



Memorandum

TO: TRANSPORTATION AND ENVIRONMENT COMMITTEE

FROM: Kerrie Romanow
Barry Ng

SUBJECT: SEE BELOW

DATE: September 9, 2015

Approved

Date

9/23/15

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

RECOMMENDATION

Accept the semiannual status progress report on the San José-Santa Clara Regional Wastewater Facility Capital Improvement Program (CIP) for the period January through June 2015.

OUTCOME

The purpose of this semiannual status report is to provide the Transportation and Environment Committee (T&E), the Treatment Plant Advisory Committee (TPAC), and Council with a progress update on capital program implementation at the San José-Santa Clara Regional Wastewater Facility, and more specifically, to highlight key accomplishments achieved during the second half of fiscal year 2014-2015.

BACKGROUND

The San José and Santa Clara City Councils adopted the Plant Master Plan (PMP) in November and December 2013, respectively. The PMP identified more than 100 capital improvement projects totaling over \$2.1 billion to be implemented at the San José-Santa Clara Regional Wastewater Facility¹ (RWF) over the next 30 years. A validation process was completed in early 2014 to update and prioritize the recommended PMP projects into 33 construction packages to be initiated in the next ten years. The validation process was used to inform the five-year CIP and ten-year funding strategy. The 2015-2019 adopted CIP includes funding in the amount of \$926 million, of which approximately \$702 million is for construction projects. To provide visibility and accountability for this significant CIP effort, staff began providing formal semiannual status reports to the T&E, TPAC, and Council in spring 2013.

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

The first Semiannual Status Report was published in April 2013 and focused on progress and activities from July through December 2012. Three subsequent semiannual reports were published in October 2013, April 2014, and October 2014, respectively. With the establishment of the MWH/Carollo consultant program management team, a new monthly CIP status report was created to provide more frequent and time-relevant updates. The first CIP monthly status report was issued to TPAC in April 2014 and a total of 17 monthly reports have been issued to date. This semiannual status report is provided to T&E, TPAC, and Council to highlight key program and project accomplishments achieved for the period January through June 2015 and serves to complement the monthly reports. Copies of the monthly reports are available online at <http://www.sanjoseca.gov/Archive.aspx?AMID=190>.

ANALYSIS

For the period January through June 2015, significant progress was made in several program areas including:

A. Ten-Year CIP Funding Strategy

Staff continued its work on a ten-year funding strategy to support implementation of the 33 construction packages identified through the project validation effort. In March, staff presented the funding strategy to the TPAC and Council. It included a ten-year forecast of capital and operating needs and outlined guiding principles and recommended fiscal practices for developing a plan to meet those needs. Staff was asked to return with additional information related to reserve requirements and financing costs. This was presented to TPAC and Council in May and June, respectively. TPAC and Council approved the following staff recommendations:

- (a) All tributary agencies will contribute to a 60-day operating reserve beginning in FY 2016-17.
- (b) Staff will pursue Clean Water State Revolving Fund (SRF) loans for RWF capital projects to the maximum extent possible.
- (c) Staff will work with the City of Santa Clara and all tributary agencies to confirm participation in a commercial paper program and/or long-term revenue bonds by August 2015.
- (d) Staff will work with Santa Clara and all tributary agencies to amend the 1983 Master Agreement to incorporate terms related to operating reserve contributions and financing through the Clean Water Financing Authority (CWFA).

B. Biosolids Transition Strategy

The proposed transition from the current open air sludge lagoons and drying bed operations to a new enclosed mechanical dewatering and thermal drying process is one of the most technically significant and costly process and operational changes recommended by the PMP. On December 2, 2014, Council approved two of five staff recommendations, including moving to temperature phased anaerobic digestion and indefinitely deferring thermal and solar greenhouse drying. Council directed staff to return with additional information on the remaining recommendations. On June 2, 2015, staff returned with the

recommendations, including odor and cost information for the biosolids transition. Council approved staff recommendations and directed staff to proceed with implementation of the digested sludge dewatering facility on the site recommended by staff, to decommission the lagoons and drying beds, and to bring back recommendations on the size and makeup of a Biosolids Management Team (BMT) for Council's consideration as part of the 2016-2017 budget process. Council also accepted TPAC's recommendation for staff to evaluate the possibility of creating a Community Facilities District to assess costs to those properties that would benefit from the odor-related improvements. Staff anticipates returning with an analysis in winter 2015.

C. Project Delivery and Procurement Strategy

In March, staff presented a comprehensive project delivery and procurement strategy for the CIP, which both TPAC and Council approved. The strategy proposed the use of progressive design-build project delivery method in accordance with State Senate Bill 785 (Wolk) to allow for maximum flexibility and efficiency in delivering large, complex projects at the RWF. Council delegated authority to the Directors of Environmental Services and Public Works to make the determination on the appropriate delivery method for each project. Staff also provided information on eight upcoming procurements for professional consultant services, totaling nearly \$50 million, to support the various RWF projects.

D. Programmatic Studies

Between January and June 2015, staff completed three studies (Aeration Demands and Biosolids Production Assessment, Facility-wide Heating and Cooling System Evaluation, and Facility-wide Process Risk Assessment), began work on two new ancillary studies to the Architectural Guidelines study (i.e., Traffic Circulation and Impacts and Flood Protection), and continued work on four other programmatic studies. The remaining studies are expected to be completed by winter 2015. The programmatic studies will provide foundational information and design criteria needed to design and construct projects at the RWF.

E. Approval of 24 new CIP positions

To support the ramp-up in capital implementation activities and prepare for the transition out of the consultant program/project management services in three to five years, staff presented a proposal to add 24 full-time positions as part of the FY 2015-16 budget process. The proposal was approved by Council on June 23, 2015. The approved positions include all levels of engineers and engineering technicians, as well as an analyst and staff specialist, that will support three functional groups within the RWF CIP division: 1) program management, 2) design/project delivery, and 3) process engineering. The recruitment effort to fill these positions and training of new staff is a top priority for the program in fiscal year 2015-2016.

On the project delivery front, 26 active projects progressed through various phases of the project delivery model as further discussed below:

A. Construction Activity Highlights

During the second half of the fiscal year, eight projects totaling more than \$31 million were in active construction (see Attachment A). Two of the eight projects are being delivered using the design-build low bid project delivery method, with the remaining six projects being delivered using the conventional design-bid-build project delivery method.

Key construction activities highlighted for this period include:

- Digester Gas Compressor Upgrade (Design-Build Low Bid) – construction of base foundation and walls; selection of gas compressor motor manufacturer; design and fabrication of motors; review of gas compressor skid submittals. Through June, construction is 29% complete.
- Digester Gas Storage Replacement –rerouting of electrical and instrumentation conduits; tank shell fabrication, delivery, and installation; piston fabrication and installation; final tank welding; gas seal installation; coating of interior and exterior of gas holder shell; preparation for pressure and functional tests. Through June, construction is 93% complete.
- Emergency Diesel Generators (Design-Build Low Bid) – coordination with PG&E to obtain interconnect agreement; obtained BAAQMD air permit and Title V minor permit; working with Fire Department to obtain hazardous material permit; grading concrete pad site and completion of work on access road; review of switchgear and communication network drawings. Through June, construction is 7% complete.
- Three other projects reached substantial completion (Filtration Building B2 & B3 Pipe & Valve Replacement, Fire Main Replacement Phase III, and BNR2 Clarifier Guardrail Replacement), and two projects (Training Trailer Replacement and A-5/A-6 Nitrification Magnetic Meter and Valve Replacement) were nearing construction completion.

In addition, on March 3, 2015, the City Council adopted a resolution declaring the need for emergency replacement of the RWF's northern gate structure to protect Pond A18 and levees, and authorized the Directors of Public Works and Environmental Services to take appropriate action to respond to an emergency situation. This action was in response to a condition assessment performed in January 2015 that revealed that the northern gate structure was in critical condition and at risk of immediate failure. Staff obtained informal bids from three contractors and awarded a construction contract to Galindo Construction on March 30, 2015. Staff also received an emergency permit from the U.S. Army Corps of Engineers to construct the repairs. The project includes installing sheet pile dams to isolate the work area, demolishing the existing structure, repairing the gate valves, constructing a new structure, removing the dams, and restoring operational capabilities to the structure. Through June, the contractor had installed the dams and had removed the failing gate structure. Construction is expected to be completed in September.

There were no reported or recorded safety incidents or claims filed during this construction reporting period.

B. Design Activity Highlights

Six projects were under active design, including the two design-build low bid projects mentioned above.

Key design activities highlighted for this period include:

- **Digester and Thickener Facilities Upgrade** – This project design involves rehabilitation of four digesters, including new covers and mixing systems; structural repairs and seismic retrofits; heating system and gas collection conveyance system upgrades; and retrofit of six Dissolved Air Flotation Thickeners (DAFT) units. In January, staff completed the 30 percent design review and authorized the consultant to proceed with the 60 percent design. Staff also initiated the application submittal process for an SRF loan in March and met with the State Water Resources Control Board to discuss the project in April. The design consultant submitted the final preliminary design report in April and the 60 percent design documents for review in May. In June, staff conducted a value management workshop with the design consultant to identify and evaluate opportunities for cost savings. The project team also began preparing contractor pre-qualification documents.
- **Iron Salt Feed Station** – This project design includes two new chemical dosing stations for iron salt and polymer addition to ensure the RWF can continue to meet its air permit requirements as related to the emission of toxic gases (i.e., hydrogen sulfide gas from the digestion process). The project also has the added benefit of improved solids settling performance in the primary treatment process and energy efficiency in secondary biological treatment process. Staff completed the 60 percent design review in February and received the 90 percent design documents for review in June.
- **Plant Instrument Air System Upgrade** – This project will construct a new building to house new air compressors, wet air receiver tank, air dryers, and associated electrical equipment. This system is needed for controlling pneumatically-operated valves, providing process air for the sludge thickening process, and powering various tools. In June, staff negotiated and executed a service order for consultant design services and for engineering support services during construction. The final design submittal is anticipated in spring 2016.

As significant design work gets underway, the program continues to work on developing comprehensive strategies, approaches, and tools for guiding the design development of current and future projects with the aim of establishing baselines, achieving consistency across different designers/design-builders, ensuring project interfaces are considered, incorporating operational flexibility, and considering current and future demands.

C. Planning/Feasibility Development Highlights

Twelve projects were in active planning and feasibility development. Scoping began on four of the projects.

Key planning/feasibility development activities highlighted for this period include:

- Procurement of consultant services continued for four projects, including 1) Cogeneration Facility, 2) Headworks, 3) Facility-wide Water Systems Improvements, and 4) Filter Rehabilitation.
- Cogeneration Facility – In November 2014, staff issued a Request for Prequalification for design-builders. Submittals were received in February 2015. In March, staff completed a review of the submittals and determined that due to a lack of responsive submittals, the project would need to be re-advertised. A restructured Request for Qualifications (RFQ) for design-builders was issued in April. In June, staff identified the top three short-listed design-build teams who will be invited to submit proposals in fall 2015. In addition, staff issued an RFQ for technical support services and will be recommending a contract award in August.
- Headworks – Staff held a workshop in January to evaluate and select a project delivery method for the project. In April, staff informed the City Council that the program would be using progressive design-build to deliver the project. In late April, staff issued an RFQ for planning, design, owner's representative, and construction management consultant services. Staff anticipates making a recommendation for contract in winter 2015.

Significant activity is expected to continue in the upcoming six-month period including:

- Obtain TPAC and Council approval to apply for SRF funding
- Prequalify contractors for the Digester and Thickener Facilities Upgrade project
- Award a consultant agreement for owner's representative and construction management services for Headworks
- Award consultant agreements for design services for Facility-wide Water System Improvements and Filter Rehabilitation projects
- Award a construction contract for the Fiber Optic Connection project
- Continue work on and/or complete the programmatic studies
- Continue to develop a five-year staffing and transition plan
- Complete recruitment to fill several capital program vacancies
- Reach beneficial use on four active construction projects
- Continue design and/or design-build work on six projects

EVALUATION AND FOLLOW-UP

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

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Subject: Wastewater Facility CIP Semiannual Status Report, January - June 2015

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PUBLIC OUTREACH/INTEREST

This memorandum will be posted on the City's website for the October 5, 2015 Transportation and Environmental Committee agenda.

COORDINATION

This report has been coordinated with the City Manager's Budget Office.

CEQA

Not a Project, File No. PP10-069(a), Staff Reports / Assessments / Annual Reports / Informational Memos that involve no approvals of any City Actions.

/s/ Ashwini Kantak for
KERRIE ROMANOW
Director, Environmental Services

/s/
BARRY NG
Director, Public Works

For questions please contact Ashwini Kantak, Assistant Director of Environmental Services, at (408) 975-2553.

Attachments:

Attachment A – Projects in Active Construction

Attachment A – Projects in Active Construction - January – June 2015

	Project Name	Contractor	Amount of Award	Date of Award	Est. Beneficial Use
1	7076 – Influent Magnetic Meter and Valve Replacement for Nitrification Clarifiers A5 & A6	JMB Construction, Inc.	Base Contract: \$270,300 Contingency: \$27,030	5/21/13	Spring 2016
2	6998 - Fire Main Replacement Ph III	Stoloski & Gonzalez, Inc.	Base Contract: \$1,572,870 Contingency: \$157,290	4/22/14	Spring 2015 ¹
3	7407 - BNR2 Clarifiers Guardrail Replacement	Tucker Construction, Inc.	Base Contract: \$320,792 Contingency: \$32,100	4/22/14	Spring 2015 ²
4	7157 - Digester Gas Storage Replacement	Anderson Pacific Engineering Construction, Inc.	Base Contract: \$1,825,100 Contingency: \$182,510	4/22/14	Fall 2015
5	7100 - Digester Gas Compressor Upgrade (D-B Low Bid)	Anderson Pacific Engineering Construction, Inc.	Base Contract: \$11,316,000 Contingency: \$1,136,000	5/20/14	Fall 2016
6	7249 -Training Trailer Replacement	Newton Construction & Management, Inc.	Base Contract: \$513,874 Contingency: \$51,400	5/20/14	Summer 2015
7	6833 – Filtration Building B2/B3 Pipe & Valve Replacement	Anderson Pacific Engineering Construction, Inc.	Base Contract: \$158,900 Contingency: \$31,780	6/17/14	Spring 2015 ³
8	7394 – Emergency Diesel Generator (D-B Low Bid)	Anderson Pacific Engineering Construction, Inc.	Base Contract: \$15,310,000 Contingency: \$1,531,000	6/17/14	Summer 2016

1. Fire Main Replacement Phase III reached Beneficial Use on April 24, 2015.
2. BNR2 Clarifiers Guardrail Replacement reached Beneficial Use on May 15, 2015.
3. Filtration Building B2/B3 Pipe & Valve Replacement reached Beneficial Use on February 20, 2015.