



San José-Santa Clara
Regional Wastewater Facility

Capital Improvement Program Monthly Status Report for August 2014

October 2, 2014

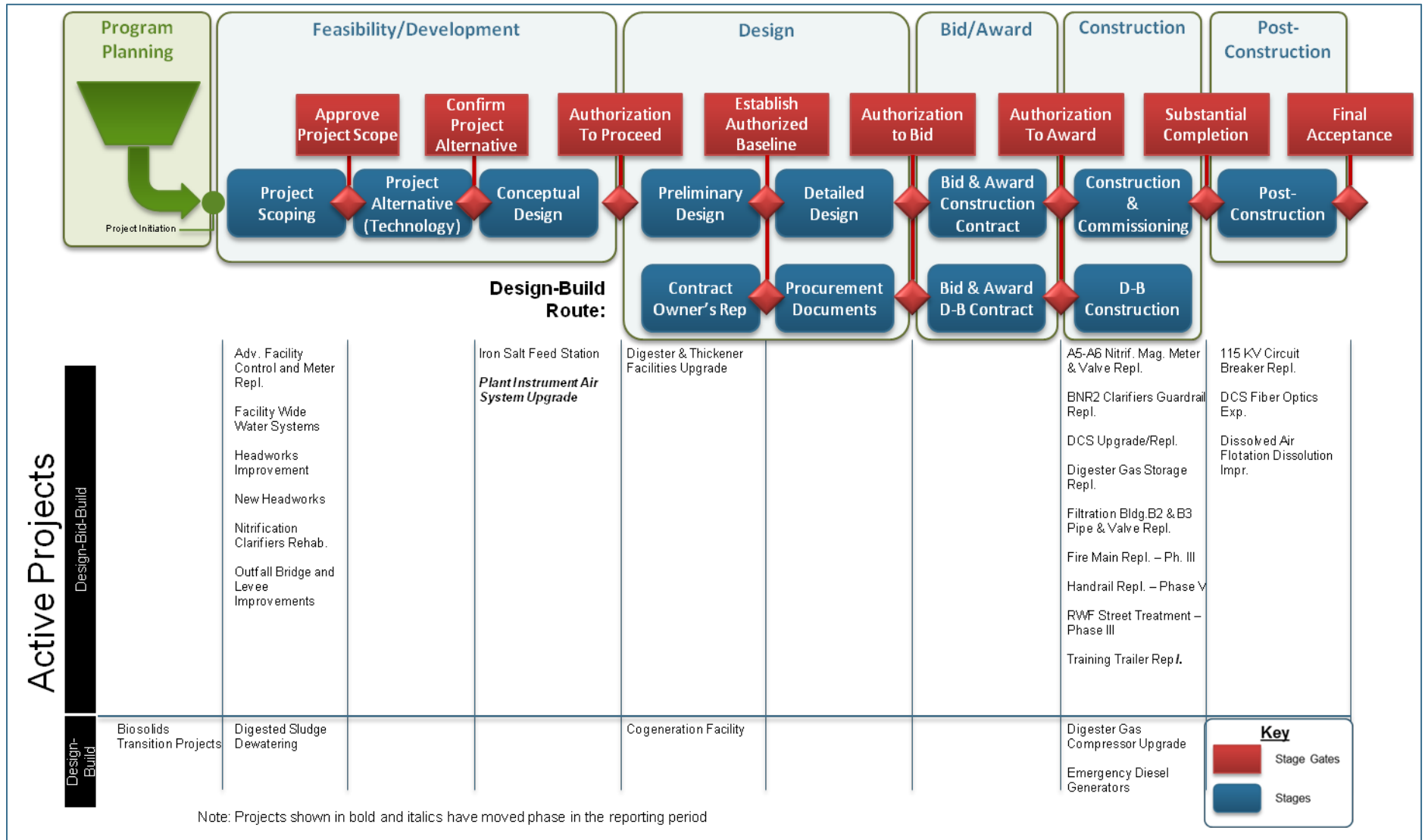
This report provides a summary of the progress and accomplishments of the Capital Improvement Program (CIP) for the San José-Santa Clara Regional Wastewater Facility (Wastewater Facility or RWF) for the period of August 2014.

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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.

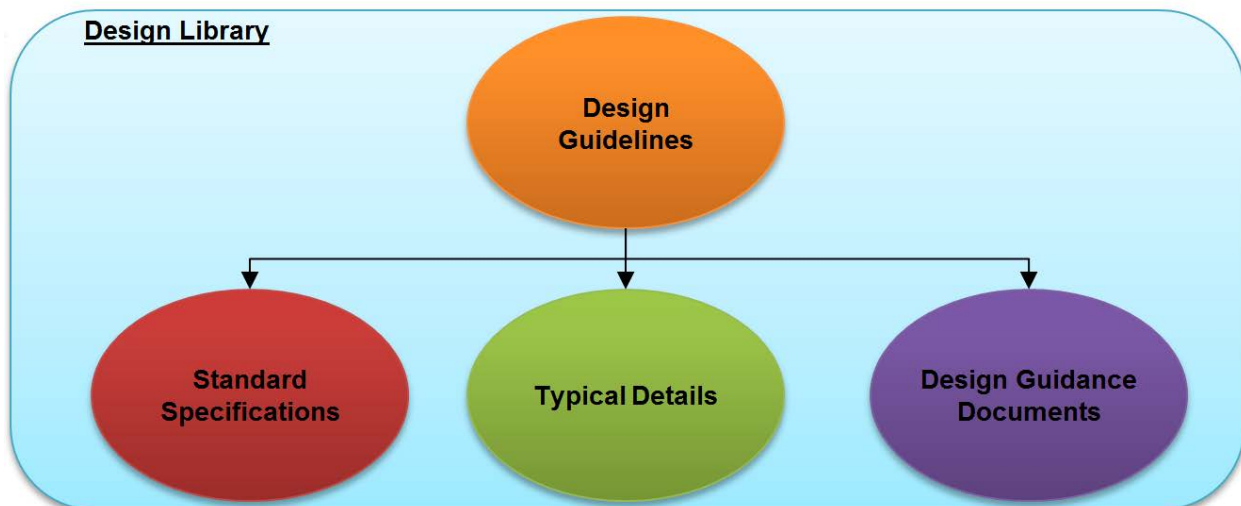














Figure 1—Design Guidelines Library

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

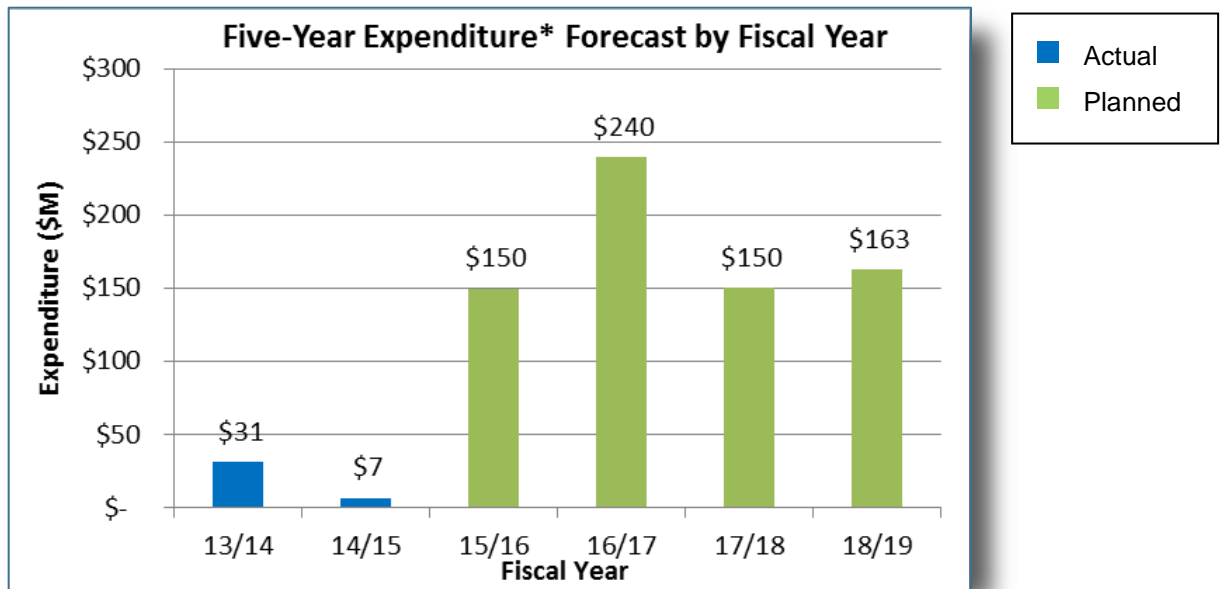


Program Cost Performance

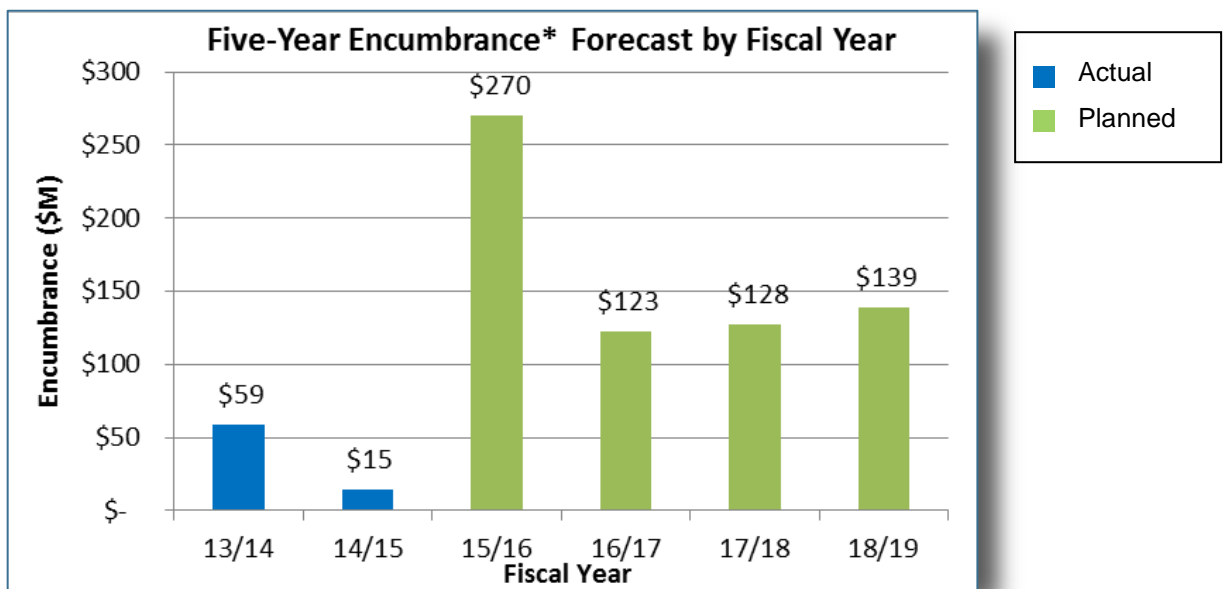
This section provides a summary of CIP cost performance for all construction projects and non-construction activities for FY14-15 and the Five-Year CIP.

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



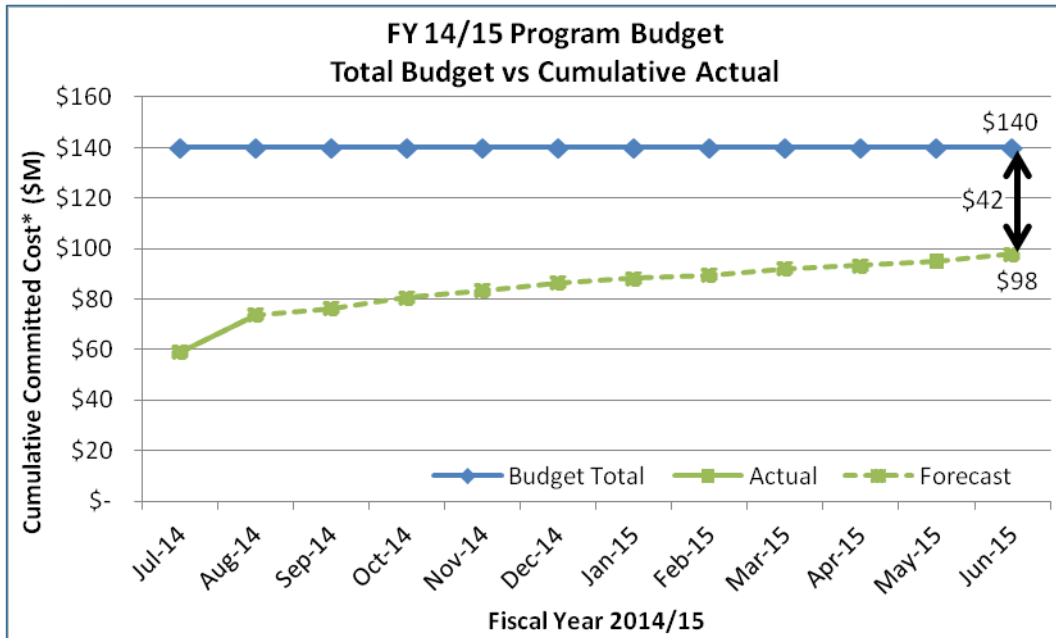
*Encumbrance defined as: Financial commitments, such as purchase orders or contracts, which are chargeable to an appropriation and for which a portion of the appropriation is reserved



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

- 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.
- An explanation of cost and schedule variances on specific projects identified in this table is provided on page 9.
- 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.

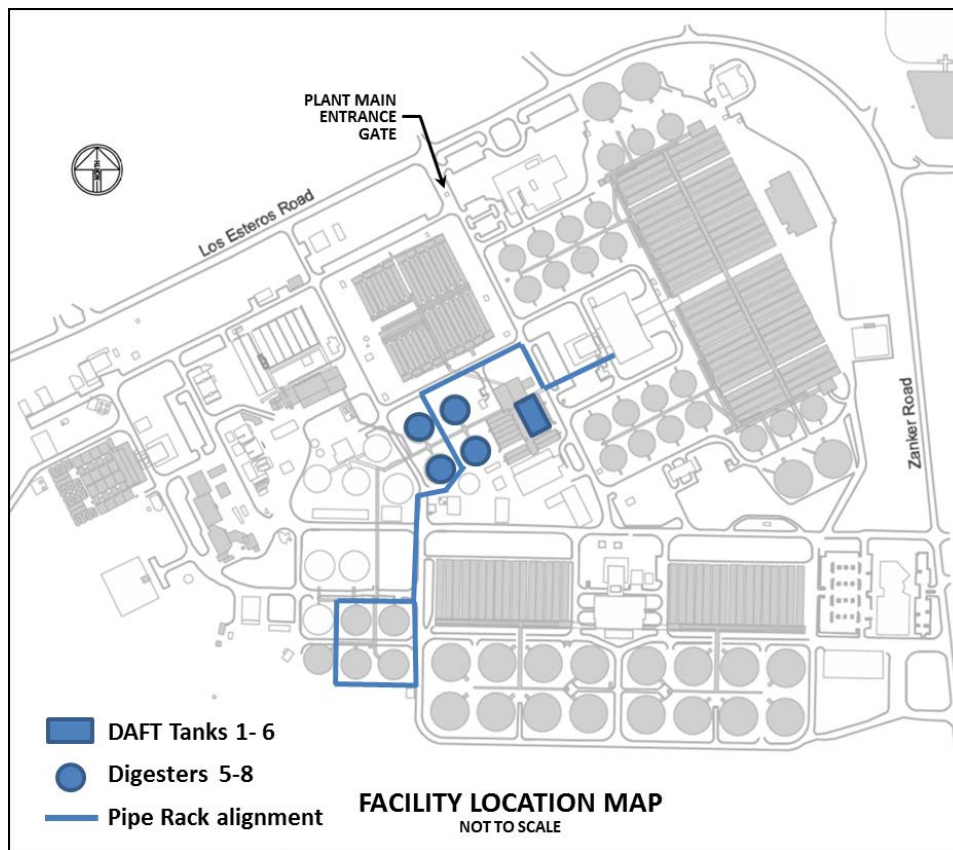
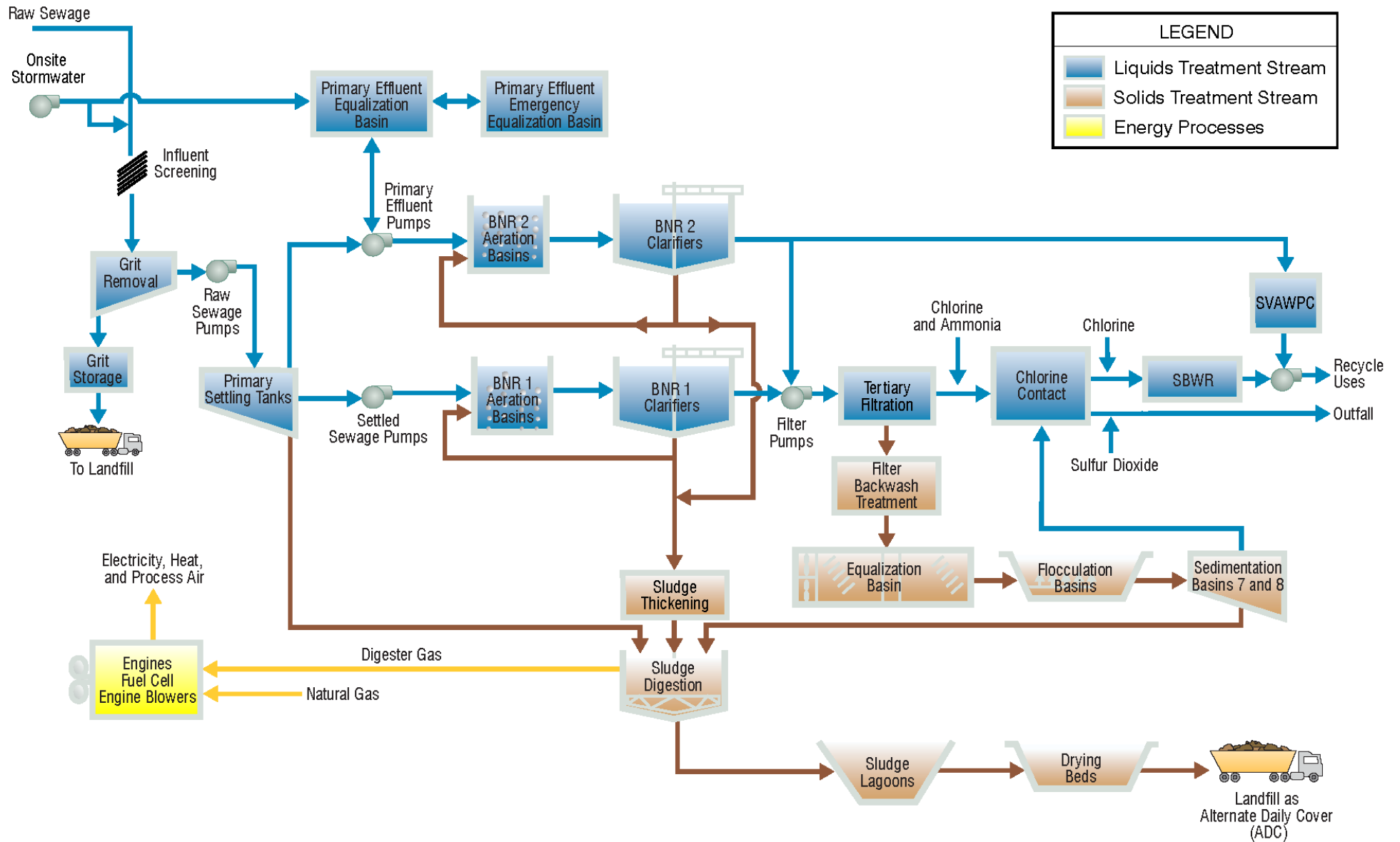


Figure 2— Digester & Thickener Facilities Upgrade

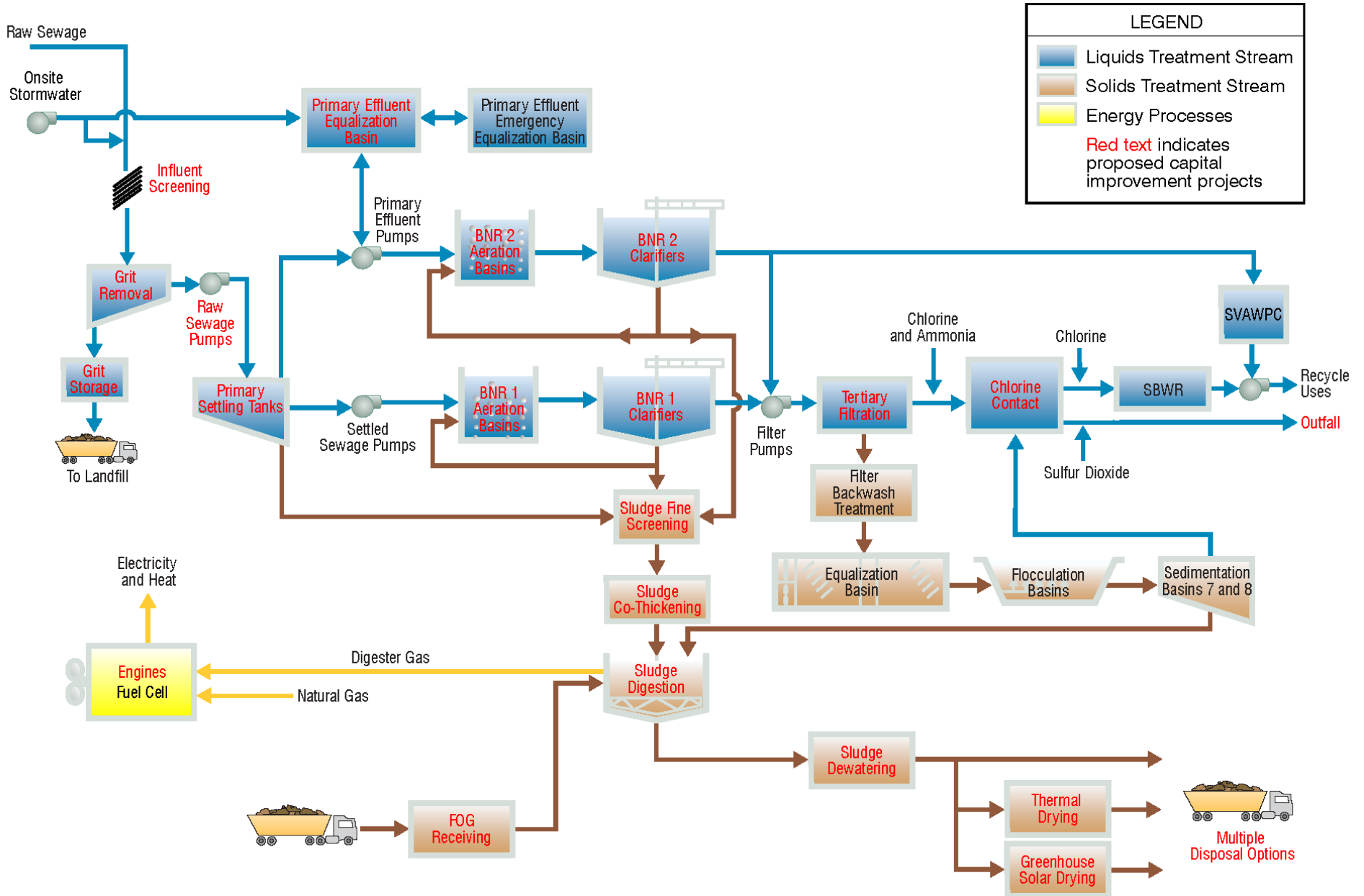
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Regional Wastewater Facility Treatment – Current Treatment Process Flow Diagram



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

