

Monthly Operating Report

Veolia Richmond CPM, WPCP and Collection System

July 2019

Executive Summary

- 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 SCADA upgrades, the new grit-headworks system, aeration system upgrades and electrical cogeneration system among others.
- Task authorizations have been executed to relocate the treatment plant air compressors and begin the design stage of the electrical cogeneration system. The Electrical Cogeneration project includes a demolition component of several old buildings and tanks near the plant's administrative offices.

Wastewater Treatment Plant

- The monthly acute aquatic bioassay test passed with 100% survival of the test organisms.
- There were no violations of the treatment plant NPDES permit during the period
- There were no blending events in June
- A single odor complaint was called in on July 24 from a motorist driving by the treatment plant. The complaint was investigated and no findings were made as to unusual operating conditions or issues that could have caused the odor noted.

Table 2	Parameter	Monthly Performance Indicators	Limit/Target
Treatment Plant Operations:			
	Influent Flow, daily average (MGD)	5.00	N/A

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Effluent Flow, daily average (MGD)	5.15	N/A
Influent BOD ₅ , avg. mg/L	364	N/A
Influent TSS, avg. mg/L	350	N/A
Effluent TSS, monthly average mg/L	16	30 or less
Effluent BOD, monthly average mg/L	18	30 or less
% BOD Removal	94.7	> 85
% TSS Removal	95.4	> 85
NPDES Effluent Limit Violations	0	0
Blending events	0	0
Total volume blended, MG	0	0
Odor complaints	1	0
Digested sludge pumped to drying beds, MG	1.74	N/A
Leachate received, GAL	527,501	N/A
Leachate received/treated YTD, MG	3.081	N/A

Maintenance

Asset Management Work Orders

Table 3

Work Order Type	# Completed
Storm Water Pump Stations	101
Sewer Pump/Lift Stations	73
Treatment Plant	99
Corrective	36
Total	309

Completed Projects - June

- Replaced generator ATS at the I.C.I Sewer Sanitary Lift Station

Look Ahead; July - August 2019

- Complete the 23rd Street Storm Water Pump Station Motor Control Panel Project.
- Relocate both air compressors to new functional location at plant facility.
- Rebuild back-up bar-screen carrier unit.

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- Replace aerator 1C rotor assembly.

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

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

- Wet-weather (rain event) = 22-YTD
- Dry-weather (non-rain event) SSOs = 1-YTD
- Total SSO's = 23-YTD

O&M Service Agreement/Baykeeper Settlement Agreement CCTV and Cleaning deliverables are as follows:

1. Contract 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. Total Number of system pipe segments under contract to CCTV = (3638) or 182.6-miles
 - i. Force-main pipe segments exempt from 10-year CCTV = (31)
 - ii. Keller Beach pipe segments exempt from 10-year CCTV = (17)
 - iii. Total gravity pipe segments in system contracted for CCTV = (3590)
 1. Minimum total pipe segments to CCTV in 2019 to achieve 10% of system = (359) and at least 18.3-miles
 2. Number of pipe segments to CCTV by 12/31/2019 = (491)
 - a. (125) pipe segments CCTV cannot be completed until pipe Spot Repairs are approved and completed
 3. Number of pipe segments to CCTV by 10/31/2019 in preparation to develop 2020 RAA = (440)
 - a. (5) pipe segments CCTV cannot be completed until pipe Spot Repairs are approved and completed
 - c. General production rates of pipe segments CCTV Planned vs. Completed year-to-date in 2019
 - i. Pipe segments CCTV Planned 1/1/2019-7/31/2019 = (320)
 - ii. Pipe segments CCTV Completed 1/1/2019-7/31/2019 = (612)
 1. Increase in Planned vs. Completed due to requirement to implement increased frequency of CCTV for Grade 5 pipe segments
 - iii. Percentage pipe segments in system CCTV'd as of 7/31/2019 = 17.0% as pipe segments and 14.4% as miles
2. Contract Status of 4-year Cleaning production
 - a. Veolia is in the 2nd year of a 4-year cleaning cycle. Cycle start date was January 1, 2018
 - b. Total Number of pipe segments under contract to clean = (3638) or 182.6-miles
 - i. Force-main pipe segments exempt from 4-year cleaning = (31)
 - ii. Keller Beach pipe segments exempt from 4-year cleaning = (17)
 - iii. Total gravity pipe segments in system contracted for cleaning = (3590)
 1. Minimum total pipe segments to clean in 2019 to achieve 25% of system = (898) and at least 45.8-miles

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2. Number of pipe segments cleaned as of 7/31/2019 = (909)
- c. General production rates of pipe segments cleaned Planned vs. Completed year-to-date 2019
 - i. Pipe Segments cleaned Planned 1/1/2019-7/31/2019 = (484) (as part of scheduled cleaning)
 - ii. Pipe segments cleaned Completed 1/1/2019-7/31/2019 = (913) (includes pre-cleaning performed prior to CCTV work)
 - iii. Percentage of pipe segments in system cleaned as of 7/31/2019 = 42.4% as pipe segments and 26.4% as miles
- d. Hot Spots
 - i. Pipe segments planned for 2019 = (103)
 - ii. Pipe segments completed for 2019 = (354)
 1. (Increase in pipe segments completed due to change in 3/31/2019 update to Hot Spot List which increased Hot Spot pipe segments from (76) pipe segments to (911) pipe segments
3. 12-month (August-2019 through July-2020) planning horizon for Baykeeper deliverables
 - a. 12/31/2019 – Achieve SSO Performance Goal of (27) or less SSO's for 2019
 - i. Based upon 183-miles of system
 - ii. SSO's occurring during non-design rain events not included in (27) allowable count
 1. (13) SSO's in 2019 currently not included in YTD-2019 count of (23) SSO's
 - b. 1/15/2020 – 2020 Risk Assessment Analysis
 - i. Work in progress, CCTV records and InfoNet database files on schedule for 11/1/2019 delivery to engineering consultant contracted to develop 2020 RAA
 - ii. (125) pipe segments needing Spot Repairs before CCTV records can be updated to determine disposition of pipe segment risk prioritization within 2020 RAA
 - c. 3/31/2020 – 2020 Hot Spot List update
 - i. Draft to be submitted to City for review 2/28/2020
 - d. 3/31/2020 – 2020 SSO report on 2019 SSO activity
 - i. Veolia to provide finalized 2019 SSO information to City by 2/28/2020
 - e. 7/15/2020 – 2020 Root Control analysis report on 2019 Root Control activity
 - i. Draft to be submitted to City for review 6/15/2020
 - f. 7/31/2020 – SSO Reduction Plan
 - i. Required if 2019 SSO Performance Goal is greater than (27)

There were a total of (13) 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:

(3) Sanitary system repairs performed during the month

Storm Water System Highlights

- Cleaned (5) Catch Basins
- Cleaned (0) V-ditches

Storm Water System Point Repairs

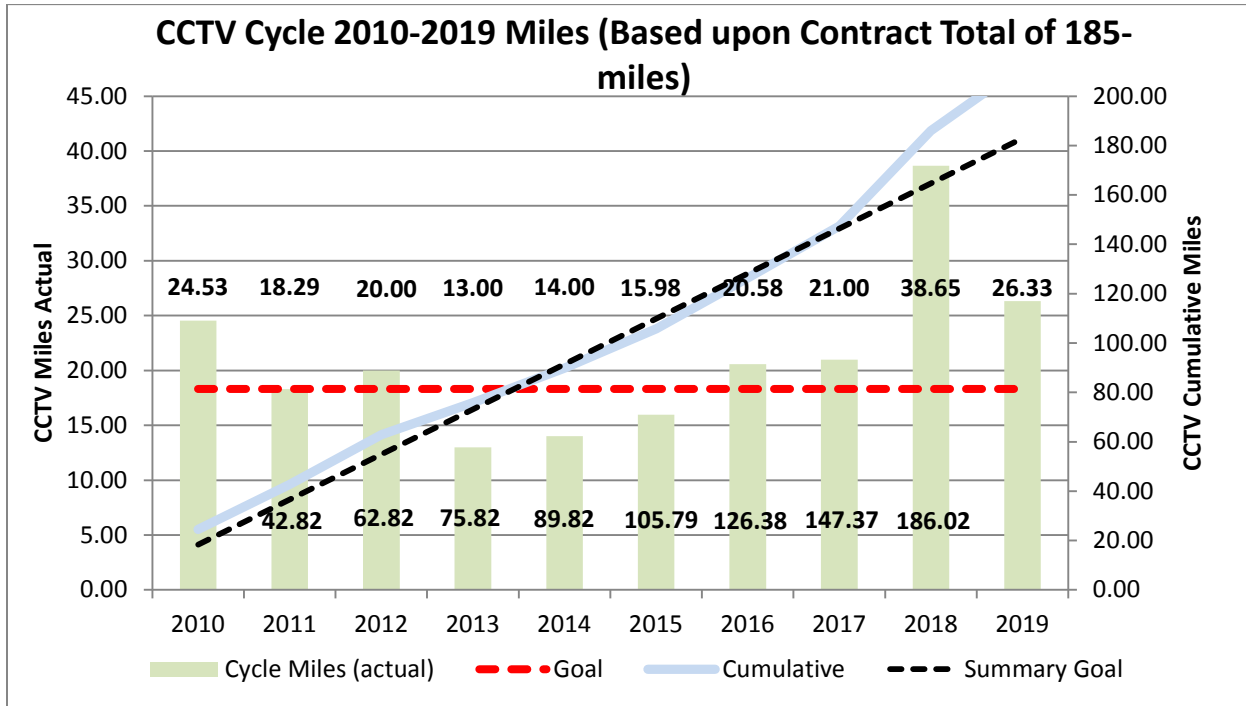
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(4) Storm system repairs performed during the month

Collection Systems Monthly Performance Indicators

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

- 26.3-miles of target 18.3-miles/year completed
- Percentage of annual target miles completed = 143.7

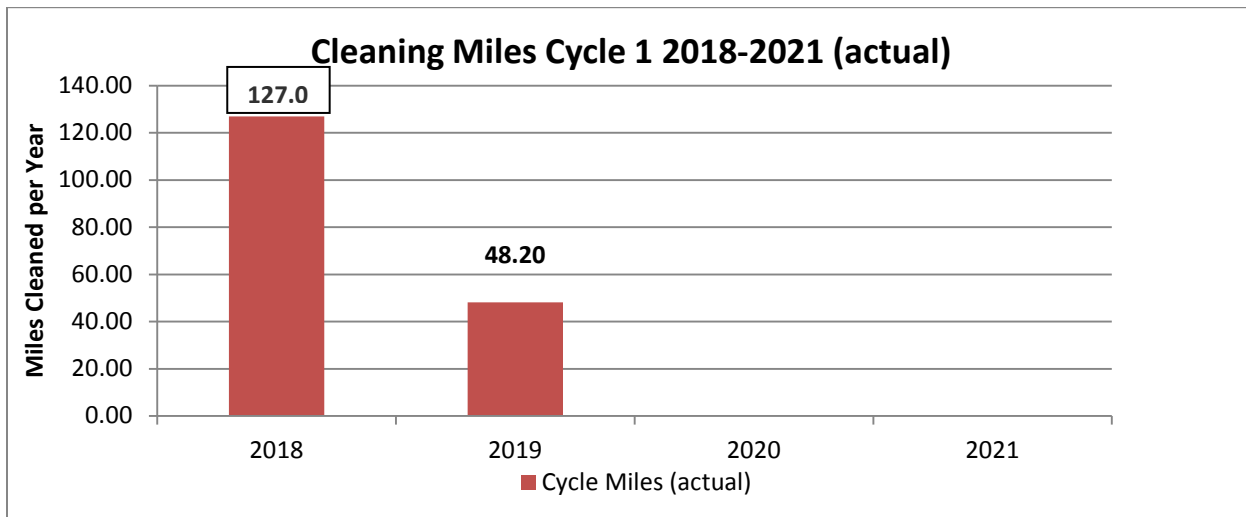


*Notes:

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 182.6-miles

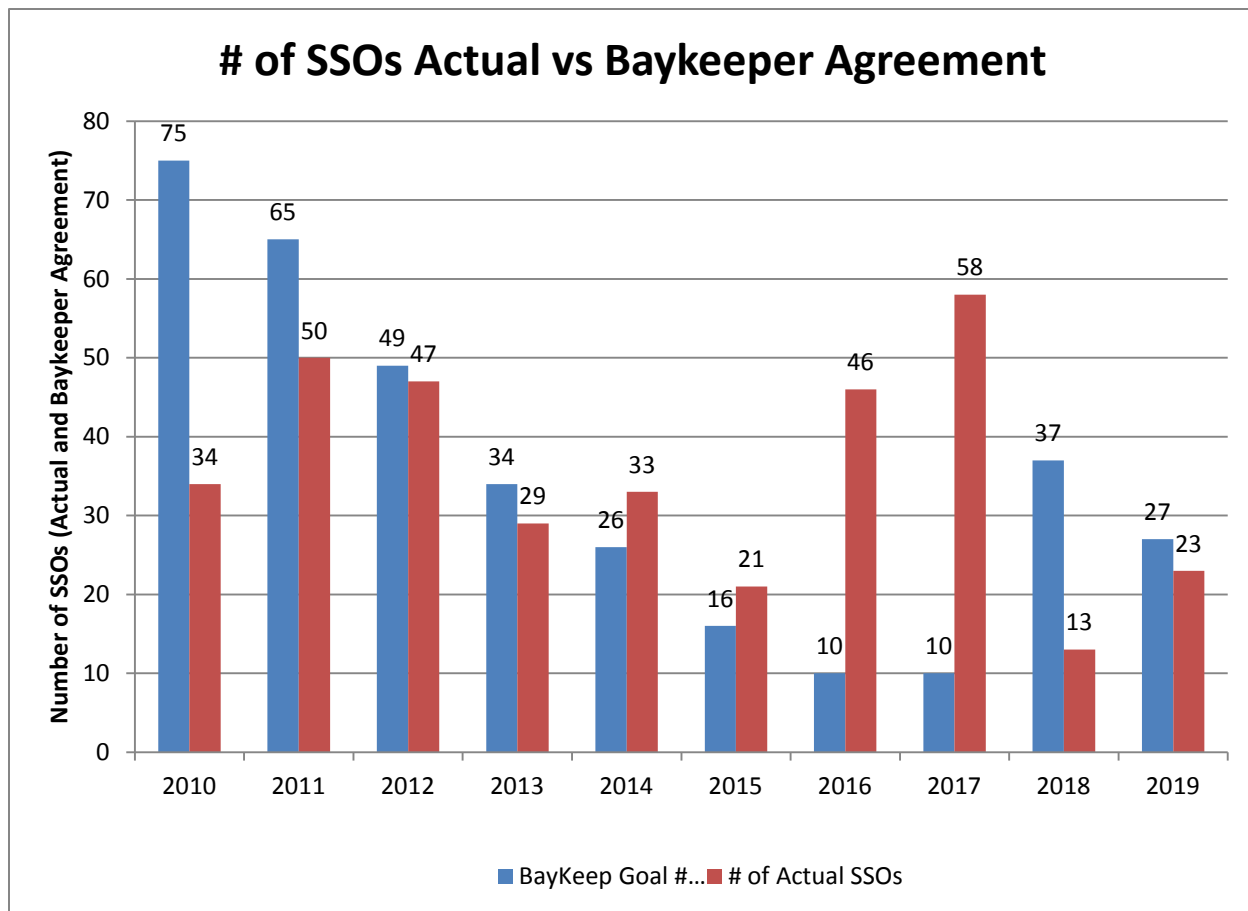
Veolia is in the 2nd year of a 4-year sewer cleaning cycle. Cycle start date was January 1, 2018.

- 48.2-miles of target 46-miles/year completed
- Percentage of annual target miles completed = 104.7



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SSO performance compliance with past and current 2018 Baykeeper Settlement Agreement



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*Richmond CPM, WPCP and Collection System***Sanitary System Performance Indicators****Table 2**

Performance Indicator	Monthly Actual	Target/Limit
Service Calls (Public Facilities/Assets)	13	N/A
Service Call Response Time (minutes)	<30	<30
Private Lateral Service Calls; Regular/After Hours	3/0	N/A
Regular/OT Hours Spent on Private Lateral Calls	6/0	N/A
Point Repairs Completed	3	N/A
Manhole Inspections	0	N/A
Manhole Repairs	0	N/A
CCTV (Closed Circuit TV) (ft.)	38,511	7,000
GPS Surveys	0	As needed
Cleaning (ft.)	67,347	20,130
Cleaning QA/QC Events	8	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)	22	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	22	27 Combined Wet Weather/Dry Weather Annual - Baykeeper
Total Dry Weather SSOs Year to Date	1	
Number and Percentage of SSOs During 2019 with Discharge Reaching Storm Water Conveyance	23 of 23 = 100%	N/A

*Richmond CPM, WPCP and Collection System***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	2	N/A
Storm CCTV (ft)	1-segments (560- ft.)	N/A
Storm GPS Surveys	0	N/A
Storm Pipe Cleaning (ft)	0	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	2	N/A
Catch Basins/Inlets/Storm Drains Cleaned	5	N/A
Storm Vaults Cleaned/Inspected	0	N/A
GSRD (trash capture device) Cleaning/Inspections	0	4/year
Flap Gate/Duck Bill Inspections	0	4/year

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

- Year 1 of this project is 100% complete as of May 2019.
- Year 2 – Repairs based on 2019 RAA in development. First Rehabilitation and Replacement (R&R) RFP package for City Paving Conflicts will be prioritized to go out first.

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 Cutting Boulevard interceptor, thereby reducing overall cost and construction impact to the City. Construction W.R. Forde, \$8,005,610 for both projects.*

- The Contractor had one crew working periodically in July.
- Post CCTV is complete; final paving and striping continued in July.
- Approximately 1,500 linear feet of easement remains; on hold until the City resolves easement with the County. Pending resolution with the City's legal department.

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- Task authorizations for Change Orders 4 and 5 were approved in July; work to be completed in August/early September. The total contract value is now \$8,005,610.

Emergency Repair at Valley View. *Bay Hawk/NCE. A significant sinkhole was detected by the City of Richmond in the area near 4807 Valley View Road in the City of Richmond. Emergency repair was required for the 60-inch CMP storm drain. Since this repair required an emergency response, the City, per Engineering Projects Director Yader Bermudez, has determined that competitive bidding is not required. The City contacted Bay Hawk, Inc. and Veolia to set the repair in motion.*

- Short-term repairs are complete. Bay Hawk hand excavated and removed debris out of the storm drain that runs from the manhole in the street at 4807 Valley View, and patched the deteriorated portions of the pipe.
- The City contacted Nichols Consulting Engineers (NCE) who provided engineering consulting services. NCE has begun providing hydraulic analysis, investigations of voids outside the pipe, and evaluation of environmental concerns.
- The City has contacted regulatory agencies regarding permitting requirements.

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.*

- The low bidder for the project was W.R. Forde & Associates; Notice of Award has been prepared.
- Council approved the project on July 23, 2019.
- Construction is anticipated to begin in the fall of 2019 and complete January 2, 2021.
- The 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 seven new manholes in July.
- 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 61% complete as of July 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 70% complete.*

- Flow monitors were installed on November 30, 2018; flow monitoring continued through March 31, 2019. VWHA received data on April 29th
- The hydraulic model was updated and results summarized in a SECAP report that was submitted to SF Baykeeper by July 15, 2019, as required. Baykeeper is reviewing the submittal and has 45 days to provide comments.

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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.*

- Completed the shoring and excavation; Forde received and placed the precast structure elements including the diversion boxes.
- Two swirl chambers, fiberglass inlets and weir vaults were installed, concrete pour of weir walls underway third week of July.
- Mass backfill and grading were completed.

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.*

- WWTP Critical Improvements – Bid Documents
 - Continued preparation of bid documents.
 - Developed alternative for reducing the cost of the new electrical building (i.e., by utilizing the 15 kV Switchgear Building).
 - Prepared and submitted testing results from hazardous materials survey. Began preparation of hazardous materials survey report.
- ESDC - Secondary Clarifier
 - Continued preparation of record drawings.
- Cogeneration CEQA Environmental Analysis
 - Submitted Draft CEQA Addendum for Cogeneration Project for Veolia/City review.