

Monthly Operating Report

Richmond WWTP and Collection System

February, 2018

Executive Summary

- There were no known NPDES permit violations in the month of February 2018
- The monthly acute aquatic bioassay test passed with 100% survival of the fathead minnows.
- Staff was involved one meeting with Baykeeper representatives. A settlement with Baykeeper is being negotiated and is expected to be complete within the several weeks.
- Construction projects at the treatment plant are presently on hold, however the rehabilitation of the primary clarifiers, and two of the three secondary clarifiers is expected to proceed in April. The clarifier projects are scheduled to be completed this year.

Wastewater Treatment Plant

- There were 4 odor complaints during the month of February. Three of the four were from the Brickyard Cove area. The first was taken on February 4 from 2123 Flagship Place alleging persistent sewer odors. Another complaint was phoned from 1401 Pinnacle Ct and mentioned odors typically noticed in the mornings. A 3rd complaint was taken from 230 Drakes Bay Ct, also mentioning sewer odors. The last complaint was an email sent to Ryan Smith from 1003 Canal Boulevard, seeking an explanation of odors from the treatment plant. Inspectors measured very little H₂S and found no other evidence of odors when conducting follow up site visits; the 1003 Canal Blvd site was not visited. As a result of the Brickyard area odor issues, Veolia's Collections O&M group began weekly flushing of the main gravity lines serving the area with fire hydrant flows. Upon commencement of this activity, field staff has received several positive comments about the efforts being made.
- H₂S monitors from Sonoma Technology are up and operational.
- ZAPS system reps were contacted by City staff and determined the company has been sold. A new organization will ramp up fairly soon with the expectation of providing improved service and support.
- There were no blending events in February
- On Feb 12th, a meeting was held between Brickyard Cove stake holders City and Veolia staff and a representative of Webster Environmental. The objective was to kick off a community

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odor evaluation of the Brickyard Cove area. Webster made a presentation explaining the methodology of taking samples and appropriate sites were selected for monitoring, data gathering and evening and night time odor surveys.

- On Feb 5th, Primary Clarifier No 1 was taken out of service for inspection by Evoqua Water prior to substantial upgrade work to be conducted during the summer of 2018. The clarifier was put back in service on the 17th Feb.
- A survey of the storm drain system at the wastewater treatment plant site, begun by City and Veolia staff, continued this month. The objective was to identify location and function of the various manholes and the underground piping at the site. The survey was completed the middle of March and showed that no site storm water could drain to the bay.

Table 1 Parameter	Monthly Performance Indicators	Limit/Target
Treatment Plant Operations:		
Influent Flow, daily average (MGD)	5.77	N/A
Effluent Flow, daily average (MGD)	5.41	N/A
Influent BOD ₅ , avg. mg/L	354	N/A
Influent TSS, avg. mg/L	289	N/A
Effluent TSS, monthly average mg/L	16.4	30 or less
Effluent BOD, monthly average mg/L	25.7	30 or less
% BOD Removal	92.8	> 85
% TSS Removal	94.0	> 85
NPDES Effluent Limit Violations	0	0
Blending events	0	0
Total volume blended, MG	0	0
Odor complaints	4	0
Digested sludge pumped to drying beds, MG	1.683	N/A
Leachate received, GAL	332,377	N/A
Leachate received YTD, MG	0.597	N/A

Maintenance

Staff completed 281 total maintenance work orders during the month; preventative; 98 at sewer lift stations, 74 for storm water pump stations and 84 work orders at the treatment plant. 25 corrective work orders were completed as part of the total.

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Completed Projects;

- Overhauled Hydrostahl Pump #101 and returned to service
- Replaced purge valve actuator drive on Dystor #1
- Drain & service primary clarifier sedimentation basin #1 collector system.

Look Ahead; March - April 2018

- Remove existing above-ground fuel tanks from facility.
- Install new automated security gate at plant facility. (purchase order received 1-19-2018)
- Overhaul DAF #2 pressurization pump.
- Install new fire & burglar alarm system at plant facility. (scheduled for 3-12-18)

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 February, there was (1) dry weather sanitary sewer overflow event.

- 500 S 16th St and Potrero Ave

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

There were a total of (14) sanitary sewer service calls in February, (6) of which were private lateral issues (see table 2).

Sanitary Sewer Point Repair:

(1) Sanitary sewer repair performed during the month of January.

- 215 S 16th St – repaired broken pipe

Storm Water System Highlights

There were two storm-water related service calls in February.

Cleaned (30) catch basins, inlets, drains and storage devices within the City of Richmond in preparation for the rainy season.

Performed pipe cleaning at San Joaquin and Ohio Ave area.

Storm Water System Point Repairs

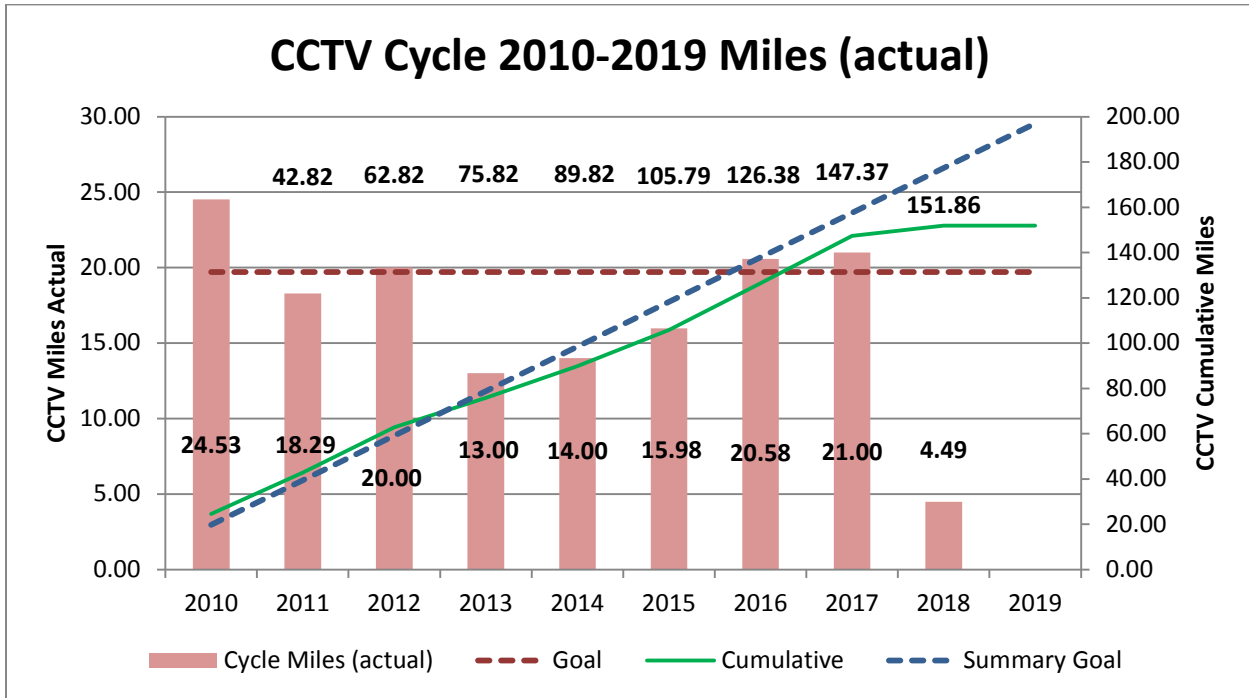
- 768 Yuba Ave- fixed collapsed pipe and void

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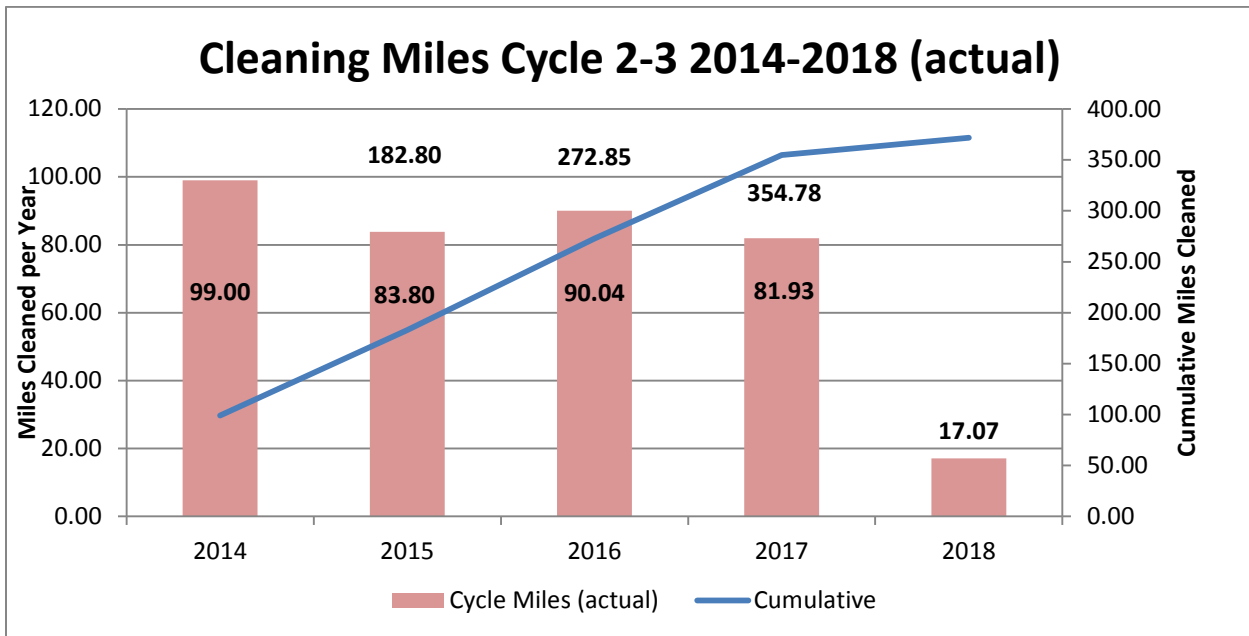
- 1st and 2nd St at Greenbelt –repaired ditch
- 33rd St and Barrett Ave – storm manhole replacement to correct size

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.



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Sanitary System Performance Indicators

Table 2

Performance Indicator	Monthly Actual	Target/Limit
Service Calls (Public Facilities/Assets)	14	N/A
Service Call Response Time (minutes)	<30	<30
Private Lateral Service Calls; Regular/After Hours	5/1	N/A
Regular/OT Hours Spent on Private Lateral Calls	10/6	N/A
Point Repairs Completed	1	N/A
Manhole Inspections	31	N/A
Manhole Repairs	0	N/A
CCTV (Closed Circuit TV) (ft.)	14,457	7,000
GPS Surveys	0	As needed
Cleaning (ft.)	50,493	25,000
Cleaning QA/QC Events	6	4
SSOs for current month – Mainline	1	10/Yr
Total Mainline SSO Volume (gallons)	1,630	0
Total Mainline SSO Volume Recovered (gallons)	66	100%
% Mainline SSO Volume Recovered	4%	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	31	N/A
Sewer Lift Station PMs	98	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	3	10 - Baykeeper
Number and Percentage of SSOs During 2018 with Discharge Reaching Storm Water Conveyance	2 of 3 – 67%	N/A

Storm Water System Performance Indicators

Table 3

Performance Indicator	Monthly Actual	Target/Limit
Storm Point Repairs	2	N/A
Storm Manhole Repairs	1	N/A
Storm Manhole Inspections	0	N/A
Storm Service Calls	2	N/A
Storm CCTV (ft)	0	N/A
Storm GPS Surveys	0	N/A
Storm Pipe Cleaning (ft)	429	N/A
Storm General Maintenance Cleaning (Linear feet of V-Ditches, Culverts or Creeks)	2	N/A
Pump Stations/Inlet/Outlet Channels Cleaned	1	N/A
Catch Basins/inlets/storm drains Cleaned	30	N/A
Storm Vaults Cleaned/Inspected	0	N/A
GSRD (trash capture device) Cleaning/Inspections	1	4/year
Flap Gate/Duck Bill Inspections	0	4/year
Storm Water Pump Station PMs	73	N/A

CAPITAL IMPROVEMENT PROGRAM

13th Street & Dunn and 23rd Street Rehabilitation Projects. W.R. Forde; Vivian 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 \$10.6M. Construction is approximately 67% complete.

- Over 22,000 lf of pipe was installed by the end of February
- Mainline & lateral work on Lincoln has been completed
- Mainline & lateral work on Dunn has been completed
- Replacement of main & laterals on Hellings has begun
- Replacement of main & laterals on Esmond has begun
- All underground work in area of high school basin is complete, concrete flatwork repairs now complete. Finish paving operations in this area has begun
- Currently anticipate beginning work on the 20th, and on Gaynor, before end of March

Cutting, Carlson, and Hoffman Boulevard Project Designs. Vivian 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

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upsized 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; Staff is working on scheduling a design review meeting with the consultant
- Staff and consultant met with the City to discuss moving forward with packaging these projects together
- The designer is currently working on combining all three projects for one bid

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 Wastewater Treatment Plant. Construction is 99% complete; Design Services During Construction – 95% complete.*

- PG&E de-energized their transformer and removed the transformer from the site on 3/12/2018
- Continuing to demo the old electrical MCC's in the Influent Pump Station which is the Plant Maintenance No Cost Change Order
- The Fiber Optic cutover for the SCADA system is complete
- All Electrical punch lists and EDS work to be completed by mid-March

Lift Station MP & Assessment. *Vivian 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 shortly

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

- Approximately 32 manholes have been rehabilitated by the end of February
- 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 75 % complete.*

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

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 90% complete.*

- Contractor installed the Fence & K-Rail after the paving in early January
- The street sweeper portion is complete and operating

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- The PO for fuel tank removal is done, and the work that was scheduled for February has moved to 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 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.*

- VWHA 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 95% complete.*

- V&A submitted the Sludge-Leachate line condition assessment project draft report in January
- Staff and the City continued reviewing the report in February
- Comments to be sent back to V&A early March; V&A to produce the Final Report

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 50% complete.*

- Performed UAV flight to develop topography map for hillside slope investigation
- Staff working with the City and consultant to agree on discrepancies with onsite drainage
- Currently awaiting desired modifications to stormwater deliverables

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
- Overaa has signed a purchase order to Evoqua for primary sedimentation sludge collection equipment
- 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
- These costs are to be reallocated from project allowances through a no cost change order
- Currently working with Overaa and Ovivo (sub) to schedule the coatings inspection for Clarifier #2 to take place in Ontario, Canada, sometime during the last two weeks of March
- Overaa will re-mobilize the last week of March or the first of April to complete the work on the Secondary Clarifiers by the end of October 2018