

# Monthly Operating Report

## Veolia Richmond CPM, WPCP and Collection System

### *January 2019*

## Executive Summary

- Between the first and second week of September, conditions in the treatment plant developed such that the amount of solids in the activated sludge process began to drop without a clear understanding of why. The condition has been affecting the settling and growth characteristics of the activated sludge system since. Plant staff has evaluated process changes and installed polymer and chemical feed as remedial measures. In addition, several consultants, expert in the field of wastewater process operations have been engaged to assist in the investigation. The City's pretreatment/source control staff has been working with business and industry in the service area to determine that if there are any discharges of materials to the sewer system that may be impacting the plant's biological process. As of mid-January, the process had improved greatly and in the several weeks since the process has returned to a robust and fully compliant operational state.
- As a result of the conditions noted above, there were five (5) NPDES permit violations during the month of January 2019. The monthly average effluent limits for BOD and TSS were both above the limit of 30 mg/l. There was also one exceedance each of the 45 mg/l weekly average effluent limit for TSS and BOD.
- In addition to the exceedances of TSS and BOD limits noted above, the treatment plant NPDES permit requires a minimum of 85% removal of both BOD and TSS on a monthly average basis. That requirement was not met for BOD where the treatment plant removal for January was about 80%.
- The monthly acute aquatic bioassay test passed with 100% survival of the test organisms
- Planning and preparations (proposals and technical documents) are beginning for several major construction projects planned for the treatment plant in 2019. Those include the new grit-headworks system and aeration system upgrades among others.

## Wastewater Treatment Plant

- There was one odor complaints called in from the Brickyard area on January 10. The treatment plant was investigated and no operational issues determined to be the cause. There was a relatively high (39 ppb) measurement of hydrogen sulfide taken from Flagship Ct. The source is understood likely to be the sewer venting. The sewer pipes in the area were flushed as a remedial measure.

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- There was a single blending event in January. The event occurred from January 6 to 7 and last for 12.8 hours. Total amount blended was 5,112,972 gallons.

<b>Table 1</b>	<b>Parameter</b>	<b>Monthly Performance Indicators</b>	<b>Limit/Target</b>
<b>Treatment Plant Operations:</b>			
	Influent Flow, daily average (MGD)	7.78**	N/A
	Effluent Flow, daily average (MGD)	9.09	N/A
	Influent BOD <sub>5</sub> , avg. mg/L	211	N/A
	Influent TSS, avg. mg/L	259	N/A
	Effluent TSS, monthly average mg/L	31.9	30 or less
	Effluent BOD, monthly average mg/L	34	30 or less
	% BOD Removal	80	> 85
	% TSS Removal	86	> 85
	NPDES Effluent Limit Violations	5	0
	Blending events	0	0
	Total volume blended, MG	0	0
	Odor complaints	1	0
	Digested sludge pumped to drying beds, MG	.991***	N/A
	Leachate received, GAL	361,496	N/A
	Leachate received/treated YTD, MG	4.205	N/A

\*\*Staff is looking into the difference between the daily average influent versus effluent flow values as those numbers typically track more closely. It is thought that there may be an issue with the electronics in the influent flow measuring device.

\*\*\* Sludge transport meter is out of service. Using value of sludge sent to digester in lieu of.

**Maintenance**

Asset Management Work Orders

Work Order Type	# Completed
Storm Water Pump Stations	71
Sewer Pump/Lift Stations	78

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Treatment Plant	46
Corrective	47
Total	242

**Completed Projects**

- Completed replacement of Primary Sludge Pump #1.

**Look Ahead; December- January 2018/2019**

- Complete the ATI Chemical SBS-Chlorine Analyzer Replacement Project
- Complete the 23<sup>rd</sup> Street Storm Water Pump Station Motor Control Panel Project
- Replace RAS electromagnetic flow meter

**Collections System and Storm O&M**

**Sanitary Sewer System Highlights**

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

During the month of January-2019, there was (2) sanitary sewer overflow events. Year-to-Date Wet-weather/Dry-weather YTD SSO totals are as follows:

- Wet-weather (rain event) = 2-YTD
- Dry-weather (non-rain event) SSOs = 0-YTD
- Total SSO's = 2-YTD

Relative to CCTV condition assessment production:

- Scheduling has been completed to address the (291) pipe segments noted in the 2019 RAA which require and updated survey such that the PACP Quick Structural Code rating is based upon no less than 70% of the pipe segment having been CCTV condition assessed. In accordance with the notations in the 2019 RAA, the (291) pipe segments shall receive updated CCTV condition assessments by no later than 4/30/2019; in order to achieve this target date of completion Veolia shall establish CCTV condition assessment contracts in support of achieving the target date.

There were a total of (11) sanitary system calls, (6) of which were property lateral issues, (4) of which were sewer line main-related, (1) was a sinkhole; there was (6) storm system service calls. Below, see Table 2-a for Collection System Performance Indicators and the Table-3 for Collection System Activity Summary for performance indicator data specifics.

**Sanitary Sewer Point Repair:**

(0) Sanitary sewer repairs performed during the month

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**Storm Water System Highlights**

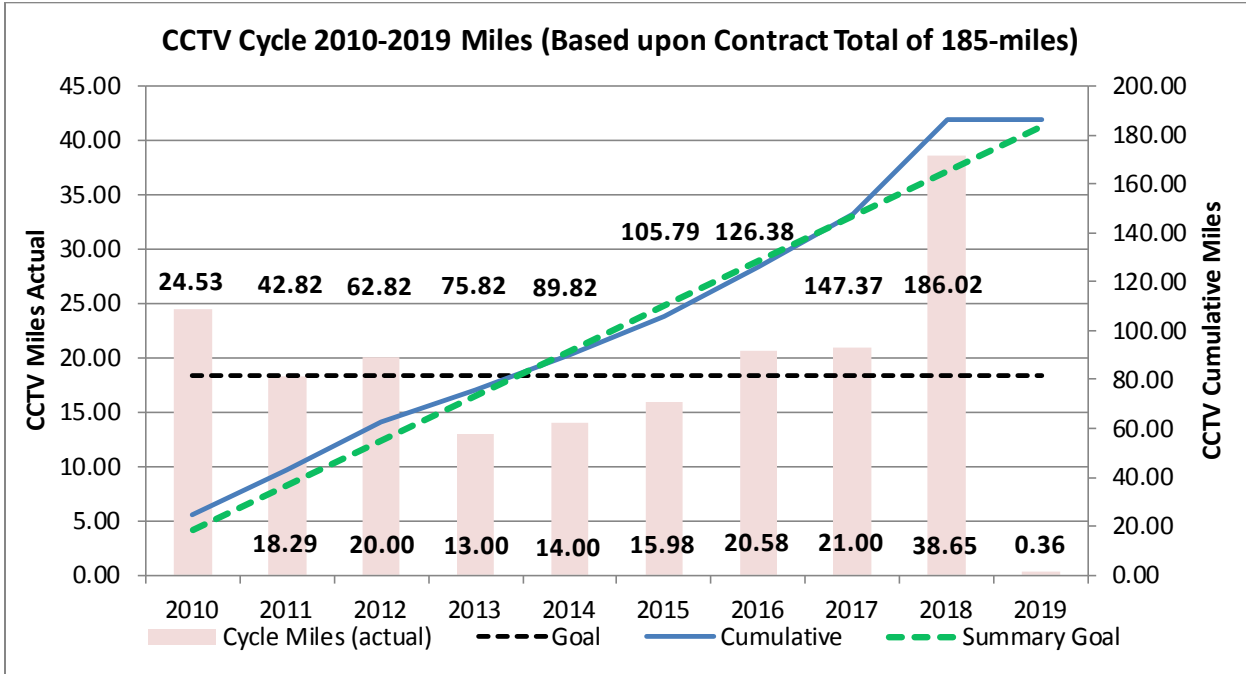
- Cleaned (20) Catch Basins
- Cleaned (0) V-ditches

**Storm Water System Point Repairs**

(0) Storm system repairs performed during the month

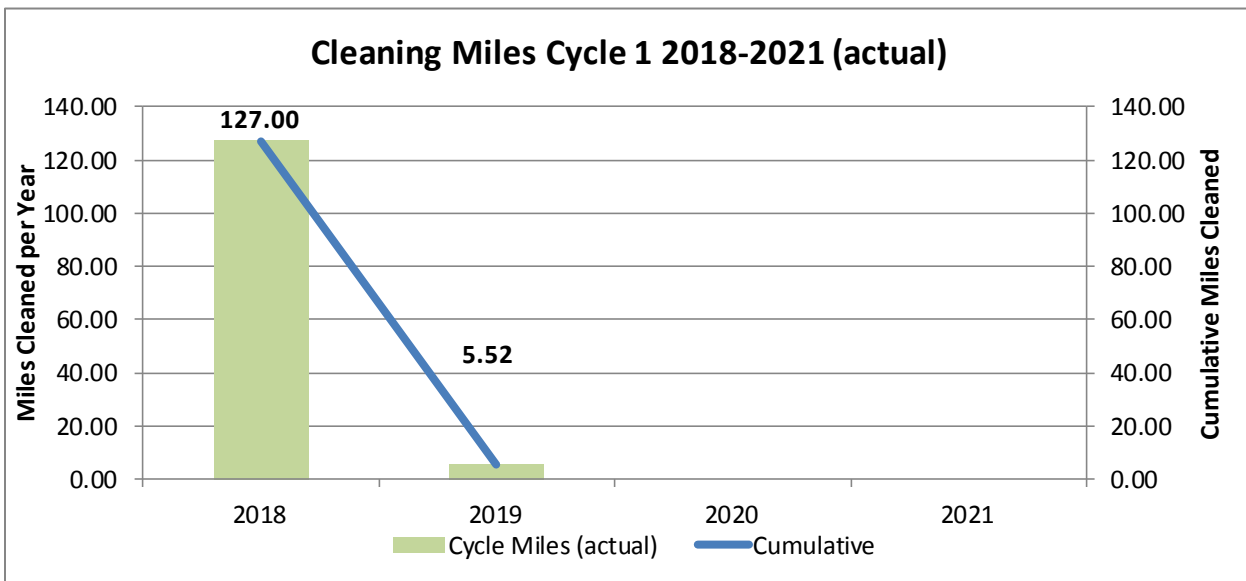
**Collection Systems Monthly Performance Indicators**

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



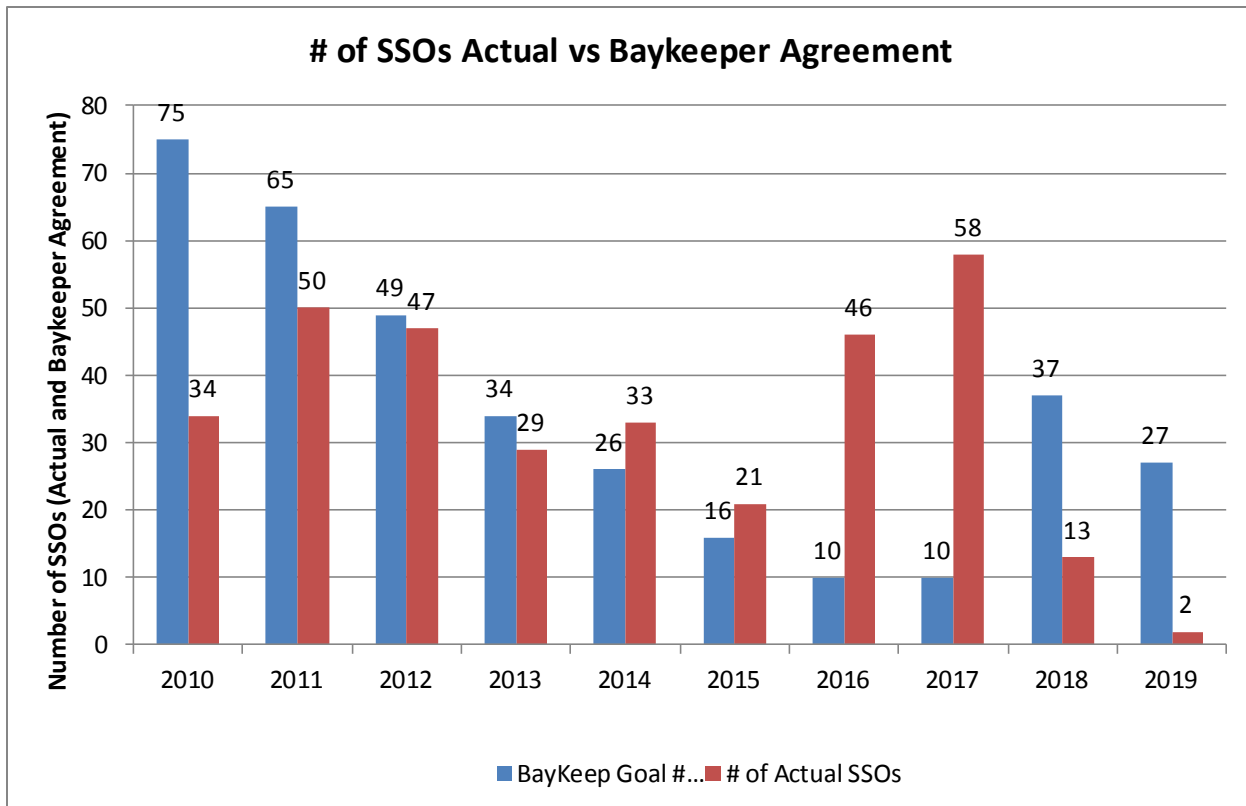
\*Note: goal mileage is based upon 18.5-miles/year to correspond with Contract Amendment #1 system mileage of 185-miles and recently reported City GIS mileage of 183-miles

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



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SSO performance compliance with past and 2018 Baykeeper Settlement Agreement



**Sanitary System Performance Indicators**

**Table 2-a**

Performance Indicator	Monthly Actual	Target/Limit
Service Calls (Public Facilities/Assets)	11	N/A
Service Call Response Time (minutes)	<30	<30
Private Lateral Service Calls; Regular/After Hours	4/2	N/A
Regular/OT Hours Spent on Private Lateral Calls	4/6	N/A
Point Repairs Completed	0	N/A
Manhole Inspections	0	N/A
Manhole Repairs	0	N/A
CCTV (Closed Circuit TV) (ft.)	1,919	7,000
GPS Surveys	0	As needed
Cleaning (ft.)	29,164	20,130
Cleaning QA/QC Events	0	8
SSOs for current month – Mainline	2	3.1/Mth
Total Mainline SSO Volume (gallons)	27,450	0

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Total Mainline SSO Volume Recovered (gallons)	0	100%
% Mainline SSO Volume Recovered	0%	100%
# SSOs – Wet Weather (localized capacity issue)	2	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	2	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	2 of 2 = 100%	N/A

**Table 2-b** Data detail to the Sanitary System Performance Indicators noted in Table 2-a above are as follows:

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Richmond CPM, WPCP and Collection System

Richmond CA Collection System Activity Summary



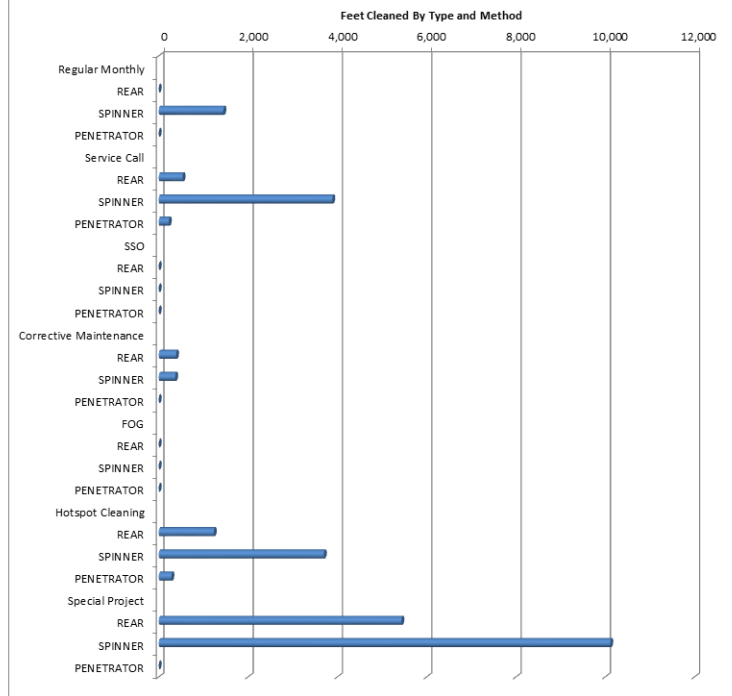
Collection and Conveyance  
Report Period January-19

**Line Cleaning Summary**

Total Lines Cleaned: 73  
Total Footage Cleaned: 29,164.11 ft  
Total Footage with Cleaning Method: 27,621.10 ft  
Unknown Cleaning Method Footage: 1,543.00 ft

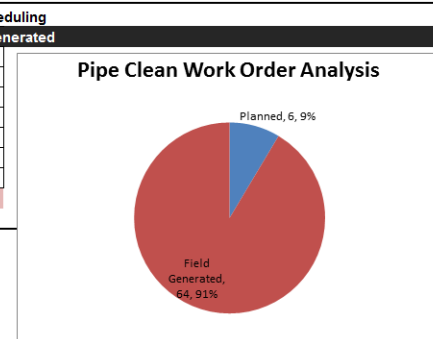
**Footage by Cleaning Method**

Method	Method	Footage
Regular Monthly	REAR	0.00 ft
	SPINNER	1,448.00 ft
	PENETRATOR	0.00 ft
Service Call	REAR	535.00 ft
	SPINNER	3,886.00 ft
	PENETRATOR	225.00 ft
SSO	REAR	0.00 ft
	SPINNER	0.00 ft
	PENETRATOR	0.00 ft
Corrective Maintenance	REAR	388.79 ft
	SPINNER	368.89 ft
	PENETRATOR	0.00 ft
FOG	REAR	0.00 ft
	SPINNER	0.00 ft
	PENETRATOR	0.00 ft
Hotspot Cleaning	REAR	1,234.18 ft
	SPINNER	3,700.24 ft
	PENETRATOR	285.00 ft
Special Project	REAR	5,436.00 ft
	SPINNER	10,114.00 ft
	PENETRATOR	0.00 ft



**Pipe Clean Production**

By Crew Leader	Footage	# of days	Footage per day	Planned	Field Generated
ARMSTRONG	0.00	0	0	0	0
HENDRICKS	0.00	0	0	0	0
LEWIS	25,207.00	16	1,575.44	1	61
HILL	0.00	0	0	0	0
WALLIS	0.00	0	0	0	0
MENDOZA	2,959.71	5	591.94	5	3
SIMONETTI	0.00	0	0	0	0
<b>Totals</b>	<b>28,166.71</b>	<b>21</b>	<b>1,341.27</b>	<b>6</b>	<b>64</b>

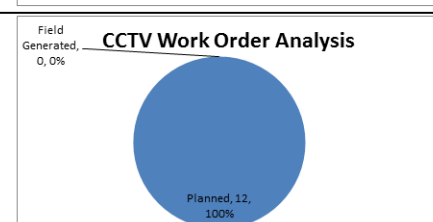


**Pipe Clean by Pipe Material**

Pipe Material	Footage	# of Segments
VCP	22,907.11	59
PVC	3,822.00	9
Unknown or Other	2,435.00	5
<b>Totals</b>	<b>29,164.11</b>	<b>73</b>

**CCTV Activity Summary**

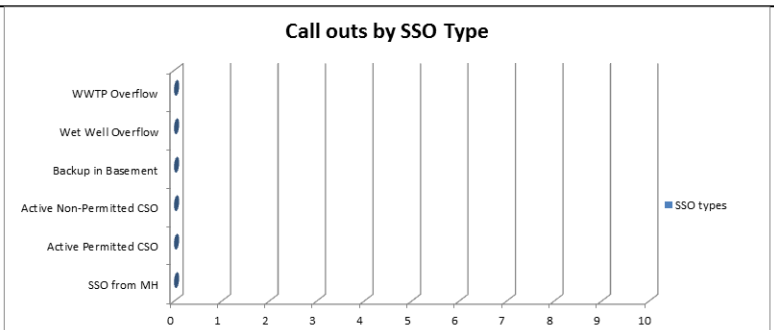
Category	Value
CCTV Total Footage	0.00 ft
Successfully Imported	0
Number of Lines Tved:	0
Total Footage Tved:	0.00 ft
Unsuccessfully Imported	12
Number of Lines Tved:	12
Total Footage Tved:	1,919.44 ft



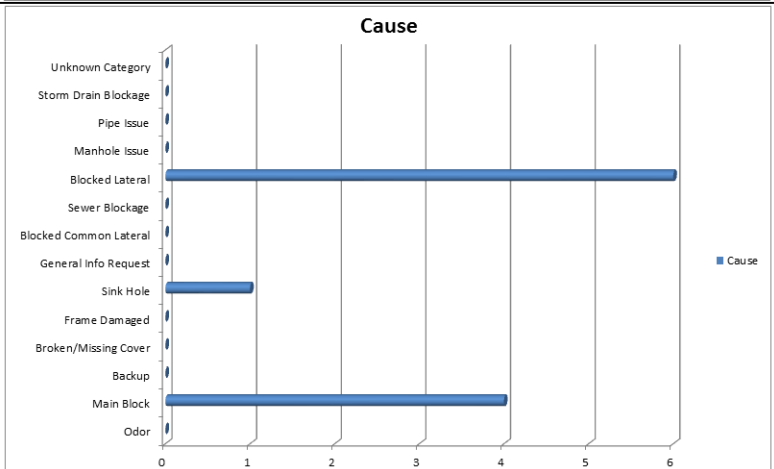
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<b>Manhole Inspections</b>	
Number of Manholes Inspected:	0
<b>Fats,Oils &amp; Grease Inspections</b>	
Number of FOG Inspections:	0
<b>Pipe Repair</b>	
Number of Pipe Repair:	0
<b>Manhole GPS Inspections</b>	
Number of Manholes GPS:	0
<b>Manhole Maintenance</b>	
Number of Manholes Repaired:	0
<b>Manhole Cleaning</b>	
Total Number of Manholes Cleaned:	0
Total number buckets of debree removed:	0
Average number buckets of debree removed:	0
<b>General Maintenance Activities</b>	
Vector Cleaning	1
Jet Cleaning	0
Pump Out	2
Manual Cleaning	0
Visual Inspection	1
Exercise FM Pressure Valve	0
Markout Locations	0
<b>Number of Call Outs</b>	
Total Number of Call Outs:	11
Call outs from Customer Complaints:	11
Call outs from SSO:	0

<b>Call outs from SSO:</b>	
Call outs by SSO Type	
SSO from MH	0
Active Permitted CSO	0
Active Non-Permitted CSO	0
Backup in Basement	0
Wet Well Overflow	0
WWTP Overflow	0



<b>Call outs from Customer Complaints:</b>	
Call outs by Cause	
Odor	0
Main Block	4
Backup	0
Broken/Missing Cover	0
Frame Damaged	0
Sink Hole	1
General Info Request	0
Blocked Common Lateral	0
Sewer Blockage	0
Blocked Lateral	6
Manhole Issue	0
Pipe Issue	0
Storm Drain Blockage	0
Unknown Category	0
<b>Totals</b>	<b>11</b>



**Storm Water System Performance Indicators**

**Table 3**



*Richmond CPM, WPCP and Collection System*

<b>Performance Indicator</b>	<b>Monthly Actual</b>	<b>Target/Limit</b>
Storm Point Repairs	1	N/A
Storm Manhole Repairs	1	N/A
Storm Manhole Inspections	12	N/A
Storm Service Calls	13	N/A
Storm CCTV (ft)	2-segments (307 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)	8-segments (617-LF)	N/A
Pump Stations/Inlet/Outlet Channels Cleaned	2	N/A
Catch Basins/Inlets/Storm Drains Cleaned	20	N/A
Storm Vaults Cleaned/Inspected	0	N/A
GSRD (trash capture device) Cleaning/Inspections	3	4/year
Flap Gate/Duck Bill Inspections	1	4/year

JANUARY 2019

**CAPITAL IMPROVEMENT PROGRAM**

**13<sup>th</sup> Street & Dunn and 23<sup>rd</sup> Street Rehabilitation Projects.** *W.R. Forde; V.W. Housen & Associates. The 13<sup>th</sup> Street & Dunn project has been combined with the 23<sup>rd</sup> Street Sewer Replacement. The project was awarded to W.R. Forde at \$8.1M. Revised by CO \$10.7M. Construction is 100% complete.*

- Final invoicing was completed and sent to the City in January; it is under review.
- Once approved and processed, this project will be complete.

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

- The SF Baykeeper (BK) 2019 RAA Document was submitted on January 15, 2019.
- Veolia Capital Program Management (CPM) has started vetting Year One line segments listed in the 2019 RAA and will be establishing a Phase 2 Sewer Repair list.

**Baykeeper (BK) Sewer Pipe Rehabilitation – Phase I & II.** *Bay Hawk and W.R. Forde (Phase I) Still facing inclement weather, Bay Hawk completed 275' of 6" mainline and tied in 6 laterals in January.*

- This project is 46% complete as of January 2019.

**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.*

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*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, \$7,674,491 for both projects.*

- Approximately 13,000 LF has been installed through January 2019.
- The Contractor had three crews working in January.
- January rains kept the Contractor from some work, but the overall schedule remains intact.

**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 submittal was completed by January 25, 2019. A design review meeting is scheduled for early February.
- Bid ready documents will be finalized in mid-May 2019; bidding through the City's BidsOnline process scheduled for April-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 rehabbed two manholes in January.
- City budget for this effort was reduced to \$250K for this fiscal year, which will also be the annual amount moving forward.
- Three (3) Force Main manholes identified by V&A Consulting Engineers to be rehabbed under the Force Main Assessment project will be added to this project in February.

**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 20% complete.*

- Flow monitors were installed on November 30, 2018; flow monitoring will continue through March 31, 2019.
- Meters will remain in place through that time.

**Trash Capture Device Installation Project (Regatta Boulevard).** *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.*

- Harris and Contech attended a site visit to discuss maintenance/dewatering issues on existing CDS units.
- Harris coordinated a geotechnical boring, which was performed mid-January.

### *Richmond CPM, WPCP and Collection System*

- Bid Ready construction documents expected in February; bidding construction through City BidsOnline expected in mid-February with construction activities in March to May.

**WWTP Stormwater Perimeter Site Evaluation and Topo Survey.** *Nichols Consulting Engineers (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 of existing conditions is 100% complete. Development of design alternatives 100% complete. Review of construction related permit requirements 100% complete.*

- In January 2019, the City decided to put the design project on hold; Veolia asked that NCE submit all design files and submittals completed to date.
- NCE developed a design summary memorandum to provide a completed background, explanation of design, and considerations moving forward for the project. This memo and supporting documentation was provided to Veolia on February 3, 2019.
- Final invoicing to follow.

**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. Initial design services are 95% complete; design services during construction are 12.5% complete; construction is 100% complete.*

- Carollo is still on hold regarding their design efforts for the Sodium Bisulfite Improvements and Thickening Facility until further notice.
- Carollo attended SRF conference calls and provided updates on application status. Provided State with answers to questions on the Technical Application Package. Provided summary of cost estimates submitted to State and summary of cost backup. Provided order-of-magnitude cost estimate for new primary clarifiers.
- Began preparation of bid documents for the WWTP Critical Improvements Project (including the Screening/Grit Facility and Aeration Upgrades).
- Began preparation of record drawings for the WWTP Critical Improvements Project – Secondary Clarifier Improvements.