

**California Regional Water Quality Control Board  
San Francisco Bay Region**

**Time Schedule Order No. R2-2019-0016**

**To Comply with Requirements of Order R2-2017-0048  
as amended by Order No. R2-2018-0050  
(NPDES Permit No. CAG912002)**

**County of Santa Clara  
Oregon Expressway Underpass  
Palo Alto, Santa Clara County**

**WHEREAS** the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board), finds the following:

1. The County of Santa Clara (Discharger) owns and operates the Oregon Expressway Underpass (facility) located at the Oregon Expressway underpass of Alma Street in Palo Alto.
2. The facility collects stormwater, urban runoff, and groundwater to prevent underpass flooding. The groundwater contains volatile organic compounds (VOCs) due to upgradient historical discharges by other parties. The Regional Water Board is overseeing the cleanup of these VOCs through Site Cleanup Requirements Order No. 94-130.
3. The facility includes a wet well, four pumps, and an air stripper. During dry weather, the pumps direct groundwater and urban runoff to the air stripper for VOC removal. The treated wastewater flows to a stormwater culvert that discharges to Matadero Creek. During wet weather, stormwater, urban runoff, and groundwater commingle in the wet well. At times, the stormwater, urban runoff, and groundwater volume exceed the treatment capacity of the air stripper, and a portion of the combined wastewater is discharged through a separate conduit to the stormwater culvert flowing to Matadero Creek.
4. On December 13, 2017, the Regional Water Board adopted Order No. R2-2017-0048, NPDES No. CAG912002 (Permit). The Regional Water Board amended the Permit on November 14, 2018, through Order No. R2-2018-0050. The Permit became effective on January 1, 2019. The Permit regulates surface water discharges from facilities that treat groundwater containing VOCs, fuels, fuel additives, and related pollutants.
5. On August 24, 2016, the Discharger submitted a Notice of Intent to comply with the Permit for the treated wastewater discharges. On December 21, 2018, the Regional Water Board Executive Officer issued an Authorization to Discharge for the treated wastewater pursuant to the Permit.
6. Water Code section 13300 authorizes the Regional Water Board to issue a Time Schedule Order when it finds that a discharge of waste is taking place or threatening to take place in violation of Regional Water Board requirements.

## Permit Requirements and Threatened Violations

### 7. Unauthorized Discharges

- a. Permit section III.A prohibits discharge in a manner different than described in the Notice of Intent (NOI) and Authorization to Discharge:

Discharge of waste at a location or in a manner different than that described in an NOI and Authorization to Discharge is prohibited.

- b. The Discharger threatens to violate Permit section III.A during wet weather. Whenever stormwater, urban runoff, and groundwater in the wet well exceed the air stripper treatment capacity (600 gallons per minute [gpm]), the portion of the combined wastewater exceeding the air stripper capacity is discharged without treatment through a separate conduit to the stormwater culvert. The Authorization to Discharge did not authorize such discharges. Nevertheless, these discharges occur at times during wet weather, particularly when rainfall exceeds 0.5 inches over short periods. Between November 22, 2018, and February 14, 2019, the Discharger discharged untreated wastewater thrice for more than 60 minutes. On October 23, 2018, the Discharger submitted a study concluding that it cannot currently prevent these discharges due to facility-specific site constraints and the need to control stormwater, urban runoff, and groundwater flows on the roadway to ensure public safety.

### 8. New Effluent Limitations

- a. Permit section IV.A imposes new and more stringent effluent limitations (New Effluent Limitations) for metals, VOCs, and other pollutants compared to those in Order No. R2-2012-0012 (the order reissuing the Permit prior to Order No. R2-2017-0048). The New Effluent Limitations applicable to the discharge include the following:

**Table 1. New Effluent Limitations**

Pollutant	Average Monthly (µg/L)	Daily Maximum (µg/L)
Antimony, Total Recoverable	4,300	8,600
Arsenic, Total Recoverable	30.	59
Cadmium, Total Recoverable	0.90	1.8
Chromium III	170	340
Chromium VI	8.1	16
Copper, Total Recoverable	7.0	14
Lead, Total Recoverable	2.6	5.2
Mercury, Total Recoverable	0.050	0.10
Nickel, Total Recoverable	43	86
Selenium, Total Recoverable	4.1	8.2
Silver, Total Recoverable	1.1	2.2
Thallium, Total Recoverable	6.3	13
Zinc, Total Recoverable	47	95
Benzene	--	0.50
Chloroform	--	1.9
1,1-Dichloroethane	--	0.50
1,2-Dichloroethane	--	0.50
1,1-Dichloroethylene	--	0.50

Ethylbenzene	--	0.50
Tetrachloroethylene	--	0.50
Toluene	--	0.50
Cis-1,2-Dichloroethylene	--	0.50
Trans-1,2-Dichloroethylene	--	0.50
1,1,1-Trichloroethane	--	0.50
1,1,2-Trichloroethane	--	0.50
Trichloroethylene	--	0.65
Vinyl Chloride	--	0.90
Benzo(a)Anthracene	0.049	0.098
Benzo(a)Pyrene	0.049	0.098
Benzo(b)Fluoranthene	0.049	0.098
Benzo(k)Fluoranthene	0.049	0.098
Chrysene	0.049	0.098
Dibenzo(a,h)Anthracene	0.049	0.098
Indeno(1,2,3-cd) Pyrene	0.049	0.098
Total Xylenes	--	0.50
Methyl Tertiary Butyl Ether	--	0.50
TPH as motor oil	--	100

- b.** The Discharger threatens to violate the New Effluent Limitations for copper, lead, selenium, zinc, tetrachloroethylene, cis-1,2-dichloroethylene, trichloroethylene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and total petroleum hydrocarbons (TPH) as motor oil (highlighted in Table 1).
- i.** From 2009 through 2018, the Discharger reported influent copper, lead, selenium, and zinc concentrations above the New Effluent Limitations for copper, lead, selenium, and zinc. Future effluent limitation violations are likely because the treatment system is not designed to remove these pollutants.
  - ii.** On February 6 and May 3, 2018, and March 22, 2019, the Discharger reported tetrachloroethylene, trichloroethylene, and cis-1,2-dichloroethylene effluent concentrations above the New Effluent Limitations for tetrachloroethylene, trichloroethylene, and cis-1,2-dichloroethylene. Future effluent limitation violations are likely because the treatment system is not designed to remove these pollutants to the levels the Permit requires.
  - iii.** On January 11, 2019, the Discharger reported benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene influent concentrations above the New Effluent Limitations for benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene. Future effluent limitation violations are likely because the treatment system is not designed to remove these pollutants.
  - iv.** On December 6, 2018, the Discharger reported an effluent concentration for TPH as motor oil above the New Effluent Limitation for TPH as motor oil. Future effluent limitation violations are likely because the treatment system is not designed to remove this pollutant.

**9. Retained Effluent Limitations**

- a. Permit section IV.A retains effluent limitations for certain fuel-related compounds and other pollutants from Order No. R2-2012-0012. The retained effluent limitations applicable to the discharge include the following:

**Table 2. Retained Effluent Limitations**

Pollutant	Average Monthly (µg/L)	Daily Maximum (µg/L)
pH	Between 6.5 and 8.5 units at all times	
TPH as gasoline	--	50
TPH as diesel	--	50
Chlorine, Total Residual	--	0.0

- b. The Discharger threatens to violate the retained effluent limitation for TPH as diesel (highlighted in Table 2). On December 6, 2018, the Discharger reported an effluent concentration for TPH as diesel above the effluent limit. Future effluent limitation violations are likely because the treatment system is not designed to remove TPH as diesel.

**10. Ceasing Discharge**

- a. Permit section IV.A requires the Discharger to cease discharge when in violation of an effluent limitation:

Upon becoming aware of any effluent limitation violation, the Discharger shall contain the effluent in a holding tank or shut down the extraction and treatment system until the violation is corrected.

Permit Attachment E section IV.D also prohibits discharge when a confirmation sample collected following an effluent limitation violation also violates an effluent limitation:

If monitoring results indicate a violation of any effluent limitation, the Discharger shall take a confirmation effluent sample and receiving water samples within 24 hours of becoming aware of the violation. ... If the confirmation sampling results also violate the effluent limit, the Discharger shall cease discharge until it has corrected the cause of the violation.

- b. The Discharger threatens to violate Permit section IV.A and Permit Attachment E section IV.D because, to prevent flooding and protect public safety, the Discharger cannot cease discharge when combined wastewater flows exceed 450 gpm, even if an effluent limitation is violated. The Discharger can direct flows less than or equal to 450 gpm to the sanitary sewer pursuant to its permit from the City of Palo Alto.

**11. Start-up Monitoring**

- a. Permit Attachment E section VIII.A.3 requires start-up phase monitoring in the event that a shutdown, unrelated to scheduled maintenance operations, exceeds 120 hours and the Discharger reports any effluent limitation violation during the previous three years:

In cases of shutdown exceeding 120 hours and unrelated to scheduled maintenance operations, any restart shall follow these initial start-up procedures if the Discharger reported any effluent limitation violation during the previous three years.

Permit Attachment E section VIII.A.1 establishes monitoring procedures for start-up or restart of the treatment system:

On the first day of start-up, the...influent and effluent shall be sampled and submitted for analysis. Prior to receiving the results of the initial sampling, all effluent shall be discharged into a holding tank...or the sanitary sewer until monitoring indicates that the discharge is within the effluent limits....

- b. The Discharger threatens to violate Permit Attachment E sections VIII.A.1 and VIII.A.3 because, due to site-specific facility constraints, the Discharger is unable to contain or redirect its effluent to the sanitary sewer to comply with start-up phase monitoring procedures.

### **Mandatory Minimum Penalties**

- 12. Water Code sections 13385(h) and (i) require the Regional Water Board to impose mandatory minimum penalties when discharges violate certain effluent limitations.
- 13. Water Code section 13385(j)(3) allows the Regional Water Board to exempt some discharges from mandatory minimum penalties when the Regional Water Board issues a time schedule order pursuant to Water Code section 13300 and the Discharger complies with the requirements of that time schedule order. For time schedule orders adopted after July 1, 2000, all of the following conditions must be met:
  - a. The time schedule order must specify actions the discharger must take to correct the violations that would otherwise be subject to mandatory minimum penalties;
  - b. The discharger must be unable to consistently comply with the effluent limitations for at least one of the following reasons:
    - i. The limitations are new, more stringent, or modified regulatory requirements, and new or modified control measures cannot be put into operation within 30 calendar days;
    - ii. New methods for detecting or measuring a pollutant demonstrate that new or modified control measures are necessary and cannot be put into operation within 30 calendar days;
    - iii. Unanticipated changes in the quality of the water supply available to the discharger cause unavoidable changes in the composition of the waste discharge, the changes in the composition of the waste discharge cause the inability to comply with the effluent limitations, no alternative water supply is reasonably available, and new or modified measures to control the composition of the discharge cannot be designed, installed, and put into operations within 30 calendar days; or
    - iv. The discharger is a publicly-owned treatment works located in Orange County that meets certain requirements.
  - c. The Regional Water Board must establish a time schedule of no more than five years to bring the discharge into compliance with the effluent limitations. The time schedule must be as short as

possible, considering the technological, operational, and economic factors that affect the design, development, and implementation of the control measures necessary to comply with the effluent limitations. If the time schedule exceeds one year, it must include interim requirements and dates for their achievement. The interim requirements must include effluent limitations for the pollutants of concern, and actions and milestones leading to compliance with the effluent limitations; and

- d. The Discharger must prepare and implement a pollution prevention plan pursuant to Water Code section 13263.3.

14. Provided that the Discharger complies with this Order, the Water Code section 13385(j)(3) criteria will be met, as follows:

- a. This Order specifies actions the Discharger must take to correct the threatened effluent limitation violations that would otherwise be subject to mandatory minimum penalties.
- b. The Discharger cannot immediately and consistently comply with the Permit's New Effluent Limitations for copper, lead, selenium, zinc, tetrachloroethylene, cis-1,2-dichloroethylene, trichloroethylene, benzo(a)pyrene, benzo(a)fluoranthene, benzo(k)fluoranthene, chrysene, and TPH as motor oil. Moreover, new or modified control measures to comply with these effluent limitations cannot be designed, installed, and put into operation within 30 calendar days due to facility site constraints.
- c. This Order requires the Discharger to propose a time schedule to complete investigative, preventive, and remedial actions that result in compliance with all Permit requirements, including the New Effluent Limitations, within five years. This Order requires the schedule to be as short as possible, considering the technological, operational, and economic factors that affect the design, development, and implementation of the control measures necessary for compliance, and the uncertainty in how quickly such measures can be implemented. Because the time schedule is to reflect reasonably expected times needed to collect treatment system performance data and complete investigative, preventive, and remedial actions, it will exceed one year. In the meantime, this Order requires the Discharger to comply with interim requirements and dates for their achievement. These interim requirements include interim effluent limitations for copper, lead, selenium, zinc, tetrachloroethylene, cis-1,2-dichloroethylene, trichloroethylene, benzo(a)pyrene, benzo(a)fluoranthene, benzo(k)fluoranthene, chrysene, and TPH as motor oil to ensure that the Discharger maintains at least its existing performance while completing the required tasks.

The interim effluent limitations listed in Table 3 are derived as follows:

- The interim effluent limitations for copper, lead, selenium, and zinc are derived from the highest influent concentrations measured, multiplied by factors based on the number of samples available and the corresponding coefficients of variation to estimate the likely 99<sup>th</sup> percentile concentration with 99 percent confidence, as explained in section 3.3.2 of the *Technical Support Document for Water Quality-Based Toxics Control* (U.S. EPA, March 1991, see Table 3-2). This approach accounts for the relatively small number of samples available.
- The interim effluent limitations for tetrachloroethylene and trichloroethylene are derived from the highest effluent concentrations measured, multiplied by 7.4 to estimate the likely

99<sup>th</sup> percentile concentration with 99 percent confidence, as explained in section 3.3.2 of the *Technical Support Document for Water Quality-Based Toxics Control*. This approach accounts for the fact that only two sample results are available and assumes a default coefficient variation of 0.6.

- The interim effluent limitations for cis-1,2-dichloroethylene, benzo(a)pyrene, benzo(a)fluoranthene, benzo(k)fluoranthene, and chrysene are derived from the highest influent concentrations measured, multiplied by 13.2 to estimate the likely 99<sup>th</sup> percentile concentration with 99 percent confidence, as explained in section 3.3.2 of the *Technical Support Document for Water Quality-Based Toxics Control*. This approach accounts for the fact that only one sample result is available for each of these pollutants and assumes a default coefficient variation of 0.6.
  - The interim effluent limitation for TPH as motor oil is derived from the highest effluent concentration measured, multiplied by 13.2 to estimate the likely 99<sup>th</sup> percentile concentration with 99 percent confidence, as explained in section 3.3.2 of the *Technical Support Document for Water Quality-Based Toxics Control*. This approach accounts for the fact that only one sample result is available for this pollutant and assumes a default coefficient variation of 0.6.
- d. This Order requires the Discharger to prepare and implement a pollution prevention plan that addresses copper, lead, selenium, zinc, tetrachloroethylene, cis-1,2-dichloroethylene, trichloroethylene, benzo(a)pyrene, benzo(a)fluoranthene, benzo(k)fluoranthene, chrysene, and TPH as motor oil pursuant to Water Code section 13263.3.

#### **Other Regulatory Considerations**

- 15.** This Order establishes some new monitoring and reporting requirements. Water Code section 13383 authorizes the Regional Water Board to establish monitoring and reporting requirements for anyone who discharges or proposes to discharge to navigable waters. The required monitoring will allow the Regional Water Board to evaluate the performance of the treatment system and will support the potential development of site-specific technology-based effluent limitations if the Regional Water Board considers an individual NPDES permit for the treated or untreated wastewater discharges, or both.
- 16.** This Order is an enforcement action and, as such, is exempt from the provisions of the California Environmental Quality Act (Pub. Res. Code § 21000 *et seq.*) in accordance with California Code of Regulations title 14, section 15321.
- 17.** The Discharger may submit a Report of Waste Discharge and seek site-specific authorization to discharge pursuant to an individual NPDES permit. If the Regional Water Board issues an individual permit, it may reconsider this Order at that time. To pursue this option, the Discharger should submit a Report of Waste Discharge within one year of the effective date of this Order.
- 18.** The Regional Water Board notified the Discharger and interested persons of its intent to consider adoption of this Order and provided an opportunity to submit written comments and appear at a public hearing. The Regional Water Board, in a public hearing, heard and considered all comments.

**IT IS HEREBY ORDERED**, in accordance with Water Code section 13300, that the Discharger shall comply with the following provisions as of the effective date of this Order:

**1. Interim Effluent Limitations and Requirements.** The Discharger shall comply with the following interim effluent limitations and requirements:

- a. By July 1, 2019, the Discharger shall submit and commence implementation of a detailed time schedule listing specific actions the Discharger shall take to correct or prevent the threatened violations described in paragraphs 7 through 11, above. The time schedule shall set forth investigative, preventive, and remedial actions that result in compliance with all Permit requirements within five years from the effective date of this Order, and specify a completion date for each action. The time schedule shall be as short as possible, considering the technological, operational, and economic factors that affect the design, development, and implementation of the control measures necessary for compliance, and the uncertainty in how quickly such measures can be implemented.
- b. The Discharger shall comply with the following interim effluent limitations with compliance evaluated at Monitoring Location EFF-001.

**Table 3. Interim Effluent Limitations**

Parameter	Maximum Daily Effluent Limit (µg/L)
Copper, Total Recoverable	130
Lead, Total Recoverable	440
Selenium, Total Recoverable	6.4
Zinc, Total Recoverable	890
Tetrachloroethylene	4.6
Cis-1,2-Dichloroethylene	6.7
Trichloroethylene	8.1
Benzo(a)pyrene	1.1
Benzo(b)fluoranthene	2.4
Benzo(k)fluoranthene	3.7
Chrysene	1.8
TPH as motor oil	17,000

- c. In addition to complying with the monitoring described in Permit Attachment E, the Discharger shall monitor effluent and receiving water as follows:
  - i. For nine calendar months following the effective date of this Order, the Discharger shall monitor effluent twice per month at Monitoring Location EFF-001 for the parameters listed in Table 3 (monitoring data collected to comply with the Permit may be used to satisfy this requirement). Monitoring shall occur during dry weather only, when there has been no appreciable precipitation at the facility and its drainage area during the previous 48 hours. The wastewater level in the wet well shall be no higher than 2.5 feet, and the variable frequency drive pumps shall not be operating at a flow greater than 300 gpm, indicating that the wastewater in the wet well is mainly groundwater. Monitoring shall be conducted in accordance with Permit Attachment E sections I.B and IV.B.
  - ii. Within nine calendar months following the effective date of this Order, the Discharger shall monitor receiving water at Monitoring Location RSW-001U (as defined in Permit

Attachment E section II) twice for hardness, pH, and the parameters listed in Table 3. Monitoring shall occur concurrently with the effluent monitoring required above. Monitoring shall be conducted in accordance with Permit Attachment E sections I.B., II, VII.A, VII.B, and VII.C.

- d. The Discharger shall submit the monitoring data required by this Order with the semi-annual self-monitoring reports required by Permit Attachment E sections IX.A, IX.B.1, IX.B.2.b, and IX.B.4.
  - e. While awaiting effluent monitoring results as part of start-up phase monitoring procedures, the Discharger shall redirect all influent up to a flow rate of 450 gpm to the sanitary sewer. Excess flow above 450 gpm may be discharged to Matadero Creek.
  - f. By July 1, 2019, the Discharger shall submit a pollution prevention plan that addresses copper, lead, selenium, zinc, tetrachloroethylene, cis-1,2-dichloroethylene, trichloroethylene, benzo(a)pyrene, benzo(a)fluoranthene, benzo(k)fluoranthene, chrysene, and TPH as motor oil in accordance with Water Code section 13263.3, and the Discharger shall implement the plan submitted.
  - g. The Discharger shall submit annual status reports describing preliminary findings, tasks completed, and tasks yet to be completed pursuant to the time schedule submitted in accordance with requirement 1.a above. The Discharger shall include the annual status reports within the annual reports submitted in accordance with Permit Attachment E section IX.B.2.c.
2. **Consequences of Non-Compliance.** If the Discharger fails to comply with the provisions of this Order, it may be subject to additional enforcement, including but not limited to administrative or judicial civil liability.
3. **Force Majeure.**<sup>1</sup> If the Discharger is delayed, interrupted, or prevented from meeting the provisions and requirements of this Order due to force majeure, the Discharger shall notify the Executive Officer in writing within ten calendar days of the date that the Discharger first knows of force majeure. The Discharger shall demonstrate that timely compliance with the Order or any affected deadlines will be actually and necessarily delayed and that it has taken measures to avoid or mitigate the delay by exercising all reasonable precautions and efforts, whether before or after the occurrence of the force majeure.
4. **Mandatory Minimum Penalties.** Violations of the Permit effluent limitations for copper, lead, selenium, zinc, tetrachloroethylene, cis-1,2-dichloroethylene, trichloroethylene, benzo(a)pyrene, benzo(a)fluoranthene, benzo(k)fluoranthene, chrysene, and TPH as motor oil shall not be subject to mandatory minimum penalties under Water Code sections 13385(h) and (i) with the following exceptions:

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<sup>1</sup> A “force majeure” is an event that could not have been anticipated by and is beyond the control of the Discharger, including an act of God; earthquake, flood, or other natural disaster; civil disturbance or strike; fire or explosion; declared war within the United States; embargo; or other event of similar import and character. “Force majeure” does not include delays caused by funding, contractor performance, equipment delivery and quality, weather, permitting, other construction-related issues, CEQA challenges, initiative litigation, adverse legislation, or legal matters (except for an injunction issued by a court of law specifically preventing construction from occurring).

- a. If the Discharger violates an interim effluent limitation for any parameter listed in Table 3, the Discharger shall be subject to mandatory minimum penalties for any Permit effluent limitation violations related to that same parameter occurring within the calendar month during which the interim effluent limitation violation occurs.
- b. If the Discharger violates any interim requirement of this Order, other than an interim effluent limitation (i.e., a narrative requirement), the Discharger shall be subject to mandatory minimum penalties for any Permit effluent limitation violation occurring within the calendar month during which the interim requirement violation occurs.
- c. If the Discharger returns to full compliance with this Order, Permit effluent limitation violations shall again not be subject to mandatory minimum penalties as of the first day of the calendar month following the return to full compliance.

5. **Effective Date**. This Order shall be effective immediately upon Regional Water Board adoption.

I, Michael Montgomery, Executive Officer, do hereby certify the foregoing is full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 8, 2019.

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Michael Montgomery, Executive Officer