater Revenue Notes and Bond Proceeds) are assumed to cover costs of the RWF improvements in the Proposed CIP. The establishment of an interim financing program, in the form of Wastewater Revenue Notes, was approved in 2017-2018 and provides up to \$300 million in interim financing capacity. The Notes provide periodic, short-term, flexible funding to meet the cash flow needs of the RWF improvement project. Generally, the notes are repaid within a 3-year period and offer lower interest costs than fixed rate bonds. In 2022-2023, bonds will be issued in the amount of \$385 million to both repay the Wastewater Revenue Notes issued since 2017-2018 and to cover other CIP project and financing costs within that fiscal year. Associated debt service for the Wastewater Revenue Notes and debt service for the bonds is estimated to be \$2.9 million in 2020-2021, \$4.2 million in 2021-2022, \$303.8 million in 2022-2023 (\$300.0 million for the repayment of Wastewater Revenue Notes and an additional \$3.8 million for debt service), \$25.2 million in 2023-2024, and \$26.7 in 2024-2025. The estimated size of the debt financings and the related debt service are scheduled to cover external third-party capital costs programmed in the 2021-2025 Proposed CIP while avoiding large rate increases that would be required to fund the PMP in a "pay-as-you-go" scenario. City of San José staff costs will be cash-funded and not included in either the Wastewater Revenue Notes program or long-term debt financing. Additional debt financing, in the form of notes and bonds, will likely be needed to fund project costs beyond the Proposed CIP period.

### Summary of Revenues

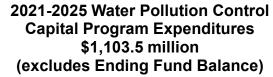


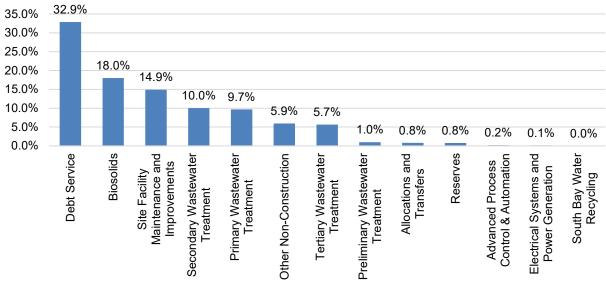
### 2021-2025 Proposed Capital Improvement Program

#### **Overview**

#### **PROGRAM HIGHLIGHTS**

The Water Pollution Control Capital Program's expenditures are organized to show the use of funds in several categories. The following highlights the major projects in the program. For further information on the program's individual projects, please refer to the Detail Pages.





#### Ongoing Projects

Ongoing construction and non-construction projects are included in the funds within the Water Pollution CIP. Due to the ongoing nature of these projects, detail pages do not accompany the items. Brief descriptions of these projects are provided in the table below.

| Construction Projects Project Name | \$ (CIP)         | Description  |
|------------------------------------|------------------|--|
| Equipment Replacement              | \$8.3<br>million | This allocation provides for the urgent replacement of equipment at the Plant that is not identified in any other project. |

# 2021-2025 Proposed Capital Improvement Program

### Overview

| Project Name   | \$ (CIP)                              | Description   |
|--|---------------------------------------|---|
| Urgent and Unscheduled<br>Treatment Plant Rehabilitation   | \$7.5<br>million                      | This ongoing allocation is used to investigate, prioritize, and rehabilitate structures and systems at the Water Pollution Control Plant.   |
| Plant Infrastructure<br>Improvements   | \$5.0<br>million                      | This allocation provides for improvements, rehabilitation, or replacement of existing Plant infrastructure. Examples of the ongoing replacement and rehabilitation work include handrail replacement, concrete repairs, telecommunication   |
| Hydraulic Capacity<br>Engineering  | \$125,000                             | systems upgrade, and Plant support system improvements. This allocation funds the expansion of the South Bay Water Recycling system through the construction of pipeline and ancillary distribution system projects. No revenue from Plant Tributary Agencies or City Sanitary Sewer rate payers will be used to fund this project. |
| Non-Construction Projects  |                                       |   |
| Project Name   | \$ (CIP)                              | Description   |
| Debt Service Repayment for<br>Plant Capital Improvement<br>Projects  | \$362.8 million                       | This allocation provides for the repayment of financing proceeds, including short-term wastewater revenue notes and long-term bonds, drawn for the Plant Capital Improvement Projects.  |
| Program Management - Water<br>Pollution Control<br>Clean Water Financing<br>Authority Debt Service<br>Payment Fund | \$42.2<br>million<br>\$5.5<br>million | This allocation funds the administration and management of the Water Pollution Control CIP.  This funding provides for the payment of the 1995 Series A and B Revenue Bonds. The moneys are transferred to the Clean Water Financing Authority Debt Service Payment   |
| Preliminary Engineering -<br>Water Pollution Control   | \$5.0 million                         | Fund. This allocation provides funding to support preliminary engineering for Plant-related projects, including studies, pilots, and field verifications to evaluate impacts on   |
| Payment for Clean Water<br>Financing Authority Trustee   | \$10,000                              | operations. This allocation provides for administrative costs of the San José/Santa Clara Clean Water Financing Authority related to bond issuances.  |

### 2021-2025 Proposed Capital Improvement Program

#### **Overview**

#### MAJOR CHANGES FROM THE 2020-2024 ADOPTED CIP

The overall size of the Water Pollution Control CIP has decreased by \$285 million from \$1.392 billion in the 2020-2024 Adopted CIP to \$1.107 billion in the 2021-2025 Proposed CIP. The following table outlines the most significant changes to project budgets, including new/augmented allocations and reduced/eliminated allocations.

| Project Name  | Incr/(Decr)       |
|---|-------------------|
| Additional Digester Upgrades                                  | \$51.6 million    |
| Digested Sludge Dewatering Facility                           | \$14.1 million    |
| Filter Rehabilitation   | (\$23.3 million)  |
| Debt Service Repayment for Plant Capital Improvement Projects | (\$28.3 million)  |
| Nitrification Clarifiers Rehabilitation                       | (\$53.4 million)  |
| New Headworks   | (\$124.5 million) |

#### OPERATING BUDGET IMPACT

Several projects in this Proposed CIP are expected to introduce new operating costs to the Operating Budget. These include: Digester and Thickener Facilities Upgrade, Digested Sludge Dewatering Facility, Energy Generation Improvements, and New Headworks. The operation and maintenance impacts are due to chemical, labor, maintenance consumables (e.g. parts, oil), electrical, and hauling & tipping costs.

The Digester and Thickener Facilities Upgrade project will include a new chemical dosing station and new sludge screening facility, which are expected to be in operation by late 2020.

A new Digested Sludge Dewatering Facility is anticipated to be in operation by mid-2023, which will include new mechanical dewatering units, feed tank, sludge storage, conveyance, and chemical dosing facilities to be housed in a new building. This facility will allow for the eventual retirement of the current lagoons and sludge drying beds.

A new Cogeneration Facility (part of the Energy Generation Improvements appropriation) is expected to come online in mid-2020 that will introduce a new generator building, new engine generators, a gas treatment system, boilers, chillers, and other ancillary equipment. Depending on the timing of when new facilities come online and existing facilities are decommissioned, there may be a temporary increase in operating costs due to the dual operations.

Net operating cost impacts will continue to be evaluated and updated based on final design and operation configurations. The table below summarizes the operating and maintenance impact to the San Jose-Santa Clara Treatment Plant Operating Fund for several projects.

# 2021-2025 Proposed Capital Improvement Program

### **Overview**

#### **Net Operating Budget Impact Summary**

|   | 2021-2022   | 2022-2023   | 2023-2024    | 2024-2025    |
|---|-------------|-------------|--------------|--------------|
| New Headworks                             |             | \$9,000     | \$26,000     | \$27,000     |
| Digested Sludge Dewatering Facility       |             | \$3,062,000 | \$12,251,000 | \$12,599,000 |
| Digester and Thickener Facilities Upgrade | \$2,123,000 | \$2,203,000 | \$2,285,000  | \$2,370,000  |
| Energy Generation Improvement             | \$92,000    | \$95,000    | \$97,000     | \$100,000    |
|   | \$2.215.000 | \$5.369.000 | \$14.659.000 | \$15.096.000 |

Note: The estimated operating costs have been provided by the Environmental Services Department and have not yet been fully analyzed by the City Manager's Budget Office. That analysis may result in different costs when the actual budget for the year in question is developed.

# 2021-2025 Proposed Capital Improvement Program

# **Source of Funds (Combined)**

|  | Estimated <u>2019-2020</u>    | 2020-2021                     | 2021-2022                     | 2022-2023                     | 2023-2024                     | 2024-2025                     | 5-Year Total                    |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---------------------------------|
| TOTAL SOURCES  | 549,204,349                   | 199,441,267                   | 96,899,267                    | 542,634,267                   | 123,546,267                   | 157,883,267                   | 1,107,082,267                   |
| San José-Santa Clara Treatment<br>Plant Capital Fund (512)   |                               |                               |                               |                               |                               |                               |                                 |
| Beginning Balance  | 66,898,939                    | 5,122,292                     | 1,773,292                     | 2,789,292                     | 3,908,292                     | 3,539,292                     | 5,122,292 *                     |
| Reserve for Encumbrance  | 153,850,435                   |                               |                               |                               |                               |                               |                                 |
| Transfers Transfer for 2009 Debt Service from the Sewer Service and Use Charge Fund (541)  | 5,372,000                     | 5,371,000                     |                               |                               |                               |                               | 5,371,000                       |
| Transfer for Plant CIP Debt Service from<br>Sewer Service and Use Charge Fund<br>(541)   | 2,625,000                     | 2,926,000                     | 4,169,000                     | 3,835,000                     | 25,225,000                    | 26,675,000                    | 62,830,000                      |
| Transfer for Capital Projects from Sewer<br>Service and Use Charge Fund (541)<br>Transfer for Equipment Replacement<br>from Sewer Service and Use Charge | 27,000,000                    | 30,000,000                    | 30,000,000                    | 30,000,000                    | 30,000,000                    | 35,000,000<br>1,083,000       | 155,000,000<br>4,332,000        |
| Fund (541)  TOTAL Transfers  | 34,997,000                    | 38,297,000                    | 35,252,000                    | 34,918,000                    | 56,308,000                    | 62,758,000                    | 227,533,000                     |
| Revenue from Use of Money and Property Interest Income TOTAL Revenue from Use of Money and Property  | 6,507,000<br><b>6,507,000</b> | 8,368,000<br><b>8,368,000</b> | 5,497,000<br><b>5,497,000</b> | 4,461,000<br><b>4,461,000</b> | 2,479,000<br><b>2,479,000</b> | 2,282,000<br><b>2,282,000</b> | 23,087,000<br><b>23,087,000</b> |
| Revenue from Local Agencies<br>2009 Bond Debt Repayment  | 155,000                       | 155,000                       |                               |                               |                               |                               | 155,000                         |

# V - 75

# Water Pollution Control

# 2021-2025 Proposed Capital Improvement Program

# **Source of Funds (Combined)**

| Estimated   |   |   |  |   |  |  |
|-------------|---|---|--|---|--|--|
| 2019-2020   | 2020-2021   | 2021-2022   | 2022-2023  | 2023-2024   | 2024-2025  | 5-Year Total   |
| 101,028,000 | 57,154,000  | 30,656,000  | 79,703,000   | 33,046,000  | 40,457,000   | 241,016,000  |
| 101,183,000 | 57,309,000  | 30,656,000  | 79,703,000   | 33,046,000  | 40,457,000   | 241,171,000  |
|             |   |   |  |   |  |  |
| 2,465,000   |   |   |  |   |  |  |
| 2,465,000   |   |   |  |   |  |  |
|             |   |   |  |   |  |  |
| 389,000     | 389,000   | 389,000   | 389,000  | 389,000   | 389,000  | 1,945,000  |
| 389,000     | 389,000   | 389,000   | 389,000  | 389,000   | 389,000  | 1,945,000  |
|             |   |   |  |   |  |  |
| 179,000,000 | 86,000,000  | 23,000,000  | 35,000,000   | 27,000,000  | 48,000,000   | 219,000,000  |
|             |   |   | 385,000,000  |   |  | 385,000,000  |
| 179,000,000 | 86,000,000  | 23,000,000  | 420,000,000  | 27,000,000  | 48,000,000   | 604,000,000  |
| 545,290,374 | 195,485,292   | 96,567,292  | 542,260,292  | 123,130,292   | 157,425,292  | 1,102,858,292  |
|             |   |   |  |   |  |  |
| 3,832,975   | 3,888,975   | 264,975   | 306,975  | 348,975   | 390,975  | 3,888,975  |
| 81,000      | 67,000  | 67,000  | 67,000   | 67,000  | 67,000   | 335,000  |
|             | 2019-2020 101,028,000 101,183,000 2,465,000 2,465,000 389,000 179,000,000 179,000,000 545,290,374 | 2019-2020       2020-2021         101,028,000       57,154,000         101,183,000       57,309,000         2,465,000       389,000         389,000       389,000         179,000,000       86,000,000         179,000,000       86,000,000         545,290,374       195,485,292         3,832,975       3,888,975 | 2019-2020         2020-2021         2021-2022           101,028,000         57,154,000         30,656,000           101,183,000         57,309,000         30,656,000           2,465,000         389,000         389,000           389,000         389,000         389,000           179,000,000         86,000,000         23,000,000           179,000,000         86,000,000         23,000,000           545,290,374         195,485,292         96,567,292           3,832,975         3,888,975         264,975 | 2019-2020         2020-2021         2021-2022         2022-2023           101,028,000         57,154,000         30,656,000         79,703,000           101,183,000         57,309,000         30,656,000         79,703,000           2,465,000         2,465,000         389,000         389,000         389,000           389,000         389,000         389,000         389,000         389,000           179,000,000         86,000,000         23,000,000         35,000,000           179,000,000         86,000,000         23,000,000         420,000,000           545,290,374         195,485,292         96,567,292         542,260,292           3,832,975         3,888,975         264,975         306,975 | 2019-2020         2020-2021         2021-2022         2022-2023         2023-2024           101,028,000         57,154,000         30,656,000         79,703,000         33,046,000           101,183,000         57,309,000         30,656,000         79,703,000         33,046,000           2,465,000         2,465,000         389,000         389,000         389,000         389,000         389,000           389,000         389,000         389,000         389,000         389,000         27,000,000           179,000,000         86,000,000         23,000,000         35,000,000         27,000,000           179,000,000         86,000,000         23,000,000         420,000,000         27,000,000           545,290,374         195,485,292         96,567,292         542,260,292         123,130,292           3,832,975         3,888,975         264,975         306,975         348,975 | 2019-2020         2020-2021         2021-2022         2022-2023         2023-2024         2024-2025           101,028,000         57,154,000         30,656,000         79,703,000         33,046,000         40,457,000           101,183,000         57,309,000         30,656,000         79,703,000         33,046,000         40,457,000           2,465,000         2,465,000         389,000         48,000,000         27,000,000         48,000,000         48,000,000         27,000,000         48,000,000         545,290,374         195,485,292         96,567,292         542,260,292         123,130,292         157,425,292         3,000,000         3,000,000         3,000,000         3,000,000         3,000,000         3,000,000         3,000,000         3,000,000         3,000,000         3,000,000         3 |

# 2021-2025 Proposed Capital Improvement Program

# **Source of Funds (Combined)**

|   | Estimated <u>2019-2020</u> | 2020-2021 | 2021-2022 | 2022-2023 | 2023-2024 | 2024-2025 | 5-Year Total |
|---|----------------------------|-----------|-----------|-----------|-----------|-----------|--------------|
| TOTAL Revenue from Use of Money and Property          | 81,000                     | 67,000    | 67,000    | 67,000    | 67,000    | 67,000    | 335,000      |
| Total South Bay Water Recycling<br>Capital Fund (571) | 3,913,975                  | 3,955,975 | 331,975   | 373,975   | 415,975   | 457,975   | 4,223,975 *  |

<sup>\*</sup> The 2021-2022 through 2024-2025 Beginning Balances are excluded from the FIVE-YEAR TOTAL SOURCE OF FUNDS to avoid multiple counting of the same funds.

# 2021-2025 Proposed Capital Improvement Program

**Use of Funds (Combined)** 

|   |                     | USE OI I    | ullus (O   | Ullibilieu |            |            |              |
|---|---------------------|-------------|------------|------------|------------|------------|--------------|
|   | Estimated 2019-2020 | 2020-2021   | 2021-2022  | 2022-2023  | 2023-2024  | 2024-2025  | 5-Year Total |
| Water Pollution Control   |                     |             |            |            |            |            |              |
| Headworks Improvements  | 16,274,657          | 822,000     | 165,000    | 65,000     | 4,000      |            | 1,056,000    |
| New Headworks   | 133,477,891         | 7,896,000   | 1,361,000  | 611,000    | 22,000     |            | 9,890,000    |
| Preliminary Wastewater Treatment                                      | 149,752,548         | 8,718,000   | 1,526,000  | 676,000    | 26,000     |            | 10,946,000   |
| East Primary Rehabilitation, Seismic Retrofit, and Odor Control       | 1,000,000           |             | 10,885,000 | 94,530,000 | 686,000    | 684,000    | 106,785,000  |
| Primary Wastewater Treatment  | 1,000,000           |             | 10,885,000 | 94,530,000 | 686,000    | 684,000    | 106,785,000  |
| Aeration Tanks and Blower Rehabilitation                              | 47,239,047          |             | 7,857,000  | 1,074,000  | 707,000    | 58,419,000 | 68,057,000   |
| Nitrification Clarifier Rehabilitation                                | 54,703,182          | 1,602,000   | 2,518,000  | 30,929,000 | 2,152,000  | 1,874,000  | 39,075,000   |
| Secondary Clarifier Rehabilitation                                    |                     |             |            |            | 565,000    | 2,833,000  | 3,398,000    |
| Secondary Wastewater Treatment  | 101,942,228         | 1,602,000   | 10,375,000 | 32,003,000 | 3,424,000  | 63,126,000 | 110,530,000  |
| Filter Rehabilitation   | 36,815,304          | 13,968,000  | 1,244,000  | 1,102,000  | 101,000    |            | 16,415,000   |
| Final Effluent Pump Station &   | 902,000             | 2,009,000   | 4,503,000  | 880,000    | 35,975,000 | 1,645,000  | 45,012,000   |
| Stormwater Channel Improvements Outfall Bridge and Levee Improvements | 6,696,633           | 533,000     | 569,000    |            |            |            | 1,102,000    |
| Tertiary Wastewater Treatment   | 44,413,937          | 16,510,000  | 6,316,000  | 1,982,000  | 36,076,000 | 1,645,000  | 62,529,000   |
| Additional Digester Upgrades  |                     |             | 1,191,000  | 8,031,000  | 1,298,000  | 51,576,000 | 62,096,000   |
| Digested Sludge Dewatering Facility                                   | 13,584,279          | 128,189,000 | 5,361,000  | 1,926,000  | 74,000     |            | 135,550,000  |
| Digester and Thickener Facilities                                     | 58,700,401          | 1,222,000   |            |            |            |            | 1,222,000    |
| Upgrade<br>Biosolids  | 72,284,679          | 129,411,000 | 6,552,000  | 9,957,000  | 1,372,000  | 51,576,000 | 198,868,000  |
| Energy Generation Improvements  | 52,115,228          | 587,000     |            |            |            |            | 587,000      |
| Plant Electrical Reliability  | 7,729,455           | 194,000     | 693,000    |            |            |            | 887,000      |
| Electrical Systems and Power Generation                               | 59,844,684          | 781,000     | 693,000    |            |            |            | 1,474,000    |
| Advanced Facility Control and Meter<br>Replacement                    | 20,281,870          | 990,000     | 408,000    | 322,000    |            |            | 1,720,000    |
| Treatment Plant Distributed Control System                            | 7,057,105           |             |            |            |            |            |              |

# 2021-2025 Proposed Capital Improvement Program

**Use of Funds (Combined)** 

|  |                        |             | uniuo (o   |             |            |             |              |
|--|------------------------|-------------|------------|-------------|------------|-------------|--------------|
|  | Estimated 2019-2020    | 2020-2021   | 2021-2022  | 2022-2023   | 2023-2024  | 2024-2025   | 5-Year Total |
| Advanced Process Control &   | 27,338,975             | 990,000     | 408,000    | 322,000     |            |             | 1,720,000    |
| Automation Facility Wide Water Systems Improvements                                    | 4,472,715              | 753,000     | 1,196,000  | 7,748,000   | 463,000    | 422,000     | 10,582,000   |
| Flood Protection   | 1,546,141              |             |            |             |            |             |              |
| Plant Infrastructure Improvements  | 1,957,786              | 1,000,000   | 1,000,000  | 1,000,000   | 1,000,000  | 1,000,000   | 5,000,000    |
| Storm Drain System Improvements  | 1,668,931              |             | 11,116,000 | 807,000     | 652,000    |             | 12,575,000   |
| Support Building Improvements  | 15,205,124             | 113,000     |            | 13,090,000  | 969,000    | 967,000     | 15,139,000   |
| Urgent and Unscheduled Treatment Plant Rehabilitation                                  | 500,000                | 1,500,000   | 1,500,000  | 1,500,000   | 1,500,000  | 1,500,000   | 7,500,000    |
| Various Infrastructure Decommissioning   | 469,000                |             | 2,590,000  | 18,470,000  | 691,000    |             | 21,751,000   |
| Yard Piping and Road Improvements  | 22,447,860             |             | 16,972,000 | 37,559,000  | 35,707,000 | 1,870,000   | 92,108,000   |
| Site Facility Maintenance and Improvements   | 48,267,557             | 3,366,000   | 34,374,000 | 80,174,000  | 40,982,000 | 5,759,000   | 164,655,000  |
| Hydraulic Capacity Engineering   | 25,000                 | 25,000      | 25,000     | 25,000      | 25,000     | 25,000      | 125,000      |
| South Bay Water Recycling  | 25,000                 | 25,000      | 25,000     | 25,000      | 25,000     | 25,000      | 125,000      |
| Water Pollution Control - Construction   | 504,869,609            | 161,403,000 | 71,154,000 | 219,669,000 | 82,591,000 | 122,815,000 | 657,632,000  |
| Debt Service Repayment for Plant<br>Capital Improvement Projects                       | 5,688,000              | 2,926,000   | 4,169,000  | 303,834,000 | 25,225,000 | 26,675,000  | 362,829,000  |
| Equipment Replacement  | 1,663,000              | 1,663,000   | 1,663,000  | 1,663,000   | 1,663,000  | 1,663,000   | 8,315,000    |
| Owner Controlled Insurance Program   | 6,424,000              | 3,705,000   | 3,705,000  | 1,399,000   | 1,264,000  |             | 10,073,000   |
| Master Plan Updates  | 1,500,000              |             |            |             |            |             |              |
| Preliminary Engineering - Water Pollution Control                                      | 1,674,737              | 1,000,000   | 1,000,000  | 1,000,000   | 1,000,000  | 1,000,000   | 5,000,000    |
| Program Management - Water Pollution Control   | 11,775,393             | 11,738,000  | 11,712,000 | 9,794,000   | 7,426,000  | 1,576,000   | 42,246,000   |
| General Non-Construction - Water Pollution Control                                     | 28,725,131             | 21,032,000  | 22,249,000 | 317,690,000 | 36,578,000 | 30,914,000  | 428,463,000  |
| Water Pollution Control - Non Construction   | 28,725,131             | 21,032,000  | 22,249,000 | 317,690,000 | 36,578,000 | 30,914,000  | 428,463,000  |
| Public Art Allocation  | 253,342<br>253,342     |             |            |             |            |             |              |
| Public Art Projects  Capital Program and Public Works Department Support Service Costs | <b>253,342</b> 724,000 | 677,000     | 298,000    | 921,000     | 350,000    | 522,000     | 2,768,000    |

# 2021-2025 Proposed Capital Improvement Program

**Use of Funds (Combined)** 

|  | Estimated   | 0000 0004   | 0004 0000  | 0000 0000   | 0000 0004   | 0004 0005   | 5 V T - 4 - 1   |
|--|-------------|-------------|------------|-------------|-------------|-------------|-----------------|
| _  | 2019-2020   | 2020-2021   | 2021-2022  | 2022-2023   | 2023-2024   | 2024-2025   | 5-Year Total    |
| Payment for Clean Water Financing Authority Trustee          | 5,000       | 5,000       | 5,000      |             |             |             | 10,000          |
| Allocations  | 729,000     | 682,000     | 303,000    | 921,000     | 350,000     | 522,000     | 2,778,000       |
| City Hall Debt Service Fund                                  | 89,000      | 94,000      | 97,000     | 97,000      | 97,000      | 97,000      | 482,000         |
| Clean Water Financing Authority Debt<br>Service Payment Fund | 5,527,000   | 5,526,000   |            |             |             |             | 5,526,000       |
| Transfers to Special Funds                                   | 5,616,000   | 5,620,000   | 97,000     | 97,000      | 97,000      | 97,000      | 6,008,000       |
| Transfers Expense  | 5,616,000   | 5,620,000   | 97,000     | 97,000      | 97,000      | 97,000      | 6,008,000       |
| Equipment Replacement Reserve                                |             | 5,000,000   |            |             |             |             | 5,000,000       |
| Hydraulic Capacity Enhancements<br>Reserve                   |             | 3,666,000   |            |             |             |             | 3,666,000       |
| Expense Reserves - Non Construction                          |             | 8,666,000   |            |             |             |             | 8,666,000       |
| Total Expenditures   | 540,193,082 | 197,403,000 | 93,803,000 | 538,377,000 | 119,616,000 | 154,348,000 | 1,103,547,000   |
| Ending Fund Balance  | 9,011,267   | 2,038,267   | 3,096,267  | 4,257,267   | 3,930,267   | 3,535,267   | 3,535,267 *     |
| TOTAL -  | 549,204,349 | 199,441,267 | 96,899,267 | 542,634,267 | 123,546,267 | 157,883,267 | 1,107,082,267 * |

<sup>\*</sup> The 2020-2021 through 2023-2024 Ending Balances are excluded from the FIVE-YEAR TOTAL USE OF FUNDS to avoid multiple counting of the same funds.

2021-2025 Proposed Capital Improvement Program

### **Detail of One-Time Construction Projects**

### **Digested Sludge Dewatering Facility**

| CSA                      | Environmental and Utility Services | Initial Start Date        | 3rd Qtr. 2012 |
|--------------------------|------------------------------------|---------------------------|---------------|
| CSA Outcome              | Reliable Utility Infrastructure    | Initial End Date          | 2nd Qtr. 2013 |
| Department               | Environmental Services             | <b>Revised Start Date</b> | 3rd Qtr. 2014 |
| Location                 | Water Pollution Control Plant      | Revised End Date          | 3rd Qtr. 2023 |
| <b>Council Districts</b> | 4                                  | Initial Project Budget    | \$1,000,000   |
| Appropriation            | A7452                              | FY Initiated              | 2012-2013     |

**Description**This project will construct a new mechanical dewatering facility and support systems to replace the existing sludge storage lagoons and open air solar drying beds. All new mechanical dewatering units, feed tank, storage, conveyance, and chemical dosing facilities will be housed in an odor-controlled building.

Justification

This project responds to a recommendation in the adopted Plant Master Plan to consolidate the Plant's operational area by reducing the biosolids process footprint. It also provides greater flexibility in biosolids disposal options in anticipation of the potential Newby Island landfill closure in 2025, responds to stricter regulations for landfilling and alternative daily cover, and addresses odor, noise, and aesthetics concerns from the operations of the lagoons and sludge drying beds.

**Notes** This project corresponds to Plant Master Plan Project Nos. 44, 54, 57-60 and Validation Project PS-03.

Major Cost Changes 2014-2018 CIP - increase of \$325.0 million due to accelerated project start and compressed implementation schedule. 2015-2019 CIP - decrease of \$256.8 million due to creation of separate biosolids projects through project validation. 2016-2020 CIP - increase of \$1.6 million due to escalation of construction costs. 2017-2021 CIP - increase of \$28.1 million due to increased scope and revised cost estimate. 2019-2023 CIP - increase of \$18.3 million due to an updated construction cost estimate. 2020-2024 CIP - increase of \$11.8 million due to an increase in scope and updated construction cost estimate. 2021-2025 CIP - increase of \$26.4 million due to an updated scope and construction cost estimate.

|                     | PRIOR | FY20   | FY21     | FY22     | FY23       | FY24 | FY25 | 5 YEAR  | BEYOND         | PROJECT |
|---------------------|-------|--------|----------|----------|------------|------|------|---------|----------------|---------|
|                     | YEARS | EST    |          |          |            |      |      | TOTAL   | <b>5 YEARS</b> | TOTAL   |
|                     |       |        | Expendit | ure Sche | dule (000s | s)   |      |         |                |         |
| Project Feasibility |       |        | <u> </u> |          | <u>.</u>   |      |      |         |                |         |
| Development         | 5,193 | 573    |          |          |            |      |      |         |                | 5,765   |
| Design              | 116   | 12,519 | 2,091    | 762      |            |      |      | 2,853   |                | 15,488  |
| Bid & Award         | 1,067 | 492    |          |          |            |      |      |         |                | 1,559   |
| Construction        |       |        | 126,098  | 4,599    | 1,434      |      |      | 132,131 |                | 132,131 |
| Post Construction   |       |        |          |          | 492        | 74   |      | 566     |                | 566     |
| Total               | 6,375 | 13,584 | 128,189  | 5,361    | 1,926      | 74   |      | 135,550 |                | 155,509 |

| Funding Source Schedule (000s)                       |       |        |         |       |       |    |         |         |  |  |  |
|--|-------|--------|---------|-------|-------|----|---------|---------|--|--|--|
| San José-Santa Clara<br>Treatment Plant Capital Fund |       |        |         |       |       |    |         |         |  |  |  |
| (512)  | 6,375 | 13,584 | 128,189 | 5,361 | 1,926 | 74 | 135,550 | 155,509 |  |  |  |
| Total  | 6,375 | 13,584 | 128,189 | 5,361 | 1,926 | 74 | 135,550 | 155,509 |  |  |  |

| Annual Operating Budget Impact (000s) |       |        |        |  |  |  |  |  |
|---------------------------------------|-------|--------|--------|--|--|--|--|--|
| Operating                             | 3,004 | 12,019 | 12,360 |  |  |  |  |  |
| Maintenance                           | 58    | 232    | 239    |  |  |  |  |  |
| Total                                 | 3,062 | 12,251 | 12,599 |  |  |  |  |  |

2021-2025 Proposed Capital Improvement Program

### **Detail of One-Time Construction Projects**

#### **Filter Rehabilitation**

| CSA                      | Environmental and Utility Services | Initial Start Date        | 3rd Qtr. 2011 |
|--------------------------|------------------------------------|---------------------------|---------------|
| CSA Outcome              | Reliable Utility Infrastructure    | Initial End Date          | 2nd Qtr. 2013 |
| Department               | Environmental Services             | <b>Revised Start Date</b> | 3rd Qtr. 2014 |
| Location                 | Water Pollution Control Plant      | Revised End Date          | 3rd Qtr. 2023 |
| <b>Council Districts</b> | 4                                  | Initial Project Budget    | \$3,506,000   |
| Appropriation            | A7227                              | FY Initiated              | 2010-2011     |

This project will replace filter media, valves, actuators, and electrical controls for all filters. It will also replace the existing surface wash system with a new air scour system, rehabilitate electrical switchgears and related motor control consoles, upgrade pipes, and make concrete repairs.

Justification

The existing filter complex was constructed in the 1970s and requires significant refurbishment. The filter media, consisting of anthracite and sand, needs to be replaced and some of the mechanical and electrical components need to be upgraded. These critical improvements are needed to ensure continued regulatory compliance and operational reliability until a new filter complex is constructed.

Notes This project corresponds to Plant Master Plan Project Nos. 31, 32, and 33 as well as Validation Project PLF-01 and PLF-02.

Major Cost
Changes

2014-2018 CIP - decrease of \$2.7 million due to the removal of scope that is dependent on the evaluation of the demonstration project.

2015-2019 CIP - increase of \$26.9 million due to revised scope and project validation cost estimate.

2016-2020 CIP - increase of \$6.5 million due to revised cost estimate and escalation of construction costs.

2017-2021 CIP - increase of \$2.5 million due to increased project scope.

2019-2023 CIP - increase of \$6.9 million due to a revised construction cost estimate. 2020-2024 CIP - increase of \$2.5 million due to a revised construction cost estimate. 2021-2025 CIP - increase of \$12.6 million due to a revised construction estimate.

|                     | PRIOR | FY20   | FY21      | FY22      | FY23       | FY24 | FY25 | 5 YEAR | <b>BEYOND</b>  | PROJECT |
|---------------------|-------|--------|-----------|-----------|------------|------|------|--------|----------------|---------|
|                     | YEARS | EST    |           |           |            |      |      | TOTAL  | <b>5 YEARS</b> | TOTAL   |
|                     |       |        | Expenditu | ure Sched | dule (000s | 5)   |      |        |                |         |
| Project Feasibility |       |        |           |           |            |      |      |        |                |         |
| Development         | 2,047 | 0      |           |           |            |      |      |        |                | 2,047   |
| Design              | 3,176 | 2,636  |           |           |            |      |      |        |                | 5,813   |
| Bid & Award         | 18    | 337    |           |           |            |      |      |        |                | 356     |
| Construction        | 227   | 33,742 | 13,968    | 1,244     | 1,102      |      |      | 16,314 |                | 50,283  |
| Post Construction   |       | 100    |           |           |            | 101  |      | 101    |                | 201     |
| Total               | 5,468 | 36,815 | 13,968    | 1,244     | 1,102      | 101  |      | 16,415 |                | 58,699  |

| Funding Source Schedule (000s)                       |       |        |        |       |       |     |        |        |  |  |  |
|--|-------|--------|--------|-------|-------|-----|--------|--------|--|--|--|
| San José-Santa Clara<br>Treatment Plant Capital Fund |       |        |        |       |       |     |        |        |  |  |  |
| (512)  | 5,468 | 36,815 | 13,968 | 1,244 | 1,102 | 101 | 16,415 | 58,699 |  |  |  |
| Total  | 5,468 | 36,815 | 13,968 | 1,244 | 1,102 | 101 | 16,415 | 58,699 |  |  |  |

|              | Annual Operating Budget Impact (000s) |
|--------------|---------------------------------------|
| <u>Total</u> |                                       |

2021-2025 Proposed Capital Improvement Program

### **Detail of One-Time Construction Projects**

### **Final Effluent Pump Station & Stormwater Channel Improvements**

CSA Environmental and Utility Services

**CSA Outcome** Reliable Utility Infrastructure

**Department** Environmental Services **Council Districts** 4

Council Districts 4
Appropriation A412H

Initial Start Date
Initial End Date

3rd Qtr. 2019 3rd Qtr. 2025

**Revised Start Date** 

Revised End Date Initial Project Budget

2nd Qtr. 2025 \$47,358,000

**FY Initiated** 2019-2020

Description

This project designs and constructs a new pump station to hydraulically push the Plant's final treated effluent to Coyote Creek. Additionally, it will improve the existing stormwater channel by rehabilitating the flapper gates and embankments.

Justification

The U.S. Army Corps of Engineers (USACE) will be constructing a new shoreline levee and closure structure near the Plant's outfall channel to protect the region against future sea level rise from the San Francisco Bay. The USACE project will install a tide gate closure structure with two new flapper gates just north of the Plant's outfall bridge, which will inhibit the Plant's treated wastewater discharge into Coyote Creek. A new final effluent pump station is required to lift the treated wastewater to the projected higher water surface elevations that will be held back by the new levee and tide gate in Coyote Creek.

Notes

This project corresponds to Validation Project PLD-03.

Major Cost Changes

|                                 | PRIOR<br>YEARS | FY20<br>EST | FY21     | FY22      | FY23      | FY24   | FY25  | 5 YEAR<br>TOTAL | BEYOND<br>5 YEARS | PROJECT<br>TOTAL |
|---------------------------------|----------------|-------------|----------|-----------|-----------|--------|-------|-----------------|-------------------|------------------|
|                                 |                |             | Expendit | ure Sched | lule (000 | s)     |       |                 |                   |                  |
| Project Feasibility Development |                | 902         | 2,009    | 503       |           |        |       | 2,512           |                   | 3,414            |
| Design                          |                |             |          | 4,000     | 880       | 233    |       | 5,113           |                   | 5,113            |
| Bid & Award                     |                |             |          |           |           | 189    |       | 189             |                   | 189              |
| Construction                    |                |             |          |           |           | 35,553 | 1,645 | 37,198          | 1,250             | 38,448           |
| Post Construction               |                |             |          |           |           |        |       |                 | 194               | 194              |
| Total                           |                | 902         | 2,009    | 4,503     | 880       | 35,975 | 1,645 | 45,012          | 1,444             | 47,358           |

| Funding Source Schedule (000s)                             |     |       |       |     |        |       |        |       |        |
|--|-----|-------|-------|-----|--------|-------|--------|-------|--------|
| San José-Santa Clara Treatment Plant<br>Capital Fund (512) | 902 | 2.009 | 4.503 | 880 | 35.975 | 1.645 | 45.012 | 1.444 | 47.358 |
| Total  | 902 | 2,009 | 4,503 | 880 | 35,975 | 1,645 | 45,012 | 1,444 | 47,358 |

| Annual Operating Budget Impact (000s) |  |
|---------------------------------------|--|
| Annual Operating Budget Impact (000s) |  |
| Total                                 |  |

2021-2025 Proposed Capital Improvement Program

### **Detail of One-Time Construction Projects**

#### **Nitrification Clarifier Rehabilitation**

CSAEnvironmental and Utility ServicesInitial Start Date3rd Qtr. 2009CSA OutcomeReliable Utility InfrastructureInitial End Date2nd Qtr. 2024

Department Environmental Services Revised Start Date

LocationWater Pollution Control PlantRevised End Date4th Qtr. 2025Council Districts4Initial Project Budget\$26,701,000AppropriationA7074FY Initiated2009-2010

**Description**This project includes phased rehabilitation of the 16 nitrification clarifiers. Structural improvements may include concrete repairs and coating, new clarifier mechanisms and baffle installations, pipe support and meter vault replacements, and

walkway improvements. Mechanical improvements may include piping, valve and actuator replacements, spray water system replacements, scum skimmer system upgrades, and return activated sludge piping lining. Electrical and instrumentation improvements may include motor control center replacements, new wiring, and other electrical equipment upgrades. Other incidental work may include grouting, painting, coating, and other surface treatments.

**Justification** The Plant's 16 nitrification clarifiers have been in service for 30 to 40 years depending on the year of construction. A

condition assessment study, completed in 2011, recommended phased rehabilitation of the nitrification clarifiers. The improvements are needed to address structural, mechanical, electrical, and instrumentation deficiencies and will extend

the useful life of the clarifier assets for an additional 30 years.

Notes This project corresponds to Plant Master Plan Project No. 21 and Validation Project PLS-02. This project is planned to

be completed in multiple phases.

**Major Cost** 2014-2018 CIP - increase of \$13.0 million due to revised estimate.

**Changes** 2015-2019 CIP - increase of \$22.0 million due to revised project validation cost estimate.

2016-2020 CIP - decrease of \$8.5 million due to revised scope and cost estimate.

2017-2021 CIP - decrease of \$1.6 million due to revised cost estimate.

2020-2024 CIP - increase of \$46.4 million due to an increase in the amount of rehabilitation required and updated

construction cost estimate.

|                     | PRIOR<br>YEARS | FY20<br>EST | FY21     | FY22     | FY23       | FY24  | FY25  | 5 YEAR<br>TOTAL | BEYOND<br>5 YEARS | PROJECT<br>TOTAL |
|---------------------|----------------|-------------|----------|----------|------------|-------|-------|-----------------|-------------------|------------------|
|                     |                |             | Expendit | ure Sche | dule (000s | s)    |       |                 |                   |                  |
| Project Feasibility |                |             | •        |          | •          |       |       |                 |                   |                  |
| Development         | 3,829          | 53          |          |          |            |       |       |                 |                   | 3,882            |
| Design              | 2,267          | 188         | 323      | 833      |            |       |       | 1,156           |                   | 3,611            |
| Bid & Award         | 82             | 245         |          | 213      |            |       |       | 213             |                   | 540              |
| Construction        | 6              | 53,966      | 1,279    | 1,472    | 30,698     | 2,152 | 1,110 | 36,711          |                   | 90,684           |
| Post Construction   |                | 251         |          |          | 231        |       | 764   | 995             |                   | 1,246            |
| Total               | 6.184          | 54.703      | 1.602    | 2.518    | 30.929     | 2.152 | 1.874 | 39.075          |                   | 99.962           |

| Funding Source Schedule (000s)                       |       |        |       |       |        |       |       |        |        |  |
|--|-------|--------|-------|-------|--------|-------|-------|--------|--------|--|
| San José-Santa Clara<br>Treatment Plant Capital Fund |       |        |       |       |        |       |       |        |        |  |
| (512)  | 6,184 | 54,703 | 1,602 | 2,518 | 30,929 | 2,152 | 1,874 | 39,075 | 99,962 |  |
| Total  | 6.184 | 54.703 | 1,602 | 2.518 | 30.929 | 2.152 | 1.874 | 39.075 | 99.962 |  |

| Annual Operating Budget Impact (000s) |  |
|---------------------------------------|--|
| Total                                 |  |

2021-2025 Proposed Capital Improvement Program

### **Detail of One-Time Construction Projects**

### **Support Building Improvements**

| CSA                      | Environmental and Utility Services | Initial Start Date        | 1st Qtr. 2015 |
|--------------------------|------------------------------------|---------------------------|---------------|
| CSA Outcome              | Reliable Utility Infrastructure    | Initial End Date          | 3rd Qtr. 2023 |
| Department               | Environmental Services             | <b>Revised Start Date</b> | 2nd Qtr. 2015 |
| Location                 | Water Pollution Control Plant      | Revised End Date          | 4th Qtr. 2033 |
| <b>Council Districts</b> | 4                                  | Initial Project Budget    | \$55,590,000  |
| Appropriation            | A7681                              | FY Initiated              | 2014-2015     |

Description

This project constructs various tenant improvements to the administration, operations, engineering, and other support buildings located throughout the Plant. It may include floor, ceiling, wall, partition, plumbing, heating, ventilation and air conditioning upgrades, fire protection, and security improvements, as well as ancillary landscaping improvements. It also constructs new warehousing facilities and an electronic warehouse management system which may include new computers, a central database, barcode scanners, mobile tablets, and other technology improvements. This project will be constructed in phases based on a detailed tenant improvement study, warehouse design study, and priority of needs.

Justification

Most of the buildings at the Plant are between 30 and 50 years old and are in need of refurbishment to improve worker health, safety, and environment. The tenant improvements are also needed to bring the buildings into compliance with current building and safety codes. The new warehousing facility and warehouse management system will improve operational efficiency through better control of the movement and storage of materials, including shipping, receiving, material stocking, use, and distribution.

Notes

This project corresponds to Plant Master Plan Project Nos. 94, 95, 96, 98, 106, and 107 and Validation Project PF-02.

Major Cost

2016-2020 CIP - decrease of \$856,000 due to revised cost estimate.

**Changes** 2018-2022 CIP - increase of \$2.2 million due to revised project delivery cost estimate.

|  | PRIOR<br>YEARS | FY20<br>EST | FY21      | FY22      | FY23       | FY24 | FY25 | 5 YEAR<br>TOTAL | BEYOND<br>5 YEARS | PROJECT<br>TOTAL |
|--|----------------|-------------|-----------|-----------|------------|------|------|-----------------|-------------------|------------------|
|  |                |             | Expenditu | ure Sched | dule (000s | 5)   |      |                 |                   |                  |
| General Administration Project Feasibility | 0              |             |           |           |            |      |      |                 |                   | 0                |
| Development                                | 2,046          | 230         |           |           |            |      |      |                 | 1,848             | 4,124            |
| Design                                     | 365            | 1,100       |           |           |            |      |      |                 | 4,193             | 5,659            |
| Bid & Award                                | 17             | 286         |           |           |            |      |      |                 | 493               | 795              |
| Construction                               |                | 13,589      |           |           | 13,090     | 969  | 967  | 15,026          | 23,032            | 51,647           |
| Post Construction Equipment, Materials and |                |             | 113       |           |            |      |      | 113             | 1,141             | 1,254            |
| Supplies                                   | 346            |             |           |           |            |      |      |                 |                   | 346              |
| Total                                      | 2,774          | 15,205      | 113       |           | 13,090     | 969  | 967  | 15,139          | 30,707            | 63,826           |
| Funding Source Schedule (000s)             |                |             |           |           |            |      |      |                 |                   |                  |

| Funding Source Schedule (000s)                    |       |        |     |        |     |     |        |        |        |
|---|-------|--------|-----|--------|-----|-----|--------|--------|--------|
| San José-Santa Clara Treatment Plant Capital Fund |       |        |     |        |     |     |        |        |        |
| (512)   | 2,774 | 15,205 | 113 | 13,090 | 969 | 967 | 15,139 | 30,707 | 63,826 |
| Total   | 2,774 | 15,205 | 113 | 13,090 | 969 | 967 | 15,139 | 30,707 | 63,826 |

| Annual Oper | ating Budget Impact (000s) |
|-------------|----------------------------|
| Total       |                            |

2021-2025 Proposed Capital Improvement Program

### **Detail of One-Time Non-Construction Projects**

### **Debt Service Repayment for Plant Capital Improvement Projects**

**CSA** Environmental and Utility Services

**CSA Outcome** Reliable Utility Infrastructure **Department** Environmental Services

Council Districts N/A
Appropriation A402C

**Description** This allocation provides for the repayment of financing proceeds, including short-term wastewater revenue notes and

long-term bonds, drawn for the Plant Capital Improvement Projects.

**Notes** The use of Wastewater Revenue Notes for funding began in October 2017.

|                             | PRIOR | FY20  | FY21  | FY22  | FY23    | FY24   | FY25   | 5 YEAR  | BEYOND         | <b>PROJECT</b> |
|-----------------------------|-------|-------|-------|-------|---------|--------|--------|---------|----------------|----------------|
|                             | YEARS | EST   |       |       |         |        |        | TOTAL   | <b>5 YEARS</b> | TOTAL          |
| Expenditure Schedule (000s) |       |       |       |       |         |        |        |         |                |                |
| General Administration      | 2,115 | 5,688 | 2,926 | 4,169 | 303,834 | 25,225 | 26,675 | 362,829 | 133,375        | 504,007        |
| Total                       | 2,115 | 5,688 | 2,926 | 4,169 | 303,834 | 25,225 | 26,675 | 362,829 | 133,375        | 504,007        |

| Funding Source Schedule (000s)                                |                |       |                |       |         |                  |                  |                    |         |         |
|---|----------------|-------|----------------|-------|---------|------------------|------------------|--------------------|---------|---------|
| San José-Santa Clara<br>Treatment Plant Capital Fund<br>(512) | 2.115          | 5.688 | 2.926          | 4.169 | 303.834 | 25.225           | 26.675           | 362.829            | 133.375 | 504.007 |
| Total   | 2,115<br>2,115 | 5,688 | 2,926<br>2,926 | 4,169 | 303,834 | 25,225<br>25,225 | 26,675<br>26,675 | 362,829<br>362,829 | 133,375 | 504,007 |

2021-2025 Proposed Capital Improvement Program

### Summary of Projects with Close-Out Costs Only in 2020-2021

Project NameEnergy Generation ImprovementsInitial Start Date3rd Qtr. 20125-Yr CIP Budget\$ 587,000Initial End Date2nd Qtr. 2013Total Budget\$ 132,047,168Revised Start Date1st Qtr. 2012Council Districts4Revised End Date1st Qtr. 2021

**Description**This project will install new, lower-emission engine-generators to replace the aged existing engine-generators and allow the aged engine-driven blowers to be retired. It includes a new generator building, gas cleaning and blending systems, piping,

control system, and motor control centers. This project will also install emergency diesel generators and storage tanks to

provide backup power in the event of an extended PG&E power outage.

2021-2025 Proposed Capital Improvement Program

### **Summary of Projects that Start After 2020-2021**

Project NameAdditional Digester UpgradesInitial Start Date3rd Qtr. 20215-Yr CIP Budget\$ 62,096,000Initial End Date2nd Qtr. 2028

Total Budget \$64,475,000 Revised Start Date

Council Districts 4 Revised End Date 4th Qtr. 2027

**Description** This project will rehabilitate up to six existing anaerobic digesters, including installation of new covers and mixers, upgrades

the existing sludge distribution piping, and upgrades the digester heat supply system. The project may also include the

installation of batch tanks to produce Class A biosolids (if required by future regulations).

Project NameAeration Tanks and Blower RehabilitationInitial Start Date1st Qtr. 20155-Yr CIP Budget\$ 68,057,000Initial End Date3rd Qtr. 2025Total Budget\$ 131,579,768Revised Start Date2nd Qtr. 2015Council Districts4Revised End Date1st Qtr. 2029

Council Districts 4 Revised End Date 1st Qtr. 2029

Description This project rehabilitates the secondary and nitrification aeration tanks including structural, mechanical, electrical, a

This project rehabilitates the secondary and nitrification aeration tanks including structural, mechanical, electrical, and instrumentation upgrades. It also replaces the remaining existing coarse bubble diffusers with fine bubble diffusers; installs partition walls and reconfigures air piping to optimize process treatment capabilities; repairs concrete and applies coatings; installs Variable Frequency Drives (VFDs), new motors, new Motor Control Centers (MCC), and new controls to the electric driven blowers in Building 40 and Tertiary Blower Building; decommissions the engine driven blowers in the Secondary

Blower Building; and replaces the S11 switchgear.

Project NameEast Primary Rehabilitation, Seismic Retrofit, and Odor ControlInitial Start Date3rd Qtr. 20095-Yr CIP Budget\$ 106,785,000Initial End Date4th Qtr. 2012Total Budget\$ 112,974,114Revised Start Date3rd Qtr. 2010Council Districts4Revised End Date1st Qtr. 2030

This project rehabilitates the existing primary clarifiers, including the coating of concrete and replacement of clarifier mechanisms with corrosion resistant materials. It also includes structural retrofits to allow new covers to be installed over a

portion or all of the primary treatment area to contain odors. A new odor extraction and treatment system will also be

constructed.

Description

Description

Description

Project NameSecondary Clarifier RehabilitationInitial Start Date1st Qtr. 20175-Yr CIP Budget\$ 3,398,000Initial End Date2nd Qtr. 2024Total Budget\$ 26,455,000Revised Start Date3rd Qtr. 2023

Council Districts 4 Revised End Date 4th Qtr. 2031

The Plant has 26 secondary clarifiers configured with peripheral mix liquor feed channel, and either central or peripheral launders. The first phase of this project rehabilitates one secondary (BNR1) clarifier and retrofits it to receive a new baffle configuration based on computational fluid dynamic (CFD) modeling results. The new configuration is expected to improve clarifier performance and efficiency. The subsequent phases of the project will rehabilitate and convert the remaining 25 clarifiers based on the results of the first phase. Rehabilitation will include structural, mechanical, electrical, and

instrumentation improvements.

Project NameStorm Drain System ImprovementsInitial Start Date3rd Qtr. 20175-Yr CIP Budget\$ 12,575,000Initial End Date2nd Qtr. 2021Total Budget\$ 15,101,576Revised Start Date4th Qtr. 2017

Council Districts 4 Revised End Date 2nd Qtr. 2024

This project upgrades the existing Plant stormwater drainage system to meet current City standards. The project includes modifying existing drainage facilities and constructing new storm system facilities to meet the City's 10-year design

standard. This project may also include improvements to the existing combined sanitary sewer system.

2021-2025 Proposed Capital Improvement Program

### **Summary of Projects that Start After 2020-2021**

**Project Name** Various Infrastructure Decommissioning **Initial Start Date** 3rd Qtr. 2018 **Initial End Date** 2nd Qtr. 2022 5-Yr CIP Budget \$ 21,751,000 \$ 22,220,000 **Revised Start Date** 3rd Qtr. 2019 **Total Budget** Council Districts 4 **Revised End Date** 2nd Qtr. 2026 Description

This project will decommission and remove equipment, structures, and piping located in Building 40, Pump and Engine

Building, Sludge Control Building, digester campus, and tunnels.

**Project Name** Yard Piping and Road Improvements **Initial Start Date** 3rd Qtr. 2011 5-Yr CIP Budget \$92,108,000 **Initial End Date** 4th Qtr. 2026

**Revised Start Date Total Budget** \$ 121,319,395

Council Districts 4 **Revised End Date** 1st Qtr. 2028

Description This project will rehabilitate and/or replace process piping systems, valves, and related appurtenances throughout the Plant.

The work will be completed in phases based on the outcome of a detailed condition assessment, physical testing, and prioritization of needs. This project will also make roadway and drainage-related improvements throughout the Plant's main

operations and residual management areas.

2021-2025 Proposed Capital Improvement Program

### **Summary of Reserves**

Project NameEquipment Replacement ReserveInitial Start DateN/A5-Yr CIP Budget\$ 5,000,000Initial End DateN/A

Total Budget \$5,000,000 Revised Start Date
Council Districts 4 Revised End Date

**Description** This reserve sets aside funding for unforeseen replacement and rehabilitation of equipment that, due to age, wear, or

obsolescence, must be replaced for the efficient operation of the Plant.

Project NameHydraulic Capacity Enhancements ReserveInitial Start DateN/A5-Yr CIP Budget\$ 3,666,000Initial End DateN/A

Total Budget \$ 3,666,000 Revised Start Date

Council Districts 4 Revised End Date

**Description** This reserve sets aside funding for future design, engineering, and inspection for the connection of new developments to the

recycled water utility system.

### <u>Water Pollution Capital Program</u> 2021-2025 Proposed Capital Improvement Program

# **Attachment A - Operating Budget Impact**

|   | 2021-2022   | <u>2022-2023</u> | 2023-2024    | 2024-2025    |
|---|-------------|------------------|--------------|--------------|
| Water Pollution Capital Program           |             |                  |              |              |
| New Headworks                             |             | \$9,000          | \$26,000     | \$27,000     |
| Digested Sludge Dewatering Facility       |             | \$3,062,000      | \$12,251,000 | \$12,599,000 |
| Digester and Thickener Facilities Upgrade | \$2,123,000 | \$2,203,000      | \$2,285,000  | \$2,370,000  |
| Energy Generation Improvements            | \$92,000    | \$95,000         | \$97,000     | \$100,000    |
| Total Water Pollution Capital Program     | \$2,215,000 | \$5,369,000      | \$14,659,000 | \$15,096,000 |

### 2021-2025 Proposed Capital Improvement Program

### **Explanation of Funds**

Revenues and expenditures for the operation and maintenance of the San José-Santa Clara Water Pollution Control Plant (Plant) are accounted for by the City of San José, as the administering agency, through the San José-Santa Clara Treatment Plant Operating Fund (Operating Fund) and the San José-Santa Clara Treatment Plant Capital Fund (Capital Fund).

Revenues from tributary agencies of the San José-Santa Clara Water Pollution Control Plant are recorded directly into the Operating and Capital Funds. The tributary agencies include the City of Milpitas, City of Cupertino, Burbank Sanitary District, County Sanitation District No. 2-3, and West Valley Sanitation District.

Tributary agencies are assessed for their share of annual operation, maintenance, equipment, and facilities replacement and capital costs, based on their respective flow and strength of sewage conveyed to the Plant.

The San José Sewer Service and Use Charge Fund was established in the San José Municipal Code Section 15.12.640 in August 1959. This

fund is the depository of revenues from Sewer Service and Use Charges received from residential, commercial, and industrial users of the sanitary sewer system. A portion of these monies is transferred to the Operating and Capital Funds to pay for the City of San José's share of operating and capital costs of the Plant.

The Santa Clara Sewer Revenue Fund was established by Resolution Number 916 of the City Council of Santa Clara in October 1960. Like the City of San José, revenues from this fund are transferred directly to the Operating and Capital Funds.

The Capital Fund provides all monies used for capital projects. Included in this fund is the Treatment Plant Renewal and Replacement Fund. This fund was established to satisfy the Plant's federal and State grant agreements as well as to comply with bond covenants.

The South Bay Water Recycling (SBWR) Capital Fund provides monies for capital improvement projects in support of SBWR system infrastructure.

