

SAN JOSÉ/SANTA CLARA TREATMENT PLANT ADVISORY COMMITTEE

CHUCK REED, CHAIR
JOSE ESTEVES, MEMBER
PAT KOLSTAD, MEMBER
JAMIE MATTHEWS, MEMBER
MADISON NGUYEN, MEMBER

CHUCK PAGE, MEMBER
JOHN GATTO, MEMBER
ALEX GURZA, MEMBER
KANSEN CHU, MEMBER

AGENDA/TPAC

4:30 p.m.

October 09, 2014

Room 1734

1. **ROLL CALL**

2. **APPROVAL OF MINUTES**

A. September 11, 2014

3. **UNFINISHED BUSINESS/REQUEST FOR DEFERRALS**

4. **DIRECTOR'S REPORT** (verbal)

A. **Directors Verbal Report**

- Monthly Progress Report
- Supplemental Memorandum
Approval of the use of the design-build project delivery method for the cogeneration facility project at the San Jose-Santa Clara Regional Wastewater Facility

5. **AGREEMENTS/ACTION ITEMS**

A. Approve master agreements between the City of San José and the following firms for special inspection and materials testing services for various capital improvement projects at the San José-Santa Clara Regional Wastewater Facility for a 5-year term beginning upon execution of the agreements through December 31, 2019, subject to the appropriation of funds:

1. Construction Testing Services, Inc. in an amount not to exceed \$500,000; and
2. Signet Testing Laboratories, Inc. in an amount not to exceed \$500,000

The proposed master agreements are scheduled for Council consideration on October 28, 2014.

B. Adopt a resolution authorizing the City Attorney to do the following:

1. Negotiate and execute a legal services contract with Hawkins, Delafield & Wood LLP to support the San José-Santa Clara Regional Wastewater

Facility capital improvement program for an initial one-year term with compensation not to exceed \$180,000.00; and

2. Exercise up to two one-year options extending the legal services contract with Hawkins, Delafield & Wood LLP with compensation for each option year not to exceed \$160,000 plus any funds remaining from the previous contract year, subject to appropriation of funds by the City Council.

The proposed resolution for authority to negotiate and execute a legal services contract with Hawkins, Delafield & Wood LLP is scheduled for Council consideration on October 28, 2014.

- C. Accept this status report on the reissuance of the San José-Santa Clara Regional Wastewater Facility Discharge Permit and update on the health of the South San Francisco Bay.

The status report on the reissuance of the San José-Santa Clara Regional Wastewater Facility Discharge Permit and update on the health of the South San Francisco Bay is scheduled for Council consideration on October 28, 2014.

- D. San José-Santa Clara Regional Wastewater Facility Semi Annual Capital Improvement Program Semi Annual Status Report January-June 2014.

The San José-Santa Clara Regional Wastewater Facility Semi Annual Capital Improvement Program Semi Annual Status Report January-June 2014 is scheduled for Council consideration on October 28, 2014.

6. **OTHER BUSINESS/CORRESPONDENCE**

7. **STATUS OF ITEMS PREVIOUSLY RECOMMENDED FOR APPROVAL BY TPAC**

- A. Proposed Ordinance to Amend the Sewer Use Regulations

Staff Recommendation: Approve an ordinance amending Chapter 15.14 of Title 15 of the San Jose Municipal Code to add a new Section 15.14.248 and amend Section 15.14.755 to add a new definition of the Clean Water Act and modify permit conditions to allow the transfer of discharge permits in the event of a change of ownership.

The Proposed Ordinance to Amend the Sewer Use Regulations was approved by Council on September 16, 2014.

B. Approval of Citywide Insurance Renewals and Related Appropriation Ordinance Amendments in the Convention and Cultural Affairs Fund

Staff Recommendation:

- (a) Adopt a resolution authorizing the City Manager to select and purchase certain City property and liability insurance policies for the period October 1, 2014 to October 1, 2015, at a total cost not to exceed \$1,700,000 for all policies, with the following insurance carriers, subject to the appropriation of funds:
 - (1) Lexington Insurance Company, Boston, MA for Property Insurance, including Boiler & Machinery.
 - (2) QBE Insurance for Airport Owners and Operators Liability including War Risks & Extended Perils Coverage (Primary and Excess) and Police Aircraft Hull & Liability including War Risks & Extended Perils
 - (3) Travelers - or other insurers that the City is currently in negotiations with - for Automobile Liability (Airport fleet vehicles including Shuttle Buses, Regional Wastewater Facility fleet vehicles, and Airport Shuttle Bus physical damage.
 - (4) Indian Harbor Insurance Company for Secondary Employment Law Enforcement Professional Liability.
- (b) Adopt the following 2014-2015 Appropriation Ordinance amendments in the Convention and Cultural Affairs Fund:
 - (1) Increase the Insurance Expenses appropriation to the Finance Department for Insurance Expenses by \$11,000; and
 - (2) Decrease the Ending Fund Balance by \$11,000.

The Approval of Citywide Insurance Renewals and Related Appropriation Ordinance Amendments in the Convention and Cultural Affairs Fund was approved by Council on September 23, 2014.

C. Approval of the Use of the Design Build Project Delivery Method for the Cogeneration Facility Project at the San Jose–Santa Clara Regional Wastewater Facility

Staff Recommendation: Adopt a resolution approving the use of the design-build project delivery method in accordance with California Public Contract Code Section 20193 for the construction of the Cogeneration Facility Project, which is estimated to cost in excess of \$2,500,000.

The Approval of the Use of the Design Build Project Delivery Method for the Cogeneration Facility Project at the San Jose–Santa Clara Regional Wastewater Facility is scheduled for consideration by Council on October 7, 2014.

8. REPORTS

A. Open Purchase Orders Greater Than \$100,000 (including Service Orders)

The attached monthly Procurement and Contract Activity Report summarizes the purchase and contracting of goods with an estimated value between \$100,000 and \$1.08 million and of services between \$100,000 and \$270,000.

9. MISCELLANEOUS

A. The next TPAC meeting is November 13, 2014, at 3:30 p.m. City Hall, Room 1734.

10. OPEN FORUM

11. ADJOURNMENT

NOTE: If you have any changes or questions, please contact Monica Perras, Environmental Services, (408) 975-2546.

To request an accommodation or alternative format for City-sponsored meetings, events or printed materials, please contact Monica Perras (408) 975-2546 or (408) 294-9337 (TTY) as soon as possible, but at least three business days before the meeting/event.

Availability of Public Records. All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at San Jose City Hall, 200 East Santa Clara Street, 10th Floor, Environmental Services at the same time that the public records are distributed or made available to the legislative body.

**MINUTES OF THE
SAN JOSE/SANTA CLARA
TREATMENT PLANT ADVISORY COMMITTEE**
City Hall, City Manager's Office, 17th Floor, Room 1734
Thursday, September 11, 2014 at 4:30 p.m.

1. ROLL CALL

Minutes of the Treatment Plant Advisory Committee convened this date at 4:30 p.m. Roll call was taken, with the following members in attendance:

Committee members: Committee Chair Chuck Reed, Committee Members, Kansan Chu (late), Jose Esteves, John Gatto, Pat Kolstad, Jennifer Maguire, Patricia Mahan, Jaime Matthews, Madison Nguyen and Chuck Page

Absent: None

2. APPROVAL OF MINUTES

A. June 12, 2014

Item 2.A was approved.

Ayes - 9

Nays - 0

Absent - 0

3. UNFINISHED BUSINESS/REQUEST FOR DEFERRALS

4. DIRECTORS REPORT

A. Directors Verbal Report:

- Monthly Progress Report

Kerrie Romanow, Director, Environmental Services noted that the Regional Wastewater Board has approved our permit and praised the facility staff for their efforts at studying the bay.

She stated that South Bay Water Recycling is in the process of opening 17 recycled water fill stations. Staff is expecting the permit within the next week or two.

With regard to the hiring and retention rate, operator vacancy in the wastewater section is now down to 4%. Although there are still challenges in the CIP engineering group where we are at 32%, the overall rate is much better. The facility is currently under 20% and the Environmental Services Department overall is now down to 15%.

Committee Member Esteves asked if the number of contractors at the facility have been reduced.

Staff responded that additional information comparing the use of contractors presently as compared to earlier in the year will be provided to Committee Members.

Rene Eyerly, Sustainability Manager, Environmental Services stated AB1431, the legislature for the water bond, passed and was signed by the Governor on August 13, 2014. This puts on the November ballot the Water Quality and Supply Infrastructure and Improvement Act of 2014 at \$7.5 billion. Of that, \$725 million is dedicated to recycled water projects including advanced treatment.

Staff will recommend to City Council that the City of San Jose support Prop 1 and we encourage the other jurisdictions to support as well.

With regards to the Sanitary Sewer Flow Study, the Consultant presented their preliminary findings of Phase I to TAC last July. It was found that our current cost allocation and flow process is consistent with the State Water Resources Control Board Prop 218 and Prop 26 requirements. Staff feels there are opportunities for improvements including updating the flow and load assessments based on current system conditions and also, creating greater consistency among the agencies where appropriate. TAC approved proceeding with Phase II of the study. This phase will include a more detailed look at customer and use analysis. The findings will be presented to TPAC in November.

5. AGREEMENTS/ACTION ITEMS

A. Proposed Ordinance to Amend the Sewer Use Regulations

Staff Recommendation: Approve an ordinance amending Chapter 15.14 of Title 15 of the San Jose Municipal Code to add a new Section 15.14.248 and amend Section 15.14.755 to add a new definition of the Clean Water Act and modify permit conditions to allow the transfer of discharge permits in the event of a change of ownership.

The Proposed Ordinance to Amend the Sewer Use Regulations is scheduled for Council consideration on September 16, 2014.

B. Approval of Citywide Insurance Renewals and Related Appropriation Ordinance Amendments in the Convention and Cultural Affairs Fund

Staff Recommendation:

- (a) Adopt a resolution authorizing the City Manager to select and purchase certain City property and liability insurance policies for the period October 1, 2014 to October 1, 2015, at a total cost not to exceed \$1,700,000 for all

policies, with the following insurance carriers, subject to the appropriation of funds:

- (1) Lexington Insurance Company, Boston, MA for Property Insurance, including Boiler & Machinery.
- (2) QBE Insurance for Airport Owners and Operators Liability including War Risks & Extended Perils Coverage (Primary and Excess) and Police Aircraft Hull & Liability including War Risks & Extended Perils
- (3) Travelers - or other insurers that the City is currently in negotiations with - for Automobile Liability (Airport fleet vehicles including Shuttle Buses, Regional Wastewater Facility fleet vehicles, and Airport Shuttle Bus physical damage.
- (4) Indian Harbor Insurance Company for Secondary Employment Law Enforcement Professional Liability.

(b) Adopt the following 2014-2015 Appropriation Ordinance amendments in the Convention and Cultural Affairs Fund:

- (1) Increase the Insurance Expenses appropriation to the Finance Department for Insurance Expenses by \$11,000; and
- (2) Decrease the Ending Fund Balance by \$11,000.

The Approval of Citywide Insurance Renewals and Related Appropriation Ordinance Amendments in the Convention and Cultural Affairs Fund is scheduled for Council consideration on September 23, 2014.

Motion by Committee Member Gatto, second by Committee Member Page to approve items 5.A. and 5.B.

Ayes – 9

Nays – 0

Absent - 0

C. Approval of the Use of the Design Build Project Delivery Method for the Cogeneration Facility Project at the San Jose–Santa Clara Regional Wastewater Facility

Staff Recommendation: Adopt a resolution approving the use of the design-build project delivery method in accordance with California Public Contract Code Section 20193 for the construction of the Cogeneration Facility Project, which is estimated to cost in excess of \$2,500,000.

The Approval of the Use of the Design Build Project Delivery Method for the Cogeneration Facility Project at the San Jose–Santa Clara Regional Wastewater Facility is scheduled for Council consideration on September 23, 2014.

Motion by Committee Member Matthews, second by Committee Member Nguyen to approve item 5.C.

Ayes - 9

Nays – 0
Absent - 0

6. **OTHER BUSINESS/CORRESPONDENCE**

7. **STATUS OF ITEMS PREVIOUSLY RECOMMENDED FOR APPROVAL BY TPAC**

A. **Execute a Purchase Order with Murphy Industrial Coatings, INC.**

Authorize the City Manager to:

1. Execute a Purchase Order with Murphy Industrial Coatings, Inc. (Signal Hill, CA) for the coating and rehabilitation of five clarifier tanks at the San José-Santa Clara Regional Wastewater Facility (“Plant”) for the period July 1, 2014 through June 30, 2015, in an amount not to exceed \$638,513; and
2. Approve a 10% contingency for a not-to-exceed amount of \$63,851 to execute change orders for any unforeseen changes or requirements that may arise prior to the completion of services; and
3. Exercise up to four additional one-year options to renew the purchase order through June 30, 2019 to provide coating and rehabilitation services for additional clarifier tanks as required for scheduled maintenance, subject to the annual appropriation of funds.

The Execution of a purchase order with Murphy Industrial Coatings, Inc. was approved by City Council on August 19, 2014.

8. **REPORTS**

A. **Open Purchase Orders Greater Than \$100,000 (including Service Orders)**

The attached monthly Procurement and Contract Activity Report summarizes the purchase and contracting of goods with an estimated value between \$100,000 and \$1.08 million and of services between \$100,000 and \$270,000.

Item 8.A was approved to note and file.

9. **MISCELLANEOUS**

- A. The next TPAC meeting is October 9, 2014, at 4:30 p.m. City Hall, 1734
- B. A Special TPAC Study Session on CIP Financing is scheduled for November 13, 2014, at 3:30 p.m. City Hall, 1734, prior to the regular TPAC meeting at 4:30

- C. A Special TPAC Study Session on Biosolids is scheduled for November 20, 2014 at 4:00 City Hall Wing Committee Rooms

10. **PUBLIC COMMENT**

None

11. **ADJOURNMENT**

- A. The Treatment Plant Advisory Committee adjourned at 4:50 p.m.

Chuck Reed, Chair
Treatment Plant Advisory Committee



San José-Santa Clara
Regional Wastewater Facility

Capital Improvement Program Monthly Status Report for August 2014

October 2, 2014

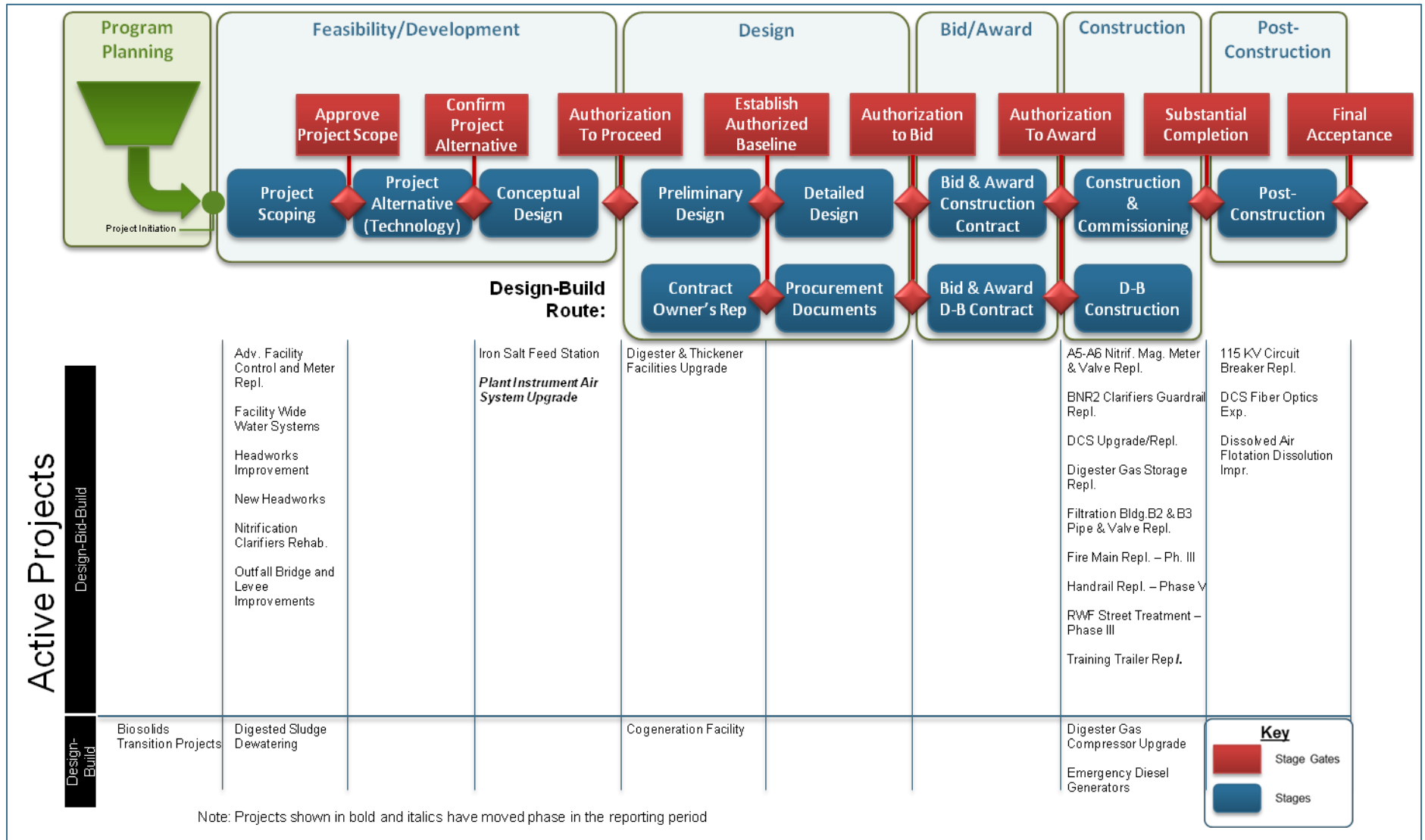
This report provides a summary of the progress and accomplishments of the Capital Improvement Program (CIP) for the San José-Santa Clara Regional Wastewater Facility (Wastewater Facility or RWF) for the period of August 2014.

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Project Delivery Model



Program Summary

August 2014

In the month of August, the program team moved forward on multiple fronts. Many projects progressed through the Project Scoping stage of the Project Delivery Model (PDM) process (see figure, inside of front cover). We saw particular focus on the development of our headworks and biosolids projects. Intense construction activity also took place within the RWF (see last page of this report). We continued drafting an Operations Plan for the Wastewater Facility, which will include both unit process descriptions and an annual plan for coordinating CIP construction with ongoing operations. We drafted a Cost Estimating Guideline document. We kicked off the Odor and Corrosion Study and saw intense activity on the Biosolids Transition Study, two of our ten programmatic studies.

We held a CIP team-building event on August 27th and our second workshop with CIP engineers and RWF O&M staff on August 28th. Meetings were held to discuss future financing of the CIP. Our team also started setting up our Design Guidelines Library (see below). Finally, we continued driving implementation of our program tools and processes on all existing projects and bringing several new staff onto the program.

Look Ahead

In September, our financial planning activities will intensify, as we continue work on the ten-year funding strategy. Our project schedules will undergo a thorough review, to take advantage of “lessons learned” in the first ten months of the program. In addition, we will continue to implement the PDM and Stage Gate process. TAC special sessions on the CIP 10 year funding strategy and flow study are scheduled for September 22.

Program Highlight – Design Guidelines Library

Implementation of the CIP involves a large amount of design activity. Most of these designs will be prepared by outside consultants. It is critical that these engineering designs be prepared consistently, meeting the standards and guidelines established by CIP engineers and RWF O&M staff. One of our main tools for creating this consistency is our Design Guidelines Library (see Figure 1). This virtual library sits within on our web-based CIP Portal, and gathers the best ideas adopted by the CIP program. These ideas originate in our Design Guidelines List and, if approved, will be included in our standard specifications, typical details, or design guidance documents. All of these library materials are provided to our engineering consultants to guide their design efforts.

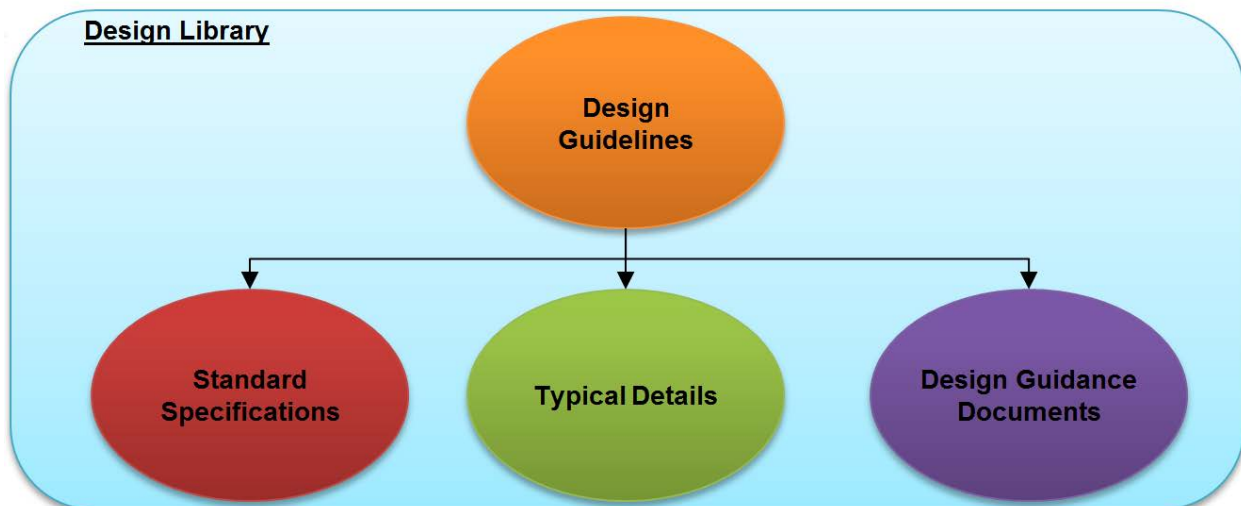














Figure 1—Design Guidelines Library

Program Performance Summary

Seven KPIs have been established to measure the overall success of the CIP. Each KPI represents a metric which will be monitored on a regular frequency. Through the life of the CIP, KPIs will be selected and measured which best reflect the current maturity of the program. The target for the seventh KPI “Staffing Level” KPI will be established as part of the analysis of future staffing needs.

Program Key Performance Indicators – Fiscal Year 2014-2015

KPI Description	Target	Actual	Status	Trend	Measurement
Schedule¹	85%	100% (1/1) ⁴			Percentage of CIP projects delivered within 2 months of approved baseline Beneficial Use Milestone. Target: 85% of projects delivered within 2 months of approved baseline schedule or better.
Budget¹	90%	NA			Percentage of CIP projects that are completed within the approved baseline budget. Target: 90% of projects total expenditures do not exceed 101% of the baseline budget.
Expenditure^{1/5}	≥\$98.0M	\$98.0M			Total CIP actual + forecast committed cost for the fiscal year compared to CIP fiscal year budget. Target: Forecast committed cost meets or exceeds 70% of budget for Fiscal Year 14/15 (70% of \$140= \$98M)
Procurement^{1/2}	100%	100% (7/7)			Number of actual + forecast consultant and contractor procurements compared to planned for the fiscal year. Target: Forecast /actual procurements for fiscal year meet or exceed planned.
Safety¹	0	0			Number of OSHA reportable incidents associated with CIP construction for the fiscal year. Target: zero incidents.
Environment/Permits¹	0	0			Number of permit violations caused by CIP construction for the fiscal year. Target: zero violations.
Staffing Level³	TBD	TBD	TBD	TBD	Percentage of authorized staffing level Target: to be determined

KEY:

Cost:  Meets or exceeds KPI target  Does not meet KPI target

Notes

1. KPIs have been reset for the new FY14-15.
2. Procurement KPI target will be updated following the project schedule reviews.
3. Staffing level KPI measured quarterly; all other KPIs measured monthly.
4. For the schedule KPI, the number of delivered projects increased from 0 to 1, this count includes 115 KV Circuit Breaker Replacement, which reached Beneficial Use as of July 2014.
5. FY14-15 budget excludes reserves, ending fund balance, contingencies, South Bay Water Recycling, Public Art and Urgent and Unscheduled Rehabilitation items

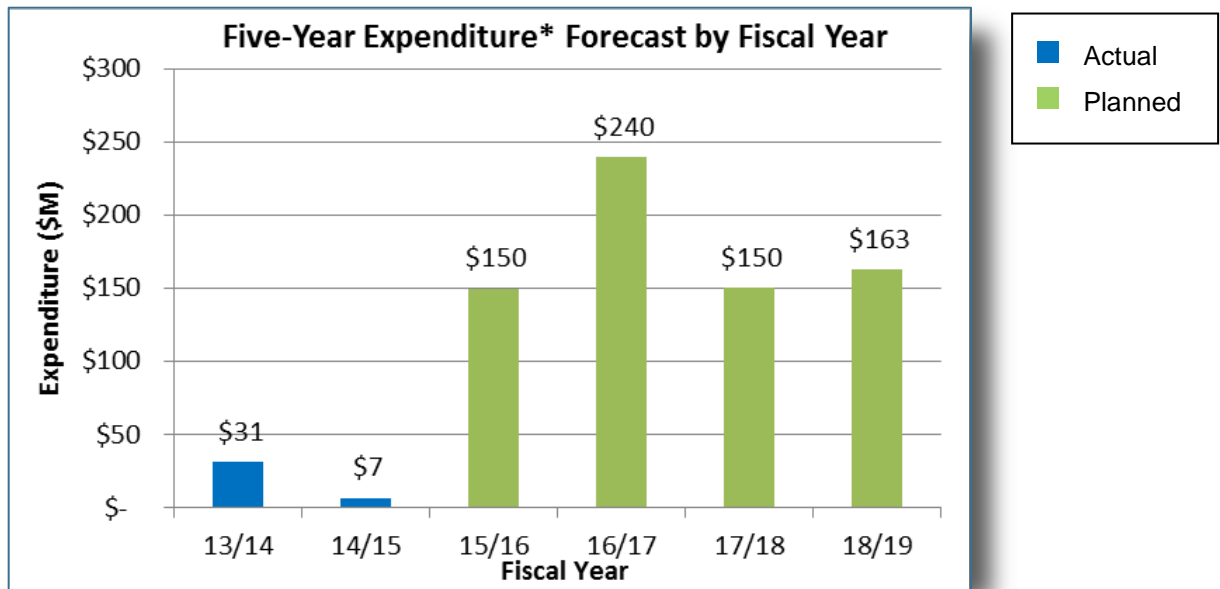


Program Cost Performance

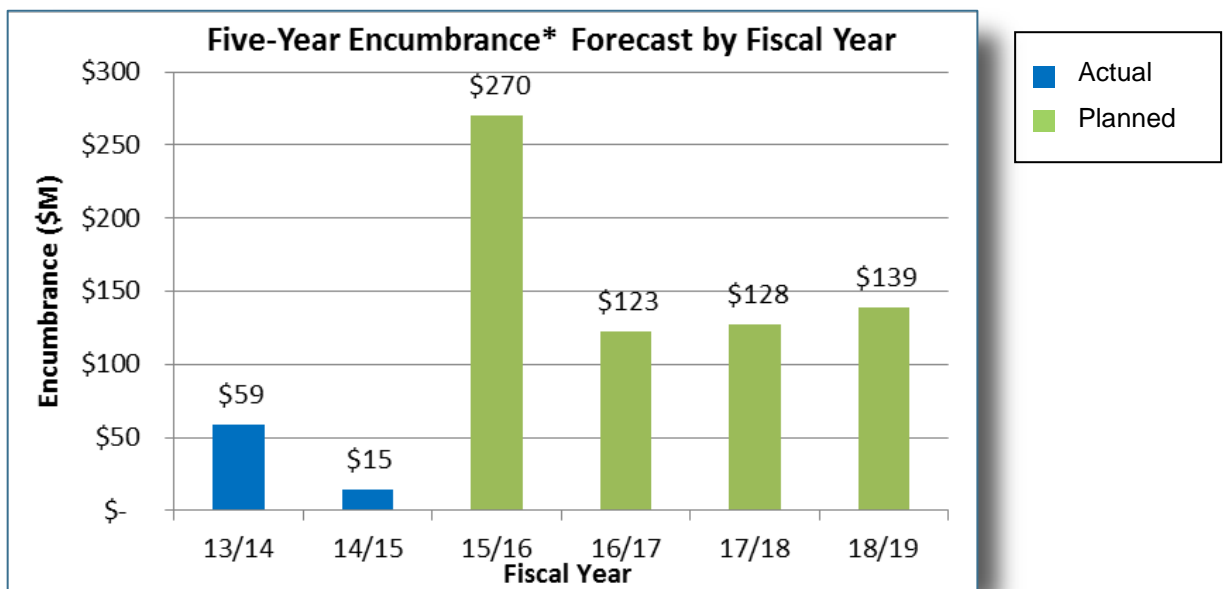
This section provides a summary of CIP cost performance for all construction projects and non-construction activities for FY14-15 and the Five-Year CIP.

Adopted 2015-2019 CIP Expenditure and Encumbrances

To accommodate the proposed increase in expenditures and encumbrances over the next five years, the City is developing a long-term financial strategy to fund the needed, major capital improvements while minimizing the impact to ratepayers. The City held special study sessions with TAC and TPAC in April to discuss the ten-year funding strategy and the financing plan.



*Expenditure defined as: Actual cost expended associated with services and construction of physical asset which may include encumbered amounts from previous years



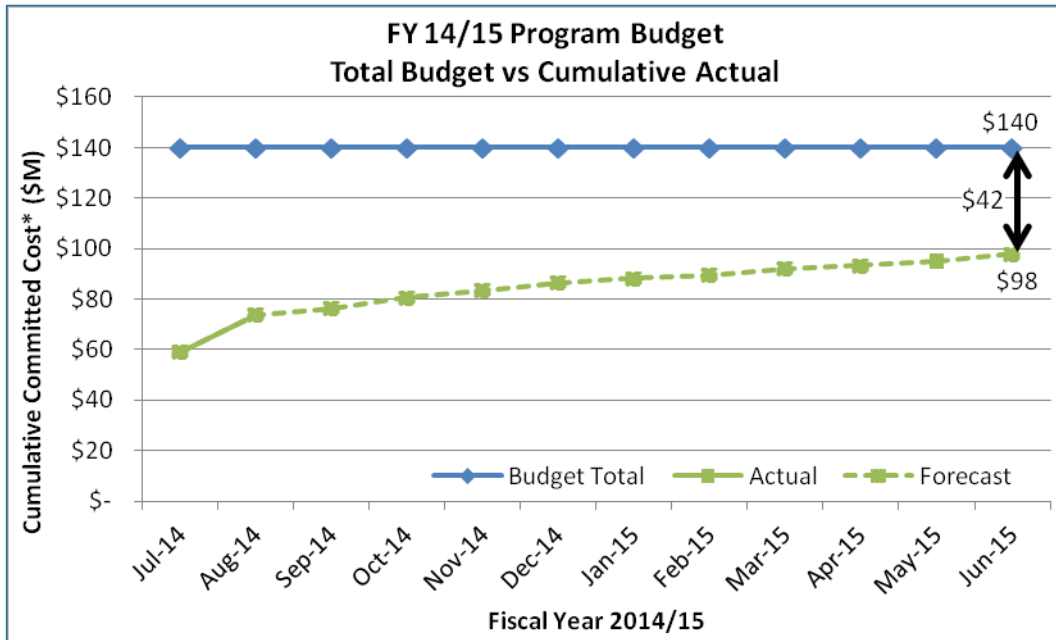
*Encumbrance defined as: Financial commitments, such as purchase orders or contracts, which are chargeable to an appropriation and for which a portion of the appropriation is reserved



Fiscal Year 2014-2015 Program Budget Performance

The fiscal year program budget is \$140 million. The budget amount of \$140 million represents the 2014-2015 budget of \$87 million plus carryover of \$52 million. The budget amount excludes reserves, ending fund balance, contingencies, South Bay Water Recycling, Public Art and Urgent and Unscheduled Rehabilitation items.

Committed costs are expenditures and encumbrance balances, including carryover (encumbrance balances from the previous fiscal year).































*Committed costs are expenditures and encumbrance balances, including carryover (encumbrance balances from the previous fiscal year).







Project Performance

There are currently 14 active projects in the construction or post-construction phase with a further 11 projects in feasibility/development, design or bid and award phases (see PDM graphic at the front of this report). All active projects are listed in the tables below. Projects in the construction phase have cost and schedule baselines established and are monitored using the City's Capital Project Management System (CPMS). These projects have green/red icons included in the table below to indicate whether they are on budget and schedule using the CPMS data as a source.

Project Name	Phase	Estimated Beneficial Use Date ¹	Cost Performance ²	Schedule Performance ²
Baselined Projects				
Dissolved Air Flotation (DAF) Dissolution Improvement	Post-Construction	Apr 2014		
Distributed Control System (DCS) Fiber Optics Network Expansion	Post-Construction	May 2014		
115KV Circuit Breaker Replacement	Post-Construction	Jul 2014		
A5-A6 Nitrification Mag. Meter & Valve Replacement	Construction	Oct 2014		
BNR-2 Clarifier Guardrail Replacement	Construction	Dec 2014		
DCS Upgrade/Replacement	Construction	Jun 2016		
Digester Gas Compressor Upgrade	Construction	Jul 2016 ³		
Digester Gas Storage Replacement	Construction	Jun 2015		
Emergency Diesel Generators	Construction	Aug 2016 ³		
Filtration Building B2 & B3 Pipe & Valve Replacement	Construction	Apr 2015 ³		
Fire Main Replacement - Phase III	Construction	Apr 2015		
Handrail Replacement - Phase V	Construction	Mar 2015		
RWF Street Rehabilitation - Phase III	Construction	Jan 2015 ³		
Training Trailer Replacement	Construction	May 2015		

KEY:

Cost:		On Budget		>1% Over Budget
Schedule:		On Schedule		>2 months delay





Notes

1. Beneficial Use is defined as when the work is sufficiently complete, in accordance with the contract documents, so that the City can occupy or use the work. Beneficial use dates being reviewed as part of project schedule reviews.
2. An explanation of cost and schedule variances on specific projects identified in this table is provided on page 9.
3. Beneficial use dates pending Contractor's Schedule.



Project Name	Phase	Estimated Beneficial Use Date ¹
Cogeneration Facility	Design	Mar 2017
Digester & Thickener Facilities Upgrade	Design	Feb 2018
Adv. Facility Control & Meter Repl. Ph. 1	Feasibility/Development	Feb 2016
Digested Sludge Dewatering	Feasibility/Development	Dec 2018
Facility-wide Water Systems	Feasibility/Development	Mar 2021
Headworks Improvement	Feasibility/Development	Nov 2017
Iron Salt Feed Station	Feasibility/Development	Apr 2016
New Headworks	Feasibility/Development	Jun 2021
Nitrification Clarifiers Rehab.	Feasibility/Development	June 2018
Outfall Bridge and Levee Improvements	Feasibility/Development	Aug 2018
Plant Instrument Air System Upgrade	Feasibility/Development	Dec 2015

KEY:

Cost:	 On Budget	 >1% Over Budget
Schedule:	 On Schedule	 >2 months delay

Notes

- Beneficial Use is defined as when the work is sufficiently complete, in accordance with the contract documents, so that the City can occupy or use the work. Beneficial use dates being reviewed as part of project schedule reviews.



Significant Accomplishments

Odor and Corrosion Control Study

Staff issued a Notice to Proceed for this study to CH2M HILL on August 27, 2014. The project held a kickoff workshop to introduce the consulting team to the City and present the project goals, objectives, and schedule. A key element of the workshop was to provide an overview of the approach and tools used to perform a detailed odor assessment.

Iron Salt Feed Station

The project consultant, CH2M HILL, submitted the Conceptual Design Report and conducted a review workshop, in mid-August, to provide an overview of the key concepts detailed in the report. The project team is preparing for the Authorization to Proceed stage gate and anticipates starting preliminary design in September.

Headworks Improvements and New Headworks

A scoping workshop was conducted to present an overview of the various studies conducted to date around the headworks complex. In addition, an assessment was provided of critical information currently outstanding that would need to be developed as part of the future steps toward defining a final plan for the headworks. An outline of the next steps, including procurement and delivery options was presented as part of the workshop. Final preparations are underway for approval of the Project Scope Stage Gate.

Biosolids Transition

In August, Brown and Caldwell (B&C) finalized a technical memorandum that analyzed the use of temperature (thermophilic) phased anaerobic digestion. It was included as part of the Conceptual Design Report for the Digester and Thickener Facilities Upgrade project. Two workshops were held to discuss the alternative locations for the new biosolids processing facilities and the proposed business case evaluations (BCE). Five alternatives were chosen and B&C began the detailed BCE's. The project team also held planning meetings in preparation for the November 2014 TPAC Special Meeting.

Explanation of Project Performance Issues

DAF Dissolution Improvement

This project involved the replacement of pipe sections, check valves, and knife gate valves, and the installation of new electric actuators to automate valve operations for the dissolved air flotation process in the Wastewater Facility's Sludge Control Building. One of the new valves required an extended shutdown period and repeated installation attempts. In existing facilities, it is not uncommon for new equipment to present fit and alignment challenges as was encountered in this case. In addition, the installation of the local control panel required a longer than expected submittal review period. These issues resulted in minor cost and schedule impacts (9% above target budget and 3 months beyond target schedule).

In April, the project achieved beneficial use. The contractor's work is complete. Project acceptance is expected in the first week of September.



Project Profile

Digester & Thickener Facilities Upgrade

The Wastewater Facility currently has 16 anaerobic digesters that were constructed between 1956 and 1983. These digesters are aged, in various states of disrepair, and in need of rehabilitation in order to maintain viable biosolids processing capacity. Of the sixteen digesters installed, six are currently out of service due to structural damage or other mechanical failures. Typically a minimum of eight and up to ten digesters are operated at any given time. Currently the digesters receive primary sludge (PS) from the primary sedimentation tanks and thickened waste activated sludge (WAS) from the dissolved air flotation thickeners (DAFTs). In order to reduce the number of digesters that will ultimately require rehabilitation, a reconfiguration of the DAFT process area to accomplish co-thickening of PS and WAS is necessary.

This project will include modifications to four existing anaerobic digesters (Digesters 5, 6, 7 and 8), replacement and relocation of the digester gas piping in the tunnels and retrofits to six existing DAFTs (tanks 1-6) to operate as a co-thickening facility. All elements associated with the digesters will be upgraded, including covers, mixers and heating systems, electrical and instrumentation components. All existing digester gas piping and associated appurtenances will be upgraded to meet future gas production needs. This component includes removal of digester gas piping and some other hazardous systems from the tunnels addressing the tunnel system as a potential hazardous environment. Six existing DAFT units will be upgraded including odor containment and treatment, new feed pump equipment, blending tanks, polymer storage system, and piping modifications to convey co-thickened sludge to the digesters. Brown and Caldwell began design in October 2013 and the project award is anticipated in March 2016. Project Budget: \$77,451,000.

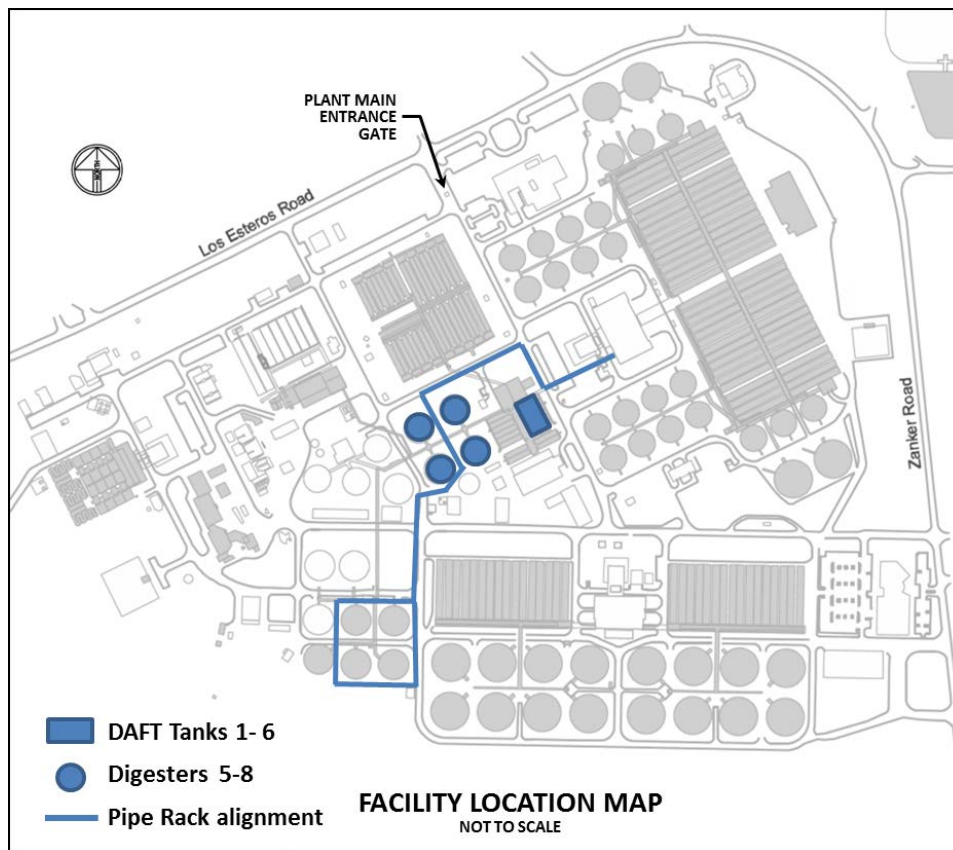
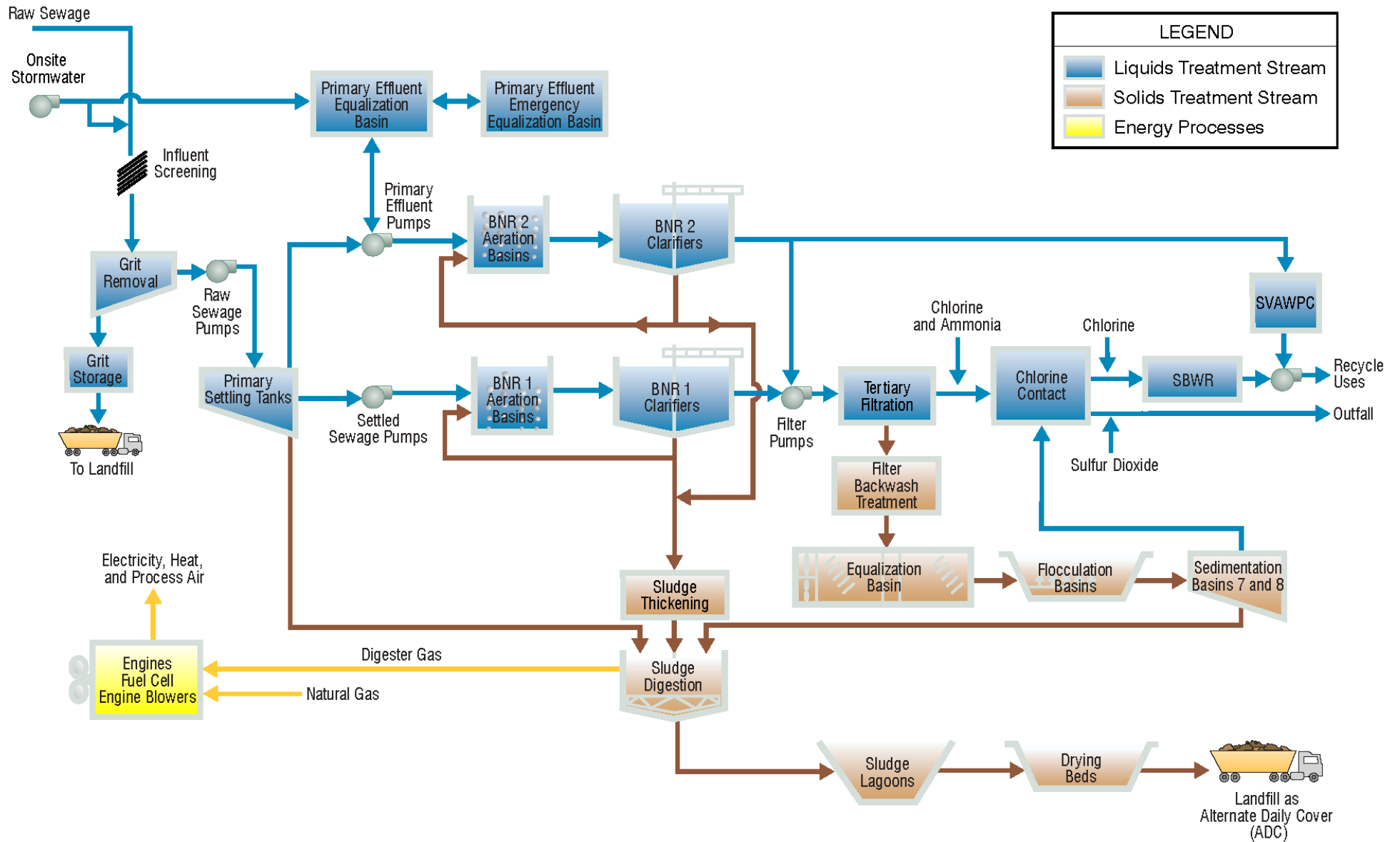


Figure 2— Digester & Thickener Facilities Upgrade

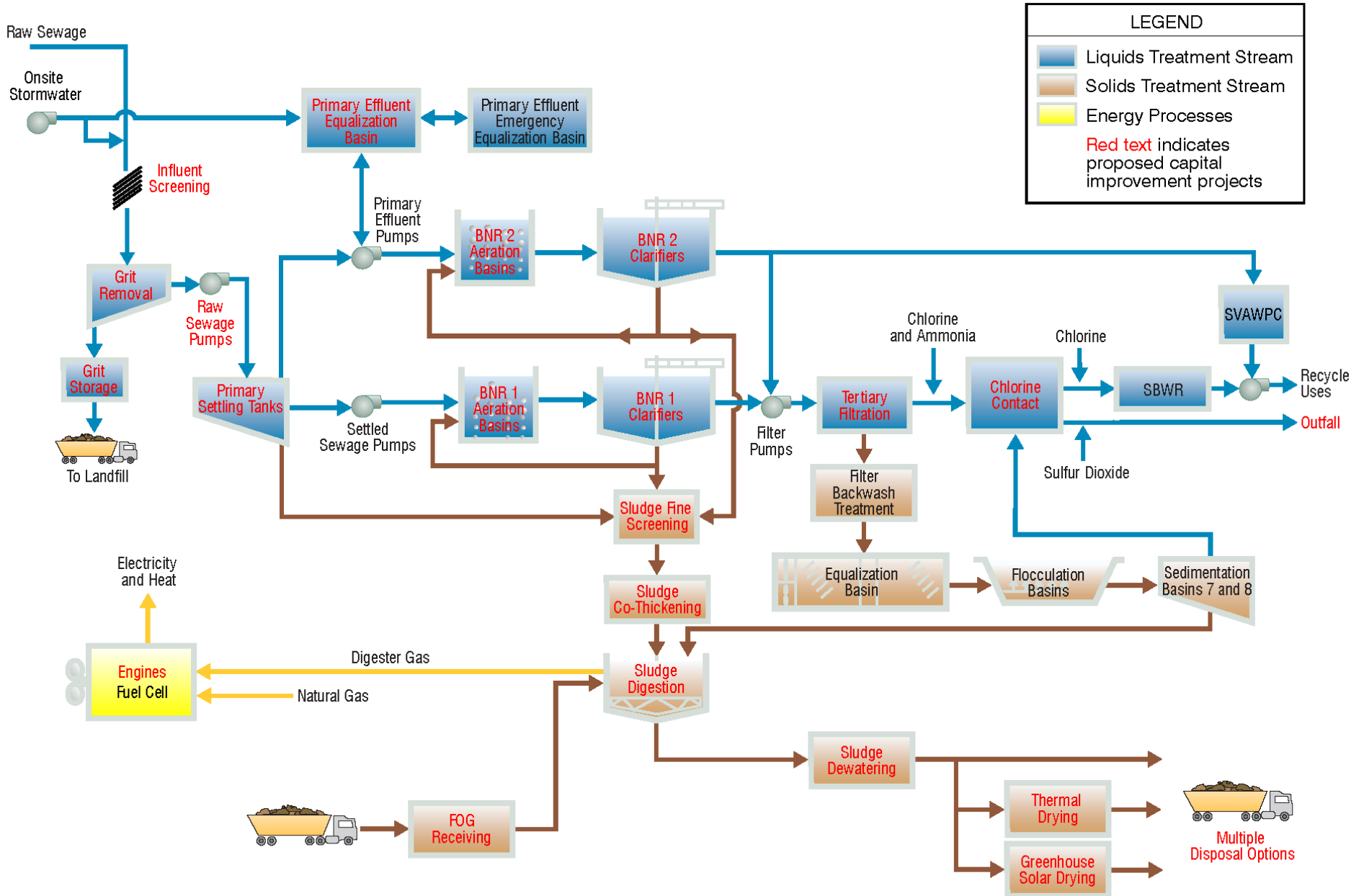
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Regional Wastewater Facility Treatment – Current Treatment Process Flow Diagram



Regional Wastewater Facility Treatment – Proposed Treatment Process Flow Diagram

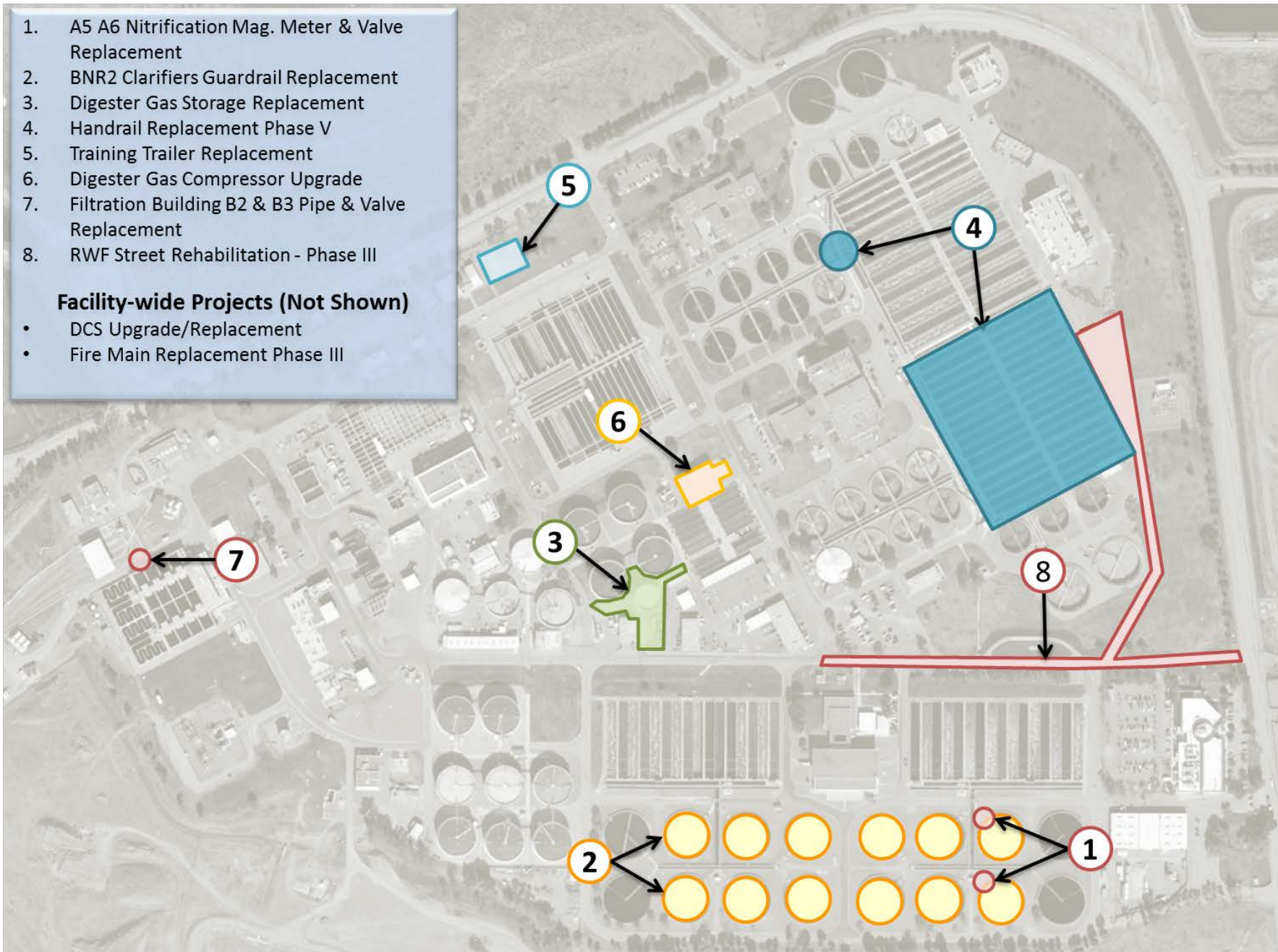


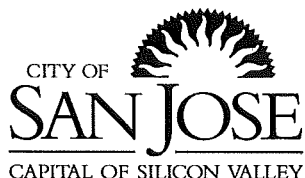
Active Construction Projects – Aerial Plan

1. A5 A6 Nitrification Mag. Meter & Valve Replacement
2. BNR2 Clarifiers Guardrail Replacement
3. Digester Gas Storage Replacement
4. Handrail Replacement Phase V
5. Training Trailer Replacement
6. Digester Gas Compressor Upgrade
7. Filtration Building B2 & B3 Pipe & Valve Replacement
8. RWF Street Rehabilitation - Phase III

Facility-wide Projects (Not Shown)

- DCS Upgrade/Replacement
- Fire Main Replacement Phase III





Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: David Sykes
Kerrie Romanow

SUBJECT: SEE BELOW

DATE: September 4, 2014

Approved

Date

9/4/14

SUBJECT: APPROVAL OF THE USE OF THE DESIGN-BUILD PROJECT DELIVERY METHOD FOR THE COGENERATION FACILITY PROJECT AT THE SAN JOSE-SANTA CLARA REGIONAL WASTEWATER FACILITY

RECOMMENDATION

Adopt a resolution approving the use of the design-build project delivery method in accordance with California Public Contract Code Section 20193 for the construction of the Cogeneration Facility Project, which is estimated to cost in excess of \$2,500,000.

OUTCOME

Approval of the use of the design-build process for the construction of the Cogeneration Facility Project ("Project"), by the City Council in accordance with California Public Contract Code Section 20193, will enable the City to solicit design-build entities to construct the Cogeneration Facility Project at the San José-Santa Clara Regional Wastewater Facility¹ (Wastewater Facility).

BACKGROUND

In 2012, the City completed an Energy Management Strategic Plan that assessed the Wastewater Facility's existing and future power demands and condition of the existing energy systems. The study identified existing, aging cogeneration equipment as a critical issue that would need to be addressed in order to maintain onsite production of a reliable supply of power and heat. Cogeneration equipment at the Wastewater Facility consists of engines which utilize available digester gas (produced by the on-site anaerobic digestion tanks) to produce power to meet a

¹ The official name of the facility remains San Jose/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.

significant portion of the Wastewater Facility's power requirements, as well as, producing heat required by the anaerobic digestion tanks.

Existing cogeneration equipment at the Wastewater Facility ranges from 20 to 61 years of age, and has been subject to breakdowns of increasing frequency and severity. The acquisition of parts for aging equipment is equally a critical consideration. As a result, the 2012 study recommended that the existing cogeneration equipment be replaced in order to provide reliable on-site power and heat.

The new Cogeneration Facility will consist of advanced generation internal combustion engines selected based on their low capital cost, high electrical efficiency, and high availability of high-grade heat for the anaerobic digestion tanks. The new engines will replace all existing Wastewater Facility engines with the exception of the recently installed Fuel Cell. Accounting for the Fuel Cell, power output on the engines is expected to meet projected power demands through 2036. In addition, the Cogeneration Facility project scope includes a new digester gas treatment system, control system and monitoring system with connectivity to the Wastewater Facility's Distributed Control System (DCS), electrical switchgear, various additional appurtenances in support of the engines and building, a new digester gas pipeline and natural gas pipeline, new heat recovery systems, and civil work including parking areas and utilities (water, stormwater and sanitary sewer lines). See Attachment "A" for the project location map.

The City has the authority under its Charter to use the design-build delivery method for construction of City capital projects as an alternative to the traditional design-bid-build approach to building public works projects. Design-build can provide the owner with the flexibility to define the project based on available funds, select a contractor based on qualifications and other factors rather than strictly lowest bid, and negotiate a contract structured around the project's priorities. The City has successfully used the design-build project method at the Norman Mineta San José International Airport and the Convention Center. The City is also in the process of using design-build for the United States Patent and Trademark Office Project.

However, the Wastewater Facility is a regional wastewater treatment facility serving eight South Bay cities and four special districts, jointly owned by the cities of San José and Santa Clara and administered and operated by the City of San José. Because of this regional nature of the Wastewater Facility, the City must comply with State law requirements in its procurement of construction projects at the Wastewater Facility on a design-build basis, and cannot rely upon its Charter authority to do so. Of currently existing options under State law, Section 20193 of the State Public Contract Code ("PCC") provides the City with the clearest and broadest authority to pursue procurement of the Cogeneration Facility project on a design-build basis.

ANALYSIS

Section 20193 of the PCC allows local entities who operate waste water facilities, solid waste facilities, or water recycling facilities to utilize the design-build procurement method for construction projects that are in excess of \$2,500,000, upon obtaining approval from the

Governor's Office of Planning and Research ("OPR") and the local entity's governing body. Under Section 20193, design-build projects may be procured on the basis of either: a) a competitive process resulting in lump sum bids; or b) a competitive process that is based on best value and is evaluated by using criteria and selection procedures specifically identified in the request for proposal. However, as distinguished from the City's Charter design-build authority, for best value procurements under Section 20193 there are minimum factors required by the statute which shall each represent at least 10 percent of the total weight of consideration given to all criteria factors: price, technical design and construction expertise, life cycle costs over 15 years or more, skilled labor force availability, and acceptable safety record. It is staff's intention to procure the Cogeneration Facility project on a best value basis.

The Cogeneration Facility Project is estimated to cost approximately \$80,000,000, which is in excess of the \$2,500,000 minimum cost requirement in Section 20193. The City also completed and complied with the environmental review process for the Project, as required by the California Environmental Quality Act. The City sought approval from the OPR to proceed with the design-build construction of the Cogeneration Facility Project on June 2, 2014, and the OPR approved the City application on June 12, 2014. Final approval of the use of the design-build bidding for the Project is now required by the City Council.

The proposed design-build procurement approach to the Cogeneration Facility Project was selected for the following reasons:

- **Time savings:** Long lead items, such as the large engines, switchgears, and gas treatment systems, may be selected and ordered at the earliest stage of the design effort, thereby significantly shortening the overall time schedule.
- **Cost savings:** This Project includes the design and coordination of plans, specifications, and submittals for complex mechanical, electrical and controls systems. Design-build provides the potential for cost savings by having a single entity provide both the design and construction in a one-stop process, thereby improving project coordination.
- **Improved project coordination:** A design-build approach provides a single point of responsibility for working through engineering and construction challenges. This can significantly reduce project risks to the owner by reducing or avoiding claims and disputes. Improved coordination can also yield innovative solutions to project challenges that would be more difficult to overcome in a design-bid-build environment.

In accordance with Section 20193, staff is developing the solicitation documents necessary to acquire the services of a design-build contractor. The procurement approach is as follows:

- **Request for Pre-qualifications:** The PCC requires a procedure to prequalify design-build entities. In general, it is envisioned that the Request for Pre-qualifications process will follow standard City of San José format and requirements, as tailored to the requirements of Section 20193 and the present project. All design-build entities that intend to submit a

proposal for the Cogeneration Facility project must fully complete a Pre-qualification Submittal and materials requested and must be approved by the City to be on the final pre-qualified proposer's list. A selection committee comprised of City staff will evaluate the Pre-qualification submittals. The evaluation will address design experience, construction experience, and design-build experience as applicable to wastewater facilities and the development of cogeneration facilities as well as financial capability to take on the project.

- Request for Proposals: The PCC requires a Request for Proposal (RFP) process for submittal of proposals by prequalified design-build entities. Again, in general, it is envisioned that the RFP process will follow standard City of San José format and requirements, as tailored to the requirements of Section 20193 and the present project. The RFP will describe the selection process that will be used, the information required of proposers, a description of the program, and the necessary forms for submitting a proposal. A selection committee comprised of staff from the City Manager's Office, the Environmental Services Department and Public Works Department, a labor union representative and an individual from another wastewater facility will evaluate the written proposals, the sealed project price and life-cycle cost proposals, and then conduct interviews with the most qualified firms.

The advertisement for the Request for Pre-qualification will begin in September 2014, and the RFP will be complete and ready for advertising by November 2014.

EVALUATION AND FOLLOW-UP

After conclusion of the Request for Proposal process, staff will present the list of ranked design-build firms for council approval and authority to negotiate in March 2015. Staff would next return to Council with a proposed award of the contract immediately after negotiations are complete (anticipated to be May 2015).

PUBLIC OUTREACH/INTEREST

This memorandum will be posted on the City's Council Agenda Website for the September 23, 2014, Council Meeting at <http://www.sanjoseca.gov/index.aspx?nid=3549>.

COORDINATION

This report has been coordinated with the City Attorney's Office. This is scheduled to be heard at the September 11, 2014, Treatment Plant Advisory Committee meeting.

HONORABLE MAYOR AND CITY COUNCIL

September 4, 2014

Subject: Approve Use of Design-Build Project Delivery Method for the Cogeneration Facility Project

Page 5

COST SUMMARY/IMPLICATIONS

Advertisement of the Project does not commit the City to fund or construct the Project. The award of the Project will return to City Council for approval.

CEQA

Mitigated Negative Declaration, File No. PP14-005

/s/

DAVID SYKES

Director, Public Works

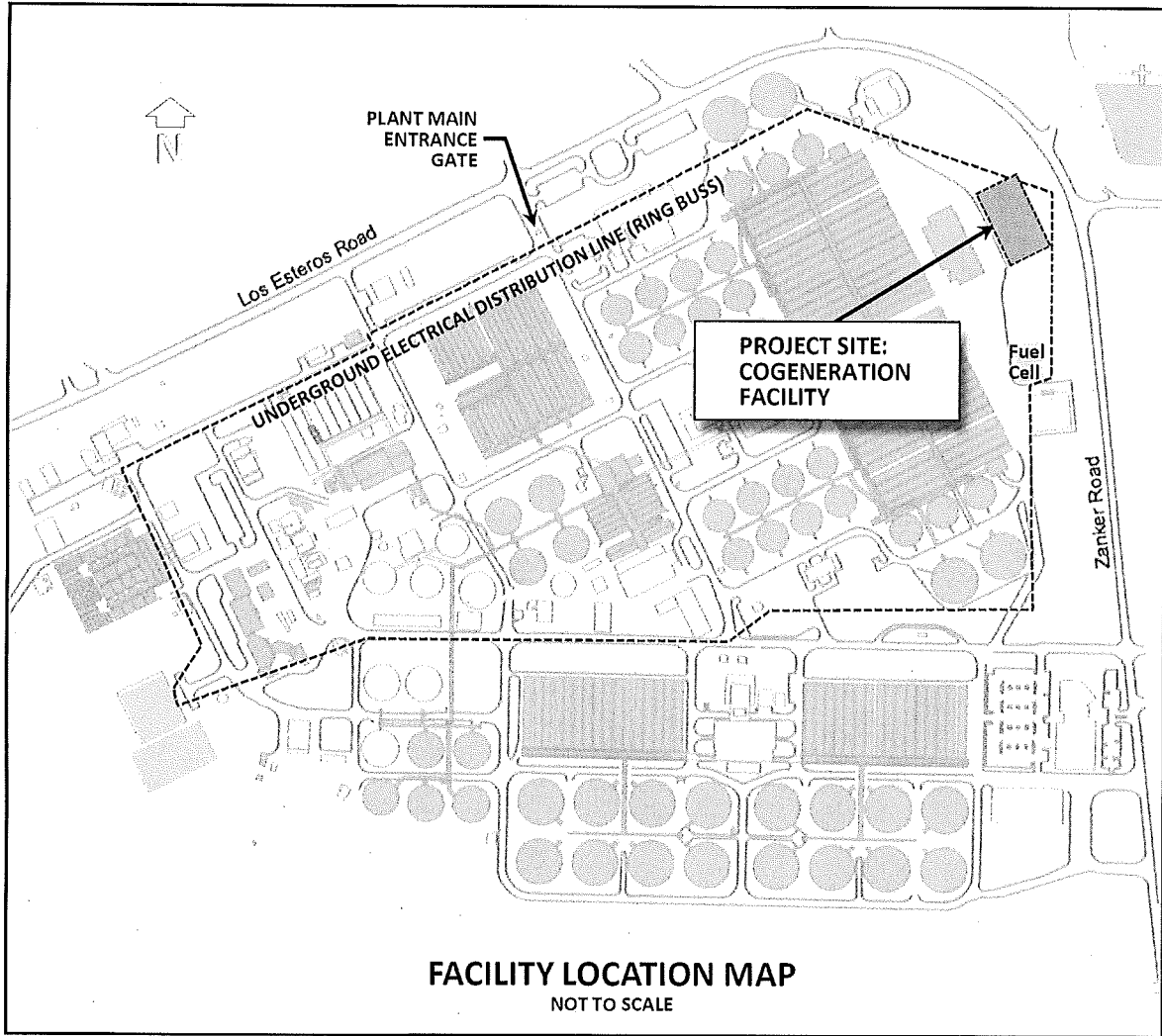
/s/

KERRIE ROMANOW

Director, Environmental Services

For questions please contact John Cannon, Principal Engineer, Department of Public Works, at 408-945-3066.

Attachment: A Project location map





Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: Kerrie Romanow

SUBJECT: SEE BELOW

DATE: September 22, 2014

Approved

Date

9/24/14

SUBJECT: 7609 - MASTER AGREEMENTS WITH CONSTRUCTION TESTING SERVICES, INC. AND SIGNET TESTING LABORATORIES, INC. FOR SPECIAL INSPECTION AND MATERIALS TESTING SERVICES FOR THE SAN JOSE -SANTA CLARA REGIONAL WASTEWATER FACILITY CAPITAL IMPROVEMENT PROGRAM

RECOMMENDATION

Approve master agreements between the City of San José and the following firms for special inspection and materials testing services for various capital improvement projects at the San José-Santa Clara Regional Wastewater Facility for a 5-year term beginning upon execution of the agreements through December 31, 2019, subject to the appropriation of funds:

1. Construction Testing Services, Inc. in an amount not to exceed \$500,000; and
2. Signet Testing Laboratories, Inc. in an amount not to exceed \$500,000

OUTCOME

Approval of the master agreements with Construction Testing Services and Signet Testing Laboratories provides the San José-Santa Clara Regional Wastewater Facility (Wastewater Facility) with the ability to obtain on-call special inspection and materials testing services to support various capital improvement projects identified in the Adopted 2015-2019 Water Pollution Control Capital Improvement Program (CIP). These services are needed to ensure construction projects are completed in accordance with special inspection and testing requirements of the San José Municipal Code (SJMC) and the California Building Code (CBC).

BACKGROUND

The Adopted 2015-2019 Water Pollution Control Capital Improvement Program provides funding of \$926,300,000 for capital improvement projects, of which \$181,600,000 million is allocated in 2014-2015. Many of these projects are expected to require special inspection and testing services for structural steel, concrete, masonry and wood construction, as well as soils, foundation elements, seismic resistance, sprayed fire-resistant materials, coatings, insulation & finish systems, fire-resistant penetrations and joints, and smoke control systems.

For previous capital projects, the Wastewater Facility was able to draw on Code Inspectors and the Materials Testing Laboratory staff from the Department of Public Works (DPW) to provide these services. Those City resources lack sufficient capacity, certifications, or expertise to efficiently perform the tasks needed to support the upcoming volume of work identified in the Adopted Water Pollution Control CIP. To ensure construction projects can proceed as scheduled and will be performed in accordance with the SJMC and CBC, the specialty inspection and materials testing consultant services are required.

ANALYSIS

On May 28, 2014, the City issued a Request for Qualifications (RFQ), on BidSync, seeking on-call special inspection and materials testing services for various CIP projects. The RFQ was specifically focused on consultants pre-approved on the Department of Planning, Building and Code Enforcement's list of Recognized Special Inspection and Testing Agencies. The City received a total of four responsive Statements of Qualification (SOQ) by the June 19, 2014 submittal deadline. A Technical Evaluation Panel, consisting of representatives from DPW and ESD, evaluated and ranked the SOQs in accordance with the Capital Program Consultant Procurement Supplemental Manual to the online Citywide RFP Manual.

The overall selection criteria were based on the consultant's expertise, experience, approach and Local/Small Business Enterprise status using a scoring system based upon a maximum of 100 total points. Based on the qualifications presented in their SOQs, the final rankings are summarized below:

<u>Rank</u>	<u>Consultant</u>	<u>Overall Score</u>
1	Construction Testing Services, Inc.	88
2	Signet Testing Laboratories, Inc.	68
3	Consolidated Engineering Laboratories	64
4	Ninyo & Moore	63

Two of the four responding firms, Construction Testing Services and Ninyo & Moore, qualified for Local Business Preference.

Staff recommends approval of master agreements with the top two firms, Construction Testing Services and Signet Testing Laboratories. Both demonstrated a high level of technical expertise and extensive experience in special inspections and materials testing services at similar water/wastewater treatment facilities.

The consultant under each master agreement will provide on-call special inspection and materials testing services through authorized service orders for a variety of CIP projects to ensure compliance with the requirements of the SJMC, CBC, and the contract documents for the particular project. Specific services to be authorized under individual service orders may include, but are not limited to, special inspection and materials testing services which include submittal reviews; inspection and testing of structural steel, welding, pre-stressing tendons, reinforced concrete, epoxy anchor bolting, structural masonry, soils, foundation elements, fire-resistant materials, exterior insulation & finish systems, smoke control systems, instrumentation and control systems equipment; and provision of confined space entry and rescue.

Assignment of service orders will be made on an alternating basis between the two master agreements with the first service order to be issued to the top ranked firm. In each instance, staff will negotiate the scope of work, deliverables, schedule, and cost with the selected firm. In the event negotiations are unsuccessful, staff may negotiate with the other firm to perform the work. Additionally, if it is necessary for the City to issue a service order for urgent work (e.g., services are required within 24 hours and the selected consultant is unavailable), or other special circumstances (e.g., the selected firm: 1) lacks a certain expertise, 2) is unavailable to perform the requested services, or 3) the other firm is already familiar with a particular project because it previously performed work on the project), staff may elect to issue the service order to the most responsive firm.

EVALUATION AND FOLLOW-UP

No additional follow up action with the Council is expected at this time. All service orders issued under these master agreements will be reported to the Treatment Plant Advisory Committee (TPAC) on the monthly summary of procurement and contract activity.

POLICY ALTERNATIVES

Alternative 1: Direct City staff to provide the required services with in-house resources.

Pros: Increased work options for City staff.

Cons: In-house DPW staff does not possess the capacity, technical expertise, or industry certifications needed for the anticipated projects, which could lead to possible construction delays or ineffective, incomplete inspections.

Reason for not recommending: The City would need to hire several new staff members with knowledge and expertise in a variety of inspection and materials testing disciplines.

PUBLIC OUTREACH

The Request for Statement of Qualifications was advertised on May 28, 2014 on BidSync, a third-party online platform for the advertisement of government quotes, bids and RFPs. In addition, this memorandum will be posted on the City's website for the October 21, 2014 Council agenda.

COORDINATION

This agreement and memorandum have been coordinated with the City Manager's Budget Office, the City Attorney's Office, and the departments of Public Works and Planning, Building and Code Enforcement. This item is scheduled to be heard at the October 9, 2014 Treatment Plant Advisory Committee (TPAC) meeting and the October 21, 2014 City Council meeting.

FISCAL/POLICY ALIGNMENT

This project is consistent with the Council approved Budget Strategy to focus on rehabilitating aging Plant infrastructure, improve efficiency, and reduce operating costs. This project is also consistent with the budget strategy principle of focusing on protecting our vital core services.

COST SUMMARY/IMPLICATIONS

1. AMOUNT OF RECOMMENDATION: \$1,000,000

Master Agreement with Construction Testing Services, Inc.	\$500,000
Master Agreement with Signet Testing Laboratories, Inc.	<u>\$500,000</u>
TOTAL	\$1,000,000

2. COST ELEMENTS OF MASTER AGREEMENT: The consultant's services are reimbursed on an hourly rate schedule in the master agreement for the involved consultant personnel.

3. SOURCE OF FUNDING: San José/Santa Clara Treatment Plant Capital Fund (512).

4. FISCAL IMPACT: No additional funding is necessary to approve these master agreements. Funding for Service Orders is available in the 2014-2015 Water Pollution Control Plant Capital Budget. Cost to be incurred in future fiscal years are subject to Council approval of funds.

5. OPERATING COSTS: Approval of the recommendation will have no significant adverse impact on the General Fund operating budget.

HONORABLE MAYOR AND CITY COUNCIL

September 22, 2014

Subject: 7609-Master Agreements for Special Inspection & Materials Testing Services

Page 5

CEQA

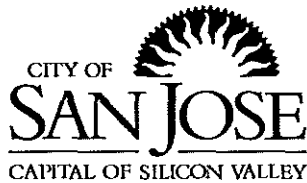
Exempt, File No. PP10-066 (d), Consultant Services.

/s/

KERRIE ROMANOW

Director, Environmental Services

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



Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: Richard Doyle
City Attorney

SUBJECT: SEE BELOW

DATE: September 29, 2014

SUBJECT: ADOPT A RESOLUTION AUTHORIZING THE CITY ATTORNEY TO NEGOTIATE AND EXECUTE A LEGAL SERVICES CONTRACT TO SUPPORT THE SAN JOSE-SANTA CLARA REGIONAL WASTEWATER FACILITY CAPITAL IMPROVEMENT PROGRAM

RECOMMENDATION

Adopt a resolution authorizing the City Attorney to do the following:

- A. Negotiate and execute a legal services contract with Hawkins, Delafield & Wood LLP to support the San José-Santa Clara Regional Wastewater Facility capital improvement program for an initial one-year term with compensation not to exceed \$180,000.00; and
- B. Exercise up to two one-year options extending the legal services contract with Hawkins, Delafield & Wood LLP with compensation for each option year not to exceed \$160,000 plus any funds remaining from the previous contract year, subject to appropriation of funds by the City Council.

OUTCOME

The outcome of the recommended action would be to engage Hawkins, Delafield & Wood LLP, which has significant experience and expertise in providing legal support services for the type of construction projects being undertaken as part of the San José-Santa Clara Regional Wastewater Facility ("Facility") capital improvement program. In addition, using Hawkins, Delafield & Wood LLP would enable the City to develop a bank of forms, documents and information that can be used to support the capital improvement program in the future.

BACKGROUND

The Facility is owned jointly by the cities of San José and Santa Clara. The ownership agreement designates San José as having primary responsibility for administering, operating and maintaining the Facility. It expressly states that San José has the power

to “make, award and enter into contracts with third parties for the construction, improvement, replacement, expansion, or repair” of the Facility.

Over the years, San José and Santa Clara have entered into a variety of separate agreements to provide wastewater treatment services to the cities of Milpitas, Cupertino, Campbell, Los Gatos, Monte Sereno and Saratoga, and to unincorporated areas of the Santa Clara County. Currently, the Facility provides tertiary treatment of up to 167 million gallons of wastewater a day to approximately 1.4 million residents and about 17,000 commercial/industrial sewer connections. It operates 24 hours a day, 7 days a week.

The Facility uses a five-year capital improvement program to plan and identify capital improvements projects. Historically, the total cost of the capital improvement projects identified in the five-year capital improvement program has ranged from 50 to 150 million dollars.

The Facility is now over 50 years old and is in need of significant capital improvements. The Facility is undertaking a major capital improvement program involving an increased level of capital investment to fund significant infrastructure rehabilitation projects. The program is anticipated to increase the five-year capital improvement program to the 600 to 800 million dollar range.

The Office of the City Attorney provides legal support services to City staff administering the Facility. Given the large volume of construction work planned for the Facility in a relatively short period of time, and the size and complexity of that work, City staff requested the City Attorney’s Office to engage outside legal with an expertise in primarily the following areas to work with the City Attorney’s Office in:

1. Advising the City with the analysis of the various alternative methods available to it for delivering major public works construction projects, including design-build projects; and
2. Advising the City on implementing, administering and managing major public works construction projects undertaken at the Facility using various project delivery methods, including design-build projects.

ANALYSIS

On April 2, 2014, the Office of the City Attorney issued a request for qualifications for “Legal Services for the San José-Santa Clara Wastewater Facility Capital Improvement Program.” The request for qualifications was issued via BidSync.

On Friday, May 9, 2014, the Office of the City Attorney received statements of qualifications from three law firms: Hawkins Delafield & Wood LLP, Nossaman LLP and Meyers Nave. A committee consisting to three persons from the Office of the City Attorney and one person from the Department of Public Works carefully reviewed, evaluated and analyzed each statement of qualifications.

The statements of qualifications submitted by the three law firms were impressive. They demonstrated that each of the three law firms was highly qualified. However, the law firm of Hawkins Delafield & Wood, LLP distinguished itself based on having extensive, specific experience and expertise in advising public entity owners on the myriad of complex issues involved in implementing wastewater construction projects and was ranked first among the three responding firms. In addition, Hawkins Delafield & Wood offered a competitive "blended" hourly billing rate of \$395 for any attorney providing services.

Accordingly, the Office of the City Attorney recommends that the City Council adopt a resolution delegating authority to the City Attorney to negotiate and execute a legal services agreement with Hawkins Delafield & Wood, LLP. The authority would include the following conditions and requirements.

- The initial term of the legal services contract would be for one year with maximum compensation not to exceed \$180,000.00.
- There would be two one-year options to extend the term of the agreement, with the maximum compensation for each option year not to exceed \$160,000. Each option year would be subject to the appropriation of funds.
- The City Attorney would be authorized to exercise each of the options subject to the appropriation of funds.
- The hourly billing rate would be \$395 for any attorney, subject to annual adjustment in accordance with changes in the national Consumer Price Index.
- The following expenses would be subject to reimbursement in accordance with the City's policies: word processing, proofreading, duplicating, postage and deliveries, travel expenses, and overtime expenses.

It is anticipated that during the initial term of the agreement, legal services from outside counsel would be focused on supporting the Cogeneration Facility Project and the Dewatering Facility Project. In addition, the Office of the City Attorney would use the legal services provided by Hawkins Delafield & Wood to develop and library of forms, documents, and information that could be used by the City in the future.

COORDINATION

This memorandum has been coordinated with the Department of Environmental Services, and the City Manager's Budget Office.

FISCAL/POLICY ALIGNMENT

The recommended action is consistent with the City Council approved budget strategy to focus on rehabilitating aging facility infrastructure, improve efficiency, and reduce operating costs. The recommended action is also consistent with the budget strategy principle of focusing on protecting vital core services.

COST SUMMARY/IMPLICATIONS

1. AMOUNT OF RECOMMENDATION: \$180,000.00

Agreement for Legal Services with Contract with Hawkins Delafield & Wood, LLP	<u>\$180,000</u>
TOTAL	\$180,000

2. COST ELEMENTS OF LEGAL SERVICES AGREEMENT: The legal services are reimbursed on an hourly rate as set forth in the legal services agreement.
3. SOURCE OF FUNDING: San José/Santa Clara Treatment Plant Capital Fund (512).
4. FISCAL IMPACT: The consultant contract has been reviewed and was determined that it will have no significant adverse impact on the General Fund operating budget.
5. OPERATING COSTS: Approval of the recommendation will have no significant adverse impact on the General Fund operating budget.

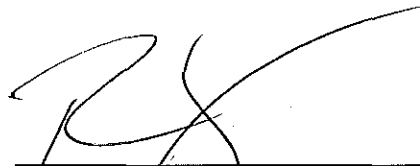
BUDGET REFERENCE

The table below identifies the fund and appropriations proposed to fund the contract(s) recommended as part of this memo and remaining project costs, including project delivery, construction, and contingency costs.*

Fund #	Appn # / RC#	Appn. Name	Current Appn.	Amount for Project	2014-2015 Adopted Capital Budget	Last Budget Action (Date, Ord. #)
Remaining Project Costs						
512	7452 / 181263	Digested Sludge Dewatering Facility	\$2,940,000	\$90,000	V-189	06/17/14 Ord. #29431
512	7454 / 181263	Energy Generation Improvements	\$25,970,000	\$90,000	V-193	06/17/14 Ord. #29431

* Costs to be incurred in future fiscal years are subject to Council approval of funds.

CEQA: Not a project



RICHARD DOYLE
City Attorney

cc: Ed Shikada

For questions, contact Glenn Schwarzbach, Sr. Deputy City Attorney, at (408) 535-1900



Memorandum

TO: TRANSPORTATION AND ENVIRONMENT COMMITTEE

FROM: Kerrie Romanow

SUBJECT: SEE BELOW

DATE: September 25, 2014

Approved

Date

9-26-14

SUBJECT

SAN JOSÉ-SANTA CLARA REGIONAL WASTEWATER FACILITY PERMIT AND UPDATE ON THE HEALTH OF SOUTH SAN FRANCISCO BAY

RECOMMENDATION

Accept this status report on the reissuance of the San José-Santa Clara Regional Wastewater Facility Discharge Permit and update on the health of the South San Francisco Bay.

BACKGROUND

Pursuant to the federal Clean Water Act and California's Porter-Cologne Water Quality Control Act, discharges from wastewater treatment plants like the San José-Santa Clara Regional Wastewater Facility (Facility) are regulated through National Pollutant Discharge Elimination System (NPDES) wastewater discharge permits. In the San Francisco Bay Area, wastewater discharge permits are issued by the San Francisco Bay Regional Water Quality Control Board (Water Board). The Water Board reissues wastewater discharge permits for existing facilities every 5 years. The current permit for the Facility became effective on June 1, 2009 and expired on May 31, 2014. The reissued permit was adopted by the Water Board on September 10, 2014.

The Facility treats wastewater from 1.4 million residential, commercial, and industrial customers in Silicon Valley and has a dry-weather design capacity to treat up to 167 million gallons of wastewater per day. The Facility is the largest wastewater treatment plant in the San Francisco Bay Area (the Bay) and treats wastewater to high standards by employing advanced secondary and tertiary filtration treatment processes. Despite achieving high quality effluent through advanced treatment technologies, the size of the Facility has historically raised concerns about the impact of the volume of freshwater discharged from the Facility to the Bay's southern habitat (South Bay), which is shallow and subject to less tidal action than the rest of the Bay. The San Francisco Basin Plan prohibits shallow water discharges to the Bay unless the discharges meet the following regulatory exceptions:

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Subject: San José-Santa Clara Regional Wastewater Facility Permit and Update on the Health of South San Francisco Bay

Page 2

- Provides a net environmental benefit
- Is part of a water reclamation project
- Provides an equivalent level of environmental protection

Since 1991, the Facility has been granted an exception to the shallow water discharge prohibition based on a regulatory finding that the Facility provides an equivalent level environmental protection, due to programs and processes in place.

As part of previous special permit provision requirements and in an effort to address the concerns about the volume of treated wastewater discharged to the South Bay, the Facility has conducted or supported a number of scientific studies to evaluate the ecological health of South Bay. These studies indicate that environmental benefits to the South Bay ecosystem occur as a result of the high quality effluent discharged from the Facility. From a regulatory perspective, these benefits could be recognized in the Facility's permit by granting a finding of net environmental benefit, in addition to the other regulatory exemptions listed. The Facility continues to pursue this designation in recognition of its excellent processing of wastewater, documented habitat improvement, and as demonstration of environmental stewardship.

ANALYSIS

The reissued permit was adopted by Regional Water Board on September 10, 2014 and will become effective on November 1, 2014. Staff negotiated for over two years with Water Board staff on permit requirements. Based on the Facility's extensive research and programs, the removal of some permit elements enable the Facility more flexibility and saves approximately \$100,000 per year.

The Water Board did not grant a finding that the Facility's treated wastewater provides a net environmental benefit to the Bay. Water Board members and staff acknowledged the many benefits that the Facility effluent provides to the Bay, and praised the efforts of the Facility in maintaining and operating an exemplary wastewater treatment plant that provides treatment of wastewater that far exceeds regulatory requirements. However, the Board would like to see the discharge actively used or managed to enhance habitat such as direct discharge into a managed wetland to create habitat that would otherwise not exist. Facility staff will continue to document the benefits the Facility discharge provides to the Bay, seek partnerships to integrate into ongoing habitat restoration projects to actively enhance habitat further, and investigate the possible environmental consequences of further decreasing effluent discharges to the Bay.

Improved South Bay Health

In 1990, the Water Board granted a finding of equivalent environmental protection rather than net environmental benefit due to the following four concerns:

- (1) The volume of freshwater discharge from the Facility may cause loss of salt marsh habitat that is critical habitat for endangered species.

- (2) Possible impacts to the Bay due to high nitrogen and phosphorus concentrations in treated wastewater effluent.
- (3) Concentrations of metals in effluent discharged to the Bay may cause or contribute to Bay impairment by causing toxicity to aquatic life.
- (4) Discharges of wastewater to marshes and wetlands have been linked to avian botulism outbreaks.

Since 1990, the Facility has embarked on or supported numerous efforts to address these concerns and assess the ecological health of the lower South Bay. Most notably:

- Reduced influent and effluent flows by implementing the South Bay Action Plan for water conservation measures and initiating the South Bay Water Recycling program in 1997.
- Reduced metals and toxic pollutants by developing copper, nickel, and cyanide action plans and a comprehensive source control program to control toxic pollutants discharged to the sanitary sewer.
- Maintained a robust avian botulism control program.
- Reduced concentrations of nitrogen and phosphorus by upgrading to an advanced secondary biological nutrient removal (BNR) treatment process in 1998. The BNR upgrade resulted in 70% removal of nitrogen and up to 90% removal of phosphorus.
- Documented a 470 acre increase in critical salt marsh habitat by assessing marsh vegetation acreage in a defined study area for 24 years.
- Analyzed long-term water quality data in effluent and lower South Bay to document effluent quality improvements and corresponding Bay water quality improvements.
- Forged ongoing collaborative partnerships with the Regional Monitoring Program (RMP), USGS, and UC Davis to assess improvements in South Bay water quality, fish, birds, and other aquatic wildlife.

Monitoring of water quality and wildlife by Facility staff and external partners has documented enhancements or maintenance of the beneficial uses listed for the South Bay. The Facility discharge channel (Artesian Slough) has the most diverse and abundant fish and wildlife community of any slough in the South Bay. This environmentally healthy community is due to our high quality freshwater effluent mixing with restored habitats in the lower South Bay resulting in high levels of ecological productivity. Our freshwater effluent is a critical component to this healthy ecological system so discharge of high quality freshwater effluent provides an important environmental benefit to the Bay and constitutes a beneficial use of Facility effluent.

Wastewater Permit Changes

The reissued permit incorporates the following significant changes:

The South Bay Action Plan update is no longer required – The South Bay Action Plan (SBAP) was a unique requirement for the Facility that has been in the wastewater discharge permit since 1998. The SBAP limits flows from the Facility to 120 million gallons per day (MGD) or a level

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**Subject: San José-Santa Clara Regional Wastewater Facility Permit
and Update on the Health of South San Francisco Bay**

Page 4

that would not further impact endangered species due to potential loss of salt water marsh habitat, per a 1991 Water Board Resolution. The SBAP contained measures for water conservation, water recycling, and water reuse to lower the volume of treated effluent discharged to South Bay.

The SBAP has been implemented with such success that wastewater flows coming into the Facility have fallen as a result of water conservation, and flows of cleaned effluent from the Facility to the South Bay have fallen as a result of the same water conservation and expansion of the South Bay Water Recycling Program. Average dry weather effluent flows peaked at 134 MGD in 1997. Despite population growth in Silicon Valley since then, the most recent dry weather effluent flows in 2013 were 82.3 MGD. Due to the successful implementation of the SBAP, the reissued permit no longer requires an annual update, unless future average dry-weather effluent flows exceed 115 MGD.

The SBAP annual update costs \$38,000 per year in staff time to produce. Removal of the SBAP annual update requirement results in an estimated savings of \$190,000 over the 5-year term of the reissued permit.

Marsh vegetative assessments no longer required – These assessments have been a special permit provision requirement since 1989 and are related to the 120 MGD flow trigger and concerns that the volume of freshwater discharged into the South Bay might convert salt marsh habitat into brackish or freshwater habitat. Since 1989, the Facility has been required to conduct marsh vegetation mapping assessments. These required assessments tracked changes in salt marsh habitat in the vicinity of Artesian Slough. Salt marsh habitat is a critical habitat for two endangered species residing in South Bay; the California clapper rail and the salt marsh harvest mouse. A comparison of the most recent vegetative survey conducted in 2012 to the baseline salt marsh acreage in 1989 shows a net increase of 470 acres of new salt marsh in the study area over the 23 years of surveys. As a result of increased salt marsh acreage, these assessments are no longer required as a special provision in the Facility's wastewater discharge permit.

Marsh assessments are conducted every other year, at a cost of \$100,000 in consultant and staff time. Removal of this requirement results in an estimated savings of \$300,000 over the 5-year term of the reissued permit.

Acute toxicity testing reduction – The Facility has conducted monthly chronic and acute toxicity testing under previous wastewater discharge permits. This testing screens for toxic effects to sensitive species when exposed to the Facility effluent following strict laboratory protocols. The more sensitive chronic toxicity testing examines non-lethal effects to test species, while acute-testing examines lethal effects. The Facility has not exceeded the acute toxicity testing limits for more than twenty years. Because of the long-term success demonstrating no potential for the Facility effluent to cause acute toxicity in the Bay, the frequency of acute toxicity testing has been reduced from monthly to quarterly.

September 25, 2014

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and Update on the Health of South San Francisco Bay**

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One month of acute toxicity testing costs the ESD Laboratory \$2,700. Reduction of acute toxicity testing from 12 times per year to 4 times per year is estimated to save the Facility \$21,600 per year in acute toxicity testing costs and \$108,000 over the 5-year term of the reissued permit.

Receiving water monitoring added – A requirement to monitor pH, temperature, and ammonia monthly for one year at the closest Regional Monitoring Program (RMP) station in the Bay has been added. Flexibility to conduct equivalent monitoring, utilize equivalent monitoring conducted by other efforts by agencies like the U.S. Geological Survey, or cause the RMP to perform this monitoring is allowed.

The improvements to the Facility since 1990 have been multi-faceted and include programs to lower the levels of toxic pollutants discharged to the Facility in raw sewage, reduce overall flows through water conservation initiatives and water recycling programs, and reduce concentrations of nutrients in effluent through improved treatment. Effective wastewater treatment is an essential component to a thriving economy and ongoing economic development. All of the initiatives implemented since 1990 have benefited the Bay by enhancing environmental conditions and these measures have not hindered economic growth in San Jose.

COORDINATION

This memorandum has been coordinated with the Office of the City Attorney and the Budget Office.

/s/

Kerrie Romanow
Director, Environmental Services

For questions, please contact Rene Eyerly, Sustainability and Compliance Manager, at (408) 975-2594.

San José-Santa Clara Regional Wastewater Facility Capital Improvement Program



Semiannual Status Report January - June 2014



San José-
Santa Clara
Regional
Wastewater
Facility



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Eastward view of the secondary treatment tanks, which use bacteria to clean wastewater.

San José-Santa Clara Regional Wastewater Facility Capital Improvement Program Semiannual Status Report January - June 2014

I. Introduction

Report Objective and Contents

This report provides information on the implementation of capital improvement projects at the San José-Santa Clara Regional Wastewater Facility* (RWF). All projects discussed in the report are guided by the Plant Master Plan (PMP) and included in the 2014-2018 Adopted Capital Improvement Program (CIP). South Bay Water Recycling projects, which are not considered RWF projects, are not part of this report.

The projects discussed in the report are tracked in the Capital Project Management System (CPMS) database and fall under one of three classifications:

- **Construction Projects:** Capital improvement projects that are designed by City staff or consultants, then bid to a contractor for construction. Such projects may also be built by City staff, or by a design-build entity through an agreement.
- **Non-Construction Projects:** Non-construction projects that may lead to the construction of capital improvements such as feasibility studies, pilot studies, and master planning efforts.
- **Public Art Projects:** The CIP also funds projects that involve public art installations; these projects may be associated with a specific capital improvement or may be part of a larger public art strategy with funding support from the CIP.

This report also describes the policy context that guides decision making; outlines accomplishments and specific issues; provides detailed summaries of project schedules and budgets; and highlights key projects in the CIP.

Facility Background

The RWF is a regional advanced wastewater treatment plant that serves eight South Bay cities and four special districts, including:

- City of San José
- City of Santa Clara
- City of Milpitas
- Cupertino Sanitary District (Cupertino)
- West Valley Sanitation District (Campbell, Los Gatos, Monte Sereno and Saratoga)
- County Sanitation Districts 2-3 (unincorporated)
- Burbank Sanitary District (unincorporated)

Jointly owned by the cities of San José and Santa Clara, the RWF is managed and operated by the City of San José's Environmental Services Department (ESD).

The RWF is the largest tertiary wastewater treatment plant in the western United States. Operating on a 24-hour schedule, 365 days per year, it treats an average of 110 million gallons per day (mgd) of wastewater, has an average dry weather flow design capacity of 167 mgd, and peak hourly flow capacity of 271 mgd. The facility's operational area occupies 180 acres of a 2,600-acre site at the southern edge of the San Francisco Bay.

Constructed in 1956 as a primary treatment plant for agricultural wastewater and a growing population, the RWF subsequently expanded in response to continued population and economic growth and to meet state regulations. Facilities for secondary treatment were constructed in 1964, followed by another expansion to tertiary treatment in 1979 to meet Clean Water Act regulations. Additional expansions included the South Bay Water Recycling facility in 1998, and the Silicon Valley Advanced Purification Center (SVAPC) in 2014, which began operations in July in partnership with the Santa Clara Valley Water District (SCVWD).



Facility groundbreaking, 1956

**The legal, official name of the facility remains San Jose/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.*

Importance to the Region and Environment

As the South Bay has grown, so has the critical importance of the RWF to the region. The facility ensures that the wastewater it receives is cleaned to meet strict standards to protect public health and the environment. The RWF serves more than 1.4 million residents and approximately 17,000 businesses in an area greater than 300 square miles. South Bay communities depend on it to reliably protect their quality of life as well as safeguard wildlife habitat and Bay water quality. Businesses such as food service, automotive, metal finishing, photo processing, and manufacturing rely on the facility to ensure that their wastewater is further treated to meet regulations. In protecting residents, businesses, and the environment, the RWF supports the local economy.

The RWF recycles about 10 mgd of its highly treated wastewater annually for use in landscape irrigation, industrial processes, cooling towers, and toilet flushing in certain commercial areas of San José, Santa Clara, and Milpitas. The recycled water

program saves an average of 2.2 billion gallons of drinking water each year. This number is likely to grow as advanced treatment for recycled water becomes available through the SVAPC.

Facility Energy Accomplishments

- **2010:** The RWF was honored with a Green California Leadership Award for its energy innovations.
- **2009:** The federal Environmental Protection Agency included the RWF in a nationwide list of the top 10 on-site alternative energy producers and users.

The RWF generates up to 75 percent of its own energy, an important contribution to local air quality and energy reliance efforts. Like other similar plants, the RWF is a large energy user. Its secondary treatment aeration process, followed by pumping and heating, represent two major sources of demand. The facility's daily energy demand can range from 8 to 11 megawatts (MW). By using on-site power generation equipment and a blend of digester, landfill, and natural gases, the RWF can produce as much as 8 MW of power daily. In the future, new biosolids dewatering and thermal drying facilities will create additional power demands; however, these increases can be largely offset by secondary treatment improvements to reduce aeration demands. The RWF has been recognized for its energy accomplishments, and will continue working towards the City's Green Vision goal of 100 percent energy self-sufficiency by 2022, to the extent feasible.

Infrastructure Condition Assessment and PMP

Most of the RWF's infrastructure is now more than 50 years old and has exceeded its useful life, with repairs needed to every process area. Still, the facility must continue to provide uninterrupted service and meet the strict requirements of more than 18 federal, 13 state, and four regional regulations for treated wastewater discharge, use of recycled water, disposal of biosolids, air emissions, safety requirements, and land use controls. It's key role as protector of public and environmental health underscores the critical need for infrastructure rehabilitation and replacement.

In 2007, the RWF completed an Infrastructure Condition Assessment report that identified nearly \$1 billion in needed projects to refurbish its aging electrical, mechanical, and structural assets. The report recommended \$250 million in immediate critical repairs to the electrical and solids digestion systems and \$750 million in other significant but lower-priority capital replacements. The report also identified a funding gap of approximately \$40 million annually, based on a recommended capital reinvestment level of \$250 million per five-year CIP cycle to address decades of deferred maintenance.

Rebuilding and improving the RWF is among the largest public works efforts in the South Bay's history.

As the assessment study focused only on existing condition deficiencies, staff recommended the development of a master plan that would address how the different treatment processes interrelate, the impacts of future regulations, changes to flow and loads, risks from rising sea levels, and opportunities for implementing new technology or process optimization.

In late 2007, the San José City Council and the Treatment Plant Advisory Committee (TPAC) approved a consultant agreement to develop a Plant Master Plan (PMP). A Steering Committee comprised of staff from the cities of San José, Santa Clara, and the tributary agencies guided the three-year planning process, with extensive technical oversight and stakeholder input. The project team provided regular updates to TPAC and San José's Transportation and Environment Council Committee. This work resulted in the Draft PMP Preferred Alternative, approved by TPAC and the City Council in April 2011.

A Draft Environmental Impact Report (DEIR) on the Draft PMP was circulated for public review and amended in 2013. In November 2013, San José's Planning Commission certified the EIR, and the San José City Council formally adopted the EIR and the PMP. The Santa Clara City Council adopted the documents in December 2013. The PMP is now being implemented.

II. Capital Program Overview

The PMP envisions approximately \$2 billion in capital investments over the next 30 years to rebuild and modernize the RWF, with more than \$1 billion occurring in the first 10 years.

Project Criteria. Capital projects recommended by the PMP were evaluated and prioritized based on six criteria:

- 1. Infrastructure condition:** Risk of failure requires repairs or rehabilitation
- 2. Regulatory requirements:** Future regulations require new or modified infrastructure
- 3. Economic benefit:** Opportunities exist to save operations and maintenance costs by modifying or replacing infrastructure
- 4. Improved performance benefit:** Modifying or replacing existing infrastructure improves reliability or treatment performance
- 5. Increased flows or increased loading:** Increased flows trigger the need for additional infrastructure
- 6. Policy decision:** Policy direction triggers improvements

The PMP sets the direction for future CIP projects that will upgrade and rebuild the facility. However, as a high-level planning document the PMP does not provide sufficient detail for project implementation. Over the last six months, CIP and operations and maintenance (O&M) staff invested significant effort laying the groundwork for this transition, working with a program management consultant to develop a validated CIP program with greater detail, consistency, control, and monitoring. Highlights of this work are below.

Project Validation

The objective of project validation, launched in October 2013 and completed in February 2014, was to decide which PMP projects to include in the RWF's five and 10-year CIPs. The effort was driven by several program needs, including:

- Incorporating changed conditions since the completion of the Draft PMP work in 2011;
- Updating project costs, schedules, and scopes;
- Advancing critical energy projects;
- Identifying project interdependencies; and
- Identifying gap projects.

During the validation process, an integrated team of City engineering, O&M, and executive leadership staff worked with the consultant to identify, prioritize, and sequence PMP projects. For more efficient project delivery, the team "packaged" projects into groups based on priority, proximity, timing, process, and interdependency. The team provided updates and gathered input from senior leaders in six workshops, and identified nine programmatic studies for further research. CIP executive leaders presented validation results in budget, financing, and advisory committee meetings prior to completing the process.

Additional Information

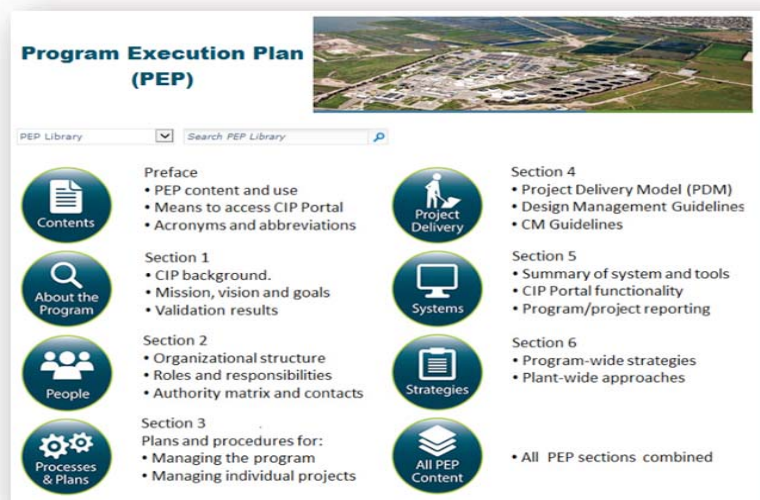
- **Validated Projects:**
<http://sjenvironment.org/Archive.aspx?ADID=2323>
- **Current CIP:**
<http://sjenvironment.org/index.aspx?nid=4266>

The following Table 1 summarizes the validated PMP projects that are scheduled to begin over the next 10 years. The results of validation were used to inform the 2015-2019 Adopted CIP, which reflects an increase in construction spending of \$121M as compared to the 2014-2018 Adopted CIP for the RWF as shown on page 26, with highlights of selected capital projects on page 19.

Table 1 — Summary of Validated PMP Projects	
Process Area	Validated Cost Estimate
1. Preliminary Treatment Projects	\$118.8 M
2. Primary Treatment Projects	\$114.1 M
3. Secondary Treatment Projects	\$225.1 M
4. Tertiary Treatment Projects	\$140.7 M
5. Biosolids	\$397.1 M
6. Electrical Systems and Power Generation	\$134.4 M
7. Advanced Process Control and Automation Systems	\$33.1 M
8. Site Facility Improvements	\$258.8 M
Total	\$1,422.1 M

Program Startup

The goal for program startup is to create and share tools for a consistent, programmatic project delivery approach that emphasizes collaboration and standardization. A key startup element is the Program Execution Plan (PEP). Developed as a “user’s manual” for CIP staff, the PEP provides an overview of the entire program, including CIP management and organization, the CIP project delivery model (PDM), and program-wide strategies. The PEP is being used both as a shared tool and as a training resource for new staff.



The PEP is housed on the CIP Portal, a web-based internal collaboration site launched in March 2014. The portal, which is also home to the CIP Master Project Schedule and project team sites, creates a collaborative environment in which staff can learn, share and distribute information.

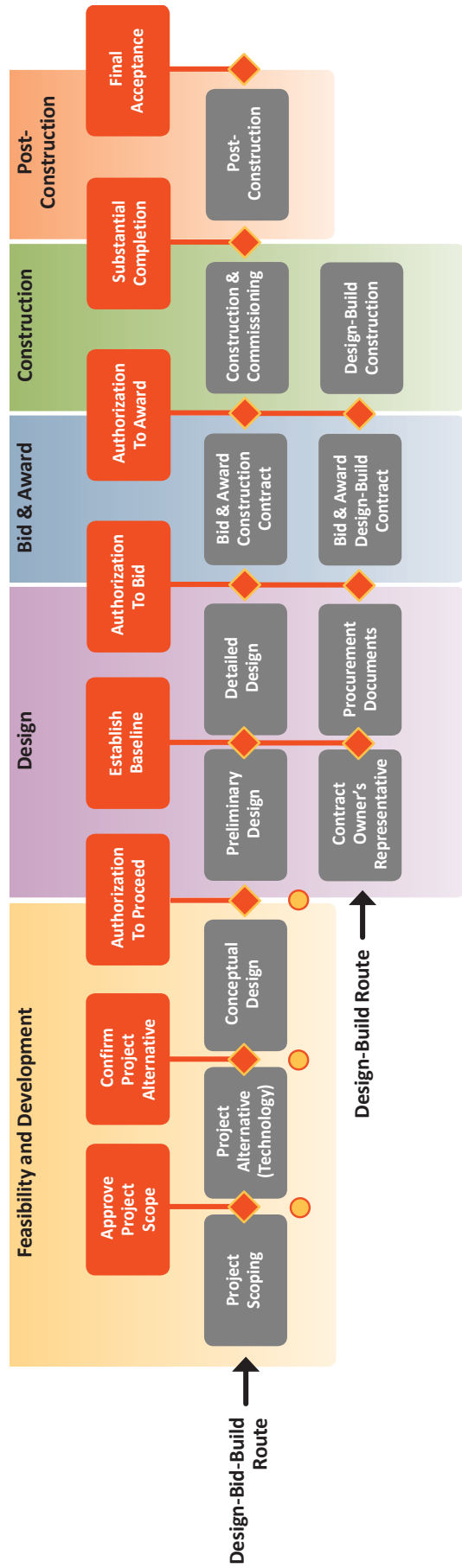
Additional startup deliverables included plans for health and safety, document management, and operations and maintenance staff engagement; and a decision-making process.

Project Delivery Model

The CIP’s project delivery model, or PDM, is critical to establishing a consistent,

standardized approach to project delivery. Every CIP project must go through the PDM process. As part of the PDM, decision-making meetings, or “stage gates,” provide project managers the opportunity to summarize progress to date and make a case for the project to proceed. Senior CIP and O&M staff review projects to determine whether they are ready to proceed to the next phase. This process results in accountable and resilient decision making.

Figure 1 — CIP Project Delivery Model



Key

- ◆ Stage Gates
- Stages
- Optional Points to Hire Consultant and/or Redirect Project

Program Tools Testing

Four capital projects were selected to test program tools, such as document management and project scheduling, before they are widely applied to full-scale projects. The projects were selected because they represent a spectrum of those that will be delivered in the CIP, as well as different process areas. For example, the New Cogeneration Facility project is a design/build rather than a more typical design/bid/build project, and addresses energy generation. The Digester and Thickener Facilities Upgrade is a large-scale, \$60M biosolids project. The Iron Salts Feed Station is a smaller, more traditional project that focuses on primary treatment; and the Plant Instrument Air System Upgrade is a smaller site facilities project that addresses mechanical equipment.

The testing resulted in process improvements so that the tools can now be successfully used in the wider program, PDM, reporting cycle, and project performance meetings.

Programmatic Studies

During the project validation process, the team identified nine studies to develop specific technical information needed for PMP project implementation. CIP and O&M staff are working together to complete the studies, which will result in technical memoranda, or condition assessments that will be used to inform project development.

- **Design Criteria and Sizing Basis** – This study will evaluate flow and load projections and redundancy and reliability guidelines to be used as the basis of design on all capital projects. It will also develop a model to establish RWF baseline hydraulics and evaluate the potential impacts of proposed modifications.
- **Aeration Demands and Biosolids Production Assessment** – This study will upgrade and expand the existing RWF process simulator to assess the impacts of modifications to equipment and treatment processes throughout the facility. This modeling will allow for simulated testing of new process changes and a more accurate estimate of flows and solids that can be used as the basis of future design projects.
- **Odor and Corrosion Control** – One of the objectives of the CIP is to implement improved odor control for all rehabilitated and new facilities. This study will verify the assumptions of previous planning work related to odor control, better define the extent of control required, and develop a program-wide approach.
- **Automation Master Plan and Process Control Approach** – This master plan will evaluate how to integrate automation improvements into the CIP. To ensure consistency across projects, the study will define a process control approach and establish automation standards to govern the design and implementation of instrumentation and control components.
- **Yard Piping Condition Assessment Plan** – More than 300,000 linear feet (LF) of pipes carry gas, liquids, sludge, air, steam, and other process streams to and from various RWF treatment processes. This study will evaluate, prioritize, and recommend a condition assessment approach for roughly 60,000 LF of process piping.
- **Facility-wide Heating and Cooling Systems Evaluation** – This study will evaluate future heating and cooling demands and supplies from current and proposed sources, and will recommend project sequencing and equipment configurations to ensure reliable service during CIP implementation.
- **Site Improvement Guidelines** – This study will develop architectural guidelines for programming (codes and standards, flood protection, security) and design (building materials and finishes, signage, perimeter barrier landscaping) to be used by all capital projects.
- **Facility-wide Process Risk Assessment Due to Project Implementation** – This study will review project scopes, identify construction activities with the potential to disrupt RWF operations, and recommend mitigation measures to avoid or minimize such disruptions.
- **Asset Management Approach and Strategy** – This study will identify RWF asset management business needs and goals, and recommend initiatives to help staff plan, design, construct, operate, and maintain facility assets.



The Yard Piping Condition Assessment Plan will recommend an assessment approach for roughly 60,000 LF of process piping, much of which is underground.

III. Program Accomplishments and Challenges

Several capital program milestones were achieved during the last two quarters of FY 2013-2014, including the award of new construction contracts for eight projects, totaling \$31.4 million:

Digester Gas Storage Replacement

Award date: April 2014 **Scheduled completion date:** September 2015

Baseline budget: \$3,167,610 **Contract amount:** \$1,825,100

This project will demolish and replace the existing wet seal digester gas holder with a new, dry seal digester gas holder. The project will also install a new foundation system, electrical conduits, utility piping, and concrete pavement.

Fire Main Replacement – Phase 3

Award date: April 2014 **Scheduled completion date:** June 2015

Baseline budget: \$2,201,560 **Contract amount:** \$1,572,870

This final project phase will replace approximately 7,750 LF of piping, and will install or replace 22 new fire hydrants, along with gate valves, air relief valves, and associated appurtenances.

BNR-2 Clarifiers Guardrail Replacement

Award date: April 2014 **Scheduled completion date:** March 2014

Baseline budget: \$551,153 **Contract amount:** \$320,793

This project will replace approximately 2,700 LF of existing railing, including new top-mounted posts, brackets, anchor bolts, and toe boards.

Digester Gas Compressor Upgrade

Award date: May 2014 **Scheduled completion date:** October 2016

Baseline budget: \$14,963,100 **Contract amount:** \$11,316,000

This project will design and construct a new 5,000 square foot (SF) building to house two new gas compressors. The new facility will be located immediately north of the existing Sludge Control Building. The project also includes two digester gas pre-coolers, two cooling towers, associated gas piping, and associated building and equipment utility tie-ins.

Training Trailer Replacement

Award date: May 2014 **Scheduled completion date:** August 2015

Baseline budget: \$776,274 **Contract amount:** \$513,874

This project will replace two 30-year-old trailers with a new 5,000 SF trailer to accommodate the RWF training needs and Operator in Training program.

Street Rehabilitation – Phase 3

Award date: June 2014 **Scheduled completion date:** March 2015

Baseline budget: \$656,859 **Contract amount:** \$388,859

This project will replace existing asphalt concrete, replace curb and gutters, install valley gutters, replace traffic loops, and construct an overlay of rubberized asphalt along Center Street from Main Street to Zanker Road, and along First Street from Center Street to Building 40.

Filtration Building B2 & B3 Pipe and Valve Replacement

Award date: June 2014 **Scheduled completion date:** July 2015

Baseline budget: \$383,680 **Contract amount:** \$158,900

The valves and piping inside the RWF Filtration Building are more than 35 years old and require frequent maintenance to repair leaks. This project will demolish and replace two filter backwash valves, valve actuators, and adjoining piping in the building's Battery B gallery.

Emergency Diesel Generators

Award date: June 2014 **Scheduled completion date:** November 2016

Baseline budget: \$20,141,000 **Contract amount:** \$15,310,000

This project will install four 3 MW generators, two 22,500-gallon on-site fuel storage tanks, and auxiliary systems to sustain critical operations and aeration for secondary treatment in the event of a power outage.



RWF career fair

Additional Accomplishments

- In the first quarter, a \$1M service order was executed for development of design criteria and sizing basis for RWF processes; project management for Headworks Improvements and New Headworks; and project management services for four programmatic studies identified during the project validation process.
- Staff initiated Headworks Improvements, New Headworks, and nine programmatic studies needed for future projects; completed an initial staffing and resource gap analysis; and published the first CIP Monthly Status Report. In addition, staff held TPAC study sessions to discuss the future of RWF biosolids treatment and disposition; and proposed operating and capital budgets, guiding principles, policy considerations, and next steps for the 10-year CIP funding strategy.
- During the second quarter, the New Cogeneration Facility project received the California Environmental Quality Act (CEQA) Notice of Determination and state authority to proceed with the design-build process. Staff held workshops to review business case evaluations for biosolids transition, as well as the first of six workshops on asset management implementation. Additionally, Digester and Thickener Facilities project was approved to begin design.
- Over the two-quarter period, five capital program vacancies were filled, including positions for three senior engineers, a senior engineering technician, and an office specialist. Several training sessions on technical and program-related topics were held for both O&M and engineering staff.
- Three service orders totaling \$900,000 were executed under existing CIP master agreements to initiate consultant work on the Iron Salt Feed Station; an evaluation of the sludge digestion process; and a preliminary geotechnical report for the New Cogeneration Facility.

Challenges

For successful delivery of the large and complex CIP, staff must meet the following key challenges:

- **Continue to recruit and fill key vacancies** – Experienced project managers, designers, and process engineers; O&M staff; and additional program support staff are critical to program success. The CIP and O&M divisions have been making significant progress in recruiting, but a number of vacancies still need to be filled. In addition, senior CIP personnel will complete a staffing plan that will effectively transfer program management from consultants to City staff over the next three to five years.
- **Develop and strengthen program delivery processes** – Schedule and budget control, document management, and asset management systems are all needed to provide a consistent approach for effective and efficient program and project delivery. Standardized project delivery tools; design standards and specifications; control system and integration strategies; startup; commissioning; and training procedures are well underway and continue to be furthered developed.
- **Develop program funding strategy** – To ensure that the CIP is funded in a sustainable and equitable manner, a long-term funding strategy is needed. A flows and loads study is underway, as is the development of a comprehensive financial model that will inform the strategy and help determine program affordability. Once a strategy is agreed upon, the focus will be on the substantial effort required to obtain external financing and amend master agreements with the City of Santa Clara and the tributary agencies.

Key Projects:

Two key projects, New Cogeneration Facility and Digesters and Thickener Facilities Upgrade, have advanced quickly and are providing an excellent learning opportunity for CIP staff in terms of document control, contracts and other project standards and tools.

IV. Capital Project Performance

Performance Measures

A key goal of this Semiannual Status Report is to provide regular updates on project performance based on schedule and budget commitments. Project schedules and budgets described in this report follow the same definitions and conventions as the Citywide CIP Annual Status Report.

Schedules

Baseline schedules are established as a commitment for delivery and a measurement of on-time project delivery performance. Project schedules are set once project scope and requirements have been established, and fall into one of the following categories:

- **On schedule:** Projects are considered to be on schedule if completed within two months of the committed completion date. Projects are also in this category if no schedule commitment existed prior to this report.
- **Extended schedule:** Projects have extended schedules if they are running more than two months behind the committed delivery date.
- **Schedule reset:** Project schedules are reset when committed schedules are no longer feasible as a result of significant changes in scope, bid protests, or Council-directed reprioritization. This reset process occurs as part of the City Council's consideration of the Citywide Annual CIP Status Report.
- **Schedule pending:** Projects that do not have schedules at the time of this report are noted as pending. The schedules for these projects are uncertain due to incomplete scoping, community concerns, or funding issues.
- **Schedule on hold:** Project schedules that have been deferred are placed on hold.

Phases

CIP projects are described as progressing through the following phases:

- **Planning:** Work may include condition assessments, pilot tests, feasibility studies, scope development, preliminary engineering, and environmental clearance.
- **Design:** Work may include preparation and review of plans and specifications, selection and management of consultants, and project coordination.
- **Bridging Documents:** These documents and drawings describe all components that go into building, and are designed to give each design-build bidder a clear understanding of what the RWF requirements are on a given project.
- **Bid and Award:** Work may include bid advertisement, pre-bid meetings, preparation of addenda, evaluation of bids, and recommendation for award.
- **Construction:** Work may include execution of contract and issuance of the notice to proceed, construction management, and construction inspection.
- **Design-build:** A combination of design and construction phase tasks performed by the design-build contractor, based on plans and specifications developed during the bridging documents phase.
- **Post-construction/startup:** Work may include final inspection, project closeout, warranty tracking and documentation, operations and maintenance training, startup, and commissioning.

Budgets

Baseline budgets are established as a commitment for delivery and a measurement of on-budget project delivery performance. Project budgets are generally established once the project scope is complete and a schedule has been determined. Projects are considered on budget if total project costs are within 1 percent of the established baseline budget. The baseline budget may differ from the CIP budget in that baseline budgets may include funding that has not yet been identified and appropriated by the San José City Council. Any resets of baseline budgets will occur during Council consideration of the Citywide Annual CIP Status Report.

Performance Summary

Table 2 shows active projects by phase. Four projects are in the Conceptual Planning phase, which precedes the Planning phase. These projects do not yet have detailed scopes, schedules, or budgets. In order for a baseline schedule and budget to be established, a project in the Conceptual Planning phase will require further clarification and refinement of project goals; environmental clearance; and engineering analysis, such as feasibility studies and technology evaluations. Projects in the Conceptual Planning phase are included in **Table 3** on page 18.

In addition, a summary chart of current active projects with budgets and schedules is provided on the next page in **Figure 2**.

The RWF CIP projects are numbered according to the CPMS. This system links interested viewers to a web-based database that provides greater detail on projects. The CPMS can be accessed at:

<http://sanjoseca.gov/index.aspx?NID=295>

Project Phase	Number of Projects
Conceptual Planning	4
Planning	5
Design/Bridging Documents	1
Bid and Award	0
Construction	10
Design-Build	2
Post-Construction/Startup	4
Total	26



Clarifier tanks help settle solids during the secondary treatment process.

Figure 2 — 2014-2018 Project Schedule and Budget Chart

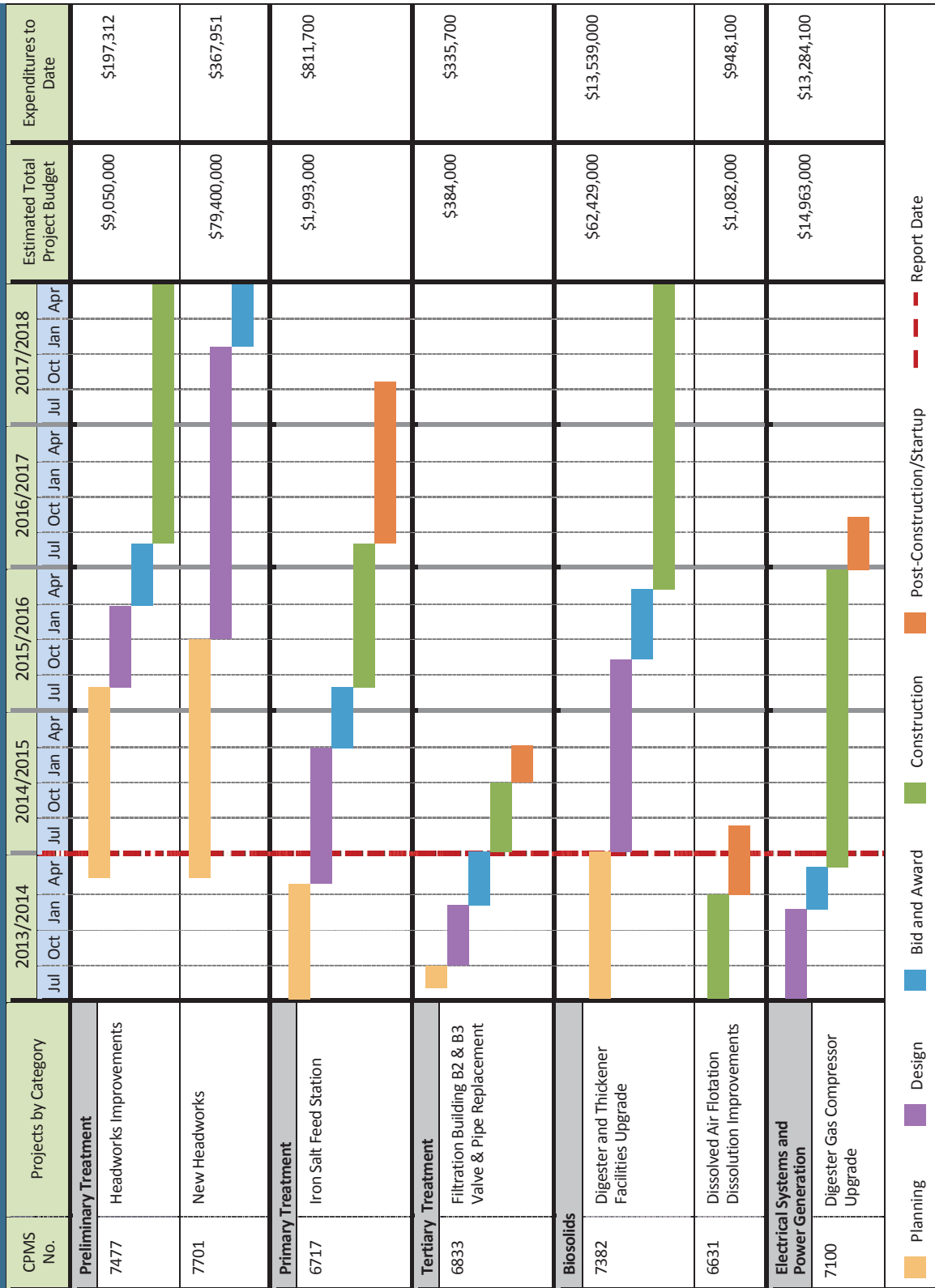


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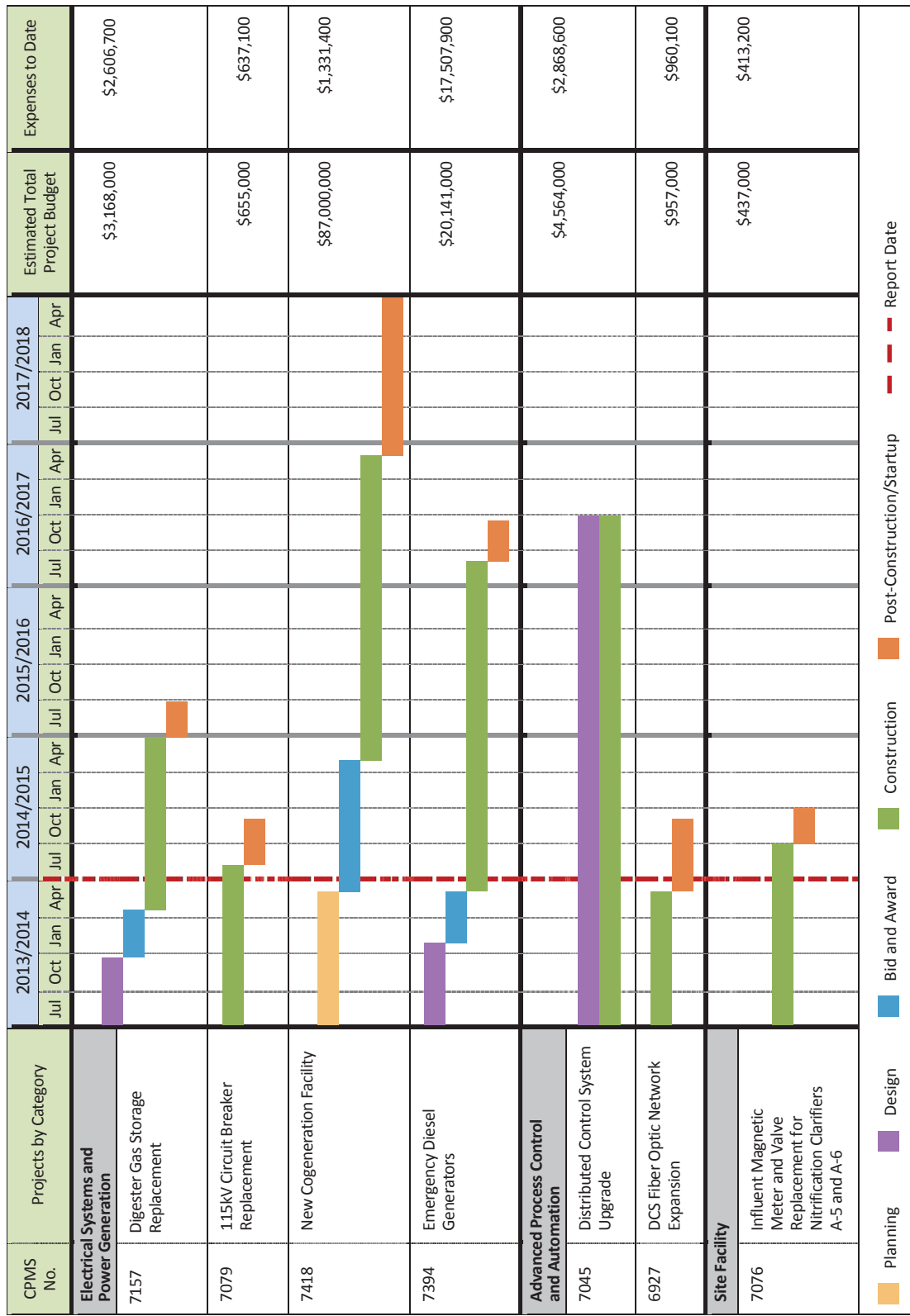


Figure 2 continued from page 16

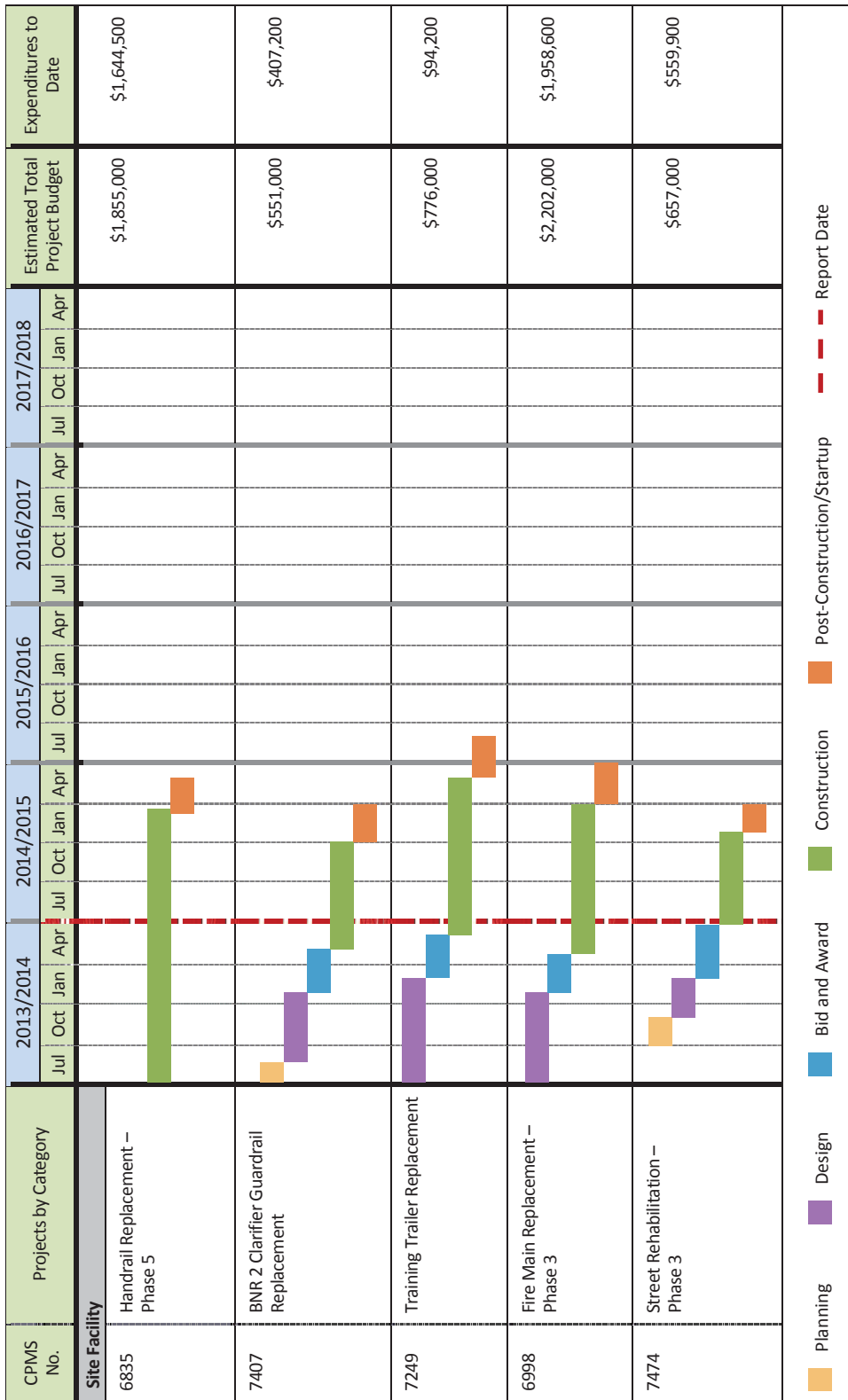


Table 3 – 2014-2018 Project Schedule and Budget – Conceptual Planning

Project by Category	Adopted Project Budget
Primary Treatment	
East Primary Rehabilitation	\$82,025,000
Secondary Treatment	
Secondary and Nitrification Clarifier Rehabilitation	\$39,724,000
Biosolids	
New Biosolids Facility	\$326,000,000
Electrical Systems and Power Generation	
Switchgears S40, G3 & G3A, and M4 Controls Upgrade	\$2,500,000

V. Capital Project Highlights

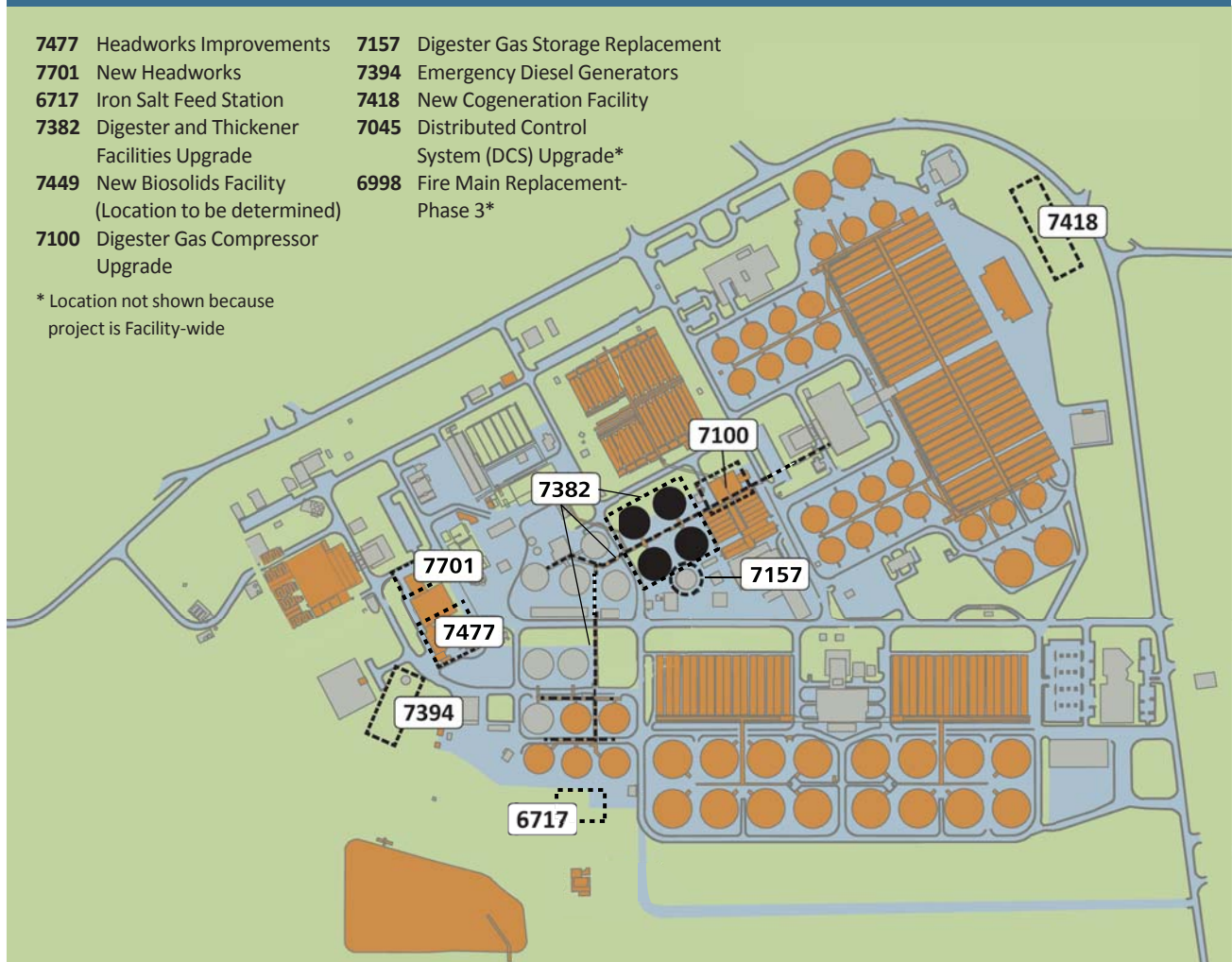
This section provides a detailed look at selected CIP projects and key RWF improvements. These projects showcase work that is critical to ongoing operations. Some, like the New Cogeneration Facility project, also pave the way for continued innovation and efficiency in how the RWF produces and uses energy.

Figure 3 below shows the location of each project at the RWF site.

In addition to information on project description, benefits, status, schedule, and budget, each page in the highlights section shows a budget estimate level. Capital project budget estimate levels are defined as:

- **Program level:** Created for long-term planning and initial feasibility studies; level of certainty plus or minus 35 percent.
- **Preliminary level:** Based on planned sizes of buildings and functional areas, not formal engineering work; level of certainty plus or minus 20 percent.
- **Budget level:** Based on current scope and schematic design work derived from previous similar projects; level of certainty plus or minus 10 percent.
- **Engineer’s level:** Based on final construction plans and specifications; level of certainty plus or minus 5 percent.

Figure 3 – Locations of Highlighted Projects





Headworks bar screens

Headworks Improvements

Estimate Type: Program Level
Current Project Budget: \$9,050,000
CPMS No. 7477

Description

This project will modify Headworks No. 2 to accommodate all dry weather flow so that Headworks No. 1 can be taken out of service for repair. Once repaired, Headworks No.1 will remain in service while a new primary headworks is constructed.

Current Status

In March 2014, a consultant project manager was brought on to complete scoping for this project and the New Headworks project. The project was initiated in May 2014 and scoping is underway.

Next Milestone

Approve project scope stage gate: *Fall 2014*



New headworks

New Headworks

Estimate Type: Program Level
Current Project Budget: \$79,400,000
CPMS No. 7701

Description

This project will construct a new headworks to serve as the RWF primary headworks. It will increase the equalization basin volume and install new covers over select areas, such as junction boxes and grit collection, for odor control.

Current Status

In March 2014, a consultant project manager was brought on to complete scoping for this project and the Headworks Improvement project. The project was initiated in May 2014 and scoping is underway.

Next Milestone

Approve project scope stage gate: *Fall 2014*

For more information on CIP projects, visit <http://ca-sanjose.civicplus.com/index.aspx?NID=295>



Dosing station

Iron Salt Feed Station

Estimate Type: Program Level
Current Project Budget: \$1,993,000
CPMS No. 6717

Description

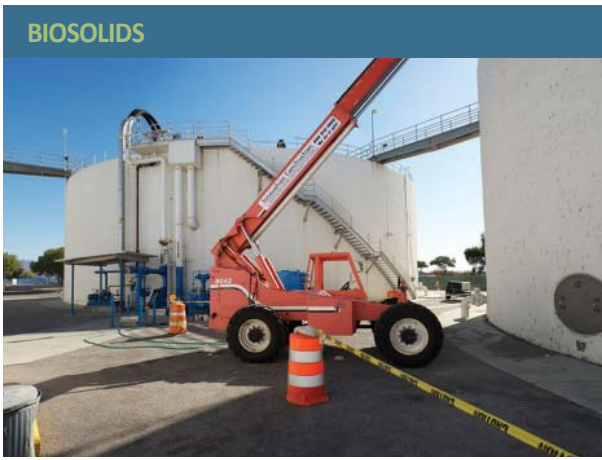
This project will design and construct a chemical dosing station to add iron salt and polymer to incoming wastewater. Iron salt helps control the formation of hydrogen sulfide gas, reduce corrosion and odor, and enhance the settling of sludge. Hydrogen sulfide gas is sometimes present at high levels in the RWF digesters, and is a potential air quality problem. Work will include construction of a chemical feed station and a concrete containment structure, as well as installation of pumps, piping, and instrumentation to dose and deliver the iron salt solution.

Current Status

A service order for design services was executed in May 2014. The consultant has begun work on the conceptual design.

Next Milestone

Design completion: *Spring 2015*



Digesters

Digester and Thickener Facilities Upgrade

Estimate Type: Budget Level
Current Project Budget: \$62,429,000
CPMS No. 7382

Description

The RWF has 16 anaerobic digesters constructed between 1956 and 1983. Six of these digesters are out of service due to age and condition; all are more than 30 years old. The first phase of this project will rehabilitate four digesters (Nos. 5, 6, 7, and 8), including installing new covers and mixing systems; heating system and gas collection system upgrades; structural and seismic retrofits; electrical, instrumentation, and control system upgrades; and dissolved air flotation thickeners modifications to allow for sludge co-thickening, including new odor control.

Current Status

Conceptual design was completed in June 2014. Staff presented the conceptual design report to RWF and CIP leadership, as well as key O&M staff. The project team is preparing for the authorization to proceed stage gate, which will allow the project to proceed to preliminary design.

Next Milestone

Authorization to proceed stage gate: *Summer 2014*

For more information on CIP projects, visit <http://ca-sanjose.civicplus.com/index.aspx?NID=295>

BIOSOLIDS



Lagoon for drying sludge

New Biosolids Facility

Estimate Type: Program Level

Current Project Budget: \$326,000,000

CPMS No. 7449

Description

The RWF currently manages its post-digestion biosolids through stabilization lagoons and open-air drying beds prior to shipping the sludge to a nearby landfill for use as an alternative daily cover. With the imminent closure of the landfill, the City is studying its disposal options. Covered mechanical dewatering and drying of sludge, coupled with new odor treatment technologies, would increase these options and reduce odor impacts to surrounding communities.

Current Status

The consultant has completed an investigation to determine whether there is a market for off-hauling post-digester sludge; conducted site visits to comparable facilities; performed heat recovery analysis and site evaluation for new facilities; and prepared technical memoranda summarizing site visits, biosolids hauling and disposition cost projects, and biosolids processing alternatives analysis.

Next Milestone

Business case evaluation results and recommended project delivery method: *Fall 2014*

ELECTRICAL SYSTEMS AND POWER GENERATION



Existing digester gas compressor

Digester Gas Compressor Upgrade

Estimate Type: Engineer's Level

Current Project Budget: \$14,963,000

CPMS No. 7100

Description

The RWF operates three digester gas compressors located in the Sludge Control Building: two smaller gas compressors installed in 1964, and one installed in 1984. The two older compressors are increasingly unreliable and difficult to maintain. The newer compressor is also nearing the end of its useful life due to continuous use. This project will construct an approximately 4,400 SF structure to house two new gas compressors.

Current Status

Bids were opened in April 2014 and the project was awarded to the design-builder in May 2014. The notice to proceed was issued in June 2014.

Next Milestone

Design completion of foundation and building: *Fall 2014*

Construction start: *Fall 2014*

For more information on CIP projects, visit <http://ca-sanjose.civicplus.com/index.aspx?NID=295>

ELECTRICAL SYSTEMS AND POWER GENERATION



Gas holder

Digester Gas Storage Replacement

Estimate Type: Engineer's Level

Current Project Budget: \$3,168,000

CPMS No. 7157

Description

The RWF has a digester gas holding tank originally built in 1984. The tank's gas holder experienced two failures, one in 2002, and one in 2012. A structural evaluation during the 2012 failure revealed that the gas holder cover skirt was damaged beyond repair. This project will demolish and replace the existing wet seal gas holder with a new, dry seal gas holder.

Current Status

Bids were opened in January 2014 and the project was awarded in April 2014. The project team held a pre-construction meeting in May 2014.

Next Milestone

Issue notice to proceed: *Summer 2014*

ELECTRICAL SYSTEMS AND POWER GENERATION



1.5 MW standby generator

Emergency Diesel Generators

Estimate Type: Engineer's Level

Current Project Budget: \$20,141,000

CPMS No. 7394

Description

This project was recommended in the 2012 Energy Management Strategic Plan for energy reliability in the event of power loss. The project will install four emergency diesel generators with capacity of 3 MW each. The generators will automatically start and energize the RWF ring bus electrical distribution system within five minutes after a power outage. The generators will be located south of Substation 1, and will connect to the M3 switchgear.

Current Status

Bids were opened in March 2014 and the project was awarded in June 2014.

Next Milestone

Issue notice to proceed: *Summer 2014*

For more information on CIP projects, visit <http://ca-sanjose.civicplus.com/index.aspx?NID=295>



ELECTRICAL SYSTEMS AND POWER GENERATION

4 MW advanced internal combustion engines

New Cogeneration Facility

Estimate Type: Program Level

Current Program Budget: \$87,000,000

CPMS No. 7418

Description

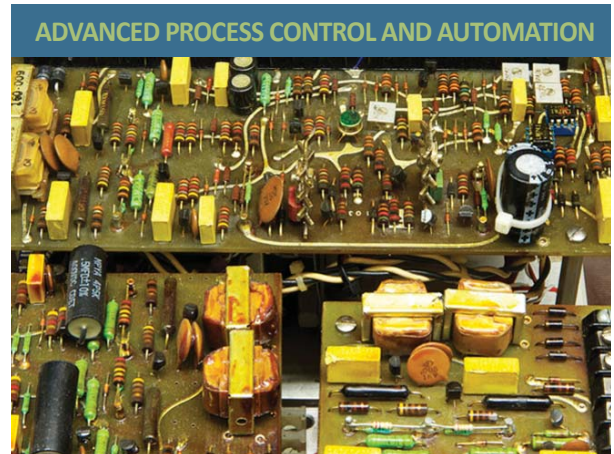
This project is scheduled to bring three 4 MW internal combustion engines online, with a fourth for backup power, by summer 2017. Powered by RWF digester gas blended with natural gas, the engines will be the largest at any California wastewater treatment plant. Cogeneration—a sustainable form of energy—is a critical first step before the RWF can move forward with mechanical dewatering and thermal drying of biosolids.

Current Status

The project received a CEQA Notice of Determination in May 2014 and state authority to use design-build in June 2014. The project team is preparing a Request for Pre-Qualification for issuance in late September 2014. The long-range goal is to select a design-build entity in Spring 2015 and start design and construction in Summer 2015.

Next Milestone

Issue prequalification for design-builder: *Fall 2014*



ADVANCED PROCESS CONTROL AND AUTOMATION

Distributed control system

Distributed Control System (DCS) Upgrade

Estimate Type: Engineer's Level

Current Project Budget: \$4,564,000

CPMS No. 7045

Description

This project upgrades the RWFs DCS, which monitors and controls many operational areas. The DCS is comprised of software and hardware components that have been in place since the early 1990s. The existing operating system platform is nearing obsolescence and will be phased out by the manufacturer in 2015. This upgrade includes the system software and hardware, user interface, technical training, and system testing.

Current Status

The contractor has completed the conversion of graphics and staff has reviewed the work. Staff performed a factory acceptance test on the system, which is expected to be shipped by the end of August.

Next Milestone

Start of commissioning: *Fall 2014*

For more information on CIP projects, visit <http://ca-sanjose.civicplus.com/index.aspx?NID=295>

SITE FACILITY IMPROVEMENTS



Fire main trench

Fire Main Replacement-Phase 3

Estimate Type: Engineer's Level

Current Project Budget: \$2,202,000

CPMS No. 6998

Description

This project will replace approximately 7,800 LF of pipe along with associated valves, fire hydrants, and appurtenances. The RWF fire protection system has more than 15,000 LF of fire mains consisting of cast iron and ductile iron pipes installed in stages over the past 50 years. A 2007 condition assessment revealed corrosion and potential piping failure throughout the system. As a result, a phased approach for replacement of the existing fire main system with corrosion-resistant plastic piping was initiated in FY 2007-2008.

Current Status

Bids were opened in February 2014 and the project was awarded in April 2014. The notice to proceed was issued in June 2014.

Next Milestone

Project completion: *Summer 2015*

For more information on CIP projects, visit <http://ca-sanjose.civicplus.com/index.aspx?NID=295>

VI. Financial Summaries

The following Financial Summaries Chart reflects project costs as adopted in the 2013-2014 CIP Budget. The chart also includes reserves, transfers, and non-construction elements that are not discussed in this status report.

2014-2018 Adopted Capital Improvement Program – Use of Funds (Combined)

	Estimated 2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	5-Year Total
Construction Projects							
Public Art							
Public Art	171,000	457,000	30,000	3,000			490,000
Total	171,000	457,000	30,000	3,000			490,000
Preliminary Wastewater Treatment							
1. Headworks No. 1 Repair and Rehabilitation	150,000	1,450,000	200,000				1,650,000
2. Headworks No. 2 Enhancement	337,000	7,874,000	3,000,000	300,000			11,174,000
3. Headworks No. 2 Expansion	300,000	200,000					200,000
Total	787,000	9,524,000	3,200,000	300,000			13,024,000
Primary Wastewater Treatment							
4. East Primary Rehabilitation, Seismic Retrofit, and Odor Control	1,000,000	715,000			2,000,000	5,000,000	7,715,000
5. Iron Salt Feed Station	18,000	1,900,000					1,900,000
Total	1,018,000	2,615,000			2,000,000	5,000,000	9,615,000
Secondary Wastewater Treatment							
6. Biological Nutrients Removal 1 and Biological Nutrients Removal 2 Connection		876,000					876,000
7. Secondary and Nitrification Clarifier Rehabilitation	8,000	3,162,000			1,400,000	4,000,000	8,562,000
Total	8,000	4,038,000			1,400,000	4,000,000	9,438,000

	Estimated 2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	5-Year Total
Construction Projects							
Tertiary Wastewater Treatment							
8. Alternative Disinfection	20,000	980,000					980,000
9. Filter Improvements	22,000	800,000					800,000
10. New Filter Complex	146,000	854,000					854,000
Total	188,000	2,634,000					2,634,000
Biosolids							
Inactive Lagoons Bio-Solids Removal	624,000						
11. Digester Rehabilitation	398,000	12,445,000	47,000,000	700,000	9,750,000	1,000,000	70,895,000
12. Dissolved Air Flotation Rehabilitation and Odor Control	736,000	264,000					264,000
13. New Biosolids Facility	1,000,000	3,000,000	70,000,000	115,000,000	97,000,000	40,000,000	325,000,000
Total	2,758,000	15,709,000	117,000,000	115,700,000	106,750,000	41,000,000	396,159,000
Electrical Systems and Power Generation							
Fuel Cell	20,000						
14. Combined Heat and Power Equipment Repair and Rehabilitation	1,166,000	9,934,000	250,000				10,184,000
15. Energy Generation Improvements	1,300,000	40,000,000	60,000,000				100,000,000
16. Plant Electrical Reliability	1,430,000	2,672,000					2,672,000
Total	5,041,000	52,626,000	60,250,000				112,876,000
Advanced Process Control & Automation							
17. Advanced Process Control and Automation	652,000	2,736,000					2,672,000
18. Plant-wide Flowmeter Replacement Program		1,000,000	5,000,000	250,000			6,250,000
19. Treatment Plant Distributed Control System	2,500,000	500,000	500,000	500,000	500,000		2,000,000
Total	3,152,000	4,236,000	5,500,000	750,000	500,000		10,986,000

	Estimated 2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	5-Year Total
Construction Projects							
Site Facility Maintenance and Improvements							
Plantwide Facilities	645,000						
Unanticipated/Critical Repairs	250,000						
20. Equipment Replacement	2,133,000	2,522,000	1,663,000	1,663,000	1,663,000	1,663,000	9,174,000
21. Plant Infrastructure Improvements	4,433,000	2,410,000	1,000,000	1,000,000	1,000,000	1,000,000	6,410,000
22. Treatment Plant Engine Rebuild	1,868,000	1,000,000					1,000,000
23. Treatment Plant Fire Main Rehabilitation	1,301,000	1,533,000					1,533,000
24. Treatment Plant Street Resurfacing	524,000	810,000	500,000	500,000	500,000	500,000	2,810,000
25. Urgent and Unscheduled Treatment Plant Rehabilitation	2,237,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	7,500,000
Total	13,391,000	9,775,000	4,663,000	4,663,000	4,663,000	4,663,000	28,427,000
South Bay Water Recycling							
Recovery Act - South Bay Water Recycling Phase 1C	68,000						
SBWR Reservoir Facility	464,000	10,000					10,000
27. Plant Backup Water Supply	1,656,000	1,200,000					1,200,000
28. SBWR Extension	4,905,000	3,787,000					3,787,000
29. SBWR System Reliability and Infrastructure Replacement		2,300,000	1,500,000	1,500,000			5,300,000
Total	7,093,000	7,297,000	1,500,000	1,500,000			10,297,000
TOTAL CONSTRUCTION PROJECTS	33,607,000	108,911,000	192,143,000	122,916,000	115,313,000	54,663,000	593,946,000

	Estimated 2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	5-Year Total
Non-Construction Projects							
General Non-Construction							
2014 Bond Cost of Issuance		1,700,000					1,700,000
2014 Transfer to Clean Water Financing Authority Debt Service		6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	24,000,000
Capital Program and Public Works Department Support Service Costs	574,000	653,000	660,000	667,000	674,000	681,000	3,335,000
Transfer to Clean Water Financing Authority Debt Service Payment Fund	6,947,000	6,953,000	6,915,000	6,943,000	6,788,000	5,881,000	33,480,000
29. Payment for Clean Water Financing Authority Trustee	5,000	5,000	5,000	5,000	5,000	5,000	25,000
30. Plant Master Plan	1,565,000	276,000					276,000
31. Preliminary Engineering	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000
32. Program Management	1,077,000	4,498,000	3,590,000	3,605,000	3,275,000	2,800,000	17,768,000
33. SBWR Master Plan	2,027,000	419,000					419,000
34. State Revolving Fund Loan Repayment	4,464,000	4,464,000	4,464,000	4,464,000	4,464,000	4,464,000	22,320,000
Total	17,659,000	18,268,000	24,334,000	22,684,000	22,206,000	20,831,000	108,323,000
Contributions, Loans and Transfers to General Fund							
Transfer to the City Hall Debt Service Fund	77,000	76,000	82,000	85,000	91,000	97,000	431,000
Total	77,000	76,000	82,000	85,000	91,000	97,000	431,000
Reserves							
Reserve for Equipment Replacement		5,000,000					5,000,000
Total		5,000,000					5,000,000
TOTAL NON-CONSTRUCTION	17,736,000	23,344,000	24,416,000	22,769,000	22,297,000	20,928,000	113,754,000
Ending Fund Balance	118,373,157	51,245,157	139,503,157	79,008,157	26,834,157	17,447,157	17,447,157*
TOTAL USE OF FUNDS	170,791,157	183,480,157	356,062,157	224,693,157	164,444,157	93,038,157	725,127,157*

*The 2013-2014 through 2016-2017 Ending Balances are excluded from the FIVE-YEAR TOTAL USE OF FUNDS to avoid multiple counting of the same funds.

VII. Looking Ahead



Aerial view of RWF site looking eastward.

Over the next six months, CIP staff will coordinate with O&M staff to scope several projects for design, with procurement closely following. Staff will continue to launch and refine systems and tools designed to achieve cost savings and improved decision making for future CIPs. Key upcoming activities include:

- Completion of a biosolids treatment and disposal options analysis;
- Completion of three projects under construction;
- Initiation of seven projects, including Digested Sludge Dewatering Facility; Facility-wide Water Systems Improvements; Outfall Bridge and Levee Improvements; and Secondary and Nitrification Clarifier Rehabilitation;
- Completion of the 10-year CIP funding analysis and TPAC and Council approval of the funding strategy by December 2014;
- Recruitment to fill several capital program vacancies;
- November presentation to TPAC on technical and business case evaluations, and recommended approach for biosolids transition;
- Development of a five-year staffing and transition plan to inform the 2016-2020 CIP; and
- Production of monthly CIP status reports and semiannual CIP presentations to replace the semiannual status reports.

Glossary

Biogas	A renewable energy source produced by the breakdown of organic matter, such as sewage or green waste, in the absence of oxygen. Biogas is comprised of methane, carbon dioxide, and small amounts of hydrogen sulfide and other components.
Biosolids	Treated sewage sludge.
Bufferlands	Open acreage used by wastewater treatment plants as a buffer between facility operations and nearby communities. Bufferlands minimize odor and operational impacts on neighboring communities, and often serve as wildlife habitat.
Cogeneration	The process of recovering and reusing industrial waste heat to produce electricity.
CPMS	The Capital Project Management System, a web-based database updated regularly to provide San José Councilmembers, administrators and the public access to current information on CIP projects.
DCS	A Distributed Control System, or DCS, is a computerized system that allows treatment facility staff to remotely monitor and control treatment processes.
Effluent	Treated wastewater that is discharged from a treatment facility.
EIR	An Environmental Impact Report (EIR) is a public document required under the California Environmental Quality Act to describe potential environmental impacts associated with a project. An EIR also describes measures to mitigate the impacts.
Headworks	Facilities that first receive incoming wastewater at a treatment plant. The headworks screen and remove sticks, grit, and other solid material from influent to protect downstream equipment in the treatment process.
Influent	Untreated wastewater that flows into a treatment facility.
mgd	Million gallons per day.
Preliminary treatment	The preparatory wastewater treatment stage, in which influent passes through headworks, which screen and remove sticks, rocks and debris; and grit chambers, which remove sand and gravel.
Primary treatment	The initial treatment for incoming wastewater, in which gravity settles solid material and rotating bars skim floating fats, oil, and grease from influent.
Ring bus system	An electrical substation switching arrangement of breakers connected in a closed loop.
Secondary treatment	The second stage of wastewater treatment, in which aeration tanks pump air into wastewater to promote the growth of naturally-occurring bacteria that remove organic pollutants.
Tertiary treatment	The final stage in advanced wastewater treatment, in which wastewater flows through filter beds, then through sodium bisulfite tanks to become 99 percent clean.
Wastewater	Water that enters the sanitary sewer system for processing at a treatment plant.

Appendix – PMP Project Validation: Cost Estimates

Preliminary Treatment		
Validation ID #	Project	Validation Cost Estimate* (in millions)
PLH01	Headworks Improvements	\$28.1 ±
PLH02	New Headworks	\$90.7 ±
Program Subtotal		\$118.8 ±
Primary Treatment		
PLP01	Iron Salt Feed Station	\$ 5.3 ±
PLP02	East Primary Rehabilitation, Seismic Retrofit, and Odor Control	\$108.8 ±
Program Subtotal		\$114.1 ±
Secondary Treatment		
PLS01	Aeration Tanks and Blower Rehabilitation	\$114.9 ±
PLS02	Secondary and Nitrification Clarifier Rehabilitation	\$ 58.8 ±
PLS03	Aeration Basin Future Modifications	\$ 49.3 ±
PLS04	Secondary Clarifier Rehabilitation Demonstration	\$ 2.1 ±
Program Subtotal		\$225.1 ±
Tertiary Treatment		
PLD01	New Disinfection Facilities	\$ 55.6 ±
PLD02	Outfall Bridge and Levee Improvements	\$ 8.2 ±
PLD03	Final Effluent Pump Station and Stormwater Channel Improvements	\$ 46.5 ±
PLF01	Filter Rehabilitation	\$ 27.2 ±
PLF02	Alternative Filter Technology Field Verification	\$ 3.2 ±
Program Subtotal		\$140.7 ±
Biosolids		
PS01	Digester & Thickener Facilities Upgrade	\$ 78.7 ±
PS02	Additional Digester Facility Upgrades	\$ 63.4 ±
PS03	Digested Sludge Dewatering Facility	\$ 68.2 ±
PS04	FOG Receiving	\$ 11.9 ±
PS05	Thermal Drying Facility	\$132.0 ±
PS06	Greenhouse Demonstration	\$ 11.3 ±
PS07	Lagoons and Drying Beds Retirement	\$ 31.7 ±
Program Subtotal		\$397.1 ±

Electrical Systems and Power Generation		
Validation ID #	Project	Validation Cost Estimate* (in millions)
PE01	Emergency Diesel Generators	\$ 20.9 ±
PE02	Cogeneration Facility	\$ 91.0 ±
PE03	Digester Gas Compressor Upgrade	\$ 10.4 ±
PE04	Digester Gas Storage Replacement	\$ 3.3 ±
PE05	Switchgear S40/G3 Relay Upgrade	\$ 8.8 ±
Program Subtotal		\$134.4 ±
Advanced Process Control and Automation		
PA01	Advanced Facility Control and Meter Replacement	\$33.1 ±
Program Subtotal		\$33.1 ±
Site Facility Maintenance and Improvements		
PF01	Tunnel Rehabilitation	\$ 25.6 ±
PF02	Support Building Improvements	\$ 55.6 ±
PF03	Plant Infrastructure Improvements	\$ 12.4 ±
PF04	Yard Piping and Road Improvements	\$126.3 ±
PF06	Facility-wide Water Systems Improvements	\$ 14.1 ±
PF07	Plant Instrument Air System Upgrade	\$ 11.2 ±
Program Subtotal		\$245.2 ±
Non-Construction		
PF05	Record Drawings	\$13.6 ±
Program Subtotal		\$13.6 ±
Program Total		\$1,422.1 ±

* Cost estimates follow the American Association of Cost Engineering International (AACE International) Recommended Practice No. 18R-97 estimate classes 5 and 4. Typical accuracy range for Class 5 estimates are -20 percent to -50 percent on the low side, and +30 percent to +100 percent on the high side. Class 4 estimates are -15 percent to -30 percent on the low side, and +20 percent to +50 percent on the high side. Cost estimates for engineering, construction, and contingencies are escalated using a 3 percent per year escalation factor.

City Manager's Contract Approval Summary
For Procurement and Contract Activity between \$100,000 and \$1.08 Million for Goods and \$100,000 and \$270,000 for Services

SEPTEMBER 1, 2014 - SEPTEMBER 30, 2014

Description of Contract Activity ¹	Fiscal Year	Req#/RFP#	PO#	Vendor/Consultant	Original \$ Amount	Start Date	End Date	Additional \$ Amount	Total \$ Amount	Comments
NEW:										
MATERIALS AND SUPPLIES FOR DAF AND PRIMARY TANK OVERHAUL (PARTS - PACKAGE A & B)	FY12-13	16655	48480	EVOQUA WATER TECHNOLOGIES LLC	\$997,846	4/29/13	3/31/15			EXT TO 3/31/15
MATERIALS AND SUPPLIES FOR DAF AND PRIMARY TANK OVERHAUL (PARTS - PACKAGE C)	FY12-13	16654	48481	KAMAN INDUSTRIAL TECHNOLOGIES	\$778,660	4/29/13	3/31/15			EXT TO 3/31/15
CRANE MAINTENANCE AND REPAIR	FY14-15	19966	50631	PREFERRED AERIAL & CRANE TECH	\$250,000	11/1/14	10/31/14			
PURCHASE (2) FECON FTX600 MULCHING TRACTOR, STEEL TRACKED CARRIER; (1) CUSTOM PLATE FOR AUGER ON 2ND UNIT	FY14-15	19988	77999	FECON, INC	\$988,581	9/24/14	12/31/14			PRICE TAKES INTO ACCOUNT \$70,000 ALREADY PAID TO FECON ON PO 77677 RENTAL (MAY 2014)
HEATING AND COOLING SYSTEMS EVALUATION	FY14-15		AC 21248	BROWN & CALDWELL	\$576,548	9/12/14	6/30/15			SERVICE ORDER #6 (MASTER AGREEMENT TERM 3/25/08 - 6/30/15)
FLOW SERVICE ANALYSIS	FY14-15		AC 26179	CAROLLO ENGINEERS	\$103,448	8/29/2014	11/30/2014			SERVICE ORDER #2 (MASTER AGREEMENT TERM 3/21/14 - 6/30/15)
ONGOING:										
WATER TOXICITY TESTING	FY14-15	19092			\$200,000					
TO LEASE A USED 4-WIDE TRAILER FOR CIP CONSTRUCTION MANAGEMENT STAFF/CONSULTANTS	FY14-15	19725	50621	DESIGN SPACE MODULAR BUILDINGS	\$165,682	9/23/14	11/15/16			PREVIOUS REQ 19434 FY13-14 CANCELLED
PRODUCT: TRAVELING WATER SCREEN	FY14-15	19795			\$115,122					

¹ This report captures in process contract activity (Requisition Number or RFP Number) and completed contract activity (Purchase Order Number, Contract Term, and Contract Amount)