

Monthly Operating Report

Veolia Richmond CPM, WPCP and Collection System

April 2019

Executive Summary

- In mid-February, at least in part triggered by over wasting (removal of activated sludge from the from the treatment plant's aeration system), the plant processes became upset. The biological process did not function in its usually robust, compliant and effective manner. As a result, certain parameters (biochemical oxygen demand (BOD) and total suspended solids (TSS) exceeded NPDES permit limits in April as noted in Table 1 immediately below. All necessary reports were submitted to the State. An investigation ensued and corrective and mitigation measures were implemented in effort to resolve the process upset. As of April 20 the process recovered and the plant returned to compliance. It is understood based on a similar event late last year the plant's biology (activated sludge) was reduced below a critical level and as a result could not effectively treat sewage, settle properly or recover quickly. Staff used chemical, polymer addition and made several operational changes to hasten the process recovery.

Table 1

| April - 2019 EFF-002 Conditions of Non-Compliance | | | | |
|---|-------------|--------------|-------------|--------------|
| Parameter | Type | Limit | Date | Value |
| Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C) Effl. Weekly | Max | 45 | 4/6/2019 | 56 |
| Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C) Effl. Weekly | Max | 45 | 4/13/2019 | 70 |
| Total Suspended Solids (TSS) Effl. Weekly Average mg/L | Max | 45 | 4/13/2019 | 69 |
| Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C) Effl. Weekly | Max | 45 | 4/20/2019 | 58 |
| Total Suspended Solids (TSS) Effl. Weekly Average mg/L | Max | 45 | 4/20/2019 | 50 |
| Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C) Effl. Monthly | Max | 30 | 4/30/2019 | 54 |
| Total Suspended Solids (TSS) Effl. Monthly Average mg/L | Max | 30 | 4/30/2019 | 43 |
| BOD5 @ 20 Deg. C, Percent Removal Effl. Monthly Minimum % | Min | 85 | 4/30/2019 | 83 |

- The monthly acute aquatic bioassay test passed with 100% survival of the test organisms.

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- Planning and preparations (proposals, air permitting and technical design documents) are underway for several major construction projects planned for the treatment plant in 2019. Those include the new grit-headworks system, aeration system upgrades and electrical cogeneration system among others. A meeting is scheduled with the Air District for 5/14.

Wastewater Treatment Plant

- There was single odor complaint in April called in on the 22nd. The address was 226 E Scenic Ave in Point Richmond. Staff investigated and detected a low level of odor and very low H2S levels (2 ppb).
- On April 25, the Point Richmond Neighborhood Council Board President visited the treatment plant and staff provided him a tour of the facilities
- There were no blending events in April

| Table 2 | Parameter | Monthly Performance Indicators | Limit/Target |
|------------------------------------|---|--------------------------------|--------------|
| Treatment Plant Operations: | | | |
| | Influent Flow, daily average (MGD) | 5.87 | N/A |
| | Effluent Flow, daily average (MGD) | 6.47 | N/A |
| | Influent BOD ₅ , avg. mg/L | 333 | N/A |
| | Influent TSS, avg. mg/L | 352 | N/A |
| | Effluent TSS, monthly average mg/L | 43 | 30 or less |
| | Effluent BOD, monthly average mg/L | 53 | 30 or less |
| | % BOD Removal | 83 | > 85 |
| | % TSS Removal | 87 | > 85 |
| | NPDES Effluent Limit Violations | 8 | 0 |
| | Blending events | 0 | 0 |
| | Total volume blended, MG | 0 | 0 |
| | Odor complaints | 1 | 0 |
| | Digested sludge pumped to drying beds, MG | 1.184 | N/A |
| | Leachate received, GAL | 457,925 | N/A |
| | Leachate received/treated YTD, MG | 1.761 | N/A |

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Maintenance

Asset Management Work Orders

Table 3

| Work Order Type | # Completed |
|---------------------------|-------------|
| Storm Water Pump Stations | 80 |
| Sewer Pump/Lift Stations | 85 |
| Treatment Plant | 101 |
| Corrective | 40 |
| Total | 306 |

Completed Projects - April

- Installed new semi-portable prominent polymer activation/feed system in secondary process.
- Replaced SBS pump #2 in Chemical Contact Pump room.
- Rebuilt boiler recirculation pump #213 and returned to service.
- Completed upgrading the potable water system motor control redundancy system.
- Removed and replaced primary clarifier check-valve.
- Overhaul primary clarifier sludge pump #1 and return to service.

Look Ahead; May - June 2019

- Complete the 23rd Street Storm Water Pump Station Motor Control Panel Project
- Replace RAS Electromagnetic Flow meter.
- Complete 1st bi-annual 2019 Dystor Cover inspection on both digesters. (scheduled for 5-20-2019)
- Install new burner on Hurst Boiler #1, upgrade PG&E meter & gas pressure system. (in process 5-8-2019)
- Relocate both air compressors to new functional location at plant facility.
- Complete removal of materials stored in old digester heater and control building in advance of demolition

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- Evaluate and cost out adding timers and/or VFDs to large Vaughn chopper digester mixing pumps to test for improved digester mixing and enhanced gas production

Collection System Monthly Report**Sanitary Sewer System Highlights**

Project is currently in second year of cycle for sanitary sewer pipe cleaning (2018-2021).

During the month of April-2019, there were (0) sanitary sewer overflow events. Year-to-Date Wet-weather/Dry-weather YTD SSO totals are as follows:

- Wet-weather (rain event) = 21-YTD
- Dry-weather (non-rain event) SSOs = 0-YTD
- Total SSO's = 21-YTD

Relative to Baykeeper and Contractual CCTV condition assessment production:

1. Status Update of CCTV required by Baykeeper and for Updated 2019 RAA
 - a. (289) pipe segments requiring updated condition assessment (i.e. current condition assessment is less than 10-years old but based upon less than 70% of the pipe segment being CCTVd) are being scheduled within InfoNet to be completed by the RAA due date of 4/30/2019
 - b. (193) pipe segments completed as of 4/30/2019
 - c. (96) pipe segments remain to be completed by 6/7/2019
 - i. As of 5/10/2019 (34) pipe segments remain to be completed and it is estimated that the (34) pipe segments will be completed by 5/17/2019
2. Status of 10-year CCTV cycle production
 - a. Veolia is in the 10th year of a 10-year CCTV cycle. Cycle start date was January 1, 2010.
 - b. 2019 pipe segments currently reporting in InfoNet with CCTV condition assessments greater than 10-years
 - i. Total Pipe Segments = (939), approximately 38-miles or 21% of the total gravity system
 1. Note: due to InfoNet query application error, information in item 2.b.i was erroneously reported for March-2019 as being (249) pipe segments and 7% of the total gravity system
 2. Note: the (939) pipe segments requiring CCTV in 2019 also includes pipe segments (71) pipe segments CCTVd as part of the 2019 RAA CCTV project. Therefore, once InfoNet is updated with this information the count will be (868) pipe segments and 34.6-miles or 19% of the total gravity system
 - ii. Pipe Segments Due through April-2019 = (156)
 - iii. Pipe Segments Completed through April-2019 = (0)
 1. Baykeeper RAA CCTV deliverable due 4/30/2019 determined by Veolia to be priority focus of CCTV resources
 2. InfoNet to be updated by 6/14/2019 at which Total Pipe Segments of (803) shall be updated as many of the (289) pipe segments included in the 2019 RAA CCTV project have last date surveyed as 2009

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There were a total of (22) sanitary system calls; see Table 2 for Wastewater Collection System Performance Indicators and the Table-3 for Storm Water Collection System Activity Summary for performance indicators.

Sanitary Sewer Point Repair:

(0) Sanitary system repairs performed during the month

Storm Water System Highlights

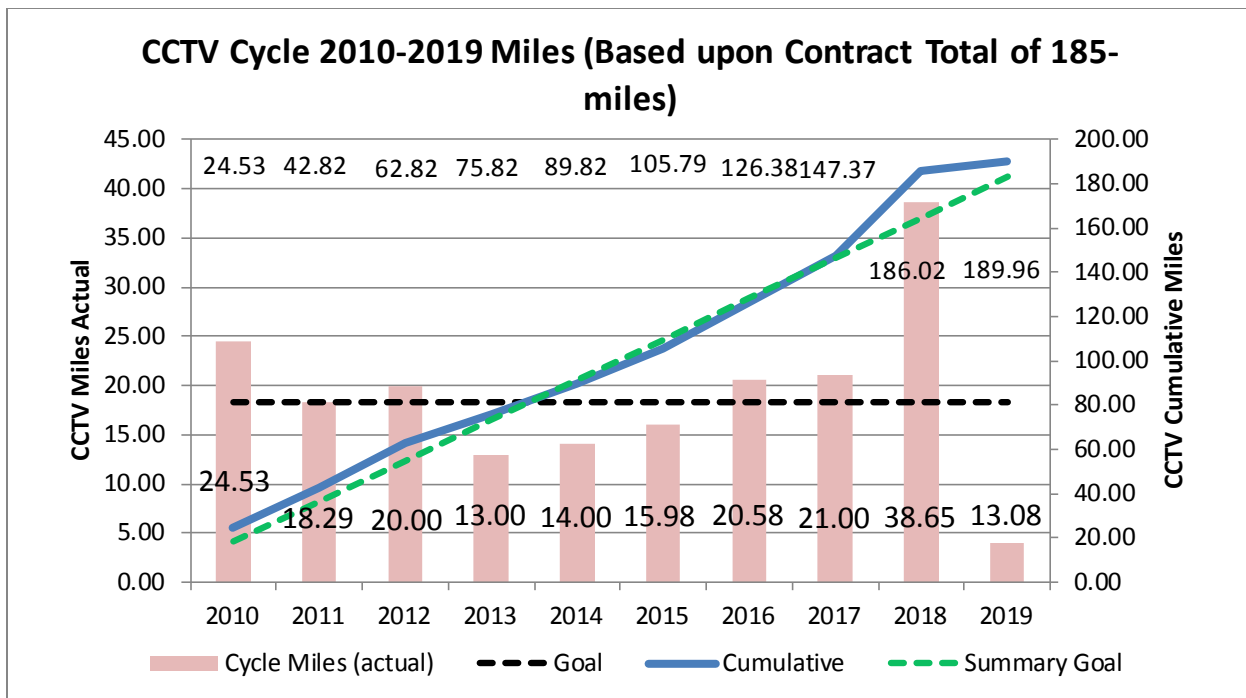
- Cleaned (10) Catch Basins
- Cleaned (0) V-ditches

Storm Water System Point Repairs

(0) Storm system repairs performed during the month

Collection Systems Monthly Performance Indicators

Veolia is in the 10th year of a 10-year CCTV cycle. Cycle start date was January 1, 2010. *



*Notes:

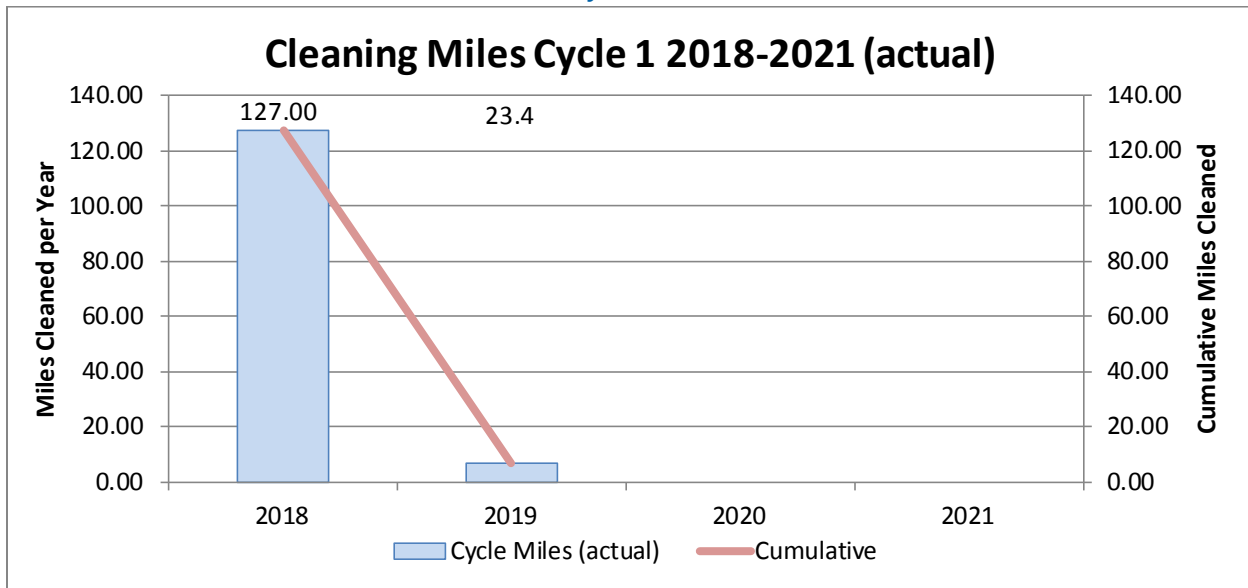
1) Goal mileage is based upon 18.5-miles/year to correspond with Contract Amendment #1 system mileage of 185-miles and recently reported City GIS mileage of 183-miles

2) CCTV work completed YTD represents work completed by Veolia and subcontractors and is considered preliminary until final review in May. The 13.08 miles reported is close to actual value. The bar graph for 2019 is not updating due to an error within the report template that will be corrected in next month's report.

Veolia is in the 1st year of a 4-year sewer cleaning cycle. Cycle start date was January 1, 2018.

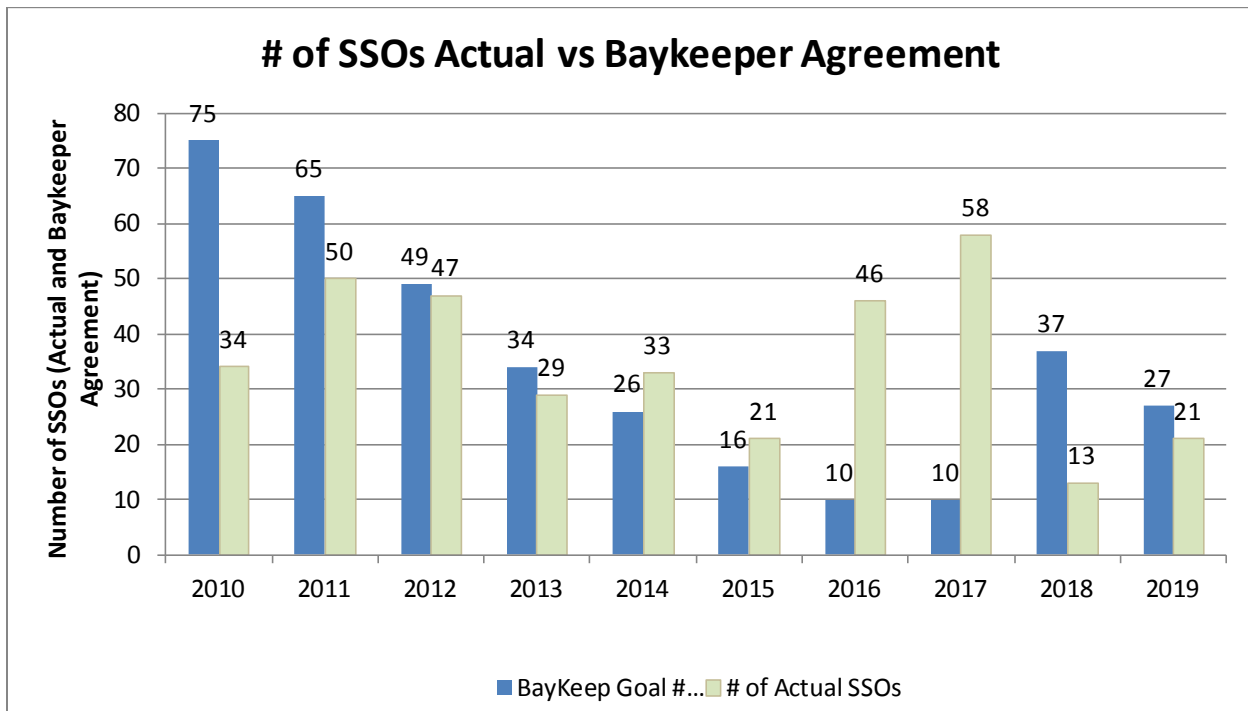
- 6.7-miles of target 45-miles/year completed
- Percentage of annual target miles completed = 14.8%
 - Percentage of year elapsed = 25%

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1) Cleaning work completed YTD is about 23.4 miles however the bar graph is not totalizing the correct values. The correction will be made to the report template for the May report.

SSO performance compliance with past and current 2018 Baykeeper Settlement Agreement



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Sanitary System Performance Indicators

Table 2

| Performance Indicator | Monthly Actual | Target/Limit |
|--|-----------------|--|
| Service Calls (Public Facilities/Assets) | 22 | N/A |
| Service Call Response Time (minutes) | <30 | <30 |
| Private Lateral Service Calls; Regular/After Hours | 0 | N/A |
| Regular/OT Hours Spent on Private Lateral Calls | 0 | N/A |
| Point Repairs Completed | 0 | N/A |
| Manhole Inspections | 0 | N/A |
| Manhole Repairs | 0 | N/A |
| CCTV (Closed Circuit TV) (ft.) | 19,161 | 7,000 |
| GPS Surveys | 0 | As needed |
| Cleaning (ft.) | 32,432 | 20,130 |
| Cleaning QA/QC Events | 0 | 8 |
| SSOs for current month – Mainline | 0 | 3.1/Mth |
| Total Mainline SSO Volume (gallons) | 0 | 0 |
| Total Mainline SSO Volume Recovered (gallons) | 0 | 100% |
| % Mainline SSO Volume Recovered | 0% | 100% |
| # SSOs – Wet Weather (localized capacity issue) | 0 | 0 |
| # SSOs – Engineered Overflow Structure | 0 | 0 |
| Total SSO Volume from Engineered Overflow Structure | 0 | N/A |
| SSOs – Private Laterals | 0 | N/A |
| General Maintenance | 0 | N/A |
| Potential SSOs Eliminated due to Smart Cover Monitors | 0 | N/A |
| SSOs – Mainline – Resulting in Property Damage | 0 | 0 |
| Total Wet Weather SSOs Year to Date | 21 | 27 Combined Wet Weather/Dry Weather Annual - Baykeeper |
| Total Dry Weather SSOs Year to Date | 0 | |
| Number and Percentage of SSOs During 2019 with Discharge Reaching Storm Water Conveyance | 21 of 21 = 100% | N/A |

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Storm Water System Performance Indicators

Table 3

| Performance Indicator | Monthly Actual | Target/Limit |
|---|--------------------------|--------------|
| Storm Point Repairs | 0 | N/A |
| Storm Manhole Repairs | 0 | N/A |
| Storm Manhole Inspections | 0 | N/A |
| Storm Service Calls | 7 | N/A |
| Storm CCTV (ft) | 3-segments (300- ft.) | N/A |
| Storm GPS Surveys | 0 | N/A |
| Storm Pipe Cleaning (ft) | 1754 | N/A |
| Storm General Maintenance Cleaning (Linear feet of V-Ditches, Culverts or Creeks) | 0-segments (0-LF) | N/A |
| Pump Stations/Inlet/Outlet Channels Cleaned | 0 | N/A |
| Catch Basins/Inlets/Storm Drains Cleaned | 10 | N/A |
| Storm Vaults Cleaned/Inspected | 0 | N/A |
| GSRD (trash capture device) Cleaning/Inspections | 2 | 4/year |
| Flap Gate/Duck Bill Inspections | 0 | 4/year |

CAPITAL IMPROVEMENT PROGRAM

2019 Risk Model Update and Risk Assessment Analysis (RAA). *V.W. Housen & Associates (VWHA)*

- Provided an updated RAA Report that addressed comments and questions received from SF Baykeeper.
- Veolia Capital Program Management (CPM) has started vetting Year One priority line segments listed in the 2019 RAA and will be establishing a Year 2 Sewer Repair list.

Baykeeper (BK) Sewer Pipe Rehabilitation – Year I & II. *Bay Hawk and W.R. Forde (Year I)*

- Bay Hawk completed two point repairs in April – one at Harbor Way and Barrett, one at 3400 MacDonald Avenue.
- Year I of this project is approximately 97% complete as of April 2019. The BART point repair portion of the project is scheduled for completion in May.

Cutting/Carlson & Hoffman Boulevard Projects. *V. W. Housen & Associates (VWHA).* *These projects replace pipelines which have NASSCO Pipeline Assessment Certification Program (PACP) Structural Grade 4 and 5 level defects in the sewer sheds that flow to Cutting Boulevard. The intention is the reduction of inflow and infiltration which will reduce the need to upsize the*

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Cutting Boulevard interceptor, thereby reducing overall cost and construction impact to the City. Construction W.R. Forde, \$7,674,491 for both projects.

- Approximately 23,260 LF has been installed through April 2019.
- The Contractor had three crews working in April.
- Post CCTV, manhole testing and final paving has begun.

MacDonald and Virginia Project. *V. W. Housen & Associates. These projects replace pipelines which have NASSCO Pipeline Assessment Certification Program (PACP) Structural Grade 4 and 5 level defects in the vicinity of MacDonald and Virginia. The intention is the reduction of inflow and infiltration which will reduce the need to upsize the Cutting Boulevard interceptor, thereby reducing overall cost and construction impact to the City.*

- 90 percent design review meeting was held early February.
- Bid ready documents were provided on April 30.
- Bidding through the City's BidsOnline process scheduled for late May 2019 timeframe with construction to begin in the fall of 2019. Baykeeper construction deadline is June 30, 2021.

Manhole Rehabilitation Project FY18/19. *Bay Hawk. In-house design continued to replace manholes within the City's collection system.*

- Bay Hawk installed one new manhole and rehabbed one manhole in April.
- City budget for this effort was reduced to \$250K for this fiscal year, which will also be the annual amount moving forward.
- Project is approximately 33% complete as of April 2019.

Sewer Master Plan Update. *V.W. Housen & Associates. The purpose of this project is to update the City's wastewater collection system hydraulic model to a full-pipe model. This effort includes system-wide flow monitoring during the 2017-18 wet weather season; update the City's Risk Management Model to reflect current CCTV inspection and O&M data; develop recommendations to address pipeline capacity issues and rehabilitation and replacement (R&R) needs; develop an updated Capital Improvement Program (CIP) that builds upon the existing CIP; develop an updated Master Plan report that incorporates the work described above. Project is 50% complete.*

- Flow monitors were installed on November 30, 2018; flow monitoring continued through March 31, 2019. Data was received on April 29th
- Parcel flows have been assigned to modeled manholes, and dry weather calibration has been completed. The basis for dry weather flow calibration is data collected through early February 2019. Wet weather calibration is in process.
- An updated capacity plan will be developed by July 15, 2019 as required by SF Baykeeper.

Trash Capture Device Meeker Ditch Installation Project. *Harris & Associates/Contech Engineering. In March 2017, CalTrans and the City of Richmond entered into a Cooperative Implementation Agreement (CIA) for improvement to the State Highway System as a watershed stakeholder with the City's jurisdiction. Pursuant to Attachment IV of the CalTrans NPDES Permit, CalTrans and the City of Richmond are to collaboratively implement the Water Capture Facility, hereinafter referred to as a Trash Capture Project.*

- Traffic control is in place.
- Potholing has been performed to identify and confirm if there are any existing conflicts.
- WR Forde and the City are waiting on resolution of a conflict re boring not being shown with a Comcast Fiber Optic Facility

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WWTP High Priority Projects. *Engineers: Carollo Engineers; This project is a result of the WWTP Critical Improvements Project Design. The purpose of this project is to replace aging infrastructure and to improve treatment reliability and operating efficiency. Secondary Clarifiers Construction is 100% complete. Grit/Aeration/Blower Building design is going through Carollo's internal QA/QC check before getting released for bidding purposes.*

- As-Needed SRF Application Assistance
 - Attended regular SRF conference calls and provided updates on the status of the application review.
 - Conducted SRF calls with Veolia and the State on as-needed basis.
- WWTP Critical Improvements – Bid Documents
 - Continued preparation of bid documents.
 - Submitted Revised Engineer's Construction Cost Estimate for original project based on comments from Dave Ewing.
 - Began preparation of the solids demolition design and incorporated in bid documents.
 - Began hazardous materials survey. Conducted initial site visit to establish scope of survey.
- ESDC - Secondary Clarifier
 - Continued preparation of record drawings.
- Cogeneration CEQA Environmental Analysis
 - Began CEQA Environmental Analysis for the cogeneration project.