STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

MEETING DATE: April 11, 2018

ITEM: **4**

SUBJECT: **EXECUTIVE OFFICER'S REPORT**

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD

EXECUTIVE OFFICER'S REPORT: *April 2018*

A Monthly Report to the Board and Public

NEXT MEETING: April 11, 2018 **WEBSITE:** http://www.waterboards.ca.gov/sanfranciscobay/

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Phillips 66 Line 200 Pipeline Release – Cleanup and Wetlands Restoration Completion (Ross Steenson and Katie Hart)

Phillips 66 recently completed soil remediation and construction of mitigation wetlands along a section of an underground petroleum pipeline referred to as Line 200, lying beneath the southern edge of the Concord Naval Weapons Station (CNWS) and adjacent to a residential home and neighborhood. The petroleum pipeline oil release was discovered in 2011, and emergency repairs were completed on the leaking pipeline, which damaged seasonal wetlands and impacted a residential home.

Mitigation for impacts caused by the oil spill and remediation activities was provided by recreating several seasonal wetland pools. The location of the seasonal wetland pools is especially important because pools existed historically in this area and were removed during residential development about 20 years ago. These new pools make a significant contribution to restoring the natural seasonal wetland habitat in this area. This project was a success due to the close coordination between our Groundwater Protection and Watershed Management Divisions.

In 2013, after the emergency pipeline repair, soil and groundwater investigations found that the

oil had spread beyond CNWS and beneath an adjacent Concord residence located on Holly Creek Way (Figure 1). An interim groundwater cleanup began removal of oil and contaminated groundwater downgradient of the Line 200 release area including the residential property. An oxygen-release compound was injected into the leading edge of the groundwater plume to accelerate natural biodegradation of dissolved oil in groundwater and to prevent further spreading of contaminated groundwater. A vapor intrusion mitigation system was installed to prevent potential petroleum vapor exposure to the home occupants.

Next, Phillips 66 prepared a conceptual plan for soil remediation that relied primarily on the excavation of oil contaminated soil. The excavation would have extended to the foundation of the residence and required shoring to support the home. To avoid this, Phillips made arrangements with the homeowner to purchase the residential property, taking possession in 2015.

Figure 1. *Pipeline release location adjacent to Holly Creek Way home. CNWS open space located to north.*

In preparation for final soil cleanup activities, a mitigated negative declaration, permits, and house demolition to facilitate access to the contamination were completed during 2016. From June to October 2017, about 8,000 cubic yards of contaminated soil were removed and disposed at a nearby licensed facility (Figure 2). The excavation encompassed three active oil pipelines, which required the construction of a support system to allow removal of contaminated soil from beneath the pipelines.

Post-remediation groundwater monitoring is underway, and staff anticipate being able to provide No Further Action concurrence by the end of 2018.

Figure 2. *Cleanup excavation in progress – house demolished*

Figure 3. *Wetland pools after construction but prior to vegetation*

Concurrent with the cleanup project, Phillips 66 began developing plans for wetlands mitigation. At staff request, Phillips 66 agreed to create and restore drainages and wetlands on both CNWS and the former residential property rather than purchasing offsite wetland mitigation credits, with the former residential property to become permanent open space.

By late October 2017, work shifted to backfilling and construction of five shallow pools for the wetlands (Figure 3).

The wetlands are designed to meet hydrology criteria solely from precipitation rather than relying on flows from the connected ephemeral drainage. In addition, three drainage swales were created to funnel water to and from the pools. The restoration work was completed in November 2017 (Figure 4).

Figure 4. *Aerial of the five cascading wetland pools*

Prosperity Cleaners Update (Ralph Lambert)

The Prosperity Cleaners site is located in the Marinwood Plaza shopping center in Marinwood, north of San Rafael in Marin County. Releases of tetrachloroethene (PCE) from past dry cleaning operations have impacted soil, soil vapor, and groundwater. In 2014, the Board adopted a cleanup order for the site. Two source areas were identified onsite and each has been treated by either injections or excavation. All subsequent confirmation soil samples collected onsite meet site cleanup goals. Soil vapor concentrations still exceed established cleanup levels, but the exceedances are not adjacent to any occupied structures. Extensive soil vapor sampling in the nearby residential neighborhood did not detect any PCE or breakdown products. A groundwater plume, exceeding drinking water standards, extends to the east about half a mile under a dairy ranch and land owned by Catholic Charities. According to recent groundwater monitoring data, there is no evidence of continued migration at the edges of the plume. The dairy ranch uses local groundwater, but its wells do not exceed drinking water standards.

A pilot test is currently underway to treat the offsite groundwater contamination, using injections of materials that enhance bioremediation. Results from the pilot test will be provided in a report that is due on April 23. So far, the results of the pilot test injections look encouraging. The full-scale design is also due on April 23; it will include injection-line locations based on pilot-

test results and the most recent groundwater monitoring data.

During the public forum at last month's Board meeting, the Board heard from several stakeholders concerning this cleanup site. Two nearby residents expressed concern that onsite soil vapor concentrations were not decreasing as fast as desired and suggested additional onsite cleanup. A representative of the dairy ranch argued for a more extensive network of injection lines to treat offsite groundwater contamination. Board members had several followup questions for staff.

Below is a summary of our responses to stakeholder comments and Board member questions organized by topical area.

- *Onsite soil vapor:* As a result of prior onsite cleanup work, soil vapor concentrations are declining but remain above the established soil-vapor cleanup levels, particularly near the former dry-cleaning operation. These elevated concentrations do not threaten any occupied buildings. However, we agree that additional soil vapor monitoring points closer to the nearby residences would provide stronger evidence of the cleanup's effectiveness. We intend to require these additional monitoring points shortly.
- *Adequacy of prior source-area cleanup:* There would be three reasons to require additional source-area cleanup – (i) if existing nearby residences were threatened by vapor intrusion, (ii) if onsite redevelopment created new vapor intrusion threats, or (iii) if continued contaminant migration in groundwater were undercutting the effectiveness of offsite groundwater cleanup. Item (i) will be addressed by the additional monitoring points (see above). Item (ii) will be addressed at the time of redevelopment. Item (iii) will be addressed by ongoing groundwater monitoring; we are considering modifications to the discharger's monitoring program to make sure it provides us with the necessary information.
- *Offsite groundwater cleanup:* It would be premature to specify the treatment design (number, length, and spacing of injection rows) before completing the pilot study. Further, the Board's cleanup goals will be better served by specifying the timeframe for meeting groundwater cleanup levels rather than by specifying system design.

We are preparing a tentative order to amend the 2014 site cleanup order. The amendment would formalize the 10-year timeframe for meeting groundwater cleanup levels in the offsite area, established in our approval of the discharger's offsite groundwater cleanup plan. It would also update other tasks to reflect post-2014 cleanup work and monitoring results. We anticipate circulating the tentative order for public comment in April; once the tentative order is released the matter will be pending before the Board and not amenable to public forum discussion.

We are continuing to keep interested parties – including offsite landowners, Marinwood community members, and the County supervisor's office – informed about site activities and reports. We will continue to provide you with future updates on this case.

Former Glovatorium (Martin Musonge)

The Board has delegated to the Executive Officer the authority to issue, amend, or rescind site

cleanup orders pursuant to Water Code section 13304. The choice between having these orders acted upon by the Board or by the Executive Officer hinges on the degree of controversy and urgency in each case. In general, I issue, amend, or rescind these orders in situations where there is little or no controversy or when there is some urgency to address a current or imminent threat to human health or the environment such as the case here. Otherwise, we bring these types of cleanup orders to the Board for its consideration and action in a public hearing.

On March 13, I issued a site cleanup order for the former Glovatorium site, located at 3820 Manila Avenue, Oakland. A commercial dry cleaner operated at the site between 1968 and 2015. Dry cleaning operations resulted in releases of Stoddard solvent (a petroleum-based solvent) and PCE to soil, soil vapor, and groundwater. The dischargers have done some site investigation and cleanup work, first at the direction of the Alameda County Environmental Health Department and more recently at our direction. Underground tanks were closed in place and dual-phase extraction was conducted from 2008 through 2012, resulting in the removal of over 8,000 pounds of contamination. However, contaminant concentrations at the site still substantially exceed our environmental screening levels. The order requires the dischargers to complete a site investigation to fully define the extent and magnitude of contamination in subsurface media. It also requires the dischargers to propose a cleanup plan and implement the approved cleanup plan. We circulated the tentative order for public comment and made several changes in task deadlines in response to the dischargers' comments. There is also pending enforcement action against the dischargers for past violations of our Water Code section 13267 directive letters.

Resilient San Francisco Project: U.S. Army Corps of Engineers 2016 Water Resources and Development Act Section 1122 Pilot Project Proposal

(Naomi Feger and Elizabeth Christian)

Staff participated in a team that developed a proposal submitted by the State Coastal Conservancy to the U.S. Army Corps of Engineers (Corps) on March 12 to be one of the ten selected projects in the beneficial use pilot program being established by the Corps. The federal 2016 Water Resources and Development Act (Water Infrastructure Improvements for the Nation Act or WIIN) established the selection of ten pilot projects that would maximize the amount of material dredged by the Corps that would be used beneficially for different purposes, including restoring aquatic ecosystem habitats, reducing storm damage, enhancing shorelines, promoting public safety, promoting recreation, and other benefits. The State Coastal Conservancy proposed to cost share an effort to beneficially use a significant portion of the sediment dredged annually from the Oakland Harbor, Richmond Harbor, Redwood City Harbor, and Pinole Shoal federal navigation channels and place it in one to four tidal wetlands restoration sites around San Francisco Bay: Montezuma, Cullinan Ranch, Bel Marin Keys Unit V, or Eden Landing. The effort also includes testing new in-bay beneficial use sites that could potentially feed existing and restored wetlands in the future. This project would fund the incremental costs of taking material to beneficial reuse sites rather than taking the material to the deep ocean disposal site or to dispersive in-Bay disposal sites. The proposal has garnered significant support in the region, with more than a dozen support letters, including support from multiple members of Congress. We will keep the Board updated on the status of this proposal.

Rollout of General Permit for Vineyard Properties (Michael Napolitano)

This April and May, we will begin to rollout the process for enrolling vineyards in the General Permit for Vineyard Properties that the Board adopted in July 2017. As you will recall, we extended the enrollment deadline for properties impacted by the North Bay wildfires by one year. Vineyards that were not impacted by the fires, mainly valley floor vineyards, are required to enroll by July 21, 2018.

Informational Meetings: We plan on conducting outreach meetings to vineyard managers and owners to walk them through the permit process, its requirements and schedule, and talk about where to go to get assistance. Representatives of local resource conservation districts and non-profits also will attend to provide information about the technical assistance programs they have developed to help vineyard owner/operators comply with the permit. We expect to open online enrollment in the permit by April 30.

In June, we plan to repeat the outreach meetings and to work closely with Third-Party Programs to facilitate enrollment in the permit.

Postcard Notifications: In May and June, we will send out postcards to the owners of parcels we believe are subject to the permit, to make sure they are aware of the permit and the upcoming deadlines for enrollment.

New Fact Sheet: Board staff have prepared a Fact Sheet that walks stakeholders through the permit process and an interactive map and spreadsheet that indicate the parcels we believe are subject to the permit. We have posted the Fact Sheet, map, and spreadsheet on the vineyard permit webpage.

North Bay Fire Response Activities and Water Quality Monitoring (Rebecca Nordenholt)

At the December Board meeting, we shared our on-going and planned fire response activities to address potential water quality impacts of the October 2017 North Bay Wildfires that burned over 100,000 acres in our Region (Figure 5). The effort began with conducting field assessments in the watersheds to make recommendations for best management practices (BMPs), predominantly straw waddle installation and gravel bags, to manage debris from burned structures discharging to sensitive habitat in our creeks. We initially worked with CalFire to install some BMPs on various properties. We then secured $250,000 from the State Board's Cleanup and Abatement Account to purchase materials that largely supported Sonoma Ecology Center staff to install BMPs on Sonoma Valley parcels with burned structures. That effort led to treating 82% of burned structures within 100 feet of streams, as well as other selected properties in Sonoma Valley (Figure 6). We also supported Napa County by purchasing wattles and other materials, which the County distributed directly to residents to install BMPs that remained in place throughout the rainy season. The Army Corps has made significant progress removing burned structures, which includes taking material to designated landfills and installing post-removal sediment control measures. The Corps expects to complete its efforts in April.

Figure 5. *12:56 AM October 9, 2017. Photo obtained from October 2017 North Bay Fire Images, Sonoma Ecology Center*

In order to evaluate possible fire-related water quality impacts to streams and creeks, we have monitored surface waters downstream of burn areas during winter base flow and three storm events (Figure 7). Fires can cause significant increases in contaminants, including nutrients (e.g., nitrates and phosphorus), polycyclic aromatic hydrocarbons (PAHs), copper, zinc, mercury, lead, and other metals, so we monitored for those pollutants. Evaluation guidelines for protection of aquatic life and human health were determined using Basin Plan objectives, U.S. EPA criteria, or Water Board environmental screening levels. Only 23 of 1,071 (2%) storm samples exceeded chronic toxicity guidelines. The small increase in metals and nutrients between baseline and storm flows was similar for burned watersheds and the reference, unburned watershed, indicating this increase was related to normal stormwater runoff and not the fire. In contrast, metal concentrations from burned areas in past Southern California fires were often hundreds of times higher than burned areas in this study.

Results to date indicate water quality in our region has not been impacted by the fires. Slope stabilization, erosion and drainage controls, and other similar practices prevented some of the burned material from homes and cars from entering the creeks. In addition, the 2017-18 early winter has been relatively dry, and storm magnitude and intensity may not have been high enough to mobilize significant amounts of burned material from forested and open space areas.

Figure 6. *Erosion and drainage controls installed next to burned structure near Sonoma Creek.*

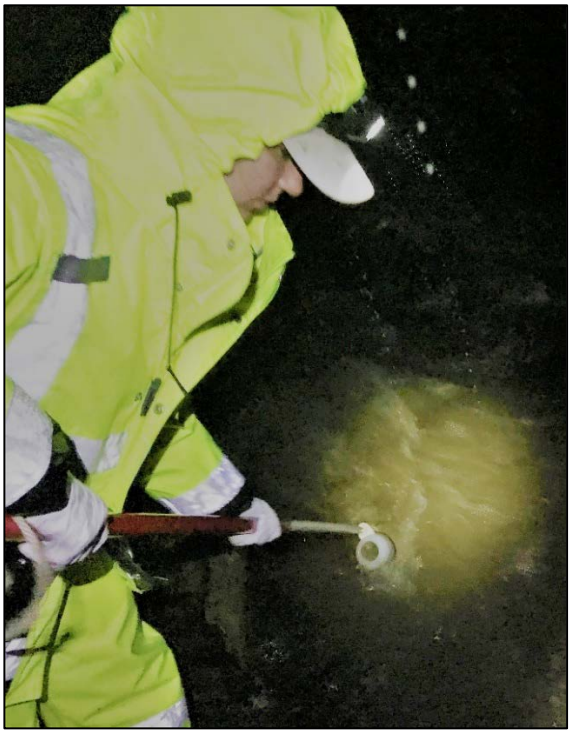

Figure 7. *Rebecca Nordenholt of the Water Board collecting storm samples.*

We have developed public Fact Sheets for both the Sonoma and Napa Valley watersheds, which are posted on our webpage. To read the fact sheets and learn more about the water quality monitoring, click on the icons below.

Sonoma Valley
Water Quality Fact Sheet

Napa Valley
Water Quality Fact Sheet

During the recent March 22 storm, we collected an additional set of samples. There have been some concerns raised about the need for additional BMPs post-debris removal, and this most recent water quality data collection effort may provide some insight. Next steps for this effort include distributing the remainder of the Cleanup and Abatement Account funds to support immediate fencing repair in critical areas and working with recipients of 319(h) funds for fire-response activities to implement additional erosion control at burned ranches and vineyards.

Staff Presentations

In March, Nicole Fry of the Toxics Cleanup Division and Ross Steenson of the Groundwater Protection Division participated in the 28th Annual International Conference on Soil, Water, Energy, and Air by the Association for Environmental Health and Sciences Foundation. This conference is one of the few important "regulatory" venues for site cleanup topics. There were over 100 presentations on technical and policy issues related to the investigation, environmental fate, risk assessment, and cleanup of chlorinated solvents, petroleum hydrocarbons, metals, and chemicals of emerging concern.

Nicole presented one in a series of five talks on pending Cal/EPA vapor intrusion guidance. Vapor intrusion is the migration of volatile chemicals from the subsurface into occupied buildings. The guidance will focus on the screening process needed to ensure current occupants are protected. She is a member of the Cal/EPA vapor intrusion workgroup that is preparing the guidance. Her talk was titled "Where the Rubber Meets the Road: How to Use the 2018 Cal/EPA Vapor Intrusion Supplement." The talk provided a case study of a PCE release at a strip mall dry cleaner and how the guidance could be used to determine where vapor mitigation should be implemented. Other speakers included another Cal/EPA vapor intrusion workgroup members from the Department of Toxic Substances Control, a researcher, a community group representative, and a consultant.

Ross presented "Evaluating Contaminated Groundwater Discharges to Surface Water." The talk described our plans to prepare updated guidance in the next few years. The talk discussed (1) our existing evaluation approach based on traditional site characterization techniques (e.g., monitoring wells) supported by modeling and the use of screening levels, (2) the use of newer high resolution techniques to locate zones of groundwater discharge recently used at a number of bay margin sites, and (3) recent work to standardize the use of Whole Effluent Toxicity tests in near-bay groundwater to assess potential aquatic toxicity of chemical mixtures (e.g., petroleum oils and fuels and their biodegradation metabolites). Whole Effluent Toxicity testing is widely used in our NPDES Wastewater Program.

In-house Training

In March, the In-House Training Committee delivered a session on "Turning Data into Information." Richard Looker from the Planning Division organized and introduced this training that showcased a variety of ways in which our staff extracts information useful for our regulatory work. This was truly an in-house training because it consisted of staff from multiple divisions presenting recent case studies. Ralph Lambert from the Toxics Division evaluated whether dry cleaning solvents discharged to groundwater were degrading to daughter products and eventually to non-toxic compounds. John Madigan from the NPDES Division explored whether intake credits should be granted for a cooling water discharge. Richard Looker analyzed a huge data set to determine whether, where, and when a creek has a temperature problem. Carrie Austin from the Planning Division dug deep into a monitoring report and found a sampling error. Dale Bowyer from the Watershed Division explained how trash data are evaluated for compliance purposes. Ross Steenson from the Groundwater Protection Division explained how to make use of a fairly generic analytical method. Rebecca Nordenholt from the Planning

Division introduced us to "Tableau Public," a new free and easy-to-use data exploration and visualization tool. In closing, we discussed how to use data well and efficiently.

Enforcement Actions (Mary Boyd and Brian Thompson)

The following table shows a proposed penalty action since last month's report. In addition, proposed and settled actions are available on our website at:

http://www.waterboards.ca.gov/sanfranciscobay/public_notices/pending_enforcement.shtml

Proposed Settlements
The following are noticed for a 30-day public comment period. If no significant comment is received by the deadline, the Executive Officer will sign an order implementing the settlement.

Discharger	Violation(s)	Proposed Penalty	Comment Deadline
Marin Municipal Water District	Unauthorized discharge of chlorinated potable water resulting in fish kill	$129,250	April 4, 2018

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

Discharger	Violation(s)	Imposed Penalty	Supplemental Environmental Project
Equilon Enterprises LLC, dba Shell Oil Products US	NPDES violations effluent limit	$86,000	$43,000

401 Water Quality Certification Applications Received (Abigail Smith)

The table below lists those applications received for Clean Water Act section 401 water quality certification from February 15 through March 12, 2018. A check mark in the right-hand column indicates a project with work that may be in BCDC jurisdiction.

Project Name	City/Location	County	May have BCDC Jurisdiction
Saildrone Seaplane Lagoon Dock Replacement	Alameda	Alameda	✓
Collier Canyon Mitigation Bank	Livermore	Contra Costa	
San Francisco Yacht Club Maintenance Dredging	Belvedere	Marin	✓
Lower Miller Creek Levee Repair	Las Gallinas		✓
Stolte Grove Bridge Replacement	Mill Valley		
Lagunitas Creek Floodplain Restoration	Olema		
San Rafael Harbor Bridge Replacement	San Rafael		✓
85 lsabella Avenue Culvert Installation	Atherton	San Mateo	

Casa Baywood Retaining Wall Replacement	San Mateo		
250 Mountain Home Road Creek Bank Stabilization	Woodside		
Anderson Dam Reservoir Improvements	Morgan Hill	Santa Clara	
Mare Island Dry Docks Navigation Maintenance Dredging	Vallejo	Solano	✓