STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF DECEMBER 10, 2021
Prepared on November 17, 2021

ITEM NUMBER: **6**

SUBJECT: **Consideration of proposed Order No. R3-2021-0076, Waste Discharge Requirements (WDRs) for the Chevron Guadalupe Landfill for the Chevron Environmental Management Company**

STAFF CONTACTS: **Jordan Haserot, (805) 542-4781,**
Jordan.Haserot@waterboards.ca.gov
Ryan Lodge, (805) 549-3506,
Ryan.Lodge@waterboards.ca.gov

KEY INFORMATION

Location:	The former Guadalupe Oil Field, San Luis Obispo County
Type of Discharge:	Discharge to land within a title 27 compliant class II landfill
Design Capacity:	1,185,000 cubic yards
Disposal:	Disposal of non-hazardous impacted soil from the former Guadalupe Oil Field

ACTION: **Adopt Order No. R3-2021-0076**

SUMMARY

This staff report provides an overview of proposed Order No. R3-2021-0076, Waste Discharger Requirements for the Chevron Guadalupe Landfill (proposed Order). The proposed Order would allow Chevron Environmental Management Company (Discharger) to dispose of non-hazardous impacted soils sourced from the former Guadalupe Oil Field onsite within the proposed Chevron Guadalupe Landfill (Landfill), as part of the ongoing cleanup activities for the Guadalupe Restoration Project. The Landfill will be designed in accordance with federal and state landfill regulations to ensure protection of water quality.

DISCUSSION

Regulatory Background

Since the early 1990s, the State and Regional Water Boards have regulated landfills using prescriptive technical design standards for liners, covers, leachate collection and recovery systems, stormwater drainage systems, and gas collection systems. Federal

regulations associated with solid waste facilities are contained within the Code of Federal Regulation (CFR), title 40, parts 257 and 258. The State Water Resources Control Board (State Water Board) promulgated regulations for the discharge of solid waste to land in the California Code of Regulations (CCR), division 2, title 27 (CCR, title 27, §§20005-23014). Title 27 regulations contain classification criteria for wastes and for disposal sites, and prescribe minimum standards for the siting, design, construction, monitoring, and closure of waste management units.

The objectives of the state and federal regulations are to prevent offsite discharges of waste to groundwater and surface water, to provide early detection of discharges, and to ensure sufficient financial resources to operate and maintain landfill's closure and post-closure systems and to evaluate and cleanup discharges. These landfill regulations act as the basis for the proposed Order to ensure protection of water quality.

Background

In 1998, the Central Coast Regional Water Quality Control Board (Central Coast Water Board) issued Cleanup and Abatement Order (CAO) 98-38 to Unocal, requiring investigation and remediation of impacted soils and groundwater underlying the former Guadalupe Oil Field due to unauthorized discharges of petroleum and its chemical constituents from former oil operations. The Discharger currently oversees the ongoing remediation work. Previously, as part of the Guadalupe Restoration Project, non-hazardous impacted soils were hauled to the Santa Maria Regional Landfill. The Discharger plans to build a CCR, title 27 compliant class II landfill onsite at the former Guadalupe Oil Field to dispose of site generated non-hazardous impacted soils.

The proposed Landfill will be located onsite overlying an area that has existing impacts to soil and groundwater from historic oil operations. The location is an ideal location for the proposed Landfill because it is near the remaining soil remediation areas, is accessible via the existing road network, groundwater beneath the landfill footprint is impacted, and is close to other supporting infrastructure such as the advanced water treatment system (AWTS). The project will require excavation and land filling of impacted soil within the proposed Landfill area.

The proposed Landfill will contain non-hazardous impacted soils from the former Guadalupe Oil Field from sources including roads, pads, sumps, and other petroleum impacted excavations. The impacted soils are known to contain total petroleum hydrocarbons (TPH). If not managed properly in a lined landfill module, TPH impacted soils could release constituents including benzene, ethylbenzene, toluene, and xylenes to groundwater. The Landfill liner system will be designed to prevent impacts to groundwater resources. The proposed landfill liner system will also include both a leachate collection and removal system (LCRS) to remove any liquid that percolates through the waste in the Landfill and a leak detection system (LDS) that will be used for early detection of leaks in the primary liner system.

The Discharger plans to pre-mix monoammonium phosphate (MAP) into water and apply the liquid over each 12-inch lift of the non-hazardous impacted soil placed in the

Landfill. MAP is a 100% water soluble crystalline solid and was previously used at the former Guadalupe Oil Field to stimulate biodegradation of residual petroleum hydrocarbons within excavation areas. The intent of applying MAP to the impacted soil in the Landfill is to enhance the biodegradation of petroleum hydrocarbons within impacted waste. The proposed monitoring and reporting program (MRP) Order No. R3-2021-0076 requires leachate and groundwater monitoring for chemicals found within non-hazardous impacted soils at the site and requires monitoring for certain MAP ions.

The leak detection sump will be the lowest point of the proposed Landfill and the lowest point of the sump will be approximately 9.8 feet above the highest historic groundwater elevation. Groundwater beneath the sump is already impacted by total petroleum hydrocarbons. Title 27 section 20240(c) requires a minimum five feet of separation between the lowest waste elevation and highest anticipated groundwater. Across the majority of the proposed Landfill footprint, there is approximately 30 feet of separation between groundwater and the bottom of the liner system.

The active life, or the period when impacted soils will be placed in the Landfill, is expected to be approximately three to five years. The Landfill will then be closed with an approved cover system and monitoring will occur according to a closure WDR for a minimum of 30 years or as long the Landfill poses a threat to water quality.

Onsite Advanced Water Treatment System

As part of the Guadalupe Restoration Project, the Discharger built and operates an onsite AWTS to successfully treat water derived from excavation dewatering, diluent recovery wells, and stormwater. On November 7, 2012, Central Coast Water Board staff issued a notice of applicability (NOA) enrolling the AWTS under the General Waiver of Waste Discharge requirements for Specific Types of Discharges (General Waiver) and the system has continued to operate in accordance with the General Waiver requirements. Chevron plans to use the AWTS for the treatment of Landfill leachate (including stormwater that comes into contact with impacted soils). On October 28, 2021, the Discharger submitted an addendum to the Guadalupe AWTS Discharge Plan with the intent to enroll the AWTS under section C of the General Waiver for treated groundwater to allow the Discharger to also use the existing AWTS to treat Landfill leachate.

Human Right to Water

California Water Code section 106.3, subdivision (a) states: It is a 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 No. R3-2017-0004, which affirms the realization of the human right to water and the protection of human health as one of the Central Coast Water Board's top priorities.

The proposed Order is consistent with Resolution No. R3-2017-0004 by requiring waste containment and ensuring design, construction, operation, closure, and monitoring of

the proposed Landfill to protect groundwater and surface water that serve as sources of drinking water. Surrounding wells near the proposed Landfill were evaluated and there is minimal risk to drinking water wells from the proposed project.

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[1]. 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.

Central Coast Water Board staff conducted stakeholder outreach which included issuing an information factsheet in both English and Spanish, conducted information meetings with organizations that support Underrepresented Communities, and provided stakeholders with a 30-day public comment period to review the proposed Order. Stakeholders included governmental agencies/leaders, environmental justice groups, environmental groups, and community groups within San Luis Obispo and Santa Barbara County. See more detailed information in the Public Process section of this staff report.

The proposed Landfill location is not within a DAC block group, however, the proposed Landfill is located near neighboring areas with DAC block groups including the City of Santa Maria, City of Guadalupe, and the Nipomo area. Disposal of the impacted soils in

[1]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 5 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.

the proposed onsite Landfill will result in a reduction in the amount of traffic in the surrounding DAC communities by about 52 truck roundtrips per day. Impacts to surface water or groundwater are not anticipated from the disposal of onsite soils in the proposed Landfill, however, if impacts are identified Central Coast Water Board staff will help facilitate outreach and education to inform affected parties and connect them with available resources, especially for 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 how the Central Coast Water Board's work relates to climate change and prioritizes actions such as water conservation, reuse and recycling to improve water supply resiliency, sea level rise and flood mitigation and adaptation, and that 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 No. 2017-0012.

According to the Guadalupe Restoration Soil Management Area (SMA) Project Draft Initial Study and Mitigated Negative Declaration (MND Report), non-hazardous impacted soil has been hauled to the Santa Maria Regional Landfill at the historical rate of about 52 truck roundtrips per day. The proposed Landfill will contain approximately 1,185,000 cubic yards of non-hazardous impacted soils from the former Guadalupe Oil Field that was originally planned for disposal at the Santa Maria Regional Landfill. The MND Report indicates that the proposed Landfill would eliminate approximately 74,100 truck trips, which would reduce greenhouse gas emissions, reduce impacts on local air quality, and reduce potential safety hazards on local roadways.

Extreme weather events, including drought, high intensity precipitation, flooding, and extreme heat have occurred through much of California in the recent years, and are projected to increase in frequency, extent, or intensity due to climate change. Additional climate change impacts include prolonged fire seasons with larger and more intense fires, tree mortality, rising sea level and storm surges.

More frequent high intensity precipitation may result in damage to landfill covers and drainage facilities. The proposed Order requires the Discharger to design landfill drainages to handle 1,000-year, 24-hr storms and to inspect the Landfill following wet weather. Due to climate change Central Coast Water Board staff recognize that the 1,000-year, 24-hr storm design values may trend higher due to more frequent high intensity storms. If necessary, existing drainage facilities may need to be upgraded to handle updated 1,000-year, 24-hr storm design values.

On May 1, 2020, the California Coastal Commission approved the Sea Level Rise Principles that aim to guide unified, effective action toward sea level rise resilience for California's coastal communities, ecosystems, and economies. The document was co-developed and endorsed by state and regional agencies, including the State Water

Board, to follow the Principles for Aligned State Action. The document specifies using a sea level rise target based on the best available science and a minimum of 3.5 feet of sea level rise by 2050. The document also adopts the policy of developing and utilizing more protective baselines for facilities such as water and wastewater systems.

In March 2018, the Ocean Protection Council adopted the State of California Sea-Level Rise Guidance (Guidance Document), which provides guidance to state agencies for incorporating sea level rise projections into planning, permitting, investment, and other decisions. The Guidance Document includes sea level rise projections for Port San Luis, which is approximately 16 miles from the proposed Landfill. By the year 2100, there is a 95 percent probability that sea level rise will be less than 4.1 feet. The Landfill leak detection sump is expected to be approximately 46 feet above current mean sea level. The Pacific Ocean is currently approximately 1.25 miles from the proposed Landfill. Therefore, rising sea levels are not expected to affect the Landfill.

Biodegradation of the hydrocarbons in the non-hazardous impacted soil will result in the production of greenhouse gases such as carbon dioxide (CO_2) and methane (CH_4). However, the rate of generation, and the volume produced, are expected to be minimal given the preponderance of weathered heavier end hydrocarbons and the low concentration of water-soluble hydrocarbons. Migration of landfill gas will be monitored with gas probes within an approved perimeter monitoring network to ensure that landfill gas production is below the standards required by CCR, title 27. If those standards are exceeded, the Discharger will be required to install a gas control system.

PUBLIC PROCESS

Central Coast Water Board staff conducted early outreach to stakeholders to provide information about the proposed Landfill. On July 9, 2021, Central Coast Water Board staff sent a factsheet in English and Spanish to interested parties to provide notification that the Central Coast Water Board staff were drafting WDRs for the proposed Landfill. The interested parties list included governmental agencies/leaders, environmental groups, environmental justice groups, and community groups within San Luis Obispo and Santa Barbara County. The factsheet encouraged the public to submit any questions or comments about the project.

On July 29, 2021, Central Coast Water Board staff provided a preliminary draft of the proposed Order for technical review and comment to the Discharger. The Discharger provided comments on the preliminary draft of the Order that resulted in minor revisions and clarifications. Central Coast Water Board staff also followed up with phone calls to the Discharger to discuss their comments.

Central Coast Water Board staff received an inquiry from the Central Coast Alliance United for a Sustainable Economy (CAUSE) and Santa Barbara County Action Network (SBCAN) asking for additional project background. On August 26, 2021, Central Coast Water Board staff met with staff from CAUSE and SBCAN to provide project background and discuss the proposed Order. Staff from CAUSE and SBCAN indicated that they had no concerns about the proposed Order during this meeting.

On September 3, 2021, Central Coast Water Board staff posted the draft Order to the Central Coast Water Board's website and notified the Discharger, agencies, and other interested persons (e.g., consultants, environmental interest groups, environmental justice groups) of its intent to consider adoption of the proposed Order and the opportunity to submit written comments during the 30-day public comment period. Written comments were due to the Central Coast Water Board by October 4, 2021.

COMMENTS

During the 30-day public comment period, the mayor of the City of Guadalupe submitted a letter of support for WDR Order No. 2021-0076 to the Central Coast Water Board. The letter indicates that the City of Guadalupe is focused on community issues such as motor vehicle safety, air quality, and maintaining a healthy environment. The letter discusses the benefits of Landfill project including decreasing traffic congestion, decreased safety issues, and reduced air emissions from diesel particulate matter, fugitive dust, ground-level ozone, and greenhouse gases.

CONCLUSION

Adopting Order No. R3-2021-0076, Waste Discharge Requirements for the Chevron Guadalupe Landfill for disposal of non-hazardous impacted soils from the former Guadalupe Oil Field will allow for the creation of an onsite landfill. Disposal of impacted soils in the proposed Landfill will eliminate truck traffic that otherwise would be needed to haul impacted soils to the Santa Maria Regional Landfill. The proposed Order requires that the Landfill be designed, constructed, and managed to meet the requirements of CCR, title 27 and requires monitoring to ensure protection of water quality.

RECOMMENDATION

Adopt Order No. R3-2021-0076, Waste Discharge Requirements for the Chevron Guadalupe Landfill.

ATTACHMENTS

1. Proposed Order No. R3-2021-0076, including the following attachments:
    a. Attachment A – Monitoring and Reporting Program
    b. Attachment B – Additional Findings

r:\rb3\shared\ldu\facilities\permitted\chevron guadalupe landfill\staff report and presentations\item6_stfrpt.docx