



San José-Santa Clara
Regional Wastewater Facility

Capital Improvement Program Monthly Status Report for July 2015

September 3, 2015

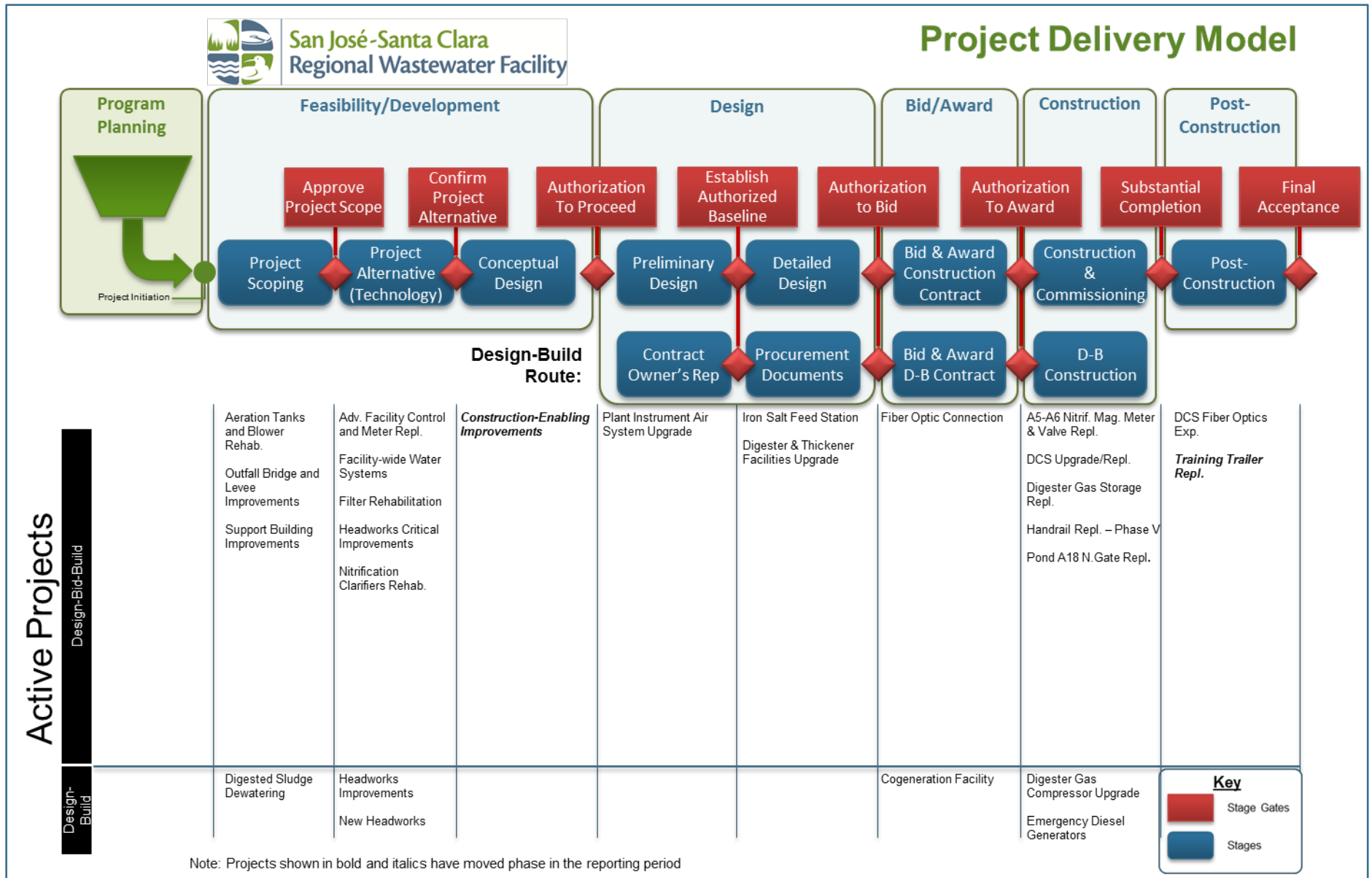
This report provides a summary of the progress and accomplishments of the Capital Improvement Program (CIP) for the San José-Santa Clara Regional Wastewater Facility (Wastewater Facility or RWF) for the period of July 2015.

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Project Delivery Model



Program Summary

July 2015

In July, the CIP progressed on multiple fronts, including the successful advancement of programmatic studies and projects through stage gates of the Project Delivery Model (PDM) process. In particular, two programmatic studies passed through the “Final Acceptance” stage gate this month. These two studies were the Odor and Corrosion Control Study and the Yard Piping Condition Assessment Study.

CIP staff issued a Request for Qualifications (RFQ) proposal for Design and Construction Management Software (DCMS). This procurement will select a document management tool and submittals control software that will be used on all CIP construction projects. The Fiber Optic Connection Project was advertised for bidding. Technical evaluations for the Headworks and Filter Rehabilitation procurements were completed this month and Staff will be putting forward recommendations for consultant selection for each project. Request for Proposals (RFP) were issued to three shortlisted design-build firms for the Cogeneration Facility with proposals due in early September.

The Iron Salt Feed Station Project passed through the 90 percent design milestone, with all internal CIP design reviews completed on time. The 100 percent design submittal for this project is due in August. Value Engineering and Hazard and Operability (HAZOP) workshops were completed on the Digester and Thickener Facilities Upgrade Project. The 90 percent design submission, which will adopt recommendations from these workshops, is due in August. Emergency repair work continued to progress on the Pond A-18 northern gate structure and the surrounding timber structure installation began this month. The mechanical installation has been slightly delayed, awaiting replacement parts for some damaged components that were identified during construction inspections, but the overall project is still scheduled to be completed by late August. Other construction work continued at the RWF for a number of CIP projects including the Emergency Diesel Generators, Digester Gas Compressor Upgrade and Digester Gas Storage Replacement.

The Training Trailer Replacement Project reached Beneficial Use and the Fire Main Replacement – Phase III Project was accepted this month.

Look Ahead

In August, we will continue to move forward on numerous efforts related to consultant and design-build procurements for CIP projects including the Cogeneration Facility, Headworks Improvements, New Headworks, Facility Wide Water Systems Improvement, Filter Rehabilitation and the Nitrification Clarifiers Rehabilitation. Procurements for a number of programmatic services will also be developed including General Engineering Services, Value Engineering and Peer Review Services, System Integration Services, Construction Management Services, and Audit Services.

The RFQ for General Engineering Services will be advertised in August. An award recommendation for the Technical Support Services consultant for the Cogeneration Facility Project is also scheduled to be presented to City Council in August.



Program Highlight – Procurement

The Plant Master Plan, adopted by Council in November 2013, recommended over 100 capital projects with an estimated total of \$2.1 billion procured to rebuild and modernize the Facility over the next 30 years. In early 2014, validation of these projects resulted in 33 projects grouped by four packages: Liquids, Biosolids, Facilities, and Power and Energy. Twenty-one of the 33 project packages are planned for initiation in the first five years. In order to meet the staffing needs for the various RWF Capital Improvement Program projects, it is necessary to have a staffing strategy that includes a combination of City staff, CIP management consultant staff, and third-party consultants to ensure the needed resources and expertise are provided for each project.

Several projects will require the procurement of third-party consultant services. Most procurements will include the advertisement of an RFQ and will result in a project-specific master consultant agreement (MCA) requiring subsequent service orders (SOs) to be issued further specifying the tasks and authorizing the selected consultant to proceed with work.

The tasks included in the project-specific consultant agreements will vary based on the project's delivery method. For design-bid-build projects, consultants will be tasked with final design and engineering services during construction. For design-build projects, consultants will be tasked with the preparation of procurement documents (e.g., "bridging" documents) to hire a design-builder and possibly to provide construction management services.

Given the volume of procurements and large number of CIP staff involved, a Procurement "Stage Page" has been developed to provide guidance in the form of a process flowchart, roles and responsibilities and links to standard templates and examples. The Stage Page is accessible on the CIP Portal and provides staff with a convenient single location to access all the information and resources required to ensure a consistent approach to procurement across the Program.

Currently, there are 17 procurements planned to be advertised this fiscal year. These procurements consist of five construction contracts and 12 consultant procurements.

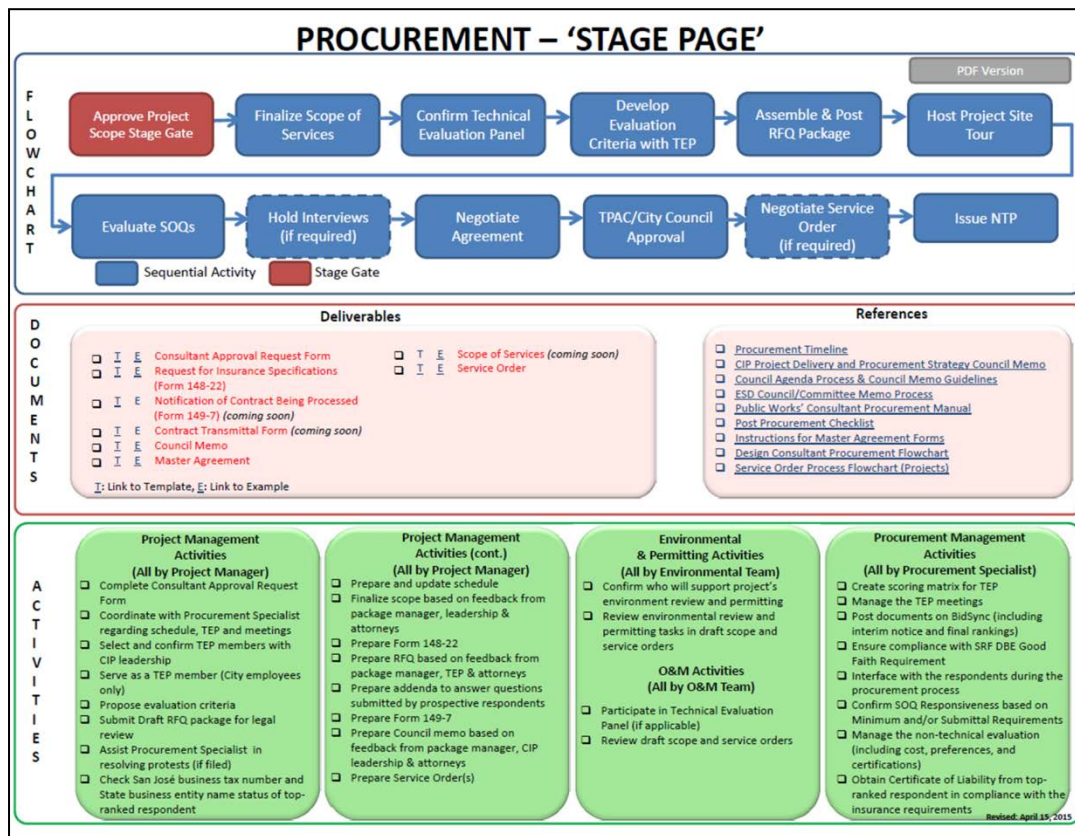






























Figure 1 — The Procurement Stage Page is a guidance document summarizing the process, roles and responsibilities of staff involved with procurements.



Program Performance Summary

Eight key performance indicators (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. An additional KPI has been added for FY15-16 to measure project stage gate compliance.

Program Key Performance Indicators – Fiscal Year 2015-2016

KPI	Target	Year to Date			Fiscal Year End		
		Actual	Status	Trend	Forecast	Status	Trend
Stage Gates¹	80%	100% (2/2)			100% (28/28)		
Measurement: Percentage of initiated projects and studies that successfully pass each stage gate. Criteria: Red: < 70%; Amber: 70% to 80%; Green: >=80%							
Schedule^{1/2}	85%	100% (1/1)			100% (6/6)		
Measurement: Percentage of CIP projects delivered within 2 months of approved baseline Beneficial Use Milestone. Criteria: Red: < 75%; Amber: 75% to 85%; Green: >=85%							
Budget^{1/3}	90%	100% (1/1)			100% (7/7)		
Measurement: Percentage of CIP projects that are completed within the approved baseline budget. Criteria: Red: < 80%; Amber: 80% to 89%; Green: >=90%							
Expenditure^{1/4}	\$154M	NA			\$154M		
Measurement: CIP Fiscal Year 15/16 committed costs. Committed cost meets or exceeds 70% of planned Budget (70% of \$220M = \$154M) Criteria: Red: < \$123M; Amber > \$123M and <\$154M; Green: >=\$154M							
Procurement¹	80%	100% (2/2)			100% (17/17)		
Measurement: Number of consultant and contractor procurements for initiated projects and program-wide services advertised compared to planned for the fiscal year. Criteria: Red: < 70%; Amber: 70% to 79%; Green: >=80%							
Safety¹	0	0			0		
Measurement: Number of OSHA reportable incidents associated with CIP construction for the fiscal year. Criteria: Red: > 2; Amber: 1 to 2; Green: zero incidents							
Environmental¹	0	0			0		
Measurement: Number of permit violations caused by CIP construction for the fiscal year. Criteria: Red: > 2; Amber: 1 to 2; Green: zero incidents							
Staffing⁵	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Measurement: Number of planned positions filled for the fiscal year. Criteria: Red: < 70%; Amber: 70% to 79%; Green: >=80%							

Notes

1. KPIs have been reset for the new FY15-16.
2. For the Schedule KPI, the Training Trailer Replacement project achieved Beneficial Use in July 2015.
3. For the Budget KPI, one out of one project, Fire Main replacement – Phase III, was completed within the approved baseline budget.
4. FY15-16 budget excludes reserves, ending fund balance, South Bay Water Recycling, Public Art and Urgent and Unscheduled Rehabilitation items.
5. Staffing level KPI measured quarterly; all other KPIs measured monthly.

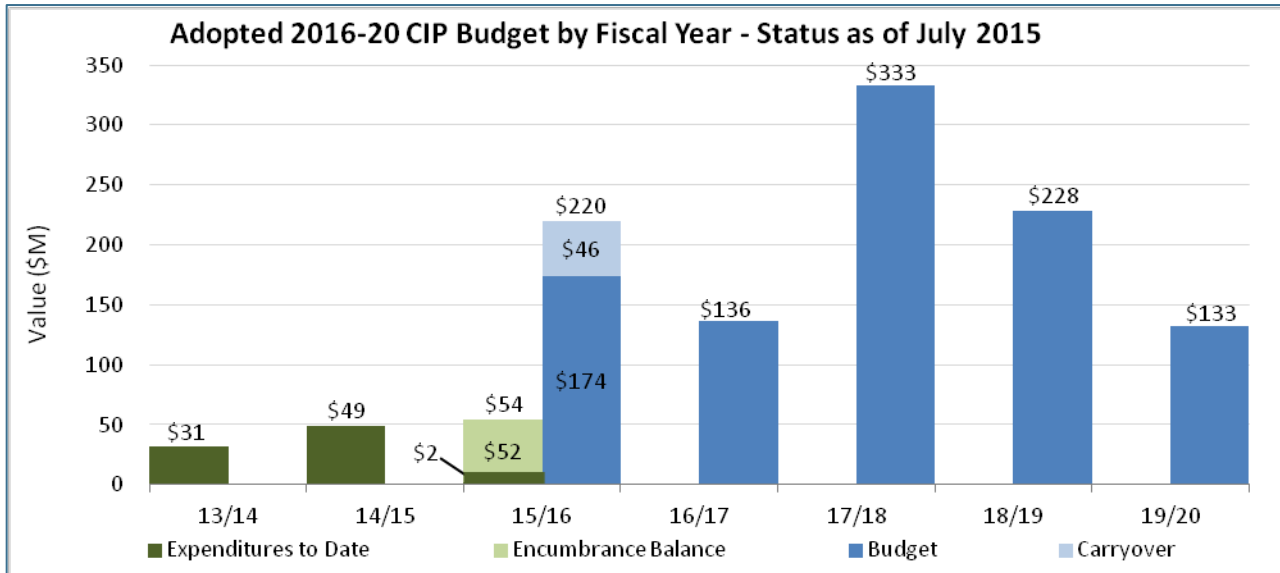


Program Cost Performance

This section provides a summary of CIP cost performance for all construction projects and non-construction activities for FY15-16 and the 2016-2020 CIP.

Adopted 2016-2020 CIP Expenditure and Encumbrances

To accommodate the proposed increase in expenditures and encumbrances over the next five years, the City is implementing a long-term financial strategy to fund the needed, major capital improvements while minimizing the impact to ratepayers.



Notes

Expenditure: Actual cost expended, either by check to a vendor or through the City's Financial System for expense such as Payroll or non-personal expenses that do not require a contract.

Encumbrance: Financial commitments, such as purchase orders or contracts, which are committed to a vendor, consultant, or contractor. The encumbrance reserves the funding within the appropriation and project.

Encumbrance Balance: The amount of the remaining encumbrance committed after payments.

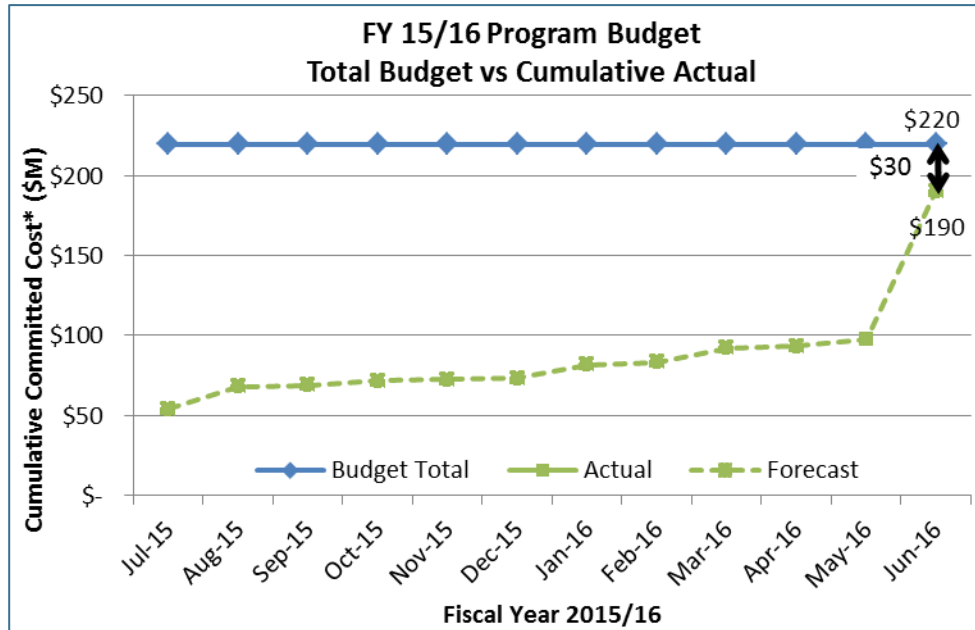
Budget: Adopted FY 2016-2020 Budget. This is new funding plus rebudgeted funds.

Carryover: Encumbrance Balances at the end of a FY become Carryover Funding. This is different from rebudgets, in that this is done automatically in order to utilize the funding previously committed, but not yet paid.



Fiscal Year 2015-2016 Program Budget Performance

The fiscal year program budget is \$220 million. The budget amount of \$220 million represents the 2015-2016 budget of \$174 million plus carryover of \$46 million. The budget amount excludes reserves, ending fund balance, 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).







Project Performance

There are currently nine active projects in the construction or post-construction phase with a further 17 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 Performance – Baselined Projects

Project Name	Phase	Estimated Beneficial Use Date ¹	Cost Performance ²	Schedule Performance ²
Distributed Control System (DCS) Fiber Optics Network Expansion	Post-Construction	May 2014 ³		
Training Trailer Replacement	Post-Construction	Jul 2015 ³		
Handrail Replacement - Phase V	Construction	Aug 2015		
Pond A18 Northern Gate Structure	Construction	Aug 2015		
Digester Gas Storage Replacement	Construction	Sep 2015		
A5-A6 Nitrification Mag. Meter & Valve Replacement	Construction	Mar 2016		
DCS Upgrade/Replacement	Construction	Jun 2016		
Emergency Diesel Generators	Construction	Aug 2016		
Digester Gas Compressor Upgrade	Construction	Sep 2016		

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 are 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 12.
3. Actual Beneficial Use Date



Project Performance – Pre-Baselined Projects

Project Name	Phase	Estimated Beneficial Use Date ¹
Fiber Optic Connection	Bid & Award	Apr 2016
Cogeneration Facility	Procurement	Feb 2019
Iron Salt Feed Station	Design	Mar 2017
Plant Instrument Air System Upgrade	Design	Jan 2018
Digester & Thickener Facilities Upgrade	Design	Oct 2018
Construction-Enabling Improvements	Feasibility/Development	Oct 2016
Headworks Critical Improvements	Feasibility/Development	Apr 2017
Headworks Improvements	Feasibility/Development	Mar 2021
Adv. Facility Control & Meter Replacement	Feasibility/Development	May 2021
Outfall Bridge and Levee Improvements	Feasibility/Development	May 2021
Facility-wide Water Systems Improvements	Feasibility/Development	Sep 2021
Digested Sludge Dewatering Facility	Feasibility/Development	Dec 2021
Filter Rehabilitation	Feasibility/Development	Jan 2022
New Headworks	Feasibility/Development	Jun 2022
Nitrification Clarifiers Rehabilitation	Feasibility/Development	Aug 2022
Aeration Tanks and Blower Rehabilitation	Feasibility/Development	Nov 2023
Support Building Improvements	Feasibility/Development	Jan 2027

Notes

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Significant Accomplishments

Biosolids Package

Digester and Thickener Facilities Upgrade

The detailed design of the digesters and dissolved air flotation tanks (DAFT) continued this month. Brown and Caldwell (BC) received review comments on the 60 percent completion level design documents and are currently working on the 90 percent completion level design documents. Design highlights include:

- CIP staff provided review comments on the Draft Value Management Memorandum to BC. Follow-up meetings will be held with Operations & Maintenance (O&M) staff once the Value Management Technical Memorandum has been prepared by BC summarizing these cost savings options along with a discussion listing the potential impacts to overall process design.
- The project team is currently preparing a pre-qualification document for pre-selection of qualified construction contractors for the Digester/DAFT Project. BC has been requested (per their negotiated scope of work) to assist in this effort. It is anticipated this document will be issued in mid-August and will require a qualifications selection period of approximately two to three months.
- The State Revolving Fund (SRF) documents are currently being prepared by BC, including CEQA permitting documents and a SRF application. The draft documents will be available for review in August 2015.

Digested Sludge Dewatering Facility

In the first week of July, the project team conducted a formal kickoff meeting to review past scoping and project initiation documents that were prepared prior to last December. A 'scoping' stage gate meeting has been scheduled to confirm the remaining dewatering facility scope requirements. The early work activities will include discussions regarding the delivery method for the project (i.e. design-bid-build, design-build, etc.), review of the facility siting requirements, and preparation of a draft scope of work and project work planning documents.

Facilities Package

Cogeneration Facility

The RFPs and draft contract were issued to the three shortlisted design-build firms. Proposals are due in early September.

Facility-wide Water System Improvements

An RFQ for design consultants was issued on June 30th. A pre-submittal meeting was held on July 15th and was well attended with more than a dozen interested consultants in attendance. Statements of Qualifications (SOQs) will be due in early August.

Pond A18 Northern Gate Structure

Emergency repair work continued to progress on the Pond A-18 northern gate structure and the surrounding timber structure installation began this month.

Liquids Package

Filter Rehabilitation

CIP staff received, reviewed and scored SOQs, and the consultant Kennedy/Jenks was selected, pending results of any protest. Once the protest period is complete, the City will negotiate a master consultant agreement (MCA) with the selected consultant. Staff anticipates that the agreement will be recommended to TPAC and City Council for award in November.

Headworks Improvements and New Headworks

CIP staff held interviews with qualified consultants on July 14th. They scored and ranked consultants based on interview performance and qualifications and notified selected consultant, CDM Smith, pending results of any protest. Once the protest period is complete, the City will negotiate an MCA with the selected consultant. Staff anticipates that the agreement will be recommended to TPAC and City Council for award in November.

Iron Salt Feed Station

The project team completed review of the 90 percent design submittal and began engineering services during construction (ESDC) contract negotiations. The 100 percent design submittal will be received in August.

Aeration Tanks and Blower Rehabilitation



The Blower Evaluation Technical Memorandum Workshop was held on July 22nd and the final draft of the technical memorandum was issued. A preliminary scoping meeting with O&M staff was held on July 30th. A draft of the Project Delivery Memorandum was completed and the Project Delivery Workshop is scheduled for August.

Programmatic Studies

Automation Master Plan and Process Control Approach

The draft technical memorandum identifying future requirements for the Automation Master Plan was delivered for review on July 12th. Additionally, the draft technical memorandum for control systems standards was delivered for review on July 31st.

Architectural Guidelines

The review meeting was held on July 9th. Draft Programming and Design Guidelines review comments were sent to the City Facility Architectural Services (CFAS). Staff will have an ongoing discussion about the color palette for buildings and digester tanks.

Flood Protection study

Staff transferred stormwater and flood-related data to the consultant. A data workshop was held to review the existing stormwater data. The consultant conducted field visits to review infrastructure for stormwater and flood protection features. The outline and draft data summary report was received in mid-July.

Odor and Corrosion Control study

The final stage gate was conducted and the Study was accepted. Follow-up actions for subsequent projects were identified and responsibilities for action items were assigned. Related tasks still to be completed consist of the printing of the final report, preparation for presenting the final report to TPAC and Council, and completing the final round of odor sampling.

Yard Piping Condition Assessment Plan

Black & Veatch (B&V) submitted the final risk protocol and the final Yard Piping Condition Assessment Plan. The Study was completed in July. The recommendations from the study will be implemented in the Yard Piping and Road Improvements Project.

Traffic Circulation and Impacts

An amendment to extend the schedule to allow the consultant to complete the Study was approved in July. The new completion date is October 30th, 2015.

Power and Energy

Plant Instrument Air System Upgrade

CH2M Hill has started detailed design. Additionally, CH2M Hill has completed several site surveys, including locating the bore holes for the geotechnical investigation. The City executed a service order with the consultant ESA to provide environmental review services for the project.



Explanation of Project Performance Issues

A5-A6 Nitrification Magnetic Meter & Valve Replacement

In September 2014, during startup, the project team discovered that the actuators that had been specified and installed were incompatible with the available power supply. Engineering staff determined it would be more costly to modify the system than to order and install compatible actuators. In addition, O&M staff requested that the actuators match those used in the other clarifiers. The City continues to work with the contractor and is considering other options to resolve the actuator issue and complete the project. Existing funding will not be sufficient and the project will need Council approval for additional funds. If TPAC and Council approve the Construction Change Order (CCO), there will be a 14-16 weeks lead time for ordering custom-built actuators. Contractor mobilization, actuator installation, wiring, troubleshooting and punch list-sign off will take a minimal of three weeks. Beneficial use is expected by March 2016.

Handrail Replacement - Phase V

The Aeration Basin 1 handrail replacement material submittal and review process extended into the wet weather season, when several of the secondary aeration tanks are required for process capacity. Typically, aeration basin repairs cannot occur prior to April 15th because the rainy season requires that basins remain available in the event of heavy rains. Work had originally been planned to commence in May after the rainy season ended and the basin could be drained for safety reasons, but was further delayed until June due to additional work occurring in the basin at that time. With the handrail replacement, which requires a side-mounted installation from inside of the tanks, the contractor had to not only wait for the tank to be drained but was further delayed because of maintenance repairs to diffusers that also needed to take place in May and which subsequently made the project site unavailable to the contractor. Furthermore, RWF Maintenance is currently making much-needed mechanical repairs to three of the aeration tanks (B1, B2, and B3). Handrail replacement work is expected to resume in early August. Operational schedule constraints added an additional 257 days to the construction duration, which has extended the expected beneficial use date to late August. The project is currently 90 percent complete and no additional costs related to the time extension are expected.

Digester Gas Compressor Upgrade

During the course of the design portion of this design build project, it was determined that some of the equipment for this project would need to meet the explosion-proof classification of Class 1, Division 1 of the National Electric Code. This classification was more stringent than what was originally called for in the bid documents. Cost and schedule impacts were received from contractor, Anderson Pacific. A provisional three-month delay has been estimated based on the delivery schedule for the new motors. Council approval for additional project funding due to motor upgrade was awarded during its June 16, 2015 session. Beneficial Use is expected by September 2016.

Digester Gas Storage Replacement

During a comprehensive review of the gas storage tank design submittal by the design consultant, Brown and Caldwell, it was identified that the removable piston legs used in the proposed design by the sub-contractor did not meet the design standards and would have caused problems in the intended use of the tank. As a result, the sub-contractor re-designed the tank with permanent piston legs with a subsequent delay in mobilization until the re-design of the tank was reviewed and approved. The re-design was subsequently completed and has been approved. There were several leak tests performed on the gas holder to ensure gas tightness of the tank. Leakage test results have been submitted and have successful results. O&M prepared and submitted a list of desired modifications that is under evaluation. Some of these items on this list will require welding and/or drilling. Therefore, all welding must be completed prior to the critical path activity of testing and commissioning. The contractor is in the process of submitting a revised schedule along with submittals including costs associated with modifications that require welding. Additionally, the contractor is working with the subcontractor on a recovery plan. Despite the project schedule delay, the construction cost has not been impacted. Beneficial Use is expected by September 2015.



Project Profile

Fiber Optic Connection

The San José-Santa Clara Regional Wastewater Facility (RWF) uses a microwave dish as the primary access to the City network. The dish was installed June 2012 and is capable of connection speeds up to one (1) gigabit per second. The connection is subject to environmental interference, such as weather, resulting in frequent interruptions to network access.

The project scope includes (1) proving and cleaning two existing conduits, (2) installing two new conduits, (3) pulling approximately 3,500 feet of fiber optic cable through the conduits, and (4) connecting the City fiber optic network to the RWF fiber optic network. Existing conduits will be utilized to install most of the fiber optic cable, resulting in significant cost savings (see Figure 3). Installation of the new fiber optic cable will result in a faster, more reliable, and direct connection to the City network. Additionally, it will increase capacity for future needs. After completion of the project, the microwave dish will serve as the Facility's backup/failover network connection.

This project was advertised on BidSync on July 8, 2015 and two bids were received. All Phase Excavating and Construction Incorporated, of Redding, CA, submitted the low bid in the amount of \$240,000. The project is anticipated to be awarded by City Council on October 20, 2015.

Project Budget: \$568,000



Figure 2 — Fiber Optic Patch Panel at TPS Operations Building



Figure 3 — Project Site Overview

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Regional Wastewater Facility Treatment – Current Treatment Process Flow Diagram

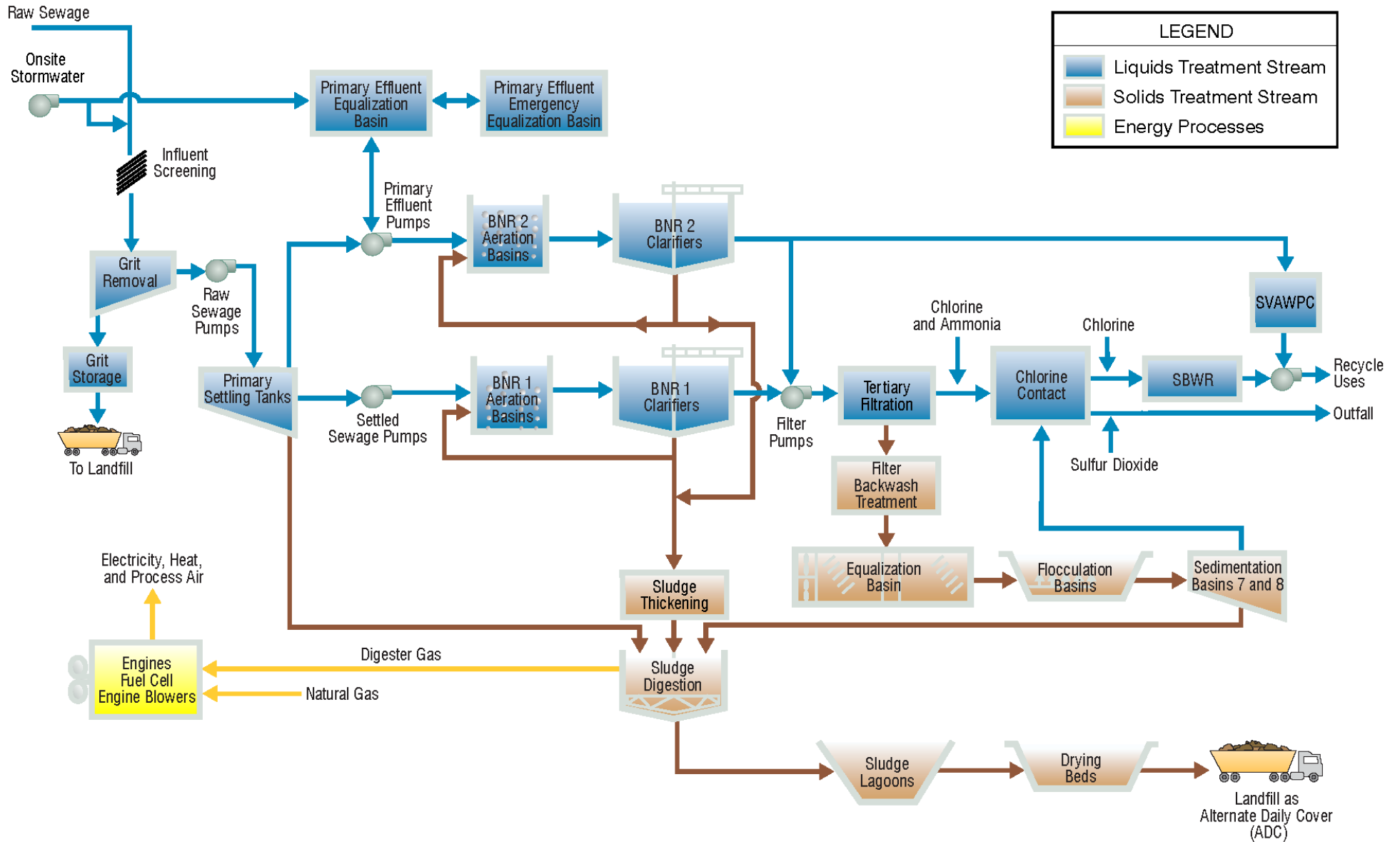


Figure 4 — Current Treatment Process Flow Diagram



Regional Wastewater Facility Treatment – Proposed Treatment Process Flow Diagram

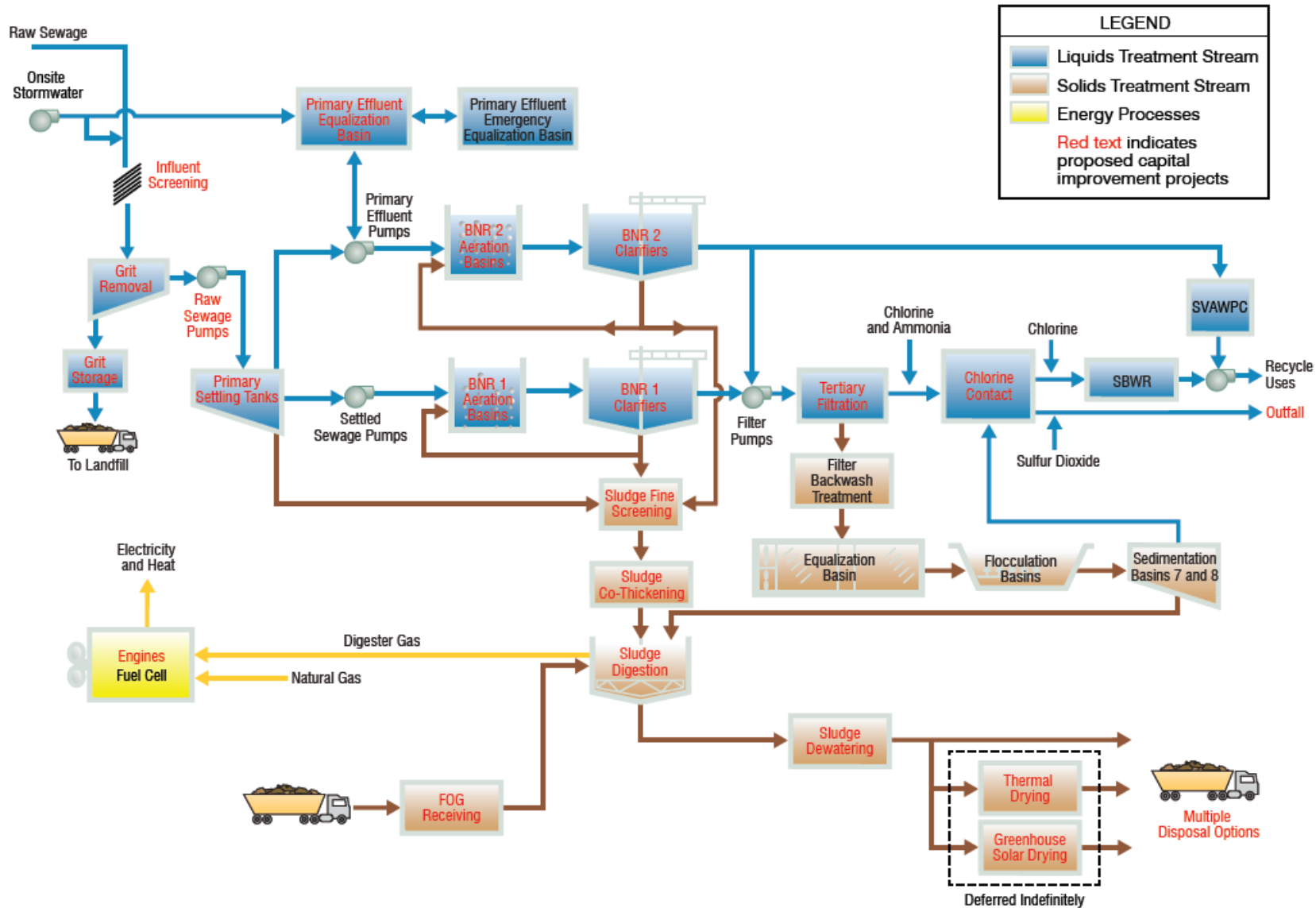


Figure 5 — Proposed Treatment Process Flow Diagram



Active Construction Projects – Aerial Plan

1. A5 A6 Nitrification Mag. Meter & Valve Replacement
2. Digester Gas Storage Replacement
3. Handrail Replacement Phase V
4. Digester Gas Compressor Upgrade
5. Emergency Diesel Generators

Projects (Not Shown)

- DCS Upgrade/Replacement (Facility-wide)
- Pond A18 Northern Gate Structure Repl. (Outside of map extent)

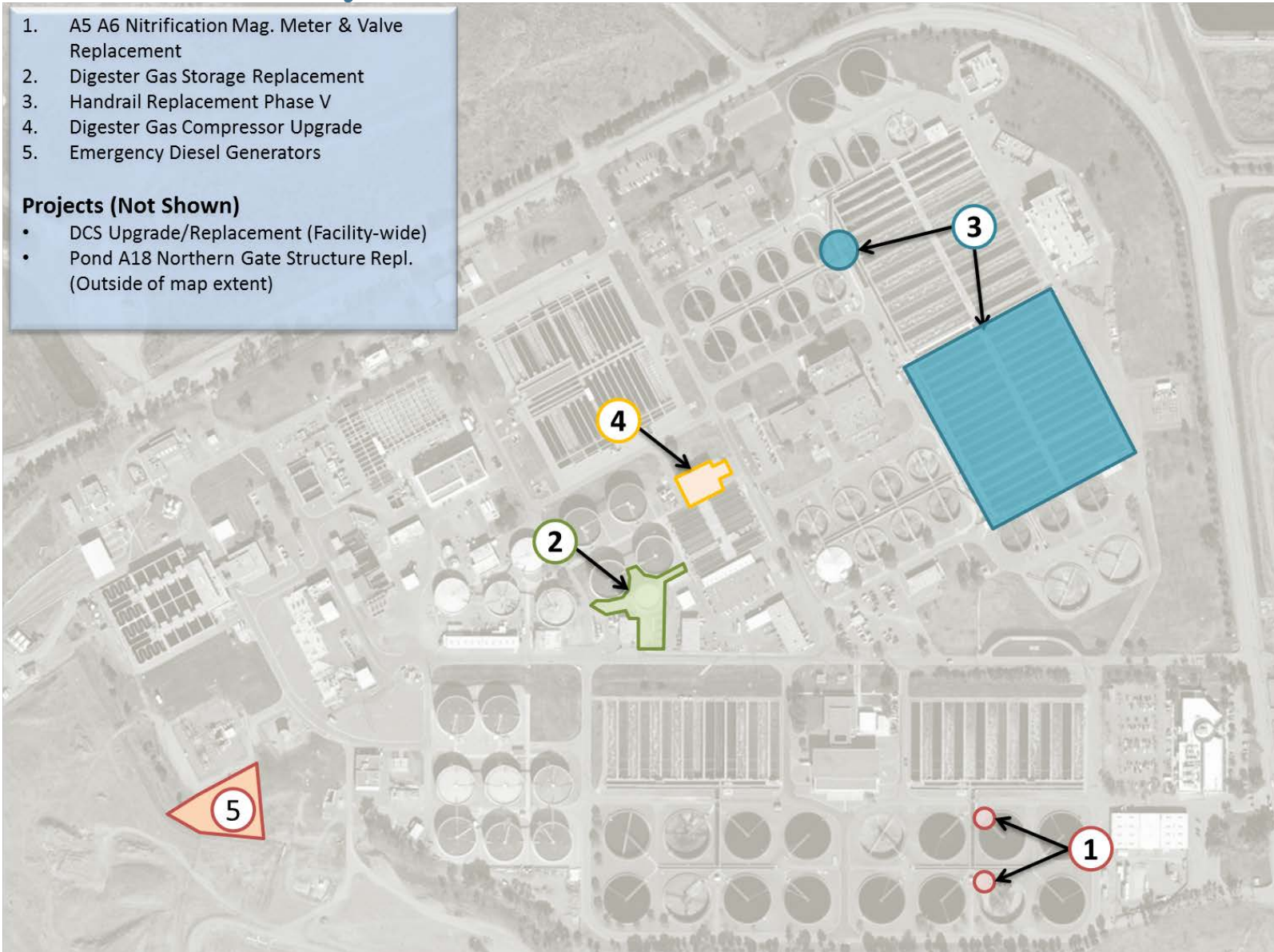


Figure 6—Active Construction Projects