Monthly Operating Report
Richmond WWTP and Collection System
May 2018

Executive Summary

- There were no permit violations in the month of April 2018. This represents the 26th consecutive month without a violation of the 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

Wastewater Treatment Plant

- There were four odor complaints attributed to the plant during May but none confirmed. Two of the complaints originated from the same individual detecting odors while driving by the treatment plant on Canal Blvd. Another complaint came on May 10 from Oregon St. and on May 18 from East Scenic Dr. both in Point Richmond. Air District inspectors visited the treatment plant on May 18 and 29 but found no issues and made no findings.
- There were no blending events in May.
- Influent bar screen was taken out of service (in late April) due to a failure of the main drive and other components. The repairs were completed in mid-May and the unit returned to service. Because that system lacks redundancy, a backup drive and additional critical spare parts are on order.
- Recruiting for treatment plant operations manager

Table 1 **Parameter**	Monthly Performance Indicators	Limit/Target
Treatment Plant Operations:		
Influent Flow, daily average (MGD)	3.06**	N/A

Effluent Flow, daily average (MGD)	5.47	N/A
Influent BOD_5, avg. mg/L	329	N/A
Influent TSS, avg. mg/L	287	N/A
Effluent TSS, monthly average mg/L	22.5	30 or less
Effluent BOD, monthly average mg/L	23	30 or less
% BOD Removal	92.5	> 85
% TSS Removal	87.1	> 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	1.38	N/A
Leachate received, GAL	409,704	N/A
Leachate received YTD, MG	1.970	N/A

**

The plant influent flow meter was not measuring correctly for about the first 10 days of the month and as such the daily average is biased low and inaccurate. Average effluent flow is an accurate representation of actual flow through the plant.

Maintenance

Work Order Type	No. Completed
Storm Water Pump Stations	70
Sewer Pump/Lift Stations	78
Treatment Plant	57
Corrective	16
Total	221

Completed Projects

- Installed new automated plant facility rear access gate.
- Overhauled Influent Bar-screen collector & drive unit.
- Completed the bi-annual Digester Dystor Cover inspection. Next inspection scheduled for 11-5.
- Drain & clean Primary Sedimentation Basin in anticipation of the rehabilitation project scheduled for June.

Look Ahead; June – July 2018

- Complete the installation of the plant facility automated front access swing gate.
- Overhaul Heat Exchange Recirculation Sludge Pump #121.
- Install new Digester Watson Marlow Ferric Chloride Injection Pump System.
- Start Primary Sedimentation Basin rehabilitation project with Overaa Construction. Demo of existing flight collection equipment and concrete repair scheduled for June/July completion.
- Overhaul plant facility/lift station portable Vaughn Diesel Pump unit.
- Complete Wet Weather Pump Station Cathodic Protection System Inspection.
- Remove and perform preventative maintenance on (4) Plant Wet-Weather Storm Flygt NP 3356.746 175 H.P. Centrifugal Submersible Pumps.

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 May, there was (1) sanitary sewer overflow events. 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 = 5-YTD

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

There were a total of (14) sanitary sewer service calls in May, (9) of which were property lateral issues, (2) of which were sewer line main-related, and (3) 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.

Sanitary Sewer Point Repair:

(2) Sanitary sewer repair performed during the month of April as follows:

- McBryde Ave and Ventura – repair of broken pipe in progress
- Barrett and Civic Center – repaired broken pipe

Storm Water System Highlights

There were (4) storm-water related service calls in April.

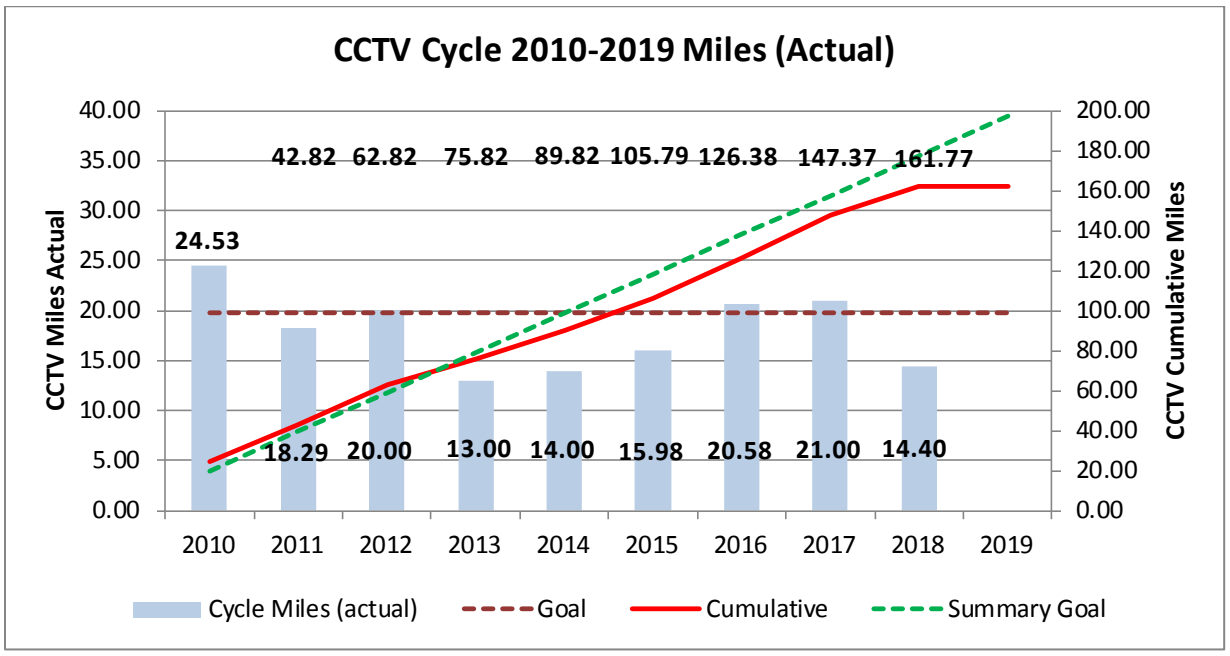
Cleaned (16) catch basins, inlets, drains and storage devices within the City of Richmond.

Storm Water System Point Repairs

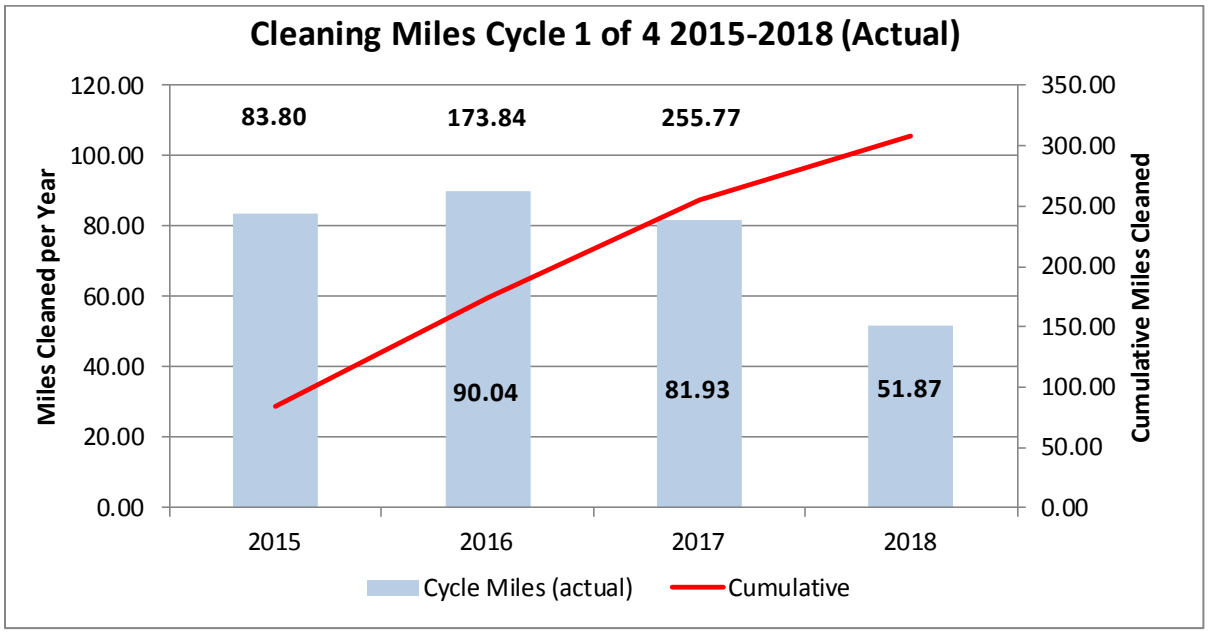
- 29 6th St/Lincoln School – We are in the process of installing new manhole in this area to alleviate flooding

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-a

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	5/4	N/A
Regular/OT Hours Spent on Private Lateral Calls	10/8	N/A
Point Repairs Completed	1	N/A
Manhole Inspections	19	N/A
Manhole Repairs	0	N/A
CCTV (Closed Circuit TV) (ft.)	22,169	7,000
GPS Surveys	0	As needed
Cleaning (ft.)	55,629	25,000
Cleaning QA/QC Events	9	4
SSOs for current month – Mainline	0	10/yr
Total Mainline SSO Volume (gallons)	20	0
Total Mainline SSO Volume Recovered (gallons)	10	100%
% Mainline SSO Volume Recovered	50	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	17	N/A
Sewer Lift Station PMs	78	
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	5	10 - Baykeeper
Number and Percentage of SSOs During 2017 with Discharge Reaching Storm Water Conveyance	3 of 4 = 60%	N/A

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

Richmond CA Collection System Activity Summary

VEOLIA

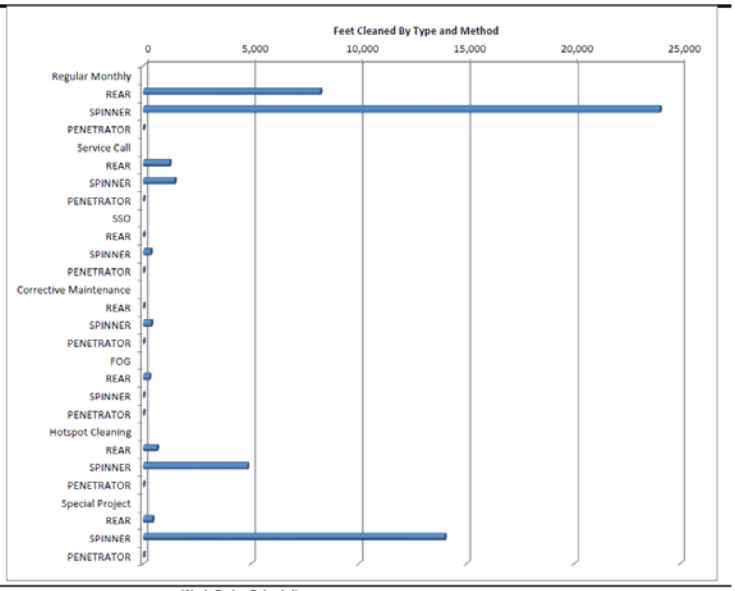
Collection and Conveyance
Report Period: **May-18**

Line Cleaning Summary

Total Lines Cleaned:	232
Total Footage Cleaned:	55,746.78 ft
Total Footage with Cleaning Method:	55,746.78 ft
Unknown Cleaning Method Footage:	0.00 ft

Footage by Cleaning Method

Regular Monthly		
	REAR	8,210.58 ft
	SPINNER	24,027.04 ft
	PENETRATOR	0.00 ft
Service Call		
	REAR	1,203.97 ft
	SPINNER	1,452.47 ft
	PENETRATOR	0.00 ft
SSO		
	REAR	0.00 ft
	SPINNER	344.18 ft
	PENETRATOR	0.00 ft
Corrective Maintenance		
	REAR	0.00 ft
	SPINNER	368.89 ft
	PENETRATOR	0.00 ft
FOG		
	REAR	285.54 ft
	SPINNER	0.00 ft
	PENETRATOR	0.00 ft
Hotspot Cleaning		
	REAR	620.20 ft
	SPINNER	4,824.93 ft
	PENETRATOR	0.00 ft
Special Project		
	REAR	422.51 ft
	SPINNER	13,986.48 ft
	PENETRATOR	0.00 ft



Pipe Clean Production

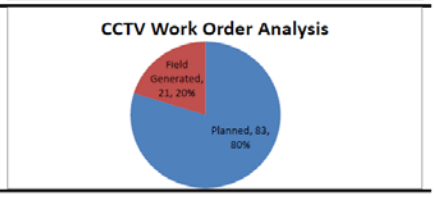
By Crew Leader	Footage	# of days	Footage per day	Work Order Scheduling Planned	Work Order Scheduling Field Generated
ARMSTRONG	2,874.27	5	574.85	11	0
HENDRICKS	9,595.87	9	1,066.21	35	0
LEWIS	4,000.60	4	1,000.15	17	0
HILL	281.22	1	281.22	1	0
WALLIS	23,548.88	16	1,471.80	92	0
MENDOZA	10,845.39	11	985.94	52	0
SIMONETTI	2,583.32	6	430.55	19	0
Totals	**53,729.55**	**52**	**1,033.26**	**227**	**0**

Pipe Clean by Pipe Material

	Footage	# of Segments
VCP	44,604.90	178
PVC	5,491.13	21
Unknown or Other	5,650.75	33
	55,746.78	**232**

CCTV Activity Summary

		Work Order Scheduling	
CCTV Total Footage	**20491.37 ft**	83	21
Successfully Imported			
Number of Lines Tved:	99		
Total Footage Tved:	20,491.37 ft		
Unsuccessfully Imported			
Number of Lines Tved:	5		
Total Footage Tved:	1,574.46 ft		



Manhole Inspections
Number of Manholes Inspected: 0

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

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Manhole Cleaning

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

General Maintenance Activities

Vactor Cleaning	0
Jet Cleaning	2
Pump Out	8
Manual Cleaning	2
Visual Inspection	26
Exercise FM Pressure Valve	0
Markout Locations	0

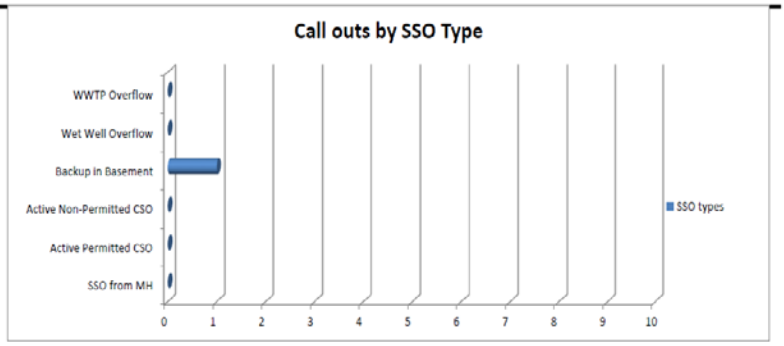
Number of Call Outs

Total Number of Call Outs:	15
Call outs from Customer Complaints:	14
Call outs from SSO:	1

Call outs from SSO:

Call outs by SSO Type

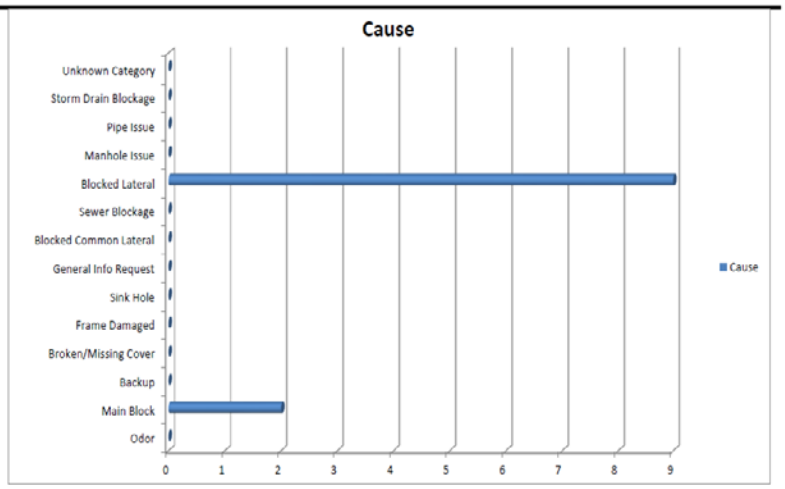
SSO from MH	0
Active Permitted CSO	0
Active Non-Permitted CSO	0
Backup in Basement	1
Wet Well Overflow	0
WWTP Overflow	0



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	0
General Info Request	0
Blocked Common Lateral	0
Sewer Blockage	0
Blocked Lateral	9
Manhole Issue	0
Pipe Issue	0
Storm Drain Blockage	0
Unknown Category	0
Totals	11



(*Please note that Table 2-b, Richmond CA Collection System Activity Summary, is under "beta test" development within the reporting module of the InfoNet CMMS database and, as such, certain activity data (e.g. manhole cleaning and manhole inspections) results are inadequately or incorrectly reporting at this time. However, Veolia's Marie Hernandez, in concert with Veolia-Corporate underground asset management staff, is continuing her work to refine the InfoNet CMMS reporting features so to achieve readily accessible service agreement and settlement agreement report request.*

Storm Water System Performance Indicators

Table 3

Performance Indicator	Monthly Actual	Target/Limit
Storm Point Repairs	1 in progress	N/A
Storm Manhole Repairs	0	N/A
Storm Manhole Inspections	0	N/A
Storm Service Calls	4	N/A
Storm CCTV (ft)	0	N/A
Storm GPS Surveys	0	N/A
Storm Pipe Cleaning (ft)	138	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	16	N/A
Storm Vaults Cleaned/Inspected	0	N/A
GSRD (trash capture device) Cleaning/Inspections	2	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 $10.7M. Construction is approximately 95% complete.*

- Approximately 33,510 lf (6.3 miles) of pipe was installed by the end of May
- Replacement of main & laterals on Garvin & Coalinga is 100% complete
- W.R. Forde has one crew working to finish out the project
- Replacement of main & laterals on 20th will follow accordingly
- Underground work will be completed by June 8
- Finish paving and striping work will continue in June. Some night work is also planned on 23rd Street for later in June and will be coordinated with the City

BK Sewer Pipe Rehabilitation – Phase I.

- *San Pablo and Macdonald Emergency Repair (SSOs) - W.R. Forde and Associates.* This emergency repair project replaced two bad voids that had soil visible in a Grade 5 pipe segment at the intersection of San Pablo and Macdonald; the work was complete in May.
- *McLaughlin Street / Key Boulevard – Bay Hawk.* The first two feet of pipe had no bottom and a 10' long void, which made it unable to ever fully CCTV. The emergency repair work entailed multiple point repairs along the entire 522' of pipe and reconnecting laterals for customers.

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.

- The two projects went out to bid on BidsOnline on May 23, 2018
- Pre-bid meeting is scheduled for June 6th
- Both bids are due Friday, June 22, 2018, at the City Clerk's office in Richmond

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 is currently under review
- A meeting will be scheduled in June or July 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.*

- Seven manholes were completed in May; approximately 49 manholes have been rehabilitated thus far by the end of May
- 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 98% complete.*

- An Executive Summary and the final technical memo (TM5: Alternatives Analysis and Implementation Plan) are expected in the near future

Richmond WWTP Yard Expansion Project. *Bay Hawk. The purpose of this project is to (a) abandon and remove the obsolete diesel and gasoline fuel system at the Richmond Plant and (b) relocate the street sweeper yard to a different location outside of the WWTP. Project is 100% complete.*

- The project work is complete; final invoicing is in progress

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 geological and geotechnical hazard assessment report prepared by Nichols Consulting Engineers' (NCE's) subconsultant Cal Engineering & Geology was delivered on 5/5/18 and is under review
- Staff is working with the City and consultant to concur on discrepancies with offsite drainage options
- Currently awaiting desired modifications to stormwater deliverables
- Received information concerning the nursery relocation and currently exploring modifications to the drainage alternatives

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 45% 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 and responded to RFIs
- Ovivo has finalized the design and is fabricating the Secondary Clarifier No. 3 Mechanism for delivery in late June early July
- Overaa completed the installation of the Secondary Clarifier No. 2 Mechanism and will power it up the week of June 11th
- Blasting and painting of the launder supports and baffles will start the week of June 18th and is scheduled to be completed the week of July 9th. 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 was shut down on May 21st for dewatering; repair work will begin the second week of June for removing equipment and beginning water blasting and repairing structure due to damage from H2S exposure; it will be brought back on line by the late 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 may be postponed until spring 2019