

Monthly Operating Report

Richmond WWTP and Collection System

March, 2018

Executive Summary

- There were no permit violations in the month of March 2018
- The monthly acute aquatic bioassay test passed with 100% survival of the test organisms
- Mobilization for the 2018 treatment plant construction projects, which include rehabilitation of the two primary clarifiers, and two of the three secondary clarifiers is underway as of this writing
- Settlement Agreement with Baykeeper and associated support activities have are nearly finalized
- Veolia contract amendment scheduled to go to City Council for consideration in April
- Staff submitted application for Nation Association of Clean Water Agencies (NACWA) Gold Award for one year (2017) with no effluent or NPDES permit violations

Wastewater Treatment Plant

- There were 2 odor complaints during the month of March. The first was on March 8th from 235 East Scenic Drive, noting sewer odors. The 2nd complaint was from 27 Nicholl Avenue, Richmond, indicating odors around their property as well as on Canal Boulevard. Responding staff measured no elevated H₂S levels at any of the locations. Hydrogen peroxide dosing (to treat plant influent) was started immediately.
- There were two blending events in March. The first started on 3/1/18 at 1355 hours and finished on the 3/2/18 at 1035 hours; the total volume blended was 3.91 million gallons. The 2nd started on 3/21/18 at 0741 hours and finished at 3/22/18 at 2115 hours. The volume blended was 17.17 million gallons.
- Generally the plant is operating very well
- Staff is planning to remove process units from service that will be rehabilitated in 2018

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Table 1 Parameter	Monthly Performance Indicators	Limit/Target
Treatment Plant Operations:		
Influent Flow, daily average (MGD)	9.52	N/A
Effluent Flow, daily average (MGD)	9.47	N/A
Influent BOD ₅ , avg. mg/L	251	N/A
Influent TSS, avg. mg/L	242	N/A
Effluent TSS, monthly average mg/L	18.1	30 or less
Effluent BOD, monthly average mg/L	19.8	30 or less
% BOD Removal	91.7	> 85
% TSS Removal	91.7	> 85
NPDES Effluent Limit Violations	0	0
Blending events	2	0
Total volume blended, MG	21.08	0
Odor complaints	2	0
Digested sludge pumped to drying beds, MG	1.47	N/A
Leachate received, GAL	348,977	N/A
Leachate received YTD, MG	0.946	N/A

Maintenance

Staff completed 272 total maintenance work orders during the month; preventative; 79 at sewer lift stations, 75 for storm water pump stations and 98 work orders at the treatment plant. 20 corrective work orders were completed as part of the total.

Completed Projects; March 2018

- Remove DAF #2 rake arm skimmer & fabricate new support shaft and return to service.
- Remove & replace (6) 480V electrical service disconnects at RAS & DAF TWAS pump stations.
- Overhaul DAF #2 pressurization pump #2 and return to service.
- Completed the new Bay Alarm fire/burglar alarm system installation located in the facility administration & Heat Exchange building.
- Drained & completed inspection of Secondary Clarifier #3.

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Look Ahead; April-May 2018

- Remove existing above-ground fuel tanks from facility. (4-9-2018)
- Install new automated security gate(s) at plant facility.
- Install new Ferric Chloride Injection pump with SCADA control & alarm status.
- Overhaul RAS pump #6
- Overhaul Brick Yard Booster Lift Station Pump #2
- Refurbish Secondary Clarifier #2

Collection Systems

Sanitary Sewer System Highlights

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

During the month of March, there was (1) dry weather sanitary sewer overflow event.

- 570 8th St and Ripley Avenue; SSO discharged 220-gallons with 100% of SSO captured

Collection Department continued focus on video inspection review for rehabilitation priorities for lines with Grade 5 defects as part of Baykeeper requirements.

There were a total of (28) sanitary sewer service calls in March, (12) of which were private lateral issues (see table 2).

Sanitary Sewer Point Repair:

(6) Sanitary sewer repair performed during the month of March.

- 819 Florida Ave – Trench plate due to sinkhole
- 159 2nd St – Repaired broken pipe
- 901 35th St - installed backflow device
- 215 a 16th St – repaired broken pipe
- 4417 Potrero Ave - emergency repair of broken pipe

Storm Water System Highlights

There were (8) storm-water related service calls in March.

Cleaned (67) catch basins, inlets, drains and storage devices within the City of Richmond.

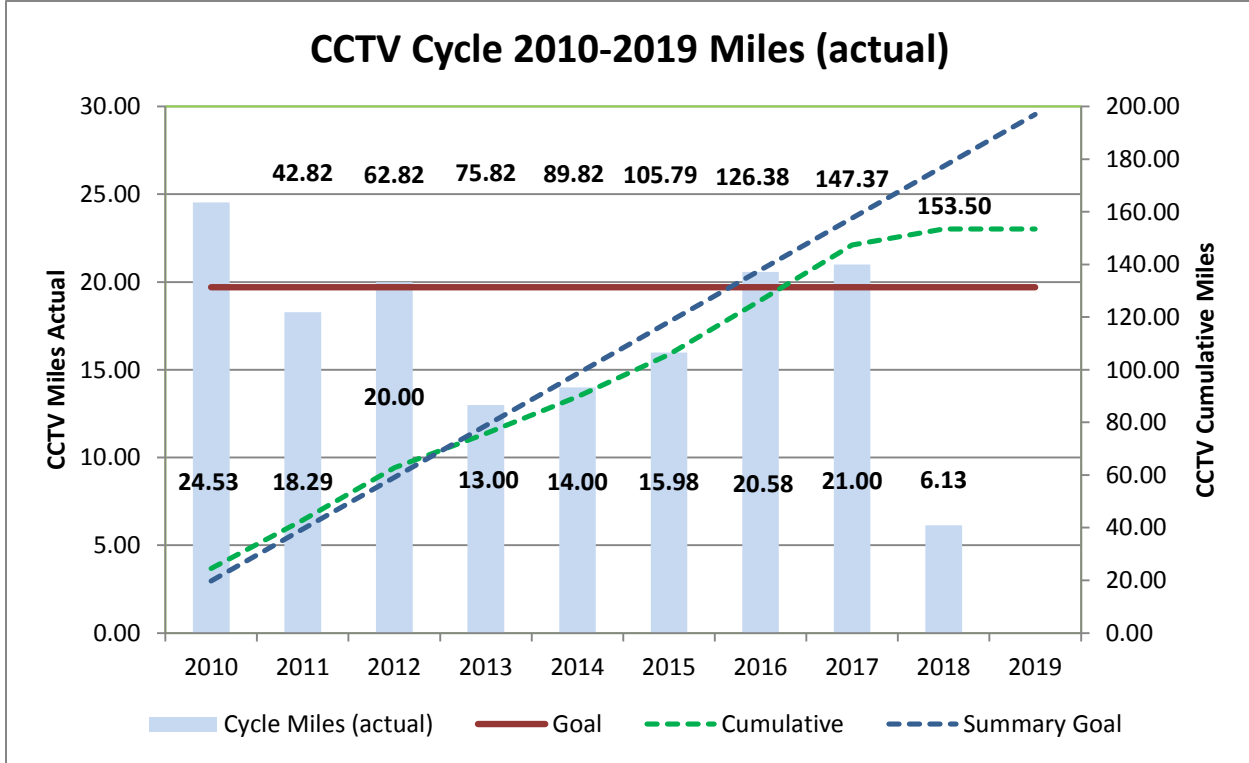
Storm Water System Point Repairs

- 2551 Moyers – plated drainage
- 33rd and Barrett – replaced frame and cover

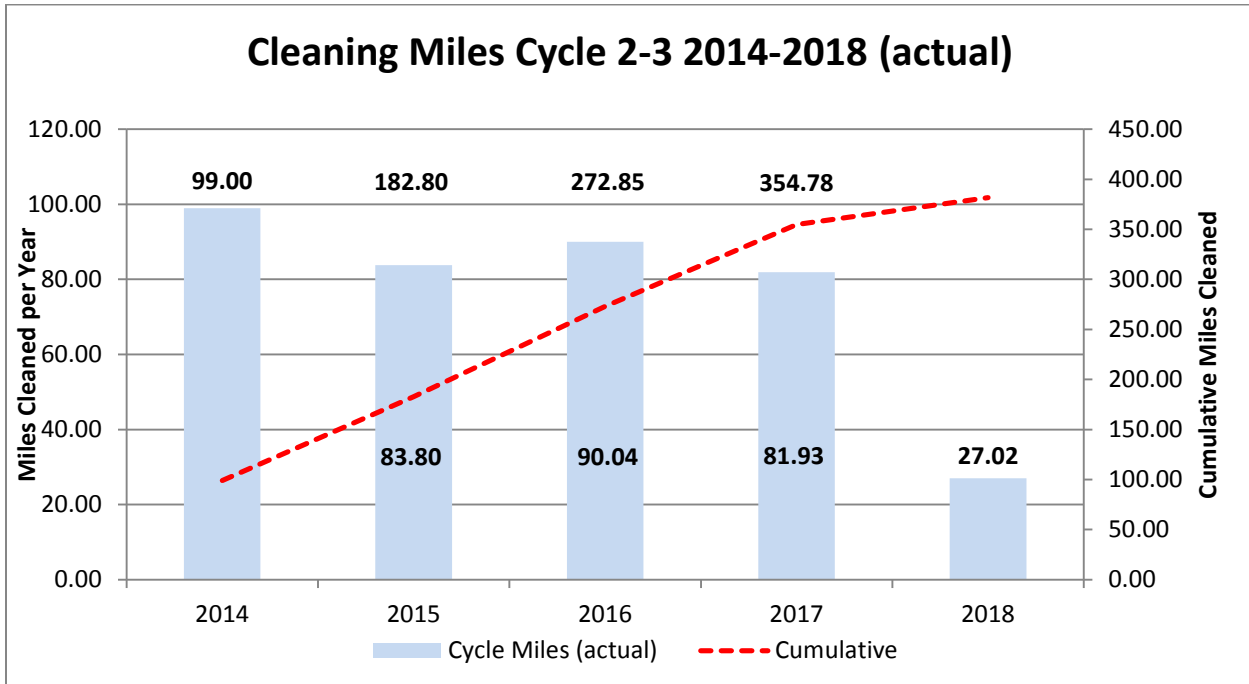
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Collection Systems Monthly Performance Indicators

Veolia is in the 9th year of a 10-year CCTV cycle. Cycle start date was January 1, 2010.



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



Sanitary System Performance Indicators

Table 2

Performance Indicator	Monthly Actual	Target/Limit
Service Calls (Public Facilities/Assets)	28	N/A
Service Call Response Time (minutes)	<30	<30
Private Lateral Service Calls; Regular/After Hours	9/3	N/A
Regular/OT Hours Spent on Private Lateral Calls	36/12	N/A
Point Repairs Completed	6	N/A
Manhole Inspections	15	N/A
Manhole Repairs	0	N/A
CCTV (Closed Circuit TV) (ft.)	8,653	7,000
GPS Surveys	0	As needed
Cleaning (ft.)	52,529	25,000
Cleaning QA/QC Events	6	4
SSOs for current month – Mainline	1	10/yr.
Total Mainline SSO Volume (gallons)	1,852	0
Total Mainline SSO Volume Recovered (gallons)	1564	100%
% Mainline SSO Volume Recovered	84%	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	20	N/A
Potential SSOs Eliminated due to SmartCover Monitors	0	N/A
SSOs – Mainline – Resulting in Property Damage	0	0
Total Wet Weather SSOs Year to Date	0	0
Total Dry Weather SSOs Year to Date	4	10 - Baykeeper
Number and Percentage of SSOs During 2017 with Discharge Reaching Storm Water Conveyance	2 of 4 = 50%	N/A

Storm Water System Performance Indicators

Table 3

March, 2018

Performance Indicator	Monthly Actual	Target/Limit
Storm Point Repairs	1	N/A
Storm Manhole Repairs	1	N/A
Storm Manhole Inspections	0	N/A
Storm Service Calls	8	N/A
Storm CCTV (ft)	0	N/A
Storm GPS Surveys	0	N/A
Storm Pipe Cleaning (ft)	80	N/A
Storm General Maintenance Cleaning (Linear feet of V-Ditches, Culverts or Creeks)	0	N/A
Pump Stations/Inlet/Outlet Channels Cleaned	0	N/A
Catch Basins/inlets/storm drains Cleaned	67	N/A
Storm Vaults Cleaned/Inspected	0	N/A
GSRD (trash capture device) Cleaning/Inspections	3	4/year
Flap Gate/Duck Bill Inspections	0	4/year

CAPITAL IMPROVEMENT PROGRAM

13th Street & Dunn and 23rd Street Rehabilitation Projects. *W.R. Forde; V.W. Housen & Associates. The 13th Street & Dunn project has been combined with the 23rd Street Sewer Replacement. The project was awarded to W.R. Forde at \$8.1M. Revised by CO \$10.9M. Construction is approximately 76% complete.*

- Over 27,000 lf of pipe was installed by the end of March
- Replacement of main & laterals on Esmond was completed
- Replacement of main & laterals on Hellings is 60% complete
- Began main and laterals on Gaynor
- All underground work in area of high school basin is complete, concrete flatwork repairs now complete. Finished paving restoration operations in this area
- Weather has delayed work on the 20th; that portion is next

Cutting/Carlson/Hoffman Boulevard Project Designs. *V. W. Housen & Associates (SRF). This project replaces pipelines with NASSCO PACP Structural Grade 4 and corrects 5 defects in the sewer sheds that flow to Cutting Boulevard. Reduction of inflow and infiltration will reduce the need to upsize the Cutting Boulevard interceptor, thereby reducing overall cost and construction impact to the City. Design is 100% complete.*

- 100 percent design documents (VWHA) for Cutting/Carlson Boulevard have been submitted. The project is planned to be bid this spring through Planet Bids.

Electrical Upgrade Project Construction. *Central Sierra; Carollo Engineers. The purpose of this project is to upgrade the outdated and failing Electrical Distribution System of the Richmond*

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Wastewater Treatment Plant. Construction is 100% complete; Design Services During Construction – 100% complete.

- Updated and revised record drawings have been received from Carollo; copies will be sent to the City
- Project is complete; finalizing closeout documents with the Contractor
- Final invoicing to follow

Lift Station MP & Assessment. *V. W. Housen & Associates. The purpose of this project is to prepare a Master Plan for the City of Richmond's sewer collection system lift stations, which are managed and operated by Veolia Water. The Master Plan will include a hydraulic and condition assessment of the existing facilities and a 10-year capital improvement plan (CIP) that includes recommended capacity and rehabilitation improvements. Planning is 90% complete.*

- Consultant has inspected the City's 13 wastewater pumping stations and developed preliminary recommendations, which were discussed with Veolia staff on December 6, 2017
- A follow-up field visit occurred in mid-December; costs are under development for the agreed recommendations and a draft summary report will be provided in April 2018.

Manhole Lining Rehabilitation Project. *Bay Hawk. In-house design to replace 75 manholes within the City's collection system.*

- Approximately 36 manholes have been rehabilitated by the end of March
- The contractor was held up in March due to rains
- The contractor is working on putting together pictures of all completed manholes

Richmond WWTP Biosolids to Energy Plan. *CH2M (now Jacobs). This project provides engineering services to prepare a Biosolids and Energy Plan for the Richmond Waste Water Treatment Plant. Project is 90% complete.*

- The final workshop was held on March 1 to discuss implementation strategy for the preferred alternative, which they are now working to refine
- They have prepared information on post aerobic digestion
- The consultant is working on finalizing the deliverables

Richmond WWTP Yard Expansion Project. *Bay Hawk. The purpose of this project is to (a) abandon the obsolete diesel and gasoline fuel system at the Richmond Plant and (b) remove and relocate the street sweeper yard to a different location outside of the WWTP. Project is 95% complete.*

- The Fence & K-Rail and street sweeper portion of this project is complete and operating
- The work for the fuel tank removal is in progress; testing is underway prior to off haul

San Pablo and Macdonald Emergency Repair. *W.R. Forde. Emergency repair at the intersection of San Pablo and Macdonald Avenues in the City of Richmond. This location has experienced repeated Sanitary Sewer Overflows (SSOs) in the past two years.*

- Contractor started and completed this emergency work in March

Sewer Master Plan Update. *Vivian 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*

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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 12% complete.

- WWAHA accelerated the Risk Model update and provided a draft report in December 2017
- As a result of an unseasonably dry January and February, flow monitoring for the hydraulic model update is on hold pending the arrival of substantial rainfall in March

Sludge Leachate Line Condition Assessment. *V&A Engineering. The purpose of this project is to assess the current condition of the City of Richmond's Sludge Leachate Line, which is old and in need of repair. A final condition assessment report will be supplied. Project is 100% complete.*

- Comments were sent back to V&A early March
- V&A submitted their Final Report early April
- This assessment project is complete

WWTP Stormwater Perimeter Site Evaluation and Topo Survey. *NCE. The purpose of this project is to complete a review of existing information, topographic surveys and field data collection, preliminary hydrologic and hydraulic analyses, review regulatory and permitting requirements, and develop improvement alternatives for stormwater flows and flooding that come from the hillside watershed area to the west of the Richmond Water Pollution Control Plant during wet weather. Assessment and development of design alternatives is 62% complete.*

- Performed field walk to review potential hillside slope movement
- Staff working with the City and consultant to agree on discrepancies with offsite drainage options
- Currently awaiting desired modifications to stormwater deliverables
- The geological and geotechnical hazard assessment report is expected in late April

WWTP High Priority Projects. *Engineers: Carollo Engineers; Contractor: C. Overaa Construction & Co. 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, beginning with the secondary Clarifiers. Design services during construction are 10% complete; construction is 30% complete.*

- Carollo is still on hold regarding their design efforts until further notice with the exception of the SBS Facilities Condition Assessment effort
- Carollo is attending construction progress meetings on an as-needed basis, as the construction effort for the Secondary Clarifiers ramps up.
- Primary Sedimentation Basin #1 Inspection was completed by Evoqua in mid- February and work begins in Sed. Basin 2 mid-July 2018
- Evoqua is continuing to work on shop drawings and purchasing materials
- Overaa has re-mobilized the last week of March and is waiting for the rains to end to begin work in Secondary Clarifier No. 2.
- Coatings inspection is underway in both Canada (fabrication) and in Richmond
- All of the Secondary Clarifiers will be completed and back on line by early November.
- Primary Sedimentation Basin No.2 work will begin in mid-May 2018 and will be brought back on line by the end of August 2018. Primary Sedimentation Basin No. 1 work will be postponed until late March/early April 2019.