

# Monthly Operating Report

## Richmond WWTP and Collection System

### *June 2018*

## Executive Summary

- There were no permit violations in the month of June 2018. This represents the 27<sup>th</sup> consecutive month without a violation of the wastewater treatment plant's NPDES permit.
- The monthly acute aquatic bioassay test passed with 100% survival of the fathead minnows.
- The treatment plant primary and secondary clarifiers are under sequential construction and will be through the fall season
- NPDES permit reissue is still pending from the Regional Water Quality Control Board. The treatment plant continues to operate under the previous permit which expired on June 30. Regional Board staff has notified Veolia – Richmond – West County Wastewater staff that the draft reissued permit is expected to be transmitted in early November.

## Wastewater Treatment Plant

- There were two odor complaints during June, the first from the Brickyard Cove area on June 1. The project manager responded to the call near Brickyard and determined the odor source was mud flats during low tide. A second call on June 3 was made by an individual who noted odors while driving by the treatment plant on Canal Blvd. That call was investigated by way of an odor evaluation of the plant site however the source of odors was not determined.
- There were no blending events in June.
- The plant influent flow meter malfunctioned and was out of service on June 28 and 29 before repairs were completed
- Continuing recruitment for treatment plant operations manager
- Lab manager who has been with Veolia in Richmond four about 14 years has submitted her retirement notification. The recruitment for her replacement has begun.

Monthly Operating Report  
 Richmond WWTP and Collection System

June 2018

Table 1 Parameter	Monthly Performance Indicators	Limit/Target
<b>Treatment Plant Operations:</b>		
Influent Flow, daily average (MGD)	5.24	N/A
Effluent Flow, daily average (MGD)	5.28	N/A
Influent BOD <sub>5</sub> , avg. mg/L	373	N/A
Influent TSS, avg. mg/L	308	N/A
Effluent TSS, monthly average mg/L	15	30 or less
Effluent BOD, monthly average mg/L	15	30 or less
% BOD Removal	96	> 85
% TSS Removal	98	> 85
NPDES Effluent Limit Violations	0	0
Blending events	0	0
Total volume blended, MG	0	0
Odor complaints	2	0
Digested sludge pumped to drying beds, MG	**1.372	N/A
Leachate received, GAL	302,000	N/A
Leachate received YTD, MG	2.272	N/A

\*\* Transport flow meter malfunction. Value used is total of raw and thickened sludge sent digester

**Maintenance**

Work Order Type	# Completed
Storm Water Pump Stations	68
Sewer Pump/Lift Stations	92
Treatment Plant	56
Corrective	37
Total	253

June 2018

## Completed Projects

- Rebuilt primary clarifier Lobe-Pro Pumps #1 & #2.
- Install new digester chemical (ferric chloride) pump system.
- Rebuilt heat exchange Recirculation Sludge Pump #121.
- Overhauled plant facility/lift station portable Vaughn diesel pump unit.
- Completed wet weather pump station cathodic protection system inspection.
- Installed new Endress Hauser SCADA flow meter in West County transport pump room.
- Replaced 75 gallon hot water heater in administration building.

## Look Ahead; July - August 2018

- Replace headworks odor control bed media
- Complete potable water control system replacement project. (P.O. received 7-10-2018)
- Remove and perform inspection and preventative maintenance on (4) wet weather Flygt NP 3356.746 175 H.P. centrifugal submersible pumps
- Assist bringing both Primary #2 and Secondary Clarifier #2 on-line post rehabilitation and removing the next process units from service sequentially for their respective rehabilitation.

## Collection System Monthly Report

### Sanitary Sewer System Highlights

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

During the month of June, there was (1) sanitary sewer overflow event. Year-to-Date Wet-weather/Dry-weather YTD SSO totals are as follows:

- Wet-weather (rain event) = 0-YTD
- Dry-weather (non-rain event) SSOs = 6-YTD

Collection Department continued focus on video inspection review for rehabilitation priorities for inaccessible lines as part of Baykeeper Settlement Agreement requirements.

There were a total of (22) sanitary sewer service calls in June, (8) of which were property lateral issues, (1) of which were sewer line main-related, and (5) of which were unrelated to the City's system or property laterals. Below, see Table 2-a for Collection System Performance Indicators and the Table 2-b for Collection System Activity Summary for performance indicator data specifics.

June 2018

**Sanitary Sewer Point Repair:**

(5) Sanitary sewer repair performed during the month of June as follows:

- McBryde Ave and Ventura – repair of broken pipe completed
- 68 Idaho St- sinkhole repair completed
- 977 Ventura St- replaced lamp hole frame and cover
- 818 Lucas Ave – installed backflow device

**Storm Water System Highlights**

There were (3) storm-water related service calls in June.

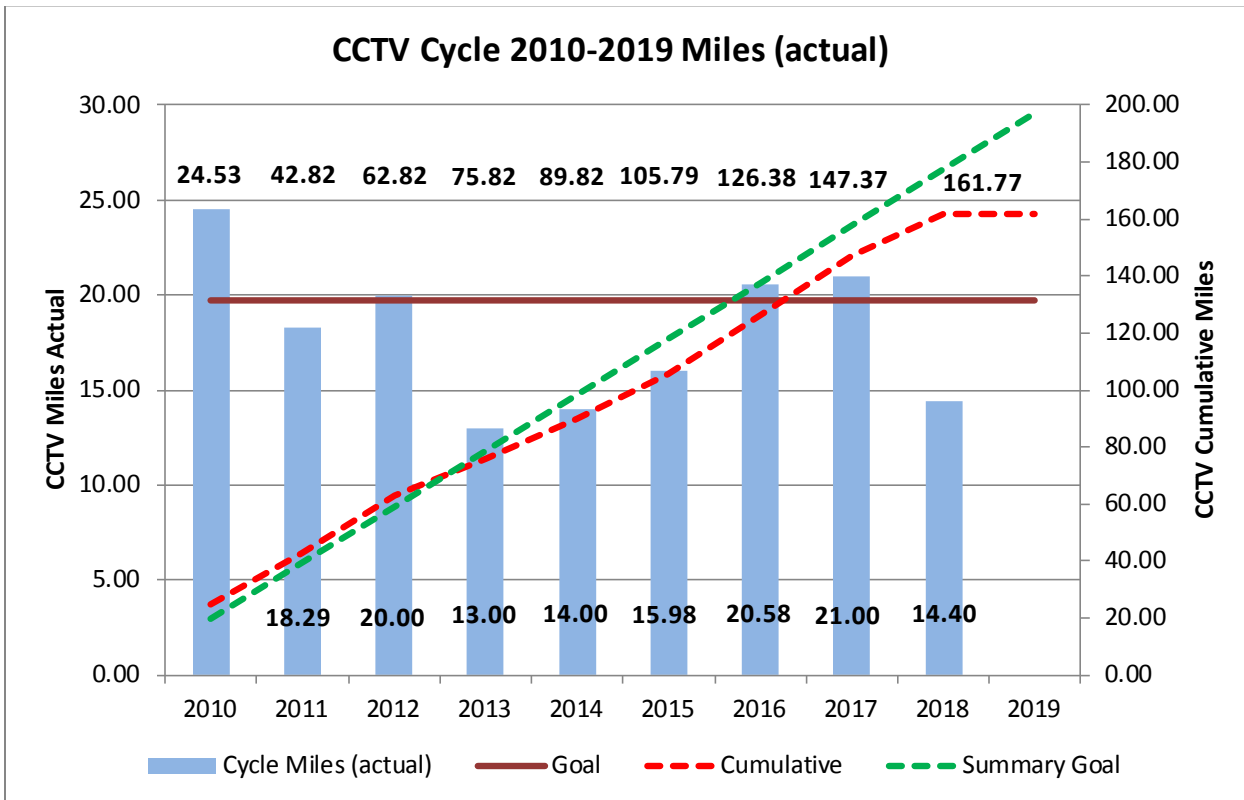
Cleaned (1) catch basins, pipe cleaning, inlets, drains and storage devices within the City of Richmond.

**Storm Water System Point Repairs**

(0) Storm repair performed during the month of June.

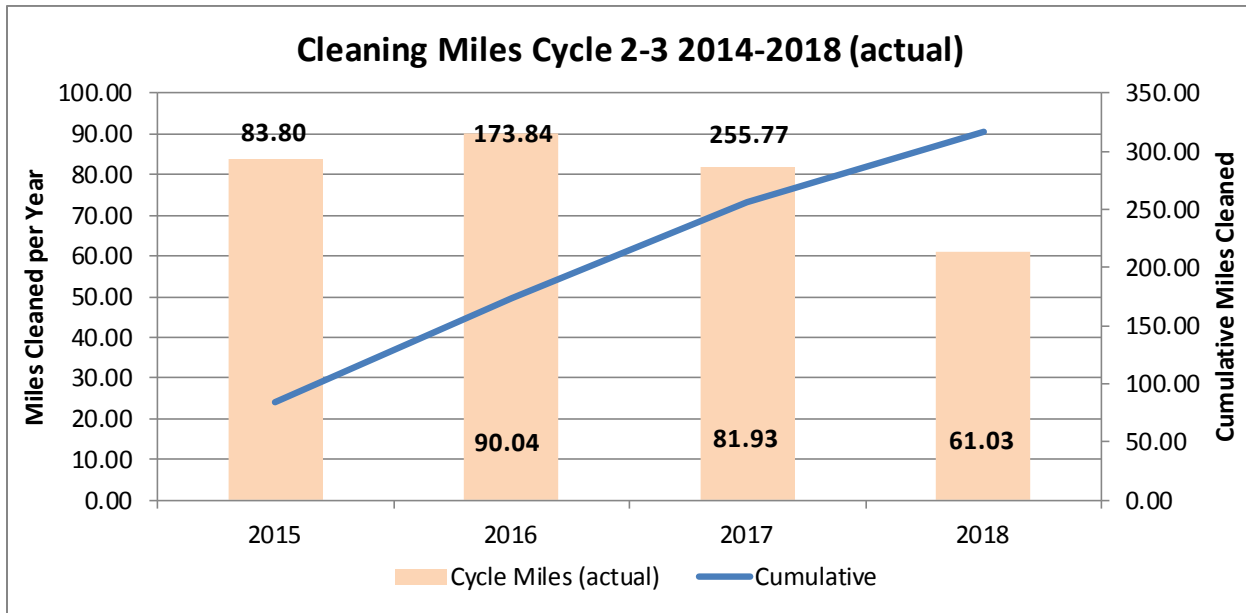
**Collection Systems Monthly Performance Indicators**

Veolia is in the 9<sup>th</sup> year of a 10-year CCTV cycle. Cycle start date was January 1, 2010.\*



\*Current goal mileage of 19.7-miles/year to be adjusted upon final determination of GIS system mileage

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



**Sanitary System Performance Indicators**

**Table 2-a**

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	5/3	N/A
Regular/OT Hours Spent on Private Lateral Calls	10/6	N/A
Point Repairs Completed	1	N/A
Manhole Inspections	6	N/A
Manhole Repairs	0	N/A
CCTV (Closed Circuit TV) (ft.)	11,624	7,000
GPS Surveys	0	As needed
Cleaning (ft.)	48,393	25,000
Cleaning QA/QC Events	11	4
SSOs for current month – Mainline	0	10/yr.
Total Mainline SSO Volume (gallons)	6,380	0
Total Mainline SSO Volume Recovered (gallons)	835	100%
% Mainline SSO Volume Recovered	11	100%
# SSOs – Wet Weather (localized capacity issue)	0	0

Monthly Operating Report  
 Richmond WWTP and Collection System

June 2018

# 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 Smart Cover 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	6	10 - Baykeeper
Number and Percentage of SSOs During 2018 with Discharge Reaching Storm Water Conveyance	3 of 6 = 50%	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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Monthly Operating Report  
Richmond WWTP and Collection System

June 2018

**Richmond CA Collection System Activity Summary**

Collection and Conveyance  
Report Period **June-18**

**Line Cleaning Summary**

Total Lines Cleaned:	176
Total Footage Cleaned:	48,393.10 ft
Total Footage with Cleaning Method:	48,393.10 ft
Unknown Cleaning Method Footage:	0.00 ft

**Footage by Cleaning Method**

**Regular Monthly**

REAR	4,058.54 ft
SPINNER	22,388.57 ft
PENETRATOR	0.00 ft

**Service Call**

REAR	0.00 ft
SPINNER	6,377.20 ft
PENETRATOR	0.00 ft

**SSO**

REAR	0.00 ft
SPINNER	2,635.85 ft
PENETRATOR	0.00 ft

**Corrective Maintenance**

REAR	0.00 ft
SPINNER	0.00 ft
PENETRATOR	0.00 ft

**FOG**

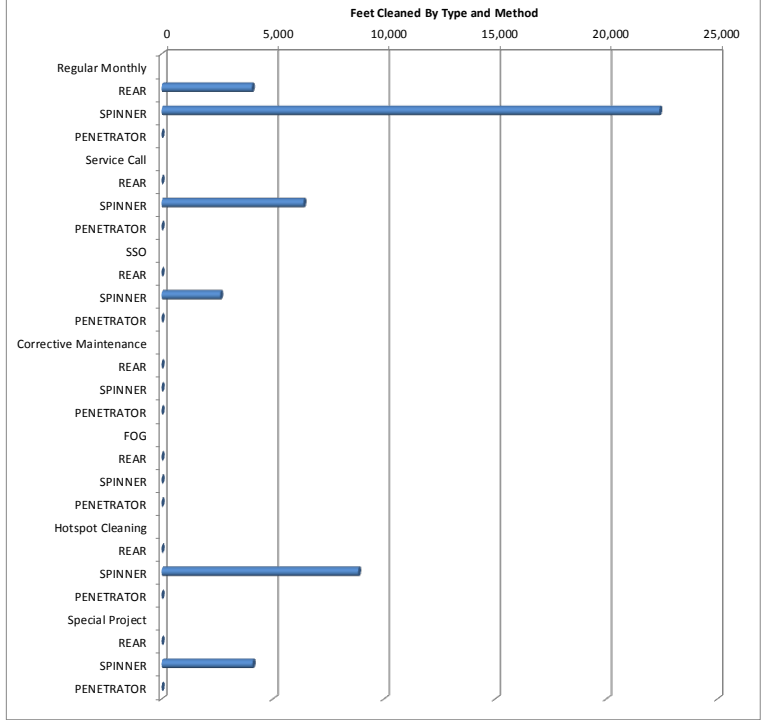
REAR	0.00 ft
SPINNER	0.00 ft
PENETRATOR	0.00 ft

**Hotspot Cleaning**

REAR	0.00 ft
SPINNER	8,842.52 ft
PENETRATOR	0.00 ft

**Special Project**

REAR	0.00 ft
SPINNER	4,090.42 ft
PENETRATOR	0.00 ft

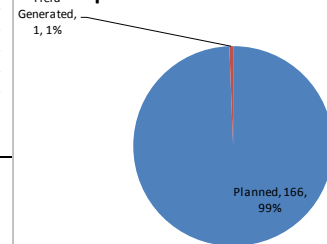


**Pipe Clean Production**

By Crew Leader	Footage	# of days	Footage per day	Planned	Field Generated
HENDRICKS	10,690.55	1	10,690.55	35	0
LEWIS	1,221.73	1	1,221.73	3	0
HILL	3,781.88	1	500.18	0	0
WALLIS	10,436.47	1	10,436.47	38	0
MENDOZA	17,499.98	1	17,499.98	76	0
SIMONETTI	4,762.49	1	4,762.49	14	1
<b>Totals</b>	<b>48,393.10</b>	<b>6</b>	<b>8,065.52</b>	<b>166</b>	<b>1</b>

**Work Order Scheduling**

**Pipe Clean Work Order Analysis**



**Pipe Clean by Pipe Material**

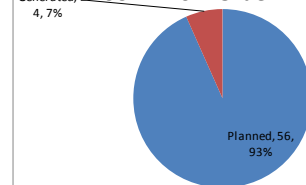
Pipe Material	Footage	# of Segments
VCP	39,802.89	138
PVC	2,129.95	9
Unknown or Other	6,460.26	29
<b>Totals</b>	<b>48,393.10</b>	<b>176</b>

**CCTV Activity Summary**

CCTV Total Footage	11624.50 ft	56	4
Successfully Imported			
Number of Lines Tved:	52		
Total Footage Tved:	11,624.50 ft		

**Work Order Scheduling**

**CCTV Work Order Analysis**



**Manhole Inspections**

Number of Manholes Inspected: 6

**Fats, Oils & Grease Inspections**

Number of FOG Inspections: 0

**Pipe Repair**

Number of Pipe Repair: 0

**Manhole GPS Inspections**

Number of Manholes GPS: 0

**Manhole Maintenance**

Number of Manholes Repaired: 0

**Manhole Cleaning**

Total Number of Manholes Cleaned: 2  
Total number buckets of debree removed: 0  
Average number buckets of debree removed: 0

Monthly Operating Report  
Richmond WWTP and Collection System

June 2018

**Manhole Cleaning**

Total Number of Manholes Cleaned:	2
Total number buckets of debree removed:	0
Average number buckets of debree removed:	0

**General Maintenance Activities**

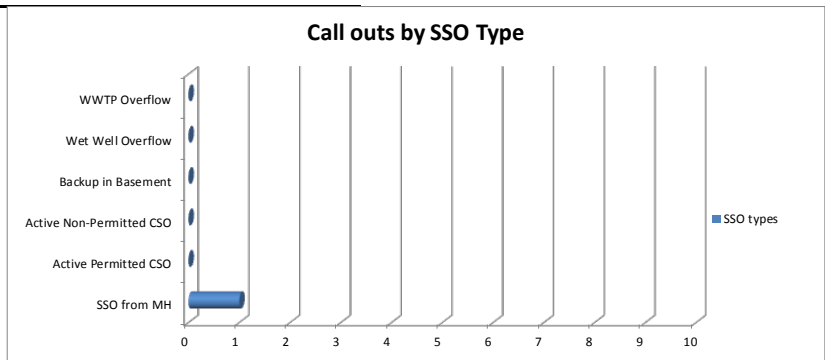
Vactor Cleaning	1
Jet Cleaning	1
Pump Out	3
Manual Cleaning	1
Visual Inspection	8
Exercise FM Pressure Valve	0
Markout Locations	2

**Number of Call Outs**

Total Number of Call Outs:	23
Call outs from Customer Complaints:	22
Call outs from SSO:	1

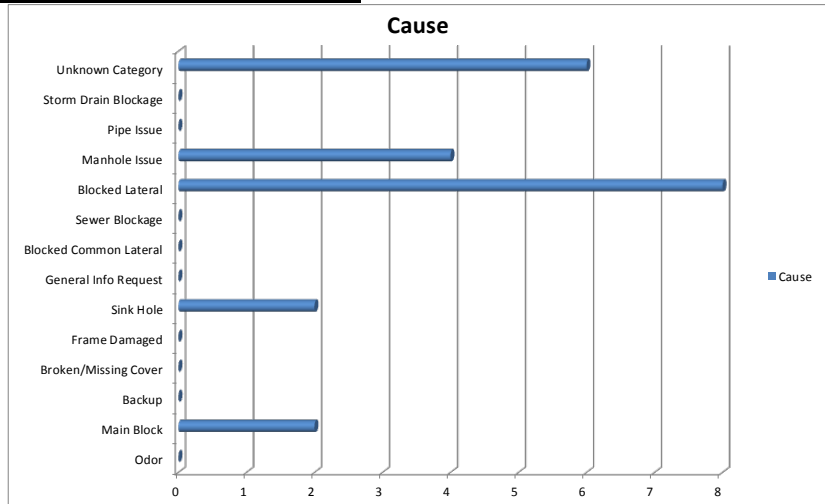
**Call outs from SSO:**

Call outs by SSO Type	
SSO from MH	1
Active Permitted CSO	0
Active Non-Permitted CSO	0
Backup in Basement	0
Wet Well Overflow	0
WWTP Overflow	0



**Call outs from Customer Complaints:**

Call outs by Cause	
Odor	0
Main Block	2
Backup	0
Broken/Missing Cover	0
Frame Damaged	0
Sink Hole	2
General Info Request	0
Blocked Common Lateral	0
Sewer Blockage	0
Blocked Lateral	8
Manhole Issue	4
Pipe Issue	0
Storm Drain Blockage	0
Unknown Category	6
<b>Totals</b>	<b>22</b>



**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



June 2018

Storm Service Calls	3	N/A
Storm CCTV (ft)	0	N/A
Storm GPS Surveys	0	N/A
Storm Pipe Cleaning (ft)	59	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	0	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**

**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 approximately 96% complete.*

- Approximately 34,080 lf (6.4 miles) of pipe was installed by the end of June
- All underground work is complete.
- Finish paving and striping work on 23<sup>rd</sup> will be finalized in July.
- Punchlist items ongoing and will be completed in July.

**BK Sewer Pipe Rehabilitation – Phase I.**

- Unit Cost Bids for Phase 1 Line Segment Repairs – bids were received on June 28 and are being evaluated. Task Authorization (TA) with the City to follow.
- Bay Hawk Inc. is the apparent low bidder; construction slated to begin in August 2018 on 16-20 point repairs as part of FY 17/18 funding.

**Cutting/Carlson & Hoffman Boulevard Projects.** *V. W. Housen & Associates. These projects replace pipelines with NASSCO PACP Structural Grade 4 and correct 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.*

- Bids were opened June 22, 2018, at the City of Richmond’s clerk’s office
- Two bids were received: (1) W.R. Forde and (2) Cratus
- W.R. Forde is the apparent low bidder; construction is slated to begin in August 2018

June 2018

**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 95% complete.*

- Consultant delivered a draft summary report on May 8, which remains under review
- A meeting will be scheduled in early August to review the report and its findings

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

- Five manholes were completed in June; approximately 55 manholes have been rehabilitated thus far by the end of June
- 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 99% complete.*

- The Executive Summary and the final technical memo (TM5: Alternatives Analysis and Implementation Plan) were received at the end of June
- Staff is reviewing the analysis

**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 12% complete.*

- V. W. Housen & Associates has built the network and waiting for significant rain to perform the flow monitoring. (4th Qtr. 2018)

**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 67% complete.*

- The City provided a map of area and wetlands agreement between Tech Center property owner and the City of Richmond, helping to indicate the location of and agreement to maintain the mitigation wetland. Whether this site can be modified and utilized as a detention basin for the conceptual design is still to be determined.
- The Consultant shared with Veolia staff the observations and conclusions made in the geological and geotechnical hazard assessment report prepared by its sub-consultant Cal Engineering & Geology, of the slope located to the west of the Plant. The hazards report recommends additional analysis be performed to review the various alternatives in further

June 2018

detail. Moving forward with this additional scope will need to be determined by both Veolia and the City.

- The Consultant met with Veolia staff to discuss the current status of the design alternatives assessment and the transition of the Consultant's project manager.
- The Consultant still identifies some data gaps in the information they had received from the project team; they are working to resolve those gaps with assistance from Veolia and the City and continue with their assessment.
- Once the remaining data gaps have been filled, the Consultant will provide a brief timeline to complete the design alternatives report and conceptual design.

**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% complete; construction is 75% complete.*

- Carollo is still on hold regarding their design efforts until further notice with the exception of the SBS Facilities Condition Assessment effort
- Carollo attended construction meetings
- Ovivo has finalized the design and is fabricating the Secondary Clarifier No. 3 Mechanism for delivery in late July
- Overaa completed the installation of the Secondary Clarifier No. 2 Mechanism and it has been tested and operational
- Blasting and painting of the launder supports and baffles started the week of June 18<sup>th</sup> and is scheduled to be completed the week of July 27<sup>th</sup>. At that time Clarifier No. 2 will be put back on line and Clarifier No. 1 will be taken off line and blasting and painting of the launder supports and baffles will begin
- All of the Secondary Clarifiers will be completed and back on line by late October
- Primary Sedimentation Basin No.2 repair work began the second week of June for removing equipment and began water blasting and repairing structure due to damage from H<sub>2</sub>S exposure; it will be brought back on line by the end of August 2018
- Primary Sedimentation Basin No. 1 work may begin in early September and will be ongoing until late November 2018
- Depending on the amount of work needed within Sedimentation Basin No. 2, Primary Sedimentation Basin No. 1 will be completed by the end of November