Central Valley Regional Water Quality Control Board

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SUBJECT: **APPLICABILITY OF COVERAGE UNDER STATE WATER RESOURCES CONTROL BOARD WATER QUALITY ORDER 2020-0012-DWQ, RECOLOGY Jepson prairie organics, solano county**

REPORT OF WASTE DISCHARGE

On 12 November 2021, Recology (Discharger) submitted a Report of Waste Discharge (ROWD) titled *Jepson Prairie Organics Composting Facility General Waste Discharge Requirement Technical Report* for Recology Jepson Prairie Organics (Facility). The ROWD includes a Technical Report, Notice of Intent (NOI), and filing fee to obtain coverage under State Water Resources Control Board Order 2020-0012-DWQ, General Waste Discharge Requirements for Commercial Composting Operations (General Order), for composting operations at the above-referenced site.

SITE DESCRIPTION

The existing Jepson Prairie Organics (JPO) composting operation consists of 39 acres and is located at the Recology Hay Road landfill (RHR) site in an unincorporated area of Solano County, approximately 8 miles southeast of the City of Vacaville.

A 256-acre area at the Facility has been permitted by the County for waste disposal and composting operations. The current permitted boundary for the composting Facility is approximately 39 acres. Within that area, active composting, curing, and storage operations occur on 22 of those acres. The remaining 17 acres include Pond A and Pond B, which hold compost leachate. An unlined landfill stormwater holding pond bordering the compost pad to the south serves as a stormwater basin for the landfill. No

compost run-off enters this unlined pond. The permitted composting Facility is within the existing landfill boundary and, over time, the 39-acre composting area will diminish in size as it is developed out as a Class II solid waste disposal modules. See Attachment A.

The closest surface water is the A-1 Channel, approximately 60 feet away from the perimeter of the existing composting operations at its closest point, which is less than the General Order requirement of 100 feet. A 2015 Department of Water Resources (DWR) well survey identified at least five (5) supply wells within a one-mile radius of the site, including one domestic well, one agricultural well, and three industrial wells. The wells ranged in depth from about 50 to 180 feet below ground surface (bgs). The closest off-site well is located 300 feet from the perimeter of the Facility, which is greater than the General Order setback requirement of 100 feet. Depth to groundwater ranges between 10-20 feet. The compost operation is located approximately on a groundwater divide created by pumping of the landfill's borrow pit approximately 2,000 feet to the west. Groundwater generally flows from the north, but splits and flows both east and west depending on the season and operation of the borrow pit pumps.

Based on data from the nearest weather station, Dixon 121, located approximately 6 miles away, the Facility has an annual average precipitation of 20.5 inches. The mean pan evaporation at the Dixon 121 station is 55.1 inches per year. Mean monthly evaporation typically exceeds mean monthly precipitation in all months of the year, except January, February, November, and December. Net average annual evaporation at the site is estimated to be about 34.6 inches. The magnitude of the design storm (24-hour 25-year wet season event) is 4.32 inches (Source: NOAA Precipitation Frequency Data Server, https://hdsc.nws.noaa.gov/hdsc/pfds). According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (https://msc.fema.gov/portal), the compost operation is located within a 100-year floodplain.

COMPOSTING OPERATIONS

According to the Technical Report, JPO complies with allowable feedstock requirements, accepting vegetative agricultural materials, green materials, food materials, and residentially co-collected or self-hauled food and green materials. The Facility currently utilizes open windrow and aerated static pile (ASP) composting with a daily receiving limit of 600 tons per day averaged over seven days, with a peak of 750 tons per day. The materials are received on-site, pre-processed (e.g., chipped, ground), then mixed with additives and amendments as applicable prior to being placed into either the on-site windrow composting system or the negative ASP composting system. After the active phase composting is complete, material is moved into windrow curing piles, or moved off-site as a product. Amendments that are used at the Facility include wood chips, clean soil, clay, and lime. The materials handling areas is a 22-acre pad constructed in 2006. The pad was constructed with compacted soil, with a maximum hydraulic conductivity of 1×10^{-5} cm/sec, overlain with sections of either concrete or foamed asphalt roughly one foot thick.

COMPLIANCE ISSUES

The Facility as constructed does not currently meet all General Order Requirements. The following items are outstanding compliance issues that are required to be addressed by the NOA:

1. The setback between the compost operation and the A-1 channel does not meet the minimum 100 feet required by General Order Specification 8. The Discharger did not provide a demonstration that the groundwater, geologic, topographic, and well construction conditions at the site are adequate to protect water quality with a lesser setback.

2. The water balance is based on average annual rainfall (18.82 inches) of plus a 100-year 24-hr storm (4.34 inches) for a total of 23.16 inches. However, this is not consistent with the published data described above, which suggested the total would be 24.82 inches (20.5 inches average annual rainfall and 4.32 inches for a 25-year 24-hour event). It is also not appropriate to use average annual precipitation in the water balance, as the average value would be exceeded approximately 50% of the time by definition. For example, in the last 40 years there were 16 years that had annual rainfall greater than 23.16 inches, approximately 40% of the time. There are additional issues with the water balance as well, including inappropriate runoff coefficients for the lined ponds and working surfaces. The water balance needs to be revised to address these concerns, and necessary improvements shall be made to provide adequate assurance that the Discharger can contain the waste onsite as required by the General Order.

3. Pond A is lined with 40-mil HDPE, which does not meet the minimum standard of General Order Design Construction and Operation Requirement 4 for Tier 2 facilities.

4. Pond A and Pond B do not have a pan lysimeters, which does not meet the minimum standard of General Order Design Construction and Operation Requirement 5 for Tier 2 facilities.

5. The Discharger did not include CQA data to ensure that the geosynthetic pond A and Pond B geomembrane liner is underlain by low permeability soil as required by General Order Design Construction and Operation Requirement 4 for Tier 2 facilities.

TIMELINE FOR COMPLIANCE

Since this site was previously covered under individual WDRs, full compliance with Order 2020-0012-DWQ shall be completed by **12 November 2026**, which is five years from submittal of the NOI. The table below describes compliance actions required to address the issues above to bring the Facility into compliance with the General Order within that time-period. JPO shall comply with the proposed timeline.

Compliance Action	Completion Dates
Either modify the compost operation so it is not less than 100 feet from surface water or provide information to demonstrate that the groundwater, geologic, topographic, and well construction conditions at the site are adequate to protect water quality with a lesser setback.	**30 September 2022**
Submit updated water balance addressing comments above. Submittal shall include a workplan to complete any work necessary to comply with leachate capacity requirements of the General Order.	**30 December 2022**
Submit a plan to install a liner system compliant with the requirements of the General Order for Pond A.	**31 March 2023**
Submit a plan to install a pan lysimeters compliant with the requirements of the General Order for Ponds A and B. The submittal shall include a plan to certify the integrity of the pond liners.	**31 May 2023**
Submit CQA data to ensure that the geosynthetic Pond A and Pond B geomembrane liner is underlain by low permeability soil as required by General Order.	**30 August 2023**
Submit a Compliance Action Completion Report certifying that the Facility has come into compliance with all requirements of the General Order.	**12 November 2026**

MONITORING AND REPORTING

Recology will regularly inspect and maintain all containment, control, monitoring structures, and monitoring systems pursuant to the submitted ROWD and the Attachment B of General Order Monitoring and Reporting requirements. The frequency of inspections will be sufficient to prevent discharges of feedstocks, additives, amendments, compost (active, curing, or final product), or wastewater from creating, threatening to create, or contributing to conditions of contamination, pollution, or nuisance.

Recology will conduct a monitoring program as prescribed in the Attachment B of General Order Monitoring and Reporting requirements. Sections that apply are A.1., A.2., A.4., A.5., B, and C. Site specific sampling points for storm/surface water (SW-3 and SW-4) and groundwater (CP-1S, CP-1D, CP-2S, CP-2D, CP-3S, CP-3D, CP-4S, and CP-4D). Results of monitoring shall be reported annually in the Annual Monitoring and Maintenance Report, which will be submitted by **1 April** of each year as long as the Notice of Applicability is in effect.

SITE CLOSURE

At least 90 days prior to ceasing composting operations, Recology shall submit a Site Closure Plan to the Central Valley Water Board for review and concurrence. The site restoration shall include work necessary to protect public health, safety, and the environment.

RECOMMENDATION

Based on staff review of the ROWD and supporting documents, the JPO facility currently does not meet all the minimum requirements of the General Order. However, the Notice of Applicability can be issued and stay in effect as long as the Discharger makes the necessary improvements in accordance with the compliance schedule above and implements all operations in a manner that complies with the requirements of the General Order.

Attachment A: Facility Map