



# Memorandum

**TO:** TRANSPORTATION AND  
ENVIRONMENT COMMITTEE

**FROM:** Kerrie Romanow  
Matt Cano

**SUBJECT: SEE BELOW**

**DATE:** February 16, 2022

Approved

Date

2/28/22

**SUBJECT: SAN JOSÉ-SANTA CLARA REGIONAL WASTEWATER FACILITY  
CAPITAL IMPROVEMENT PROGRAM SEMIANNUAL STATUS  
REPORT**

## RECOMMENDATION

Accept the semiannual status report on the San José-Santa Clara Regional Wastewater Facility Capital Improvement Program for the period of July through December 2021.

## OUTCOME

The purpose of this semiannual status report is to provide an update on the implementation of the Capital Improvement Program (CIP) at the San José-Santa Clara Regional Wastewater Facility<sup>1</sup> (RWF) by highlighting key accomplishments during July through December 2021 to the Transportation and Environment Committee (T&E) and the Treatment Plant Advisory Committee (TPAC).

## BACKGROUND

The San José and Santa Clara City Councils adopted the Plant Master Plan (PMP) in November 2013 and December 2013, respectively. The PMP identified more than 100 capital improvement projects totaling over \$2.1 billion to be implemented at the RWF over the next 30 years. The PMP was developed with extensive technical oversight, agency feedback, and public and stakeholder input, including a Community Advisory Group appointed by the RWF's Technical Advisory Committee. In addition, staff addressed comments from the RWF's tributary partners and TPAC recommended approval of the PMP to both City Councils. A validation process was completed in early 2014 to update and prioritize the recommended PMP projects and additional

<sup>1</sup> The legal, official name of the facility remains San José/Santa Clara Water Pollution Control Plant, but beginning in early 2013, the facility was approved to use a new common name, the San José-Santa Clara Regional Wastewater Facility.

gap projects into 33 projects to be initiated over 10 years. Beginning in fiscal year 2014-2015, the validation process was used to inform the five-year CIP and ten-year funding strategy. The 2022-2026 Adopted CIP includes approximately \$1.2 billion in funding, of which approximately \$0.8 billion is for construction. To provide visibility and accountability for this significant CIP effort, staff began providing formal semiannual status reports to T&E, TPAC, and Council in spring 2013.

The first semiannual status report was published in April 2013 and focused on progress and activities from July 2012 through December 2012. This report is the nineteenth in the report series and highlights key program and project accomplishments in the first half of fiscal year 2021-2022. This report also compliments monthly CIP status reports which staff began issuing in April 2014 and the quarterly CIP reports which staff began issuing in May 2021, to provide more frequent and time-relevant updates. Through December 2021, 86 monthly and quarterly reports have been issued. Copies of these reports are available at: <https://www.sanjoseca.gov/your-government/departments-offices/environmental-services/water-utilities/regional-wastewater-facility/capital-improvement-program/cip-document-library/>

## **ANALYSIS**

During this reporting period, dedicated staff and contractors continued to make progress on critical CIP projects, even as the COVID-19 pandemic continued to significantly impact the City, our state, and the rest of the nation.

As the City slowly returns to a more normal operating environment, safety remains a top priority. At the RWF, staff and contractors are continuing to undergo brief health screenings before entering the premises, as well as wearing masks while working indoors and outdoors when in close working proximity, maintaining physical distance when at all possible, and frequently washing their hands.

Environmental Services and Public Works staff continue to work with the City Attorney's Office to address pandemic-related impacts to construction schedules and costs to ensure a consistent approach to resolving COVID-19 related claims across the City.

Significant progress was made in key program areas from July through December 2021.

### ***A. Biosolids Disposition Market Assessment and Procurement Strategy***

Following Council's approval of the Dewatered Biosolids Management strategy on June 8, 2021, staff finalized the procurement documents for off-site disposition contracts and associated focused initial study that will be an addendum to the Plant Master Plan's Environmental Report. A Request for Proposals for transportation and beneficial use services was advertised on Biddingo in November; proposals are due in March 2022. The procurement's scope includes, but is not limited to, coordinating with RWF staff to schedule the delivery of empty and clean containers; loading dewatered biosolids and covering containers once loaded; transporting dewatered biosolids to beneficial use sites;

and preparing reports for billing and regulatory purposes. Services are anticipated to start in fiscal year 2024-2025, during the startup and commissioning of the Digested Sludge Dewatering Facility project. Staff is prioritizing this aspect of the strategy to secure capacity, which is considered limited based on a 2019 market assessment, and to provide flexibility while the strategy's two other aspects are implemented—i.e., the development of an on-site public-private partnership fertilizer facility, and permitting of local natural work lands to receive biosolids. Staff anticipates awarding a few disposition agreements in the coming months as no single potential proposer likely has enough capacity currently to manage all the RWF's dewatered biosolids.

From July 2021 to December 2021, staff also explored options for onboarding a consultant to conduct a business case evaluation and other analysis before developing procurement documents for a partner facility. Before leveraging existing consultant agreements, special consideration is being given to avoid conflicting engineering firms that may be interested in designing, constructing, and/or operating the partner facility. Staff anticipates securing a consultant in spring 2022.

***B. Testing, Startup and Commissioning***

The testing startup and commissioning (TSC) of new or rehabilitated facilities requires significant commitment of resources from both CIP and RWF Operations and Maintenance (O&M) staff, as well as day-to-day coordination with various stakeholders to mitigate operational conflicts and potential construction delays. To understand and effectively plan for CIP TSC needs, especially in view of the high volume of concurrent construction projects, CIP staff had its program management consultant (Stantec) conduct a TSC Readiness Assessment in 2019. As part of this assessment, existing TSC processes, procedures, roles and responsibilities were reviewed; key TSC and Process Shutdown Requests (PSR) activities and durations, and resource estimates were identified, along with an evaluation of TSC/PSR-related project risks for existing and upcoming construction projects. The assessment identified gaps in key roles including the need for a TSC Lead and TSC support staff. The TSC Lead provides complex and critical functions including developing a framework and standard protocols for all commissioning and startup activities; defining requirements for submittals and other commissioning documents; routine review of design documents, startup and testing plans and O&M manuals; coordinating startup and testing with various stakeholders including CIP staff, O&M, contractor and designer; supporting construction management and contractors startup team to resolve issues in plan development and implementation; and providing oversight of all performance and acceptance testing.

In summer 2021, contractors for four projects – Advanced Facility Controls and Meter Replacement Phase 1 and Phase 2, Blower Improvements, and Nitrification Clarifiers Rehabilitation Phase 1 – were working concurrently in the nitrification side of the RWF. It was critical that at least one of the two nitrification batteries that were out of service during the summer, would be returned to service by mid-October to ensure that Operations had sufficient treatment capacity available for the wet season. To meet this deadline, the TSC Lead worked with the Advanced Facility Controls and Meter

Replacement Phase 2 contractor to develop a robust and properly sequenced plan for efficient testing startup and commissioning of Nitrification Battery A, and coordinated with O&M to verify that RWF operations could accommodate the contractor's schedule. This advanced preparatory work laid the foundation for timely and successful pre-operational, functional, and operational testing of new equipment installed in Nitrification Battery A. The activated sludge process was successfully started before significant rains in fall 2021.

This summer, the TSC Lead and support staff will continue to provide critical support for the startup and testing in four process areas: Headworks 3, Secondary Battery A, Filter Battery A, and the nitrification clarifiers and mechanisms.

On the project delivery front, there were 23 active projects at various stages of the project delivery model during the reporting period (see Attachment A).

*A. Feasibility/Development Highlights*

Seven projects were in the feasibility/development phase during the first half of fiscal year 2021-22. Key activities completed during this period include the following:

- **Aeration Basin Modifications - Phase 1:** This project will rehabilitate and make process improvements to a small number of aeration tanks in order to evaluate performance of the selected technology prior to full-scale implementation. In this reporting period, the project team developed the scope for the feasibility study and began negotiations with the consultant to perform the work.
- **New Headworks Access Road:** This project will construct a permanent road from the RWF's construction entrance to the new Headworks 3 transfer point for septic hauling and chemical trucks. The scope includes proper drainage and spill protection for the road. During this period, staff completed scoping and started work on the alternative analysis.
- **Yard Piping Improvements - Phase 2:** During this period, the design consultant completed condition assessment of several critical pipe segments and structures including the 120-inch, 84-inch, and 96-inch raw sewage pipes; 6-inch and 8-inch waste activated sludge pipes; a 42-inch mixed liquor pipe; a 78-inch primary effluent pipe; a 24-inch return activated sludge pipe; a 66-inch PD; the 48-inch Santa Clara Force Main; and effluent junction structure 1 and 2 and fish screen structure. The team finalized the project scope and will begin work on alternative analysis and conceptual design.

*B. Design /Bid and Award Highlights*

Six projects were in the design or bid/award phase at the end of December 2021. Key activities completed during this period include the following:

- **Digested Sludge Dewatering Facility:** During the reporting period, the design-builder submitted the definitive project submittal. The project team and design-builder held several workshops to negotiate and gain alignment on the project scope, schedule, costs, and risks. Negotiations of the fixed price contract were completed in February and the definitive contract amendment will be presented to TPAC and

- Council for approval in March. During the reporting period, the design-builder also continued site preparation activities including clearing and grubbing, temporary power installation, and relocation of a recycled water pipe.
- **Facility-wide Water Systems Improvements:** The design consultant completed the 30 percent design in August and started detailed design.
  - **Fire Life Safety Upgrades:** In December, the design consultant submitted the 90 percent design documents for City review. The final 100 percent design is anticipated to be completed by February 2022.
  - **HVAC Improvements:** During this period, the design consultant continued to progress the detailed design, and develop a plan for temporary HVAC support during construction. The final 100 percent design is anticipated to be completed by April 2022.
  - **Outfall Channel and Instrumentation Improvements:** In October, TPAC recommended and Council awarded the construction contract to Anvil Builders, Inc. Council also adopted a resolution that instructed staff to identify options to address environmental advocates' concerns about the impact of bridge lighting on surrounding sensitive habitat. The project team is working with O&M to find a solution. Staff will issue the Notice To Proceed to the contractor in January 2022.
  - **Storm Drain System Improvements:** In September, the City advertised the construction contract for bid. Due to an irregularity identified in the bids received in November, the City rejected all bids and re-advertised the contract. Two bids were received in December, and staff anticipates going to TPAC and Council for construction contract award in March 2022.

C. Construction Highlights

Nine projects, totaling approximately \$345 million, were in construction during the period ending December 2021 (see Attachment B). One of the nine projects is being delivered using the progressive design-build method, with the remaining eight projects being delivered using the design-bid-build approach. Key activities completed during this period include the following:

- **Advanced Facility Control & Meter Replacement – Phase 1:** The contractor completed operational testing of equipment in Secondary Battery B. In Nitrification Battery B, the contractor installed pipe supports, dissolved oxygen probes and diffusers; performed loop checks; and started functional testing of equipment. Substantial completion is expected in April 2022.
- **Advanced Facility Control & Meter Replacement – Phase 2:** In August, the contractor completed operational testing of new equipment installed in the filtration area. During this reporting period, the contractor also completed mechanical, electrical and instrumentation work in Nitrification Battery A, and completed the pre-operational, functional, and operational testing of equipment. Through December 2021, construction was approximately 55 percent complete.
- **Blower Improvements:** In Building 40, the contractor completed rehabilitation, and pre-operational, functional and operational testing on one blower. Also in Building 40, the contractor conducted a pressure test in the clean agent system room. In the

- Tertiary Blower Building, the contractor completed rehabilitation of two blowers, as well as pre-operational and functional testing. Discharge valves in two other blowers were replaced. Additionally, the contractor continued to install conduits from the Secondary Blower Building to the M5 Switchgear. Through December 2021, construction was approximately 76 percent complete.
- **Digester and Thickener Facilities Upgrade:** During this reporting period, the contractor replaced pressure relief valves and door gasket seals in Digesters 5-8. Also in the digesters area, the contractor completed installation of the recycled water piping to the cooling heat exchangers, mesophilic tuning and digester gas piping to existing flares and connection to the piping rack system, and the preoperational and functional testing by running hot water through a loop system. Final grading and drainage work around the digesters was 98 percent complete. The contractor also completed paving work on Main Street, 5th Street, D Street and C Street; installation of two new flares along with flare piping, electrical connections, and controls. The startup process for the new flares began, and pre-operational and functional testing was completed for the sludge screening area. Through December 2021, construction was 99 percent complete.
  - **Filter Rehabilitation:** During this period, staff continued to review critical submittals for the air scour system and finalized the air scour blower control and construction sequencing plans, respectively. The contractor continued potholing for utilities location. Through December 2021, construction was 4 percent complete.
  - **Headworks:** The design-builder continued installation of various piping including the 96-inch raw sewage pipe from Headworks 3 to Headworks 2, and several other pipes for recycled water and fire water. Sitewide installation of storm drainpipes and catch basins also continued. The grit basin, raw sewage pump station, emergency overflow basin, influent screening structure, and the recycled pump station were all successfully hydrotested. The design-builder installed gate actuators, electrical duct banks, and stairs and rails on the top deck in the grit basin; and pump anchors, stop plates, actuators and gates, and deck in the raw sewage pump station. In the influent screening structure, three climbing bar screens were installed, as well as sluice and screening compactor equipment. For the electrical building, concrete masonry walls and roof beams were constructed, and a 15kV switchgear, motor control center, electrical conduits, access ramp and stairs were installed. The design-builder also continued structural work in the existing emergency basin overflow structure, and installed odor control slabs and under slab conduit. Through December 2021, construction was 54 percent complete.
  - **Nitrification Clarifiers Rehabilitation - Phase 1:** The contractor completed installation of pressure release valves, mechanical piping in influent valve boxes, drain valves, electrical works in the returned activated sludge gallery and scum piping. Pre-operational and functional testing of equipment started. Through December 2021, construction was 45 percent complete.
  - **Switchgear M4 Replacement and G3 & G3A Removal:** During this reporting period, the contractor completed installation of the new M4 switchgear and enclosure. Pre-operational and functional testing of the new switchgear was completed, new bus

ducts were installed, and testing of the fiber optics cable was completed. Stairs were installed on the east and west side of the M4 enclosure, and a new eyewash and safety shower station was installed in the Battery enclosure. In October, the contractor completed commissioning of the new switchgear and started demolition of Switchgear G3/G3A and appurtenances. Through December 2021, construction was 82 percent complete.

- **Yard Piping Improvements – Phase 1:** The contractor completed installation and testing of the cured-in-place-pipe for the 78-inch and 96-inch pipes. A new actuator, flowmeter, and electrical outlets were installed at the primary effluent pump station. The contractor also completed programming and pre-operational testing of the flowmeter and actuator. Substantial completion is expected by March 2022.

Staff, contractors, and consultants continued to work safely and there were no reportable incidents to the State’s Division of Occupational Safety and Health (Cal/OSHA) from July through December 2021.

Staff expects to achieve the following by the end of June 2022:

1. Reach substantial completion on the Advanced Facility Controls and Meter Replacement Phase 1, Digester and Thickener Facilities Upgrade, and Yard Piping Improvements – Phase 1 projects
2. Obtain TPAC recommendation and Council approval to execute the Definitive Contract Amendment for the Digested Sludge Dewatering Facility project;
3. Obtain TPAC recommendation and Council approval to award the construction contract for the Storm Drain System Improvements project;
4. Obtain TPAC recommendation and Council approval of a fourth contingency increase for settlement of inefficiency claims for the Digester and Thickener Facilities Upgrade project;
5. Advertise the construction contracts for Fire Life Safety Upgrades and HVAC Improvements projects; and
6. Advertise a request for prequalification for Facility-wide Water Systems Improvement.

## **EVALUATION AND FOLLOW-UP**

No follow-up action is required at this time. Staff will continue to provide regular updates to inform T&E, TPAC, and Council of significant changes or issues (particularly as related to rate impacts) as implementation of the CIP progresses. In addition to semiannual presentations, staff will continue to share quarterly progress reports with TPAC.

## **COORDINATION**

This report has been coordinated with the Office of the City Attorney.

**CEQA**

Not a Project, File No. PP17-009, Staff Reports, Assessments, Annual Reports, and Information Memos that involve no approvals of any City action.

/s/  
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/s/  
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For questions, please contact Napp Fukuda, Assistant Director, Environmental Services Department at (408) 973-5353.

Attachment A – Project Delivery Model: July 2021 – December 2021  
Attachment B – Projects in Construction: July 2021 – December 2021