STATE OF CALIFORNIA MEETING DATE: September 11, 2019
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ITEM: 5
SUBJECT: **EXECUTIVE OFFICER'S REPORT**

Items in this Report (Author[s])

Implementation of the State Water Board's Per- and Polyfluoroalkyl Substances (PFAS) Action Plan – (Adriana Constantinescu and Erica Kalve)

Last March, the State Water Board's Division of Water Quality (DWQ) presented to the public the Per- and Polyfluoroalkyl Substances Phased Investigation Action Plan requiring testing of drinking water systems and site investigations at high risk locations throughout the State. The Action Plan presents a state-wide, three-phase effort to be implemented in coordination with Regional Water Boards before the end of 2019.

PFAS are a family of high-profile emerging contaminants consisting of thousands of man-made and mostly unregulated chemicals that have been produced since the mid-1900s. PFAS are commonly found in stain resistant and waterproof textiles, food contact paper, non-stick cookware, certain fire-fighting foams, metal plating, and many other industrial and commercial products and processes. Perfluorooctanoate (PFOA) and perfluorooctane sulfonate (PFOS) are two PFAS that have received regulatory attention due to concerns that exposure could potentially cause testicular and kidney cancer; liver, immune, and thyroid effects; and adverse developmental effects to developing fetuses and breastfed infants. More detailed information regarding PFAS is available on the State Water Board's PFAS webpage.

In May 2016, the U.S. EPA established a health advisory level (HAL) of 70 parts per trillion (ppt) for the combined concentrations of PFOS and PFOA in drinking water and recommended that drinking water systems take action to treat PFOS and PFOA detected above those levels. In August 2019, the State Water Board's Division of Drinking Water (DDW) updated their health-based advisory levels (referred to as notification levels) from 14 parts per trillion (ppt) to 5.1 ppt for PFOA and from 13 ppt to 6.5 ppt for PFOS. These levels are based on updated health recommendations from the Office of Environmental Health Hazard Assessment (OEHHA), which is part of the California Environmental Protection Agency. More detailed information regarding PFOA and PFOS is available on the State Water Board's PFOA PFOS webpage.

In addition to the updated notification levels, the State Water Board has requested that OEHHA develop public health goals (PHGs) for both PFOA and PFOS, which is the next step toward establishing enforceable maximum contaminant levels in drinking water. In the meantime, DDW uses 70 ppt as the California response level for the combined concentration of PFOA and PFOS consistent with the U.S. EPA's HAL. A response level is a nonregulatory, precautionary health-based measure that is set higher than a notification level and represents a recommended level that water systems consider taking a water source out of service or provide treatment if that option is available to them. More information about DDW's drinking water guidelines can be found here.

A fact sheet on the State Water Board directives for soil and groundwater sampling at likely PFAS "Hot Spot" locations is available here. Phase I of the Action Plan was initiated in March 2019. Specifically, two statewide California Water Code, Section 13267 Orders were issued on March 20, 2019, which required 4 airports (San Francisco International Airport, Oakland International Airport, San Jose International Airport, and Buchanan Field Airport) and 29 municipal solid waste landfills in our region to submit and implement source area investigations workplans. Most workplans were received in

June and July and staff have reviewed and approved them. The investigation results are due 90 days after workplan approval so most will be submitted this fall. At that time, staff will evaluate the data collected as part of the investigation activities to make informed decisions about the need for further assessment, mitigation, and cleanup.

Phase I also included California Health and Safety Code, Section 116400 Orders (issued by DDW) requiring testing for PFAS at drinking water systems located within a 1- to 2-mile radius of these sites, as well as any known impacted drinking water sources including adjacent small water systems. DDW is planning to make the sampling results from drinking water systems available and we will use the information to help prioritize our response actions for potential source sites. Our staff will coordinate with DDW and DWQ on follow up at facilities where we find PFAS.

411 High Street Cleanup Project Status Update – (Katrina Kaiser and Jeff White)

In the June 2019 Executive Officer's Report (EOR) I included a summary of petroleum cleanup activities at the 411 High Street site near the Oakland estuary. At the July 2019 Board meeting, the legal representative (Robert Doty) for the property owner (Richard Koch) presented concerns about the site status, history, and our regulatory approach. The purpose of this report is to provide a project status update in light of the concerns expressed to the Board.

Background: 411 High Street, which is located near the Oakland Estuary northeast of the High Street bridge, is the site of a former petroleum bulk storage and distribution plant. The plant was owned by Atlantic Richfield Company (ARCO) and operated from 1946 to 1975. The plant included several aboveground and underground tanks and a product loading rack. Fuel contamination was first identified in the 1980s. Since then the Board adopted five cleanup orders (1990, 1993, 1998, 2006, and 2011) and two administrative civil liability (ACL) complaints (2011, 2014) for failure to submit a required remedial action plan and implement the plan by the compliance due dates. We are currently working with ARCO under the requirements of the 2011 cleanup order and a May 2019 investigation order.

Additional Investigation: To address data gaps in the extent and distribution of the petroleum contamination, ARCO has implemented its April 2019 investigation work plan, which was conditionally approved by our May 2019 investigation order. The phased investigation work is proceeding and involves a process of collecting soil and groundwater samples from borings drilled on the 411 High Street and surrounding properties, discussing results with Board staff, and repeating as necessary until the investigation is complete.

We expect the phased approach to be completed by December 2019. At that time, we will consider the need for additional requirements and/or enforcement action.

Remediation Effectiveness: Our May 2019 investigation order also required ARCO to submit a comprehensive effectiveness evaluation of the current in-situ remediation system by August 31, 2019. That report has been submitted and is currently under staff review. The remediation system includes a dual-phase extraction (DPE) component and an in-situ injection component. The system is designed to target source area contamination in order to encourage natural attenuation of petroleum contamination in

the surrounding areas. I previously reported that these components had been shut down since February 2019 because the site access agreement expired between the property owner and ARCO. In June, ARCO's site access was restored and the remediation system turned on.

At the July 2019 Board meeting, the property owners legal representative expressed a concern that DPE is not an efficient or appropriate remedy. We intend to use the August 2019 effectiveness evaluation report as a basis for evaluating the system's ability to achieve cleanup standards in a reasonable timeframe, and for assessing the need for additional or alternative remedial measures. We expect to make our determination by December 2019.

Vapor Intrusion Threats: In accordance with our May 2019 investigation order, ARCO has submitted work plans for assessing potential vapor intrusion threats to current and future occupants of existing office buildings on adjacent properties affected by the petroleum contamination from 411 High Street. We have approved these work plans, which includesoil vapor and indoor air sampling.

One of the buildings (441/445 High Street) has remained unoccupied since 2015, while the other is a small office attached to a bus maintenance shop (407 High Street). At the July 2019 Board meeting, the property owners legal representative stated that the 441/445 building remains vacant because indoor air is not suitable for human habitation. We believe this is incorrect. A vapor intrusion assessment was previously conducted in 2012 for the 441/445 building, which led to remedial soil vapor extraction (SVE) from June 2014 – March 2015. Based on soil vapor sampling results at that time, Water Board staff agreed that there was no threat to building occupants and allowed the SVE to be switched off. However, because site conditions are dynamic and because our approach to assessing vapor intrusion threats has changed, we are now requiring re-testing to confirm the 2015 results. This re-test will include soil vapor and indoor air sampling. We expect the vapor intrusion assessments for both buildings will be completed by November 2019.

Future Redevelopment Plans: In the June 2019 EOR, we stated that the property is zoned commercial and there are no current redevelopment or land use change plans. Mr. Doty pointed out that the City of Oakland's Estuary Plan calls for roads that would bisect the property. Regional Water Board staff have reached out to the City of Oakland regarding its redevelopment plans. Our goal is to better understand 1) the redevelopment plan and timeframe 2) the potential impediments posed by the contamination for implementation of the City's plans and 3) the risk management protocols needed to accommodate redevelopment under current site conditions. We expect to meet with the City in coming weeks to discuss these issues and consider their implications.

Update on Regulation of Metal-Shredding Facilities – (Brian Thompson)

The Department of Toxic Substances Control (DTSC) is considering a path forward to regulate metal-shredding facilities. In response to a series of fires and releases, the Legislature required DTSC to thoroughly evaluate metal shredders and consider whether an alternative regulatory framework is appropriate for the industry (see SB 1249, enacted in September 2014). DTSC recently completed stakeholder outreach,

with Water Board representation, and will announce a path-forward plan and hold a public meeting for input this fall. For more information about DTSC's process and next steps, visit the Metal-Shredding Facilities and Implementation of SB 1249 web page. More information about metal-shredding is presented below.,

Metal-shredding facilities recycle ferrous (steel) and nonferrous (e.g., tin, aluminum, copper) metals from end-of-life cars, household appliances, and discarded metal objects that would otherwise end up in landfills. Shredder waste consists mostly of glass, fiber, rubber, wood, foam, dirt, and plastic, but it also contains metal dust and other residual material, such as automobile fluids, that depollution efforts did not completely remove. When tested, concentrations of lead, copper, and zinc in the shredder waste have exceeded California hazardous waste levels and, historically, polychlorinated biphenyls (PCBs), cadmium, and mercury have exceeded federal or California regulatory thresholds, or both.

Pursuant to SB 1249, DTSC will address how metal-shredder waste is handled in its pending plan, and it must decide if metal-shredding operations are subject to hazardous waste permitting requirements. Industry representatives said in stakeholder meetings that the legal basis for hazardous waste permitting would be challenged if that is DTSC's proposed path forward.

Treated metal-shredder waste has been used as daily cover at Class III landfills since the late 1980s. The Board's landfill program regulates water quality at Class III landfills where metal-shredder waste has been applied with DTSC approval. Board staff have not had significant concerns about water quality issues associated with this use. Leachate generated from landfills is regularly tested, and staff have not noticed a distinct signature or spike in metals concentrations at these landfills.

The Board regulates two metal shredders in the San Francisco Bay Region: Schnitzer Steel Products, Oakland and SIMS Metals Management, Redwood City. Both facilities have a Water Board permit (statewide industrial stormwater permit or an individual NPDES permit), and the Board has required investigation and cleanup of soil and groundwater pollution at the Oakland facility. While the Board is actively regulating these facilities, DTSC's stakeholder process raised broader awareness around some issues that are not well covered by the authorities of a single agency. Fires and the discharge of an airborne particulate called light fibrous material (also sometimes called shredder residue or shredder fluff) have cross-media concerns (soil, air, and water) with risks to human health and the environment. DTSC is evaluating stakeholder input on these issues and is considering a path-forward plan to adequately regulate the metal-shredding industry.

Dublin Crossing / The Boulevard Residental Development – Trichloroethene Site Investigation (Maggie Beth)

Dublin Crossing LLC and Lennar Homes (Developers) are currently constructing a large residential housing development on land that was transferred from the southern portion of Camp Parks Army Base in Dublin, California (see Figure 1 and 2 below). Currently, 350 of over 1,700 proposed housing units have been completed and are occupied by new owners.

During routine construction dewatering in the fall of 2018, trichloroethene (TCE) was detected in two shallow groundwater samples on the housing development site. Historic documentation from the Army did not indicate a known source or spill of TCE within the footprint or upgradient of the housing development. With this new information we immediately required the Developers to submit a work plan to identify the source and extent of volatile organic compounds (VOCs), including TCE.

Since January 2019, the Developers have been sampling soil gas and groundwater and finding low VOC concentrations in both soil gas and groundwater. Six VOCs, including TCE, have been detected in soil gas and/or groundwater samples above our Environmental Screening Levels (ESLs) and U.S. EPA TCE Trigger Levels. The TCE Trigger Levels were developed by U.S. EPA in 2014 to address the potential acute toxicity at low concentrations.

Exceedance of a groundwater ESL or a U.S. EPA Trigger Level does not necessarily establish that there is an actual threat to human health, but it does indicate the need for additional investigation. The existing data does not indicate that the occupied homes have been impacted. However, there are data gaps that will need to be addressed before we can make a final determination. Since the site investigation is still ongoing, the risk to human health, if any, and necessary remediation and/or mitigation measures will be evaluated during and upon completion of the investigation. The Site investigation is expected to be completed in the next 3-4 months.

At our request, the Developers have distributed a Fact Sheet to all existing residents informing them of the ongoing site investigation. They also offered to conduct analysis of VOCs in soil gas on the lots of individual housing units, and to implement any necessary mitigation measures. Currently, 23 of the 350 homeowners have requested testing on their lots. The Developers have also arranged for a 3rd party independent expert to assist existing and prospective homeowners with questions about VOCs at the Project Site.

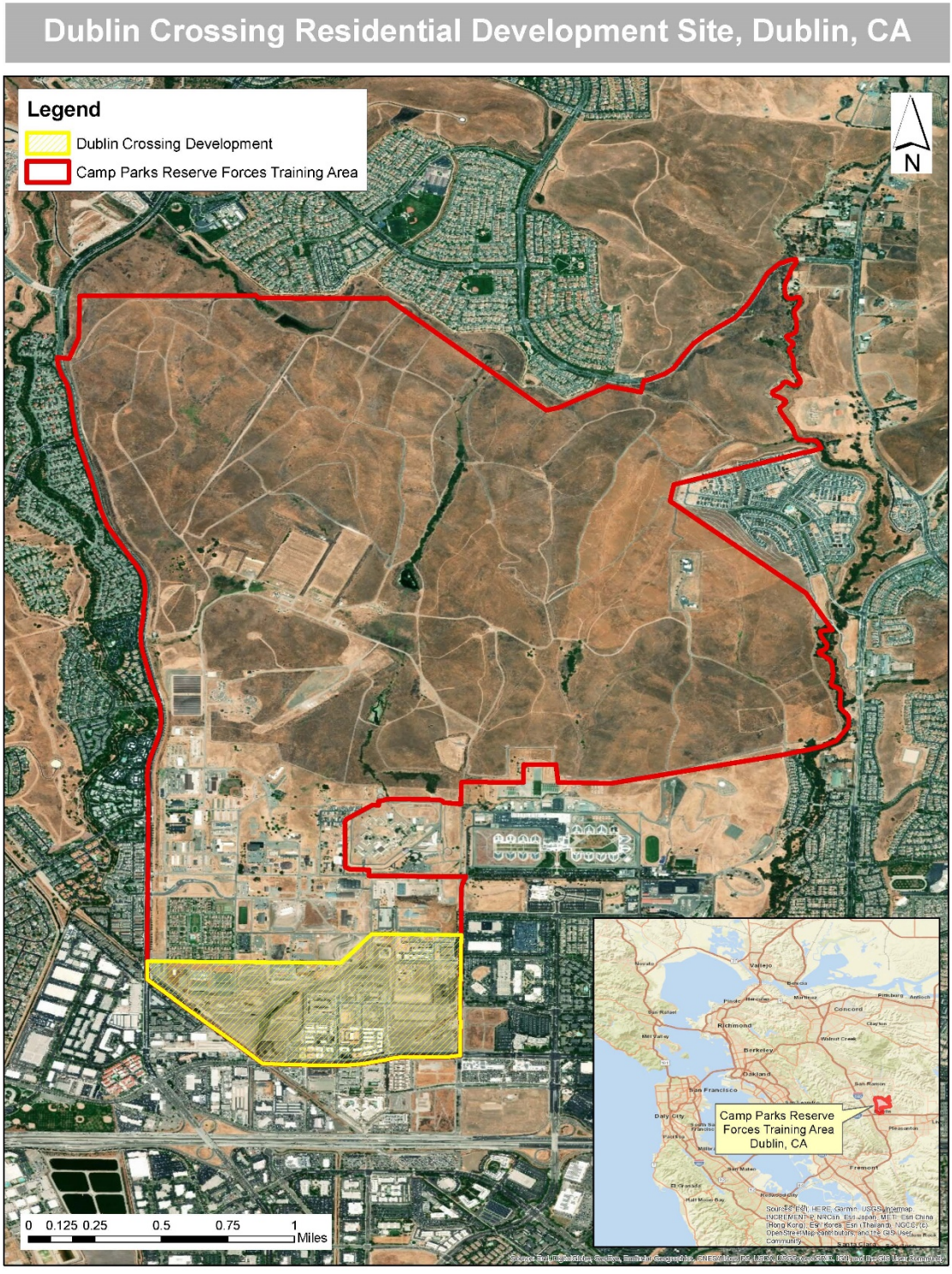

***Figure 1**. Dublin Crossing Residential Development Site, Dublin, CA*

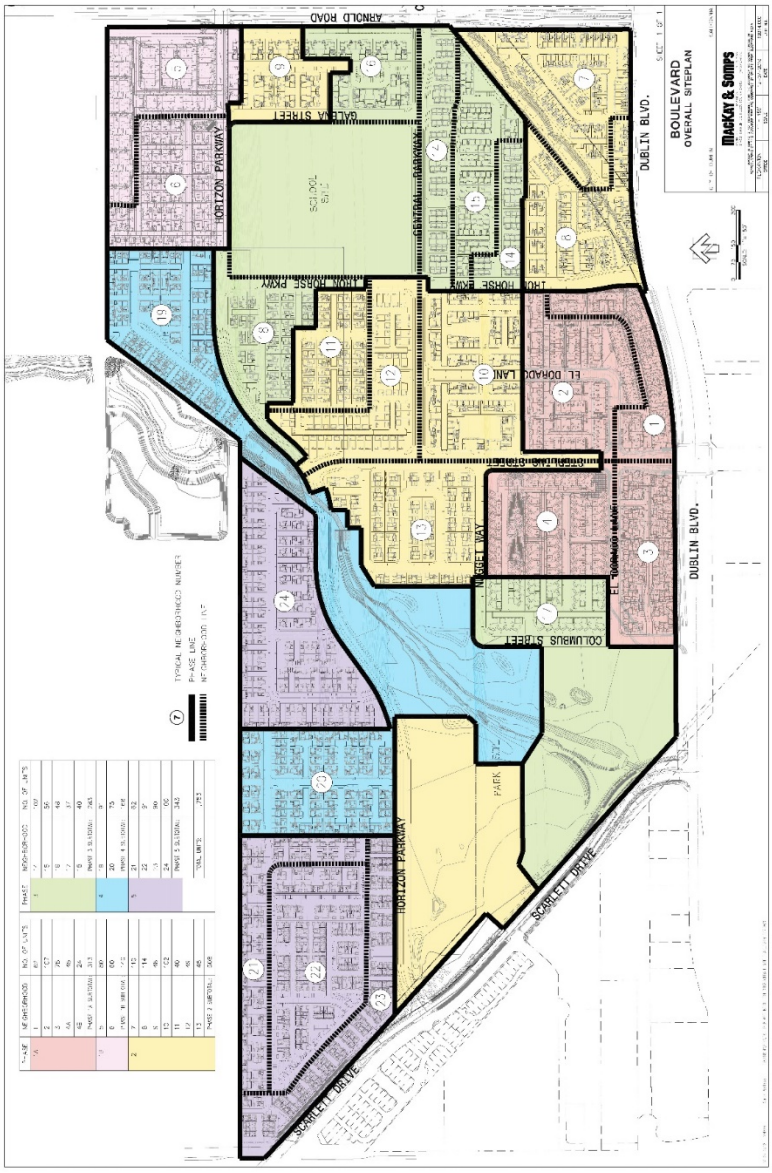

Figure 2. *Proposed Residential Housing Development Layout*

Transfer of 2,216 Acres from the Former Concord Naval Weapons Station to East Bay Regional Park District (Max Shahbazian)

On June 12, 2019, the U.S. Navy assigned 2,216 acres of land at the former Concord Naval Weapons Station (NWS Concord) to the National Park Service for subsequent deed transfer to East Bay Regional Park District (EBRPD). Transfer of ownership to the EBRPD is expected to take six months. An additional 328 acres, which is comprised of seven small parcels, are set to transfer to EBRPD in the future in phases as the parcels become environmentally suitable to transfer. This is the first large-scale property transfer that has happened at the NWS Concord since it operationally closed in 2008, when nearly half of the 11,000-acre Navy base was transferred from the U.S. Navy to

the U.S. Army as part of the Military Ocean Terminal Concord (MOTCO) located in Port Chicago. MOTCO is currently an active Army weapons storage and transfer facility

Regional Water Board staff, together with California Department of Toxic Substances Control, California Department of Fish and Wildlife, U.S. Environmental Protection Agency, and the U.S. Fish and Wildlife Service, worked with the U.S. Navy to oversee environmental cleanup at NWS Concord. The culmination of these efforts has resulted in the August 2017 finalization of the Navy's Finding of Suitability to Transfer (FOST). The FOST documented that 3,778 acres of land at the former Navy base will be environmentally suitable for transfer to the City of Concord (1,235 acres) and to EBRPD (2544 acres).

EBRPD plans to develop the land as the Concord Hills Regional Park, which will include hiking trails, bicycle paths, picnic areas, overlooks, and an interpretive center. The park will provide a high-quality outdoor recreation experience located next to urban areas and public transit while protecting open space and recognizing and preserving the site's important military history. Park development is expected to take several years and will require significant financial resources.

The City of Concord will develop their 1,235 acres of acquired land for mixed use and cluster it around the North Concord BART station, with greenways and parks separating neighborhood villages. The parcels are shown in yellow and green on Figure 1.

If any environmental issues are discovered after the transfer of the 3,778-acre FOST Parcel, the regulatory agency team will work closely with the Navy, the City, and the EBRPD to resolve them.

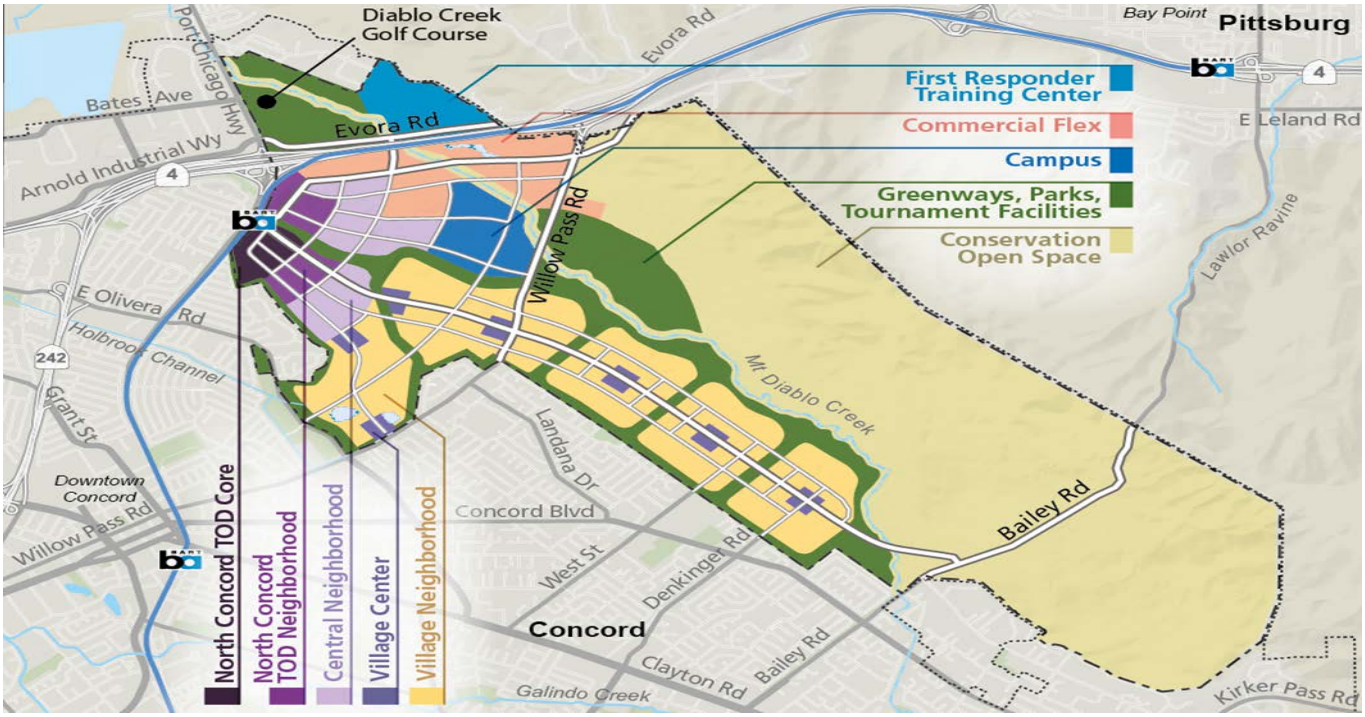

Figure 1. *Yellow, East Bay Regional Park District Parcel (Conservation Open Space). All other colors, City of Concord and Contra Cost County Parcels*

Sanitary Sewer Overflow Update (Jessica Watkins)

In the November 2018 Executive Officer's Report, we reported on sanitary sewer overflows (SSOs) as they relate to both dry and wet weather. At the May Board hearing, the Board requested an update that reflects the 2018-19 wet weather season.

One of our highest priorities is to minimize SSOs. We regulate 136 sanitary sewer collection systems, serving about 7.5 million people. These systems have about 18,000 miles of sewer pipe. An SSO occurs when untreated sewage leaves the collection system before being conveyed to the treatment plant, and instead goes to land or surface water, or both. SSOs threaten human health, aquatic life, and other beneficial uses, particularly when they reach surface waters ("Category 1 SSOs").

Figure 1 shows the primary causes of SSOs in the San Francisco Bay Region. Blockages caused by roots, debris, and fats, oils, and grease (FOG) account for about half of all SSOs. Root blockages occur when moisture-seeking roots penetrate and grow within a collection system pipe. FOG contributes to blockages by accumulating in pipes with low or slow flows. Along with FOG, debris can build up on roots over time, further constricting flows. When a collection system is blocked, sewage backs up and overflows at the point of least resistance, such as a manhole cover, cleanout, broken pipe, or pump station. Insufficient sewer system capacity accounts for only about one third of SSOs, but is by far the primary cause of Category 1 SSOs.

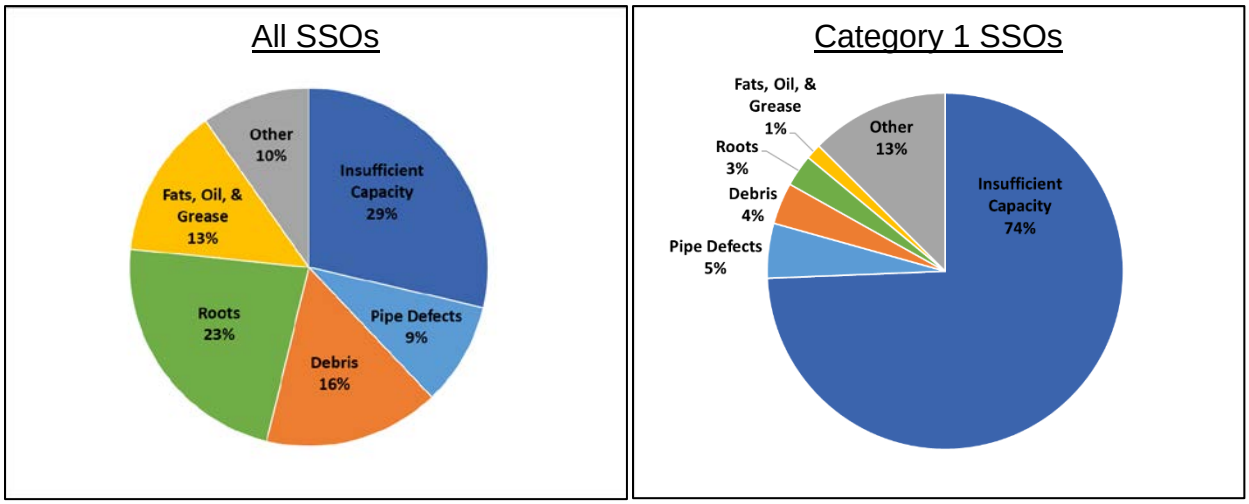

Figure 1: *SSO Causes in San Francisco Bay Region, July 1, 2007 – June 30, 2019*

As shown in Figures 2a and 2b, total SSO rates in our Region are decreasing faster than statewide rates. Based on the current downward trend, we hope our Region's SSO rate will match the statewide rate in about five years. However, we are focusing our attention on Category 1 SSOs because of their larger volumes and potential to harm water quality. In our Region, Category 1 SSOs account for about 20 percent of all SSOs, but they also account for about 80 percent of overall spill volumes. We have much more work to do because, as shown in the figures, the declining trend in the number of SSOs is far less pronounced for Category 1 SSOs.

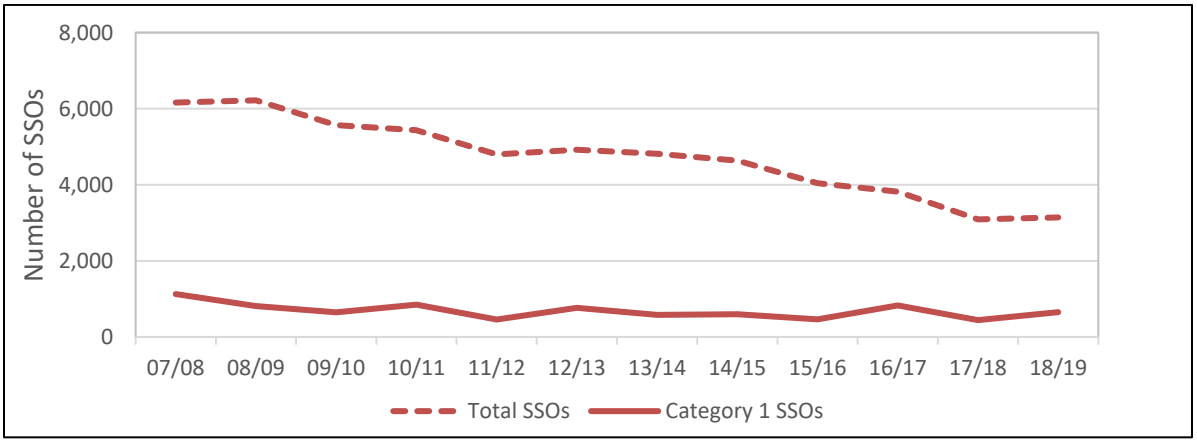

Figure 2a: *Total and Category 1 SSOs in California*

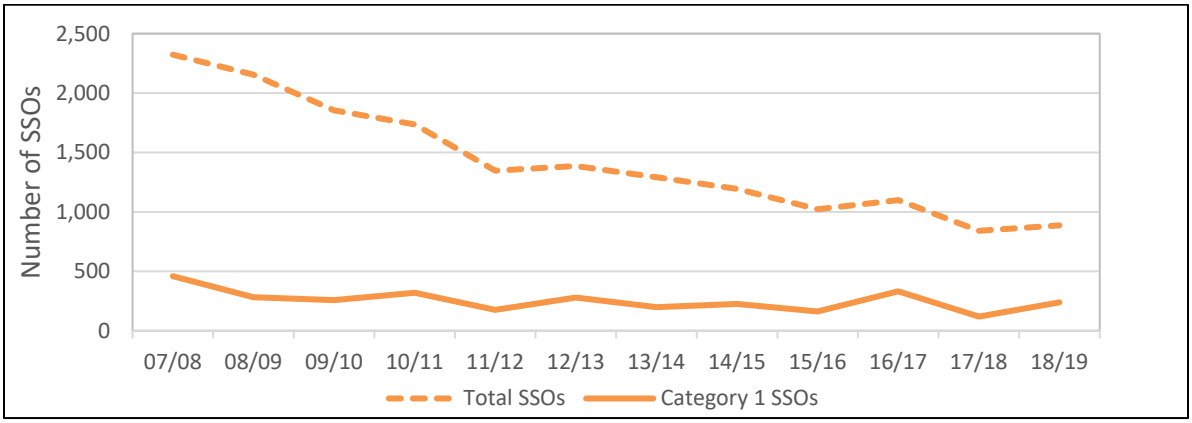

Figure 2b: *Total and Category 1 SSOs in San Francisco Bay Region*

Category 1 SSOs correlate with rainfall. For example, the number of Category 1 SSOs increased in 2016-17 due to several large and sustained rain events. Figure 3 compares our Region's rainfall (based on PRISM Climate Group data) to the number of Category 1 SSOs.

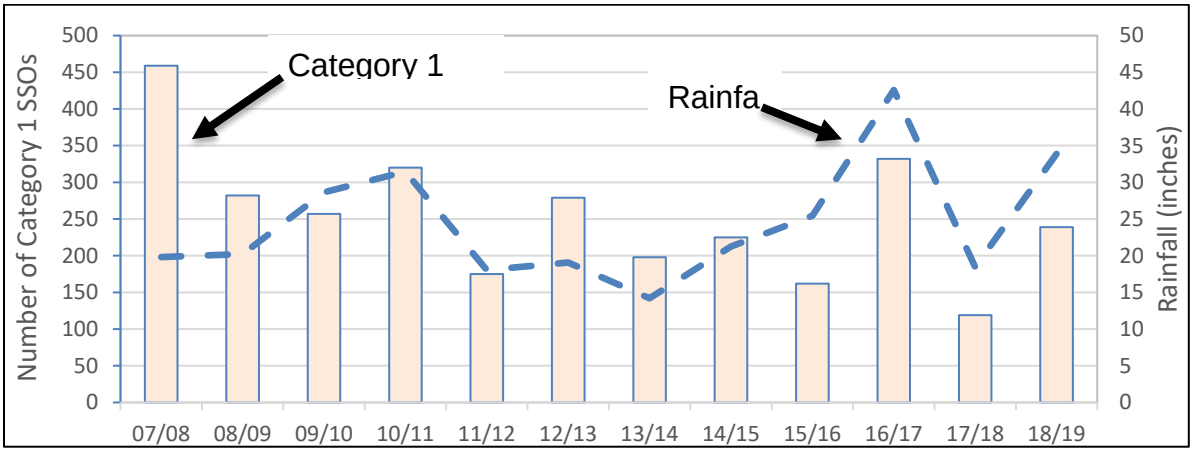

Figure 3: *Rainfall versus Category 1 SSOs in San Francisco Bay Region*

To reduce Category 1 SSOs, we need to reduce wet-weather infiltration and inflow, which can overwhelm a system's capacity, especially when pipes already have

blockages or structural defects. Infiltration occurs when groundwater enters leaky sewer pipes, and inflow occurs when rain enters the collection system directly, such as through manhole covers. Sewer system rehabilitation is typically necessary to address infiltration, but rehabilitation is expensive and takes years to complete. Green infrastructure is effective at reducing inflow and can also reduce infiltration by relocating it away from problem areas. Incorporating green infrastructure into sewer system planning can reduce reliance on gray infrastructure improvements.

We are prioritizing and systematically inspecting collection systems and noting deficiencies. We are also working with State Water Board staff to strengthen the *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*, particularly to improve collection system asset management. We are also doing what we can to encourage collection system agencies to address private sewer laterals, because they are a significant unregulated source of infiltration and inflow.

In-house Training (Carrie Austin)

There were no in-house trainings to report this month. The next training will be in October.

Enforcement Actions (Jessica Watkins and Brian Thompson)

The following table shows proposed enforcement actions since the July meeting. In addition, enforcement actions are available on our website at: http:www.waterboards.ca.gov/sanfranciscobay/public_notices/pending_enforcement.shtml

Settled Actions

On behalf of the Board, the Executive Officer approved the following:

Discharger	Violation(s)	Imposed Penalty	Supplemental Environmental Project
1500 Mission Urban Housing LP	Failure to submit an annual construction stormwater discharge report for 2017/2018.	$1,000	None.

401 Water Quality Certification Applications Received (Abigail Smith)

The table below lists applications received for Clean Water Act section 401 water quality certification from July 18 through August 14, 2019. A check mark in the right-hand column indicates a project that may be in BCDC jurisdiction.

Project Name	City/Location	County	May have BCDC Jurisdiction
Lower Walnut Creek Restoration Project	Martinez	Contra Costa	

Project Name	City/Location	County	May have BCDC Jurisdiction
403 Deerfield Drive Creek Obstruction Removal	Moraga		
Daryl Drive Culvert Enhancement Project	Orinda		
145 Canyon Road Wall Replacement	Fairfax	Marin	
Mt. Tamalpais Culvert Maintenance and Replacement Project	Fairfax		
SFD Blvd Third Valley Ck Culvert Maintenance Dredging	Inverness		
Larkspur Water Control Structures	Larkspur		□
596 Ethel Ave Bank Stablization	Mill Valley		
Site 8-Arroyo San Jose Emergency Bridge and Sewer Line Stabilization	Novato		
Sausalito Yacht Harbor Maintenance Dredging	Sausalito		□
Harbor Piling Sleeving	Tiburon		□
Watson Ranch Development Project	American Canyon	Napa	
Watercrossing and Hobby Vineyard Planting	Napa		
Dean York Driveway Bridge	St. Helena		
India Basin and 900 Innes Remediation Project	San Francisco	San Francisco	□
Junipero Serra Park Oak Cove Picnic Area Culvert Replacement	San Bruno	San Mateo	

Project Name	City/Location	County	May have BCDC Jurisdiction
Permanente Creek Maintenance Project	Cupertino	Santa Clara	
Abatement of the Concrete Retaining Wall Construction	Lexington Hills	Santa Clara	
Adobe Creek Bank Stabilization at 25550 Moody Rd	Los Altos Hills		
Hillbrook School Art Over Crossing Walkway	Los Gatos		
Stream Maintenance Program 2019-2023	San Jose		
North Mare Island Levee Repair Project	Mare Island	Solano	□
Meadowbrook Estates Bank Protection Project	Boyes Hot Springs	Sonoma	
Lower Walnut Creek Restoration Project	Martinez	Contra Costa	

The table below lists those applications received for Clean Water Act section 401 water quality certification from June 12 through July 11, 2019.

Project Name	City/Location	County	May have BCDC Jurisdiction
Hayes & Schevill Properties - Steam Channel and Bank Improvements	Berkeley	Alameda	
Urban Stream Restoration Program - Codornices Creek at Kains Ave	Berkeley		✓
Ikea Development	Dublin		
Mission Peak Livestock Pond Restoration MNPND005	Fremont		

Project Name	City/Location	County	May have BCDC Jurisdiction
Mission Peak Livestock Pond Restoration MNPND011	Fremont		
Garaventa Hills Residential Development	Livermore		
Mission Peak Livestock Pond Restoration MNPND003	Mount Hamilton		
Hickory Street Debris Removal in Newark	Newark		✓
St. John's Church Bridge Installation	Oakland		
Pleasanton Ridge Pond Restoration	Pleasanton		
Stoneridge Drive I-680 Northbound On-Ramp Widening	Pleasanton		
Los Medanos Sediment Basin Maintenance	Clyde	Contra Costa	
Lime Ridge Pond and Gully	Concord		
Refugio Valley Park Pond Dredging	Hercules		✓
Goodrick Avenue Bay Trail Gap Closure	Richmond		✓
Tice Creek Repair	Walnut Creek		
Pier Reconstruction at 43 West Shore Road	Belvedere	Marin	✓
Zitney Residence Retaining Wall Reconstruction	Novato		
79 and 83 Mt. Muir Ct. Bank Erosion Protection	San Rafael		
Quietwood Storm Drain Repair	San Rafael		

Project Name	**City/Location**	**County**	**May have BCDC Jurisdiction**
Redwood Creek Trail Bridge One Replacement	Tamalpais Valley		
Butts Creek Bridge Crossing and Channel Stabilization	Pope Valley	Napa	
China Basin Seismic Upgrade	San Francisco	San Francisco	✓
Millbrae Avenue Box Culvert and Storm Drain Improvements	Millbrae	San Mateo	✓
Menlo Country Club Bank Stabilization	Woodside		
Calabazas Creek Geotechnical Exploration	Cupertino	Santa Clara	
Preventative Maintenance of Five Bridges Project (Fed BPMP-5318(029))	Cupertino	Santa Clara	✓
Matadero Creek Instream Maintenance	Los Altos Hills	Santa Clara	
Vine Drive Culvert Repair	Los Gatos	Santa Clara	
Anderson Dam Maintenance Road and Spillway Rip-Rap Repair	San Jose	Santa Clara	
Gelb Ranch Sediment Reduction	Kenwood	Sonoma	