

**STATE OF CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION**

**STAFF REPORT FOR REGULAR MEETING OF AUGUST 22-23, 2024**

Prepared on July 16, 2024

**ITEM NUMBER:** 14

**SUBJECT:** Consideration of Proposed Order R3-2024-0036, General Waste Discharge Requirements for Closed Landfill Facilities in the Central Coast Region

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**KEY INFORMATION**

Location: Central Coast Region Jurisdictional Boundaries

Type of Discharge: Discharge to Land

Treatment: Postclosure Maintenance and Monitoring at Nonhazardous Solid Waste Landfills

Existing Orders: See Table 1 of this Staff Report

**ACTION:** Consideration of Proposed General Order R3-2024-0036

**SUMMARY**

This staff report provides a summary of the proposed General Waste Discharge Requirements Order R3-2024-0036 for Closed Landfill Facilities in the Central Coast Region. Central Coast Water Board staff recommend the adoption of the item.

The Central Coast Water Board currently regulates 10 closed landfill facilities, which previously disposed of nonhazardous solid waste. To regulate these facilities, the Central Coast Water Board developed and implemented individual waste discharge requirements (WDRs), and when applicable, addresses stormwater with the State Water Resources Control Board's (State Water Board) Industrial Stormwater General NPDES Permit (IGP). Implementing individual WDRs over time presents challenges for incorporating the most up to date requirements and ensuring consistency across similar facilities. Furthermore, revising individual WDRs requires significant staff resources.

To improve programmatic efficiency, allow limited staff resources to focus on landfill activities with the greatest potential impact to water quality, and help dischargers

maintain compliance with WDR requirements, Central Coast Water Board staff recommend regulating closed landfills with proposed General Waste Discharge Requirements Order R3-2024-0036 for Closed Landfill Facilities in the Central Coast Region (General Order) rather than individual WDRs.

The proposed General Order requires closed landfill owners and operators (dischargers) to comply with state and federal requirements similar to the requirements included in the most recently updated existing individual WDRs for closed landfill facilities and the relevant components of Order R3-2020-0001, General Waste Discharge Requirements for Active Class III Landfills in the Central Coast Region (Active General Order). The proposed General Order includes updated language and changes that improve water quality protection and provides consistency between landfill facilities. The proposed General Order incorporates a general monitoring and reporting program (General MRP) that includes standard requirements appropriate for all facilities. Staff will customize the General MRP for each discharger upon enrollment in the General Order to ensure landfill specific monitoring information and applicable requirements relevant to the individual facility are included in the MRP.

The proposed General Order will create up to date and consistent regulatory requirements for similar facilities, will enable Central Coast Water Board staff to focus valuable resources on review of important documents and conducting landfill facility inspections, and will provide more detailed evaluation of monitoring data to ensure landfill operations are protective of water quality. Adoption of the proposed General Order will save staff time on administrative activities that will be spent more effectively evaluating compliance with the order and assisting facilities with compliance, thereby improving water quality.

## **DISCUSSION**

### **Background**

#### **What are the potential water quality impacts at closed landfill facilities?**

Closed landfill facilities maintain waste management units (WMUs) that had previously been approved for the disposal of nonhazardous solid waste pursuant to California Code of Regulations (CCR), title 27 and Code of Federal Regulations (CFR), part 258. Generally closed landfill facilities pose a lower threat to water quality than active landfills because there is no active disposal, and the closed facility is capped with a final cover that has been installed to minimize infiltration of precipitation into waste. Closed landfill facilities can still impact groundwater and/or surface water from discharges of landfill leachate, landfill gas that contacts groundwater, and contaminated stormwater. Landfill leachate is a liquid generated from existing moisture within landfill waste at the time of disposal and the percolation of water into the landfill from storm events. Leachate from closed landfill facilities typically contains high concentrations of total dissolved solids and chemical oxygen demand, and pH can vary depending on landfill age from slightly acidic to slightly basic. Closed landfill leachate also contains volatile and semi-volatile organic compounds and may also contain heavy metals. Landfill gas is a natural

byproduct of the decomposition of organic materials in closed landfill facilities, is primarily composed of methane and carbon dioxide, and can also contain moisture and volatile organic compounds. Uncontrolled landfill gas can migrate beyond waste disposal areas to impact groundwater or surface water with volatile organic compounds.

The potential for water quality impacts from closed landfill facilities can be greatly reduced with proper post-closure maintenance of the final cover, stormwater conveyance systems, and other waste containment features. Closed landfill facilities are designed to minimize percolation of stormwater using covers, grading, and steep slopes.

### **How does the Central Coast Water Board regulate closed landfill facilities in the Central Coast Region?**

Historically, Central Coast Water Board staff have developed individual WDRs for each closed landfill facility to address potential water quality impacts and to ensure compliance with state and federal regulations (e.g., Central Coast Basin Plan, CCR, title 27, and CFR, part 258). Currently, the Central Coast Water Board regulates 10 closed landfill facilities using individual WDRs, which are identified in Table 1 below. The individual WDRs include the landfill facility requirements for post-closure maintenance, corrective action when applicable, financial assurance, and monitoring. Central Coast Water Board staff work with dischargers to ensure the closure and post-closure maintenance at closed landfill facilities is done in a manner that minimizes impacts to water quality.

**Table 1: Central Coast Region Closed Landfill Facilities**

<b>Landfill</b>	<b>County</b>	<b>Existing Order</b>
<b>Ben Lomond Class III Landfill</b>	<b>Santa Cruz</b>	<b>R3-2001-0054</b>
<b>Crazy Horse Landfill</b>	<b>Monterey</b>	<b>R3-2013-0016</b>
<b>Foxen Canyon Landfill</b>	<b>Santa Barbara</b>	<b>R3-2007-0027</b>
<b>Jolon Road Class III Landfill</b>	<b>Monterey</b>	<b>R3-2001-0032</b>
<b>Lake San Antonio North Shore Class III Landfill</b>	<b>Monterey</b>	<b>R3-2002-0056</b>
<b>Lewis Road Class III Landfill</b>	<b>Monterey</b>	<b>R3-2003-0109</b>
<b>Los Osos Class III Landfill</b>	<b>San Luis Obispo</b>	<b>R3-2007-0023</b>
<b>New Cuyama Closed Landfill</b>	<b>Santa Barbara</b>	<b>R3-1997-0018</b>
<b>Pacheco Pass Class III Landfill</b>	<b>Santa Clara</b>	<b>R3-2004-0111</b>
<b>Vandenberg Air Force Base Class III Landfill</b>	<b>Santa Barbara</b>	<b>R3-2001-0054</b>

**Why regulate closed landfill facilities with general WDRs rather than site specific WDRs?**

Central Coast Water Board staff continuously look to optimize staff resources on the highest priority work and regulatory program implementation to increase efficiency and effectiveness of programs to protect water quality. All the closed landfill facilities in the Central Coast Region have individual WDRs that are at least ten years old. In the next several years, Central Coast Water Board staff will need to evaluate and update the older WDRs to provide consistent requirements that are protective of water quality. Developing a general WDR for closed landfill facilities will improve requirements, establish consistency of requirements between closed landfill facilities, and focus limited staff resources on landfill oversight activities that have a greater potential to impact water quality such as new WMU design and construction, inspections, waste acceptance, monitoring and reporting, corrective actions, and closure.

Although waste disposal operations and site specifics vary both by facility and operator, all closed landfill facilities are required to comply with CCR, title 27 and CFR, part 258 through their individual WDRs. As individual WDRs have been updated over the years, they have become more consistent as Central Coast Water Board staff identify inconsistencies and clarify regulatory language during updates. Because of the similarities in individual WDRs and prescriptive nature of state and federal regulatory requirements, closed landfill facilities are well suited for general WDRs. The proposed General Order includes updated language and ensures consistent requirements for all closed landfill facilities in the Central Coast Region.

The proposed General Order does not apply to closed landfill facilities enrolled in General Waste Discharge Requirements Order R3-2004-0006 for Post-Closure Maintenance of Closed, Abandoned or Inactive Nonhazardous Waste Landfills Within the Central Coast Region (CAI General Order). The CAI General Order regulates landfills that were closed, abandoned, or inactive on November 27, 1984 and are not specifically required to be closed in accordance with CCR title 27. As such, the post-closure requirements of these closed, abandoned, or inactive landfills are different than the post-closure requirements for facilities that closed after November 27, 1984 and will continue to be regulated under the CAI General Order. In the coming years, as time permits, Central Coast Water Board staff expects to evaluate and revise the CAI General Order.

The Central Coast Water Board's Land Disposal Unit has two full-time and one part-time staff assigned to manage the 15 active landfill facilities in addition to 40 closed/other landfill facilities. Closed landfill facilities can demand as much time as some active facilities due to legacy groundwater issues associated with unlined landfill units. Land disposal staff also manage 10 compost facilities that are either enrolled in the General Compost Order or are in the enrollment process with more expected. Drafting and adopting individual landfill WDRs is a resource intensive process that requires staff to balance land disposal facility regulatory oversight with WDR development activities.

The Central Coast Water Board recognizes that discharges with similar characteristics, such as those associated with post-closure maintenance and monitoring at closed landfill facilities in the Central Coast Region, are appropriately regulated under general WDRs. Both the Central Coast Water Board and dischargers will benefit from adoption of general WDRs as they provide regulatory uniformity and eliminate the need to update multiple individual WDRs. Obtaining coverage under general WDRs is anticipated to take approximately one month versus up to one year for individual WDRs.

The proposed General Order includes a General MRP as an example of an MRP that will be modified for each closed landfill facility based on site-specific characteristics and will be issued by the Executive Officer upon each discharger's enrollment in the General Order. Monitoring requirements will be more consistent between dischargers due to the use of the General MRP as a template for each closed landfill facility.

The proposed General Order provides more efficient permitting and allows for and requires consistent document review and feedback to dischargers. Document review is integral and required by this proposed General Order because facility specific information will be included in required submittal for enrollment (an updated post-closure maintenance plan). Submitted technical documents will require Central Coast Water Board staff review and Executive Officer approval to ensure the information is accurate, enforceable, and consistent with the proposed General Order.

### **How does the proposed General Order improve water quality protection in comparison to previous individual orders?**

The Central Coast Water Board regulated active closed landfill facilities under site specific individual WDRs. The individual WDRs require complete containment of disposed waste in a WMU as specified in CCR, title 27 and CFR, part 258. The proposed General Order maintains these requirements and includes updated monitoring requirements to better evaluate containment and more effectively implement corrective action programs when impacts occur.

The General Order specific MRPs will include typical landfill specific monitoring requirements, additional inorganic parameters to facilitate groundwater source identification, and per- and polyfluoroalkyl substances (PFAS). On April 10, 2024, the United States Environmental Protection Agency (EPA) finalized a National Primary Drinking Water Regulation that established the maximum contaminate level (MCL) for six PFAS in drinking water. With the establishment of an enforceable MCL and the likely presence of PFAS in waste streams previously discharged at closed landfill facilities, the proposed monitoring requirements will ensure corrective action can be evaluated and implemented to stop a release, protect receptors and beneficial uses, and facilitate cleanup to improve water quality more effectively and in a timely manner.

### **Compliance History**

California has regulated the landfill industry since 1972 with the adoption of the Porter Cologne Water Quality Control Act and currently all closed landfill facilities are required

to comply with prescriptive requirements contained within CCR, title 27 and CFR, title 40, part 258. Given the significant level of regulation, closed landfill facility owners and operators within the Central Coast Region are accustomed to being regulated by multiple agencies with differing authorities and responsibilities, and generally work proactively toward compliance. These closed landfill facility dischargers include city and county public agencies, private companies, and the United States Department of Defense.

Central Coast Water Board staff evaluated the compliance of closed landfill facility dischargers with their individual WDRs based on fee payment status, submittal of required documents (e.g., wet weather preparedness reports, financial assurance documentation, and self-monitoring reports), discharger notifications, and Central Coast Water Board staff landfill facility inspections. Overall, dischargers have generally complied with their individual WDRs and responded to staff information requests. Typically, Central Coast Water Board staff wet weather inspections result in infrequent minor enforcement actions including Central Coast Water Board staff requests for information, or directives to implement corrective actions and submit follow-up documentation. Formal enforcement has generally been limited to California Water Code section 13267 letter requests for technical reports or corrective action evaluation and have been sufficient to prompt corrective action implementation and ensure compliance with individual WDRs.

### **Proposed Enrollment Process**

Enrollment in the proposed General Order will be phased starting with the closed landfill facilities currently enrolled under individual WDRs for an active facility, followed by the oldest individual WDRs for closed landfill facilities, followed by those with more recently adopted individual WDRs. Proposed General Order Attachment B includes a list of the landfill facilities that require coverage under this General Order and includes the dates for dischargers to submit their report of waste discharge (ROWD) and begin phased enrollment. Upon Executive Officer approval of the ROWD, site specific monitoring and reporting programs will be issued, and the closed landfill will be enrolled in the proposed General Order. Upon enrollment and coverage under the proposed General Order, existing individual waste discharge requirements will be terminated by the Executive Officer as specified in the proposed General Order.

### **Human Right to Water**

California Water Code section 106.3, subdivision (a) states that it is the policy of the State of California “that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitation purposes.” On January 26, 2017, the Central Coast Water Board adopted Resolution R3-2017-0004, which affirms the realization of the human right to water and the protection of human health as the Central Coast Water Board's top priorities.

The proposed General Order is consistent with Resolution R3-2017-0004 by requiring containment at closed landfill facilities and ensuring the post-closure maintenance and

monitoring of WMUs protect groundwater and surface water that serve as sources of drinking water within the Central Coast Region.

### **Environmental Justice**

Environmental Justice principles call for the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in the development, adoption, implementation, and enforcement of all environmental laws, regulations, and policies that affect every community's natural resources and the places people live, work, play, and learn. The Central Coast Water Board implements regulatory activities and water quality projects in a manner that ensures the fair treatment of all people, including Underrepresented Communities. Underrepresented Communities include but are not limited to Disadvantaged Communities (DACs), Severely Disadvantaged Communities (SDACs), Economically Distressed Areas (EDAs), Tribes, Environmentally Disadvantaged Communities (EnvDACs), and members of Fringe Communities.<sup>1</sup> Furthermore, the Central Coast Water Board is committed to providing all stakeholders the opportunity to participate in the public process and provide meaningful input to decisions that affect their communities.

The proposed General Order applies to all closed landfill facilities, except for those enrolled under the CAI General Order, within the Central Coast Region. Based on 2022 census data, 1 DAC census block group is within one mile of a closed landfill facility (Ben Lomond Class III Landfill). If impacts to surface water or groundwater pollution results from the discharges regulated by the proposed order, Central Coast Water Board staff will help facilitate outreach and education to inform affected persons and connect them with available resources, especially Underrepresented Communities.

### **Climate Change**

The Central Coast faces the threat and the effects of climate change for the foreseeable and distant future. To proactively prepare and respond, the Central Coast Water Board has launched the Central Coast Water Board's Climate Action Initiative, which identifies

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<sup>1</sup> Disadvantaged Community: a community with an annual median household income that is less than 80% of the statewide annual median household income (Public Resources Code section 80002(e)); Severely Disadvantaged Community: a community with a median household income of less than 60% of the statewide average. (Public Resources Code section 80002(n)); Economically Distressed Area: a municipality with a population of 20,000 persons or less, a rural county, or a reasonably isolated and divisible segment of a larger municipality where the segment of the population is 20,000 persons or less with an annual median household income that is less than 85% of the statewide median household income and with one or more of the following conditions as determined by the department: (1) financial hardship, (2) unemployment rate at least 2% higher than the statewide average, or (3) low population density. (Water Code section 79702(k)); Tribes: federally recognized Indian Tribes and California State Indian Tribes listed on the Native American Heritage Commission's California Tribal Consultation List; EnvDACs: CalEPA designates the top 25 percent scoring census tracts as DACs. Census tracts that score the highest five percent of pollution burden scores but do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data are also designated as DACs (refer to the CalEnviroScreen 3.0 Mapping Tool or Results Excel Sheet); Fringe Community: communities that do not meet the established DAC, SDAC, and EDA definitions but can show that they score in the top 25 percent of either the Pollution Burden or Population Characteristics score using the CalEnviroScreen 3.0.

how the Central Coast Water Board's work relates to climate change and prioritizes actions that improve water supply resiliency through water conservation and wastewater reuse and recycling; mitigate for and adapt to sea level rise and increased flooding; improve energy efficiency; and reduce greenhouse gas production. The Climate Action Initiative is consistent with the Governor's Executive Order B-30-15 and the State Water Board's Climate Change Resolution 2017-0012.

Climate change is predicted to result in more frequent extreme weather events that may damage landfill covers and drainage facilities. The proposed General Order requires the discharger to maintain WMUs to prevent inundation or washout due to floods with a 100-year return period. In addition, dischargers are required to maintain landfill drainages to handle 100-year, 24-hr storms and to inspect their closed landfill facility promptly following wet weather. Due to climate change, Central Coast Water Board staff recognize that 100-year flood maps may be updated, and/or the 100-year, 24-hr storm design values may trend higher due to more frequent high intensity storms. Central Coast Water Board staff anticipate evaluating more conservative storm design requirements for critical drainage components based on site specific drainage system performance and observations. If necessary, levees that protect landfills may need to be upgraded, and/or existing drainage facilities may need to be upgraded to handle updated 100-year, 24-hr storm design values.

Central Coast Water Board staff work with agencies including the California Department of Resources Recycling and Recovery (CalRecycle), local county environmental health departments, and California Air Districts to reduce methane emissions from landfills. Methane is a greenhouse gas, which contributes significantly to climate change. Methane reduction efforts at closed landfill facilities largely consists of the operation of gas control systems and the maintenance of final cover systems to help limit methane releases.

## **PUBLIC PROCESS**

On May 24, 2024, Central Coast Water Board staff posted the draft General Order to the Central Coast Water Board's website and notified closed landfill facility dischargers, agencies, and other interested persons (e.g., consultants, environmental interest groups, environmental justice groups) of its intent to consider adoption of the proposed General Order and the opportunity to submit written comments during the 30-day public comment period. A hard copy of the notice of public hearing and factsheet describing the proposed General Order was mailed to all neighboring property owners within one half mile of a closed landfill facility; approximately 1,300 letters were sent. Written comments were due to the Central Coast Water Board by June 24, 2024.

In accordance with Assembly Bill 2108, 42 letters were sent to local Tribal contacts to invite participation in the development of the proposed General Order. Additionally, Central Coast Water Board staff provided notification of consultation opportunity to six Tribal representatives in accordance with Assembly Bill 52.

## PUBLIC COMMENTS

The Central Coast Water Board received comment letters or emails from the following three entities:

- Salinas Valley Solid Waste Authority (SVSWA)
- County of Santa Cruz, Department of Community Development and Infrastructure
- Recology Pacheco Pass

In response to comments, Central Coast Water Board staff incorporated revisions to the draft General Order resulting in the proposed General Order. The most substantive comments and responses are summarized below and a Response to Comments document is included as Attachment 2 to the Staff Report documenting each individual comment and response.

**General Comment 1: The costs to implement PFAS monitoring at closed landfill facilities, as proposed in the draft General Order, and the potential costs to implement corrective actions, if required, are too great. The draft General Order should be revised to either remove PFAS monitoring requirements or limit the number of monitoring locations that require PFAS monitoring.**

Central Coast Water Board staff recognizes that the inclusion PFAS monitoring will significantly increase laboratory costs for a minimum of two years. Additional Finding F.3 evaluates the costs of compliance with the proposed MRP and estimated costs may range from \$14,600 to \$58,900 annually for the first two years. These cost estimates assume \$492 per sample for PFAS analysis and monitoring networks ranging from 3 to 30 individual monitoring locations. The approach proposed in the proposed General Order is to determine the presence, or absence, of PFAS through two years of semi-annual monitoring. PFAS detections that are a result of a release from the closed landfill facility will be addressed through site-specific corrective action programs. This approach is consistent with how other constituents of concern (COC) are assessed at closed landfill facilities in accordance with CCR, title 27.

The proposed General Order does not include findings evaluating the cost of a hypothetical corrective action program. The cost to implement a corrective action program will be highly variable based on the nature and extent of a release, the complexity of the hydrogeologic conditions, the proximity to potential receptors, the selection of corrective action remedy, etc. The Central Coast Water Board acknowledges the concerns regarding the potential costs of future corrective actions and will work with Dischargers to develop corrective action programs that are both reasonable and protective of water quality. Additionally, the costs for future potential corrective actions are necessary and reasonable to ensure the protection of public health, water quality, and protection of beneficial uses.

**General Comment 2: The pervasive nature of PFAS in the environment will make it difficult to confirm that detections of PFAS are attributed to a release from the closed landfill facility. A PFAS detection alone does not constitute a release from the closed landfill facility.**

Central Coast Water Board staff agree that a PFAS detection alone does not provide sufficient rationale to require corrective action measures. There are numerous examples where the detection of an anthropogenic COC or the exceedance of a concentration limit has not resulted in a corrective action program (i.e., a detection of a VOC that was subsequently resampled and determined to be non-detect or a concentration limit for a naturally occurring COC is exceeded due to trends in background concentrations or changes in recharge conditions). In these examples, Central Coast Water Board staff look at the preponderance of data presented by the Discharger to determine if the detection or exceedance was the result of a release from the landfill. Similarly, Part I.E.5.a.i of the MRP specifies that only detections of PFAS that result from a release at the closed landfill facility will be evaluated in accordance with Part III.B of the MRP. Central Coast Water Board staff understand the complexities related to the potential for background contamination and will work with Dischargers to implement corrective action programs to address impacts that are a result of a release from the closed landfill facility.

**General Comment 3: The PFAS monitoring requirements in the draft General Order are not consistent with the Waste Discharge Requirements General Order R3-2020-0001 for Active Class III Landfills in the Central Coast Region. The Central Coast Water Board should delay implementation until a broader statewide approach for closed landfills has been established.**

On April 10, 2024, EPA finalized a National Primary Drinking Water Regulation that established the MCL for six PFAS in drinking water. This MCL was not established in 2020 when the Active General Order was adopted by the Central Coast Water Board. State Water Resources Control Board Order 2019-0006-DWQ did require active landfill operators to sample for PFAS and subsequent 13267 Orders issued by the Central Coast Water Board Executive Officer required active landfills to continue monitoring for PFAS. Central Coast Water Board staff intend to revise R3-2020-0001 and/or reissue site-specific MRPs to be consistent with the proposed General Order within the next 2-3 years.

Central Coast Water Board staff do not agree that PFAS Monitoring should be postponed until there is a broader statewide approach established. While the Central Coast Water Board staff recognize the concerns regarding PFAS monitoring and potential for corrective action programs triggered by the release of PFAS from closed landfill facilities, the costs and efforts are reasonable to ensure the protection of human health, water quality, and beneficial uses.

**CONCLUSION**

In summary, staff recommend regulating closed landfill facilities with the proposed General Order, rather than individual WDRs. Utilizing the proposed General Order will improve water quality protection and help to ensure consistency across similar regulated facilities. Furthermore, implementing the proposed General Order will improve programmatic efficiencies allowing limited staff resources to focus on landfill activities with the greatest potential impact to water quality. The proposed General Order will facilitate Central Coast Water Board staff's review of important documents, landfill facility inspections, and more detailed evaluation of monitoring data to ensure landfills operative in a manner that is protective of water quality.

**RECOMMENDATION**

Adopt the proposed Waste Discharge Requirements General Order R3-2024-0036 for Closed Landfill Facilities in the Central Coast Region.

**ATTACHMENTS**

1. Proposed Order R3-2024-0036, including the following associated attachments:
  - a. Attachment A – Monitoring and Reporting Program
  - b. Attachment B – Closed Landfill Facilities Table
  - c. Attachment C – Additional Findings
2. Response to Comments