

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-2014-XXXX

CEASE AND DESIST ORDER,  
RECOLOGY'S PROPOSED MARKUP (with Explanatory Notes) (Aug. 18, 2014)  
REVISION DATED 8/13/14

FOR  
RECOLOGY HAY ROAD  
JEPSON PRAIRIE ORGANICS AS A DBA OF RECOLOGY HAY ROAD  
RECOLOGY HAY ROAD LANDFILL  
SOLANO COUNTY

TO CEASE AND DESIST  
FROM DISCHARGING CONTRARY TO REQUIREMENTS

The California Regional Water Quality Control Board, Central Valley Region (hereafter referred to as "Central Valley Water Board" or "Board") finds that:

1. Recology Hay Road (hereafter referred to as Discharger) owns and operates an active landfill and composting operation regulated by the Water Board under the name of "Recology Hay Road" (facility). According to the WDRs, the facility consists of two Class III landfills (LF-1 and LF-2), one Class II landfill (LF-3), a Class II sewage sludge waste pile (WP-9.1), a Class II sewage sludge land treatment unit (LTU), green-waste and food-waste composting areas, and two lined compost leachate ponds, as shown on Attachment A. The Discharger performs active composting on a 22-acre all-weather pad and stores finished compost product on a 32-acre area, all within the landfill footprint.
2. The Hay Road Landfill is located on a 640-acre site, of which 256 acres are permitted for landfill disposal and composting operations. The site also includes a borrow pit and a habitat preserve. The Landfill is located about eight miles east of Vacaville on Hay Road in Solano County on Assessor's Parcel Numbers 42-020-02, 42-020-06, and 42-020-28.
3. Waste Discharge Requirements (WDRs) Order R5-2008-0188 was adopted by the Central Valley Water Board on 5 December 2008, and regulates the operation, closure, and post-closure maintenance of the facility. The facility operations must comply with Title 27 of the California Code of Regulations.
4. The facility is also regulated under the State Water Resources Control Board's Water Quality Order No. 97-03-DWQ, the *Statewide Industrial Storm Water General Permit* (General Permit) and under the Central Valley Water Board's NPDES Limited Threat General Order R5-2013-0073 for dewatering of a borrow pit. As described in Finding No. 65 of the WDRs, "...De-watering of units to meet prescriptive separation and to maintain operability of the borrow pit is accomplished by extracting groundwater from the borrow pit during the dry season..."

Draft

## COMPOSTING OPERATIONS AND COMPOST LEACHATE

5. The WDRs regulate the Discharger's green-waste and food-waste composting operations, which include pre-sorting of incoming material, active composting, curing, and storage of finished product. The WDRs state that the Discharger accepts food-waste and green-waste at a 54-acre area located east of disposal module (DM) DM-1, which is composed of 22-acres of an impervious (concrete, asphalt, or similar) working surface for active composting. The WDRs state that the remaining unlined 32-acres is used for finished-product storage.

### In-Vessel Food Waste Composting Requirement Violations

6. Discharge Specification B.27 of the WDRs states that *"Feedstock for windrow composting shall be limited to green waste and agricultural waste as defined in Title 14. Food waste feedstock shall be limited to in-vessel composting as defined in Title 14, and may be combined with green waste for in-vessel composting."* Title 14, California Code of Regulations, section 17852 subdivision (a)(41) defines "within vessel composting" as "... a process in which compostable material is enclosed in a drum, silo, bin, tunnel, reactor or other container for purposes of producing compost . . .".
7. Finding 88 of the WDRs states *"Leachate from the in-vessel composting is collected and returned to within the system."* Title 27 Section 20164 defines leachate as *"any liquid formed by the drainage of liquids from waste or by the percolation or flow of liquid through waste. It includes any constituents extracted from the waste and dissolved or suspended in the fluid."*
8. The Discharger ceased using in-vessel composting prior to April 2010<sup>1</sup>, ~~in violation of~~ contrary to the WDRs. Presently, food waste composting is performed in the active composting area using windrows which are open to the elements<sup>2</sup>. The current system does not satisfy the within-vessel containment requirements of Title 14 or the WDRs nor does it keep leachate within the vessel system, as required by the WDRs. This Order provides the Discharger a time schedule to either return to in-vessel composting as required by the WDRs or to submit a Report of Waste Discharge (RWD) showing that non

<sup>1</sup> 7 April 2010 Water Board staff inspection. The Discharger states that the changes in the composting system were approved by other regulatory agencies as odor and leachate control methods.

<sup>2</sup> The Discharger states that the current "aerated static pile" system uses an air distribution system to blow or otherwise draw air through the pile. The Discharger also maintains that the change from an in-vessel system to the aerated static pile allows for odors to be suppressed and more controlled moisture conditioning of the feedstock. In addition, the Discharger states that less compost leachate is generated with the current system because water is evaporated. However, Board staff maintain that the in-vessel system described in the WDRs allows for more precise management of leachate, especially during the wet season.

in-vessel composting is protective of water quality. If the Water Board adopts new WDRs that authorize non in-vessel composting prior to the time schedule in this Order, then the Discharger will not need to return to in-vessel composting.

Leachate Ponds – Surface Water Discharge Prohibition Violations

9. WDRs Prohibition A.19 states “*The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.*”
10. Finding 88 of the WDRs states that leachate from the 22-acre active composting area flows to the 60-mil HDPE lined “low-flow” pond where it is stored and then recirculated on the compost. The Finding also states that during “significant precipitation events” runoff from the active composting area flows to “a lined high-flow pond so that it does not mix with leachate in the low-flow pond... The high-flow pond has the capacity for the average annual rainfall (20 inches) plus a 100-year, 24-hour storm (4.82 inches). Any pond overflow flows through bioswales and a sedimentation basin prior to off-site discharge under the general industrial storm water permit.”
11. The process water applied to the active food waste stockpiles, as well as the rain falling onto the stockpiles, forms a leachate which is high in nitrate, total dissolved solids (TDS), and biological oxygen demand (BOD). The leachate drains out of the eastern stockpiles and flows east across the all-weather surface to a concrete-lined ditch, sump with pump, and into the low-flow pond. Contrary to the WDRs, wastewater in the low-flow pond is pumped into the high-flow pond. The high-flow pond contains a pipe through the berm, so that if the pond becomes full, wastewater may flow through the pipe and into the bioswales, sedimentation basin, and then to surface waters. –The Discharger states that there have been no discharges from the ponds to surface water, but the WDRs do not require freeboard measurements or other documentation to confirm that discharges to surface waters have not occurred. In addition, the Discharger has changed the configuration of the ponds from that described in the WDRs. Therefore, there is the potential for a discharge ~~or threatened discharge~~ of leachate to surface waters, in violation of Prohibition A.19 of the WDRs. This Order allows the Discharger a time schedule to re-configure the ponds to comply with the WDRs or to submit a RWD requesting that the WDRs be revised to allow the current pond configuration.

**EXPLANATORY NOTE 8/18/14:** Recology recognizes the need to revise and update the WDRs. However, there has been no discharge to surface waters from the ponds, and there is no threatened discharge, as the high-flow pond is designed to accommodate the average annual rainfall plus the 100-year, 24-hour storm event, and the amount of water in the high-flow pond is managed through application of compost water for nuisance dust control in accordance with sound landfill practices so as to maintain sufficient freeboard well in advance of storms.]

12. —If, during the period before the ponds were re-configured to comply with the WDRs, or the WDRs were revised, wastewater were to flow from the high flow pond into surface waters, the wastewater ~~w~~could be of higher strength than allowed by the WDRs<sup>3</sup>. Therefore, it is appropriate to require the Discharger to take interim actions to either prevent an overflow from the high flow pond to surface water or to reduce the volume of leachate entering the high flow pond.

#### Unauthorized Green Waste Pond

13. Leachate and stormwater generated on the western section of the green waste composting area currently flows south through unlined ditches to an unlined stormwater pond known as the “green waste runoff pond<sup>4</sup>”. The pond overflows to an unlined drainage course, which eventually discharges to the A-1 Channel and surface waters. The Discharger states that the depth of the green waste runoff pond is 18.2 feet MSL<sup>5</sup>. The closest groundwater monitoring wells are 4B and G-2, which had a groundwater elevation of 19.10 and 19.12 feet on 22 March 2011, respectively<sup>6</sup>. These elevations indicate that, at times, groundwater has the potential to rise into the bottom of the green waste runoff pond. The unlined ditches, unlined pond, and off-site discharge of leachate are not described, nor permitted, by the WDRs. Use of this pond to store leachate or stormwater generated from the compost area is a violation of the WDRs. The Discharger has committed to construct improvements to rectify this issue.
14. Because the green waste runoff pond is not described in the WDRs, Monitoring and Reporting Program (MRP) R5-2008-0188 does not require the Discharger to analyze its contents. However, it is assumed that the green waste runoff pond would contain leachate from the green waste compost area, similar in concentration to the high-flow pond. The use of the unlined green waste pond for storage of leachate and stormwater may have caused or contributed to groundwater pollution in the eastern portion of the landfill. This Order requires that the Discharger document that it has constructed improvements such that runoff from the compost pad is no longer discharged to the green waste runoff pond or to unlined ditches. The Discharger has stated that it will construct these facility improvements by 31 September 2014.

#### Designated High-Strength Waste

15. Historical analysis of the high-flow and low-flow ponds content shows elevated concentrations of inorganic constituents, as shown below. According to the WDRs, the high-flow pond is only to contain stormwater runoff from the active composting area, not leachate, which is why it is allowed to overflow to surface waters. However, the data below

<sup>3</sup> This is because the wastewater would be composed of both compost leachate and stormwater, whereas the WDRs require leachate be separated from stormwater.

<sup>4</sup> The name “green waste runoff pond” is found on the Recology’s 2011 Exhibit A to the Solano County Use Permit U-11-09. Recology also refers to this pond as the “western compost area pond”.

<sup>5</sup> 5 June 2014, Recology response to Draft CAO

<sup>6</sup> Recology first semiannual 2011 monitoring report, Table 2.

show that ~~designated high-strength~~ waste<sup>7</sup> is contained in the low-flow and high-flow ponds, and that the concentrations exceed the water quality goals and the US EPA Benchmark values used for reference in the Industrial Storm Water General Order. Therefore, it is not appropriate to allow this waste to overflow and discharge to surface waters.

Waste Constituent	Sump <sup>1</sup>	Low Flow Pond <sup>2</sup>	High Flow Pond <sup>3</sup>	Parameter Benchmark Values <sup>4</sup>	Water Quality Goals
Specific Conductance, umhos/cm	10,445	3,815	9,395		900 (CA secondary MCL)
Total Dissolved Solids, mg/L			6,900		500 (CA secondary MCL)
Total Suspended Solids, mg/L	1,362	330		100	
Biochemical Oxygen Demand, mg/L	15,750	2,150		30	
Chemical Oxygen Demand, mg/L	32,000	3,900		120	
Chloride, mg/L			1,600	860	250 (CA secondary MCL)
Total Kjeldahl Nitrogen, mg/L			320		NA
Sulfate, mg/L			320		250 (CA secondary MCL)
Lead, mg/L			0.15	0.0816	0.015 (USEPA Primary MCL)
Phosphorous, mg/L			150	2.0	NA
Nitrate as N, mg/L			14		10 (CA secondary MCL)
Ammonia as N, mg/L	895	145	11	19	30 (USEPA Health Advisory)
Nitrite as N, mg/L			0.66		1 (USEPA Primary MCL)

<sup>1</sup>Sump in which wastewater from the compost pad is collected prior to being pumped to the low-flow pond. Average values from samples collected in February and April 2010.

<sup>2</sup>Average of values from samples collected in February and April 2010.

<sup>3</sup>Samples collected in November 2013

<sup>4</sup>From Table B of the State Water Resources Control Board's *Sampling and Analysis Reduction Certification* to ~~qualify for reduced sampling and analysis under satisfy the requirements of~~ Section B.12.b of the stormwater Industrial General Permit No. 97-03-DWQ.

~~<sup>7</sup>Designated waste is defined in Section 13173 of the California Water Code as a nonhazardous waste that, under ambient conditions, "could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state..." Because the concentrations in the ponds exceed both the water quality goals and the US EPA benchmark values, it is appropriate to classify the pond wastewater as designated waste.~~

**EXPLANATORY NOTE 8/18/14:** Recology continues to object to a finding that the water constitutes a “designated waste.” Note that the August 2012 version of the State Water Resources Control Board’s draft General Order for composting operations contained a finding that compost leachate was not designated waste if it was managed in accordance with the draft General Order’s terms, which required wastewater ponds to accommodate the 25-year, 24-hour storm event. As noted in the WDRs for the Hay Road site, the high-flow pond is designed to accommodate the annual average rainfall, plus a 100-year, 24-hour storm event. In any case, establishing a classification of compost leachate as “designated waste” is more appropriately addressed through the State Water Board’s statewide permit process, not through an enforcement action against a single compost facility.

Furthermore, Section B.12.b of the 1997 Industrial General Permit does not impose “requirements” to achieve the listed benchmark values; rather, Section B.12.b allows for reduced sampling and analysis than would otherwise be needed.]

16. The MRP does not require sampling of the low-flow pond, nor does it require freeboard measurements for either pond. ~~A Revised MRP has recently been issued for this facility and it contains these requirements.~~

**EXPLANATORY NOTE 8/18/14:** To date, no Revised MRP has been issued.]

- Compost Leachate Used for Dust Control ~~Violation~~
17. As reported in the Discharger’s 26 January 2011 *Report of Remedial Actions High-Flow and Low-Flow Ponds*, during the summer of 2010, “Water was removed from the pond and used for dust control over lined portions of the landfill. Draining the pond required removal of approximately 10 million gallons of liquid through evaporation and dust control.”
18. ~~The use of compost leachate for dust control on the landfill units is a violation of~~ Discharge Specification B.13 ~~which states:~~ “Leachate or landfill gas condensate from a lined landfill module shall be discharged either to a publicly owned treatment works under permit, or to the composite-lined landfill unit from which it was generated....” This section does not mention the use of compost water for dust control. In addition, the use of compost leachate as dust control is a violation of section 20375(d) of Title 27, which states “*There shall be no discharge from a surface impoundment except as authorized by WDRs*”. Section 20340(g) of Title 27 also states that leachate may only be applied to the unit from which it was derived, unless the Water Board specifically authorizes otherwise. The application of compost leachate as dust control is not authorized by the WDRs ~~and therefore this action is a violation of the WDRs~~. This Order provides the Discharger a timeline to either cease the use of compost leachate for dust control, or to submit a RWD to revise the WDRs to allow this action.

**EXPLANATORY NOTE 8/18/14:** The use of compost leachate for dust control is not a violation of Discharge Specification B.13. As stated in the Prosecution Team’s Legal and Technical Analysis (at page 6), “the application of leachate from composting



- ~~21. As shown above, the Discharger was in violation of Construction Specification D.2 at DM-1 for the March and May 2011 monitoring events<sup>8</sup>. It is unknown if there were other violations as, in general, the monitoring reports do not clearly show whether the Discharger is complying with Construction Specification D.2 and therefore with Prohibition A.4. For example, the Discharger rounds the groundwater elevation to the nearest foot, groundwater data is interpolated from site-wide gradient maps, some of the monitoring wells that appear to be used for compliance are on the other side of the slurry wall from the pan lysimeters, and the Discharger does not monitor for groundwater elevation at the LTU. In addition, references for the source of the sump elevations (i.e., as-built drawings with final survey data) and the elevations of the lowest point in the modules (i.e., the pan lysimeters) are not provided in the Discharger's monitoring reports. Although the Discharger has stated that it believes its monitoring and reporting practices to be appropriate, Water Board staff finds that it is not possible to determine whether the Discharger is in compliance with the required separation to groundwater.~~
- ~~22. In order to fully evaluate compliance with Construction Specification D.2, and to determine whether or not there is a threatened discharge in violation of Prohibition A.4, this Order provides a time schedule (a) for the Discharger to install monitoring devices specifically designed to determine compliance with Construction Specification D.2, (b) for the Discharger to demonstrate compliance with Construction Specification D.2 by using the closest well or piezometer to the LCRS, (c) by reporting the elevations in units of  $\pm 0.1$  foot, (d) for the Discharger to propose a method to immediately lower the groundwater in the event that a violation of Construction Specification D.2 is reported, and (e) for the Discharger to submit as-built drawing records which document the surveyed elevation of the bottom of each disposal module's sump.~~

**EXPLANATORY NOTE 8/18/14:** Recology explained in its July 25, 2014 submittal why this issue should be deleted in its entirety from the Tentative Order. Recology continues to contest the requirements in the revised Tentative Order pertaining to the separation of waste and groundwater. The data show there is adequate separation meeting the requirements of the 2008 WDRs. As thoroughly explained previously, the non-compliance for DM-1 in the spring of 2011, which occurred more than three years ago, was due to a temporary condition and has been rectified. There is no longer any violation or threatened violation.

The MRP for the 2008 WDRs states that “[t]he Discharger shall determine separation of groundwater from the lowest point of each unit and/or module.” Recology complies with this requirement, and the monitoring it conducts is sufficient to determine whether or not compliance with the separation requirements in the WDRs is achieved.

First, contrary to the claims by RWQCB staff, groundwater elevations are measured to 0.01 feet. The measured elevations are presented to the RWQCB in each semiannual

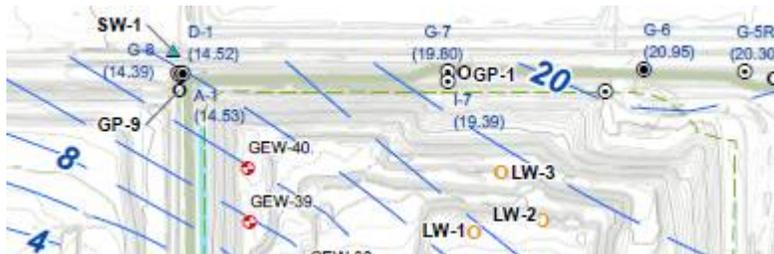
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~~<sup>8</sup>The Discharger asserts that the lack of separation was due to intermittent borrow pit dewatering.~~

monitoring report in both tabular form and on the groundwater elevation contour maps. Examples of each are presented below:

Table 2  
 Groundwater Elevations  
 First and Second Quarters 2014  
 Recology Hay Road

Well	Top Of Casing Elevation (ft amsl)	February 24, 2014		May 7, 2014	
		Depth to Water (ft)	Groundwater Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
4BR	28.03	13.81	14.22	12.75	15.28
A-1	33.91	20.12	13.79	19.38	14.53
D-1	32.74	19.00	13.74	18.22	14.52
D-2	25.78	9.51	16.27	9.18	16.60
D-4	20.11	10.12	9.99	10.21	9.90
D-5	21.94	8.89	13.05	7.93	14.01
D-6	21.51	5.65	15.86	5.72	15.79
D-7	26.04	10.53	15.51	10.41	15.63
G-1	24.63	7.59	17.04	7.80	16.83



Also contrary to the claims of RWQCB staff, previous hydrogeological analysis shows that the slurry wall has minimal effect on groundwater and is not a factor in data analysis. The following conclusions were presented in Geology and Hydrogeology Report completed in 1995:<sup>9</sup>

*Slurry walls can provide an effective way to impede the flow of groundwater. However, slurry walls are not intended to be impermeable barriers; leakage occurs through all slurry walls, and groundwater underflow can be significant if the slurry wall is not keyed into an aquitard.*

*...a thorough review of regional and site geologic data indicates that the sediments beneath the site are a fairly homogeneous mixture of sandy silt and sandy clay, with localized zones of fine-grained sand. There does not appear to be a deeper zone of markedly lower permeability. Thus, there is not a lower "aquitard" that the perimeter slurry wall was keyed into.*

<sup>9</sup> Einerson Geoscience, Inc. Geology and Hydrogeology, B&J Drop Box Sanitary Landfill, Solano County. February 1995.

*The intent of the slurry wall design was to minimize the rate at which it would be necessary to remove groundwater to maintain an inward hydraulic gradient. Actual field performance data, however, indicate that the wall has not been as effective as was intended. The groundwater extraction rates from the interior groundwater drain have been higher than initially intended to maintain the inward gradient. Also, the hydraulic effects of groundwater extraction from Module 1 are observed outside of the perimeter slurry wall. Groundwater elevations measured in monitoring wells located several hundred feet outside of the perimeter slurry wall are lower than regional groundwater elevations (e.g., Well MW92-2)...These observations indicate that groundwater may be moving through or under the perimeter slurry wall.*

RWQCB staff also are incorrect in stating that the location of the well screen construction does not allow for accurate measurement of the water table. The groundwater at the site has been shown to behave as a single water body. A table presenting the groundwater elevations in adjacent shallow wells and deep wells at the site is provided below. As presented in the "GW Elev. Difference" column, the data shows minimal difference in groundwater elevation (0.09 to 0.23 feet) even though the wells monitor much different depths.

Shallow Wells			Deep Wells			Summary	
Well	Bottom Elev. of Well (feet MSL)	Groundwater Elev. (feet MSL)	Well	Bottom Elev. of Well (feet MSL)	Groundwater Elev. (feet MSL)	GW Elev. Difference (feet)	Well Elev. Difference (feet)
G-8	4	15.56	D-1	-43	15.71	0.15	47
P-1	0	16.43	D-2	-42	16.29	0.14	42
MW-4	-11	8.62	D-4	-45	8.85	0.23	34
MW-7	-20	12.19	D-6	-46	12.28	0.09	26
MW-5	-21	12.49	D-5	-46	12.59	0.10	25
Groundwater elevations measured 10/29/2013							

In most cases, the well screened deeper has a higher groundwater elevation, indicating a slightly upward gradient. This indicates that a well screened shallower would have a lower groundwater elevation. This upward gradient is consistent with an area with relatively low rainfall, shallow groundwater evapotranspiration, shallow discharge to the A-1 Channel and borrow pit, and consolidating alluvial soils.

Moreover, the reference to pan lysimeters by RWQCB staff should be changed to leachate sump, as the sumps are the compliance point for each disposal module where the separation between waste and groundwater is determined.

Finally, while groundwater measurements are presented to 0.01 feet, there is no requirement in either the MRP or the WDRs to measure the separation at the sumps to

the nearest 0.01 feet. Such a requirement is not possible to achieve and is not needed to determine compliance with the separations specified by the WDRs. During the first half of 2014, the groundwater gradient at the site ranged from 0.002 to 0.01 (1 foot vertical change in 500 feet horizontal distance to 1 foot vertical in 100 feet horizontal). Groundwater elevations that are measured to 0.01 feet cannot be extrapolated at that accuracy to below each leachate sump. For example, the closest lateral location to each leachate sump that a well could be installed outside of the lining system is approximately 40 feet to 50 feet. With the measured groundwater gradient, the groundwater level below the sump could be approximately 0.1 feet to 0.4 feet different than the closest groundwater monitoring well. Therefore, it is necessary to use standard hydrogeologic practice and determine the groundwater elevation below each sump using the data from the site groundwater contour map and adjacent wells. Presenting the data in values to 0.01 feet would be implying a level of accuracy that is not possible, and because the separation criteria is to the nearest foot or half foot, is not necessary.

This is particularly true given the actual separation data for the site, which shows that in most cases the separation is more than several feet higher than the requirements in the WDRs, as shown in the table below.

January 2013

Table 3

053-7444-13

Separation of Groundwater From Lowest Point of Landfill Modules  
 Third and Fourth Quarters 2013  
 Recology Hay Road

Module	Sump Elevation (ft amsl)	September 2013		October 2013		WDR Required Separation
		Groundwater Elevation (ft amsl)	Approximate Separation (ft)	Groundwater Elevation (ft amsl)	Approximate Separation (ft)	
1	7	-1	8	1	6	5
2.1	24	10	14	10	14	3
2.2A	26	-4	30	-4	30	2.5
2.2B	26	8	18	8	18	2.5
3.1	22	14	8	13	9	2.5
3.2	20	9	11	9	11	2.5
3.3	21	9	12	9	12	2.5
4.1	20	14	6	15	5	2.5
5.1A	24	15	9	15	9	2.5
5.1B	24	15	9	15	9	2.5
5.2	22	17	5	17	5	2.5
6	23	18	5	17	6	2.5
9.1A	25	18	7	18	7	2.5
9.1B	25	18	7	18	7	2.5
11.1	25	13	12	12	13	2.5
11.2	25	14	11	14	11	2.5

Notes:

Sump and groundwater elevations rounded to nearest foot.

ft amsl = feet above mean sea level

Groundwater elevations from Figures 2 and 3 of this report.

Groundwater elevations are piezometric heads, so actual separation may be greater.

Information required per section D.1. of MRP R5-2003-0118.

**EXPLANATORY NOTE 8/18/14 (cont'd)**: This discussion shows that there is no violation or threatened violation warranting the draconian requirements in the revised Tentative Order, which would necessitate a costly revamp of the site's monitoring system; that such requirements are not necessary to measure and demonstrate compliance; and that such requirements are impractical to achieve.

It similarly would be impracticable to "immediately lower" the groundwater table. Even if suitable extraction wells, pumping and piping are in place, the time it would take to lower the groundwater table likely would exceed the duration of the seasonal fluctuations.

This issue should be deleted from the Tentative Order and we strenuously object to its inclusion. For additional information on why this issue is inappropriate for an enforcement order, please see Recology's June 5, 2014 Technical Appendix, at pp. 25-28 (comments on Findings 51-53 of prior draft Cleanup & Abatement Order).]

## **RUNOFF AND DRAINAGE CONTROLS**

- | 22-19. Section 20365 of Title 27 defines the performance standard for landfill runoff and drainage controls, and states: "*Units and their respective containment structures shall be designed and constructed to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping under the precipitation conditions specified in Table 4.1 (of this article).* Prohibitions A.4 and A.5 of the WDRs prohibit the discharge of waste constituents to the unsaturated zone or to groundwater and prohibit the discharge of waste outside of a unit or portions of a unit.
- | 23-20. Inadequate drainage may lead to slope failure and/or the creation of leachate, and result in a threatened discharge of waste or waste constituents, in violation of Prohibitions A.4 and A.5. The WDRs include Facility Specification C.10 which provides a performance measure for drainage controls, and states: "*Precipitation and drainage control systems shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows from surface runoff under 1,000-year, 24-hour precipitation conditions.*" Table 4.1 of Section 20365 of Title 27 shows that the 1,000-year, 24-hour precipitation event applies to Class II landfill units, while Class III units are held to a 100-year, 24-hour precipitation event.
- | 24-21. During a 31 January 2014 site inspection, Water Board staff observed that the storm water down drains and ditches appeared to be undersized and/or inadequately graded to allow stormwater runoff to move off the landfill as quickly as possible.
- | 25-22. Inadequate drainage may result in oversaturation of the slopes potentially resulting in a slope failure. Inadequate drainage may also allow stormwater to percolate into the waste mass which contributes to the creation of leachate and landfill gas. This Order requires the Discharger to re-evaluate its drainage control systems to ensure that the drainage control

systems for the Class II units comply with Specification C.10 of the WDRs (designed for the 1,000 year, 24-hour precipitation event) while the drainage control systems for the Class III units comply with Section 20365 of Title 27 (designed for the 100 year, 24-hour precipitation event).

### TEMPORARY FILL SLOPE STABILITY

- ~~26-23.~~ Facility Specification C.2 of the WDRs states “Waste filling at landfill modules shall be conducted in accordance with a fill plan demonstrating that all temporary refuse fill slopes will be stable under both static and dynamic conditions for the design event for the unit.”
- ~~27-24.~~ The Discharger prepared a slope stability analysis which is included in the 2007 Post Closure and Post Closure Maintenance Plan (PCPCMP). While the PCPCMP states that the final cover’s side slopes will have a maximum slope of 4H:1V (horizontal to vertical), the PCPCMP does not address the appropriate slope for the temporary interior areas of the landfill.
- ~~28-25.~~ landfill—Figure 1 of the Discharger’s 2013 Winterization Plan indicates that the uppermost slopes and/or stockpiles at DM-1, DM-2.2, and DM-11 are in the range of approximately 2.5H:1V. It is unknown if these interior slopes meet the stability requirements of Facility Specification C.2. Therefore, this Order requires the Discharger to submit an analysis of the appropriate slope for “temporary<sup>10</sup> refuse fill slopes” under both static and dynamic conditions using the performance criteria of Title 27, and if necessary, make facility modifications.

### FLOOD PROTECTION

- ~~29-26.~~ Finding 11 of the WDRs states that about one-half of the existing landfill and 80% of the expansion area are within the 100 year floodplain, which is estimated to be at an elevation of 25 feet MSL. Federal regulations, as incorporated by State Water Board Resolution 93-62, require that a discharger whose new or existing landfills are located within a 100 year floodplain must demonstrate that the landfill location will not “result in the washout of solid waste so as to pose a hazard to human health or the environment”. The Discharger has stated that there is a 40 foot MSL exterior perimeter berm around most of the landfill, except for portions of module DM-1. This berm is intended to prevent the washout of waste in a 100-year flood. Although not described in the WDRs, the Discharger states that, in addition to providing flood protection, the berms are also intended to provide stability in the event of an earthquake.

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<sup>10</sup> Defined as areas which have not reached the final elevation grade.

~~30-27.~~ The WDRs require that the facility be protected from a 100-year flood and also prohibit the discharge of waste outside a unit. Specifically,

Construction Specification D.9 states: *The Discharger shall construct and maintain berms along the exterior of each landfill unit as necessary to prevent inundation and washout of wastes from a 100-year flood.*

Facility Specification C.12 states: *The Discharger shall prevent floodwaters from a 100-year flood from contacting wastes in a disposal module. As the site is developed, a flood protection and slope stability levee (or berm) shall be constructed around the site to at least 40 feet above mean sea level to prevent flood waters from a 100-year flood from entering the site.*

Prohibition A.5 states: *"The discharge of wastes outside of a Unit or portions of a Unit specifically designed for their containment is prohibited."*

~~31-28.~~ Inadequate flood protection creates a threatened discharge of waste during a flood event, in violation of WDR Prohibition A.5. The Discharger's 2013 topographic site plan (i.e., the *Recology Hay Road 2013 Winterization Plan*) indicates that some exterior berms along the north side of the facility may not meet the specification in the WDRs of a berm height of at least 40 feet MSL around the site. In addition, the Discharger has stated<sup>11</sup> that in addition to providing flood protection, the berm *"provides additional stability against global failure of the waste mass (movement along the base liner system)."* However, the Discharger has also stated that the 100-year flood elevation is at about 25 feet, and therefore Facility Specification C.12 should be re-evaluated. Therefore, this Order requires that either the Discharger (a) submit a site drawing which indicates the location, distance, and height of all perimeter berms, and indicates whether the berms meet the requirements of the WDRs, or (b) submit a RWD requesting a change to Facility Specification C.12 and including an engineering evaluation of the height of the berms necessary to provide stability to prevent global failure of the waste mass.

## REGULATORY CONSIDERATIONS

~~32-29.~~ The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Board. These requirements implement the Basin Plan.

~~33-30.~~ The site is in the Putah plain, which is drained by natural and man-made watercourses. The nearest surface water is the Alamo Creek A-1 Channel, which is an agricultural

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<sup>11</sup> 5 June 2014 Recology comments on draft CAO

drainage canal that flows along the north and east sides of the site. The A-1 Channel drains to Ulatis Creek about three miles southeast of the site, then to Cache Slough and the Sacramento-San Joaquin Delta. As described in the Basin Plan, the designated beneficial uses of the Sacramento-San Joaquin Delta are municipal and domestic supply; agricultural supply, industrial supply, industrial process supply, water contact recreation, non-contact water recreation, warm fresh water habitat, cold freshwater habitat, migration of aquatic organisms, spawning, reproduction, and/or early development, wildlife habitat, and navigation.

~~34-~~31. The designated beneficial uses of the underlying groundwater, as specified in the Basin Plan, are domestic, agricultural, and industrial supply.

~~35-~~32. Water Code section ~~13300~~43304 states in relevant part,

Whenever a regional board finds that a discharge of waste is taking place or threatening to take place that violates or will violate requirements prescribed by the regional board . . . , the board may require the discharger to submit for approval of the board, with such modifications as it may deem necessary, a detailed time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements. ~~When a regional board finds that a discharge of waste is taking place or threatening to take place in violation of requirements or discharge prohibitions prescribed by the regional board or the state board, the board may issue an order to cease and desist and direct that those persons not complying with the requirements or discharge prohibitions (a) comply forthwith, (b) comply in accordance with a time schedule set by the board, or (c) in the event of a threatened violation, take appropriate remedial or preventative action.~~

**[EXPLANATORY NOTE 8/18/14:** We continue to maintain that, if agreement can be reached on the substantive requirements of the order, a TSO can adequately address all of the requirements in the same manner as a CDO, and appropriate enforcement mechanisms can be incorporated into the TSO as necessary to address staff's concerns about enforcing the requirements.]

~~36-~~33. As a result of the events and activities described in this Order, the Central Valley Water Board finds that a discharge of waste is taking place or threatening to take place in violation of WDRs Order R5-2008-0188. This Order requires the Discharger to take appropriate remedial action and to comply in accordance with the time schedule set forth below.

~~37-~~34. Water Code section 13267 subdivision (b)(1) states, in relevant part:

In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region . . . shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide

the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

~~38-~~35. The technical reports required by this Order are necessary to ensure compliance with this Order and WDRs Order R5-2008-0188, and to ensure the protection of water quality. Recology Hay Road owns and operates the facility that discharges waste subject to this Order and WDRs Order R5-2008-0188.

~~39-~~36. The issuance of this Order is being taken for the protection of the environment and as such is exempt from provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) pursuant to California Code of Regulations, title 14, sections 15061 subdivision (b)(3), 15306, 15307, 15308, and 15321 subdivision (a)(2).

~~40-~~37. On XX October 2014, in Rancho Cordova, California, after due notice to the Discharger and all other affected persons, the Central Valley Water Board conducted a public hearing at which evidence was received to consider a Cease and Desist Order under Water Code section 13301 to establish a time schedule to achieve compliance with waste discharge requirements.

**IT IS HEREBY ORDERED** that, pursuant to Water Code sections ~~13300~~13301 and 13267, Recology Hay Road shall implement the following measures necessary in order to comply with WDRs Order R5-2008-0188.

This Order requires the submittal of technical reports. These technical reports shall contain the information and decisions required by the following paragraphs. If a report is submitted without the required information or decision, then the Discharger is in violation of this Order and subject to additional enforcement action.

#### Compost Area

1. **By 1 November 2014**, the Discharger shall submit a *Compost Area Stormwater Modification* technical report documenting that it has made facility modifications such that (a) compost area stormwater and leachate are only discharged to lined ditches, the low-flow pond, and the high-flow pond, and (b) that compost area stormwater and leachate does not flow into the green waste pond. The report shall describe the modifications that have made and include diagrams and maps indicating flow directions.
2. **By 1 December 2014**, the Discharger shall submit either:
  - (a) a *Compost Ponds ReConfiguration* technical report documenting that it has made facility modifications such that leachate is stored in the low flow pond and stormwater is stored in the high flow pond as described in Finding 88 of the WDRs, or
  - (b) a statement that it intends to submit a Report of Waste Discharge (RWD) by 1 ~~January-~~February 2015, with the contents as described in Item No. 3, below. For the interim

period until the WDRs are revised, the Discharger shall not allow the wastewater in either pond to overflow into surface waters. In addition, the Discharger shall submit a technical report describing how it will inspect and manage the ponds in the interim period to prevent overflows (e.g. enhanced evaporation, transport to a POTW, use as compost conditioning, etc.).

**[EXPLANATORY NOTE 8/18/14 ON DATE FOR SUBMISSION OF RWD:**

Recology proposes moving the deadline for the RWD back one month to provide sufficient time to consult with RWQCB permitting staff and complete the RWD through the 2014-2015 winter holiday season. Recology also proposes a corresponding change in the end date when the WDR revisions are to be completed; however, since we do not know the Board's schedule of meetings for 2016, we put in February 15, 2016 as the end date for the WDRs to be completed, in order to provide an end date that would not be before the first Board hearing in 2016. In addition, in the event WDRs are not revised by the end date, additional time may be needed to make the necessary site modifications; as a result, a provision should be included allowing for a possible extension of time if the circumstances warrant.]

3. **If the Discharger does not submit the *Compost Ponds Reconfiguration Report*, then by 1 ~~January~~ February 2015, the Discharger shall submit a RWD requesting that the WDRs be revised to such that the two compost ponds may be operated in a manner other than as described in the WDRs. The RWD shall be submitted after consultation with Central Valley Water Board Permitting staff, in order to determine the supporting data which must be submitted. If the WDRs are not revised by 15 ~~February 2016~~ December 2015, then the Discharger must make facility modifications such that it complies with Finding 88 no later than 15 ~~January~~ March 2016, provided that the Assistant Executive Officer may extend this deadline if circumstances warrant.**
4. **By 1 ~~January~~ February 2015, the Discharger shall submit either:**
  - (a) a *Food Waste In-Vessel Composting* technical report documenting the facility modifications that have been made such that all food waste composting is conducted in an in-vessel manner, as required by Discharge Specification B.27 of the WDR, or
  - (b) after consultation with the Central Valley Water Board's Permitting Unit, the Discharger may submit a RWD requesting that the WDRs be revised in order to allow that food waste composting take place outside of vessels. The RWD must show how non-~~in-~~ vessel composting will be protective of water quality and prevent nuisance conditions. If the WDRs are not revised by 15 February ~~2016~~ December 2015, then ~~by 15 January 2016,~~ the Discharger must comply with Discharge Specification B.27 by 15 March 2016, provided that the Assistant Executive Officer may extend this deadline if circumstances warrant.

5. By ~~1 February~~January 2015, the Discharger shall submit either:
- (a) a *Compost Leachate Dust Control* technical report documenting that leachate from the compost ponds are no longer used for dust control on the landfill, or
  - (b) After consultation with the Central Valley Water Board's Permitting Unit, the Discharger may submit a RWD requesting that Discharge Specification B.13 of the WDRs be revised in order to specifically allow the use of compost leachate as dust control. The RWD must describe how the leachate will be applied in a manner that protects water quality. If the WDRs are not revised by 15 ~~February 2016~~December 2015, then the Discharger may not use compost leachate as dust control after 15 March 2016, provided that the Assistant Executive Officer may extend this deadline if circumstances warrant.

If the Discharger chooses option 5(b), then prior to 15 ~~March 2016~~December 2015, the Discharger may use compost leachate for dust control if it is done in a manner<sup>12</sup> that does not cause instability of the waste, does not cause leachate seeps, does not generate additional landfill gas that is not captured by the active landfill gas extraction system, does not cause contaminants to enter surface water, does not cause leachate volumes to exceed the maximum capacity of the LCRS, and does not cause the LCRS to be operated in violation of Construction Specification D.4 of the WDRs. In addition, the Discharger shall maintain a log describing the use of compost leachate as dust control. The log shall include date, volume used as dust control, source of water (i.e., which pond), and location of use. The log shall be submitted with the semiannual monitoring reports.

**EXPLANATORY NOTE 8/18/14:** See the note above regarding dates. Also, the Prosecution Team's Legal and Technical Analysis (at page 6) states that the deadline for ceasing use of dust control, in the event the WDRs are not revised, is 30 days after the date for the WDR revision (not the WDR revision date itself.)

#### Separation to Groundwater

- ~~6. Beginning with the fourth quarter 2014, the Discharger shall report compliance with Discharge Specification D.2 (separation between waste and groundwater) using the groundwater monitoring point closest to each LCRS sump and reporting data in units of 0.1 foot.—~~
- ~~7. By 15 March 2015, in order to demonstrate whether the facility is in compliance with the required separation between waste and underlying groundwater, the Discharger shall—~~

<sup>12</sup> From Discharge Specification B.13 of the WDRs

~~submit (a) as-built drawing records which document the surveyed elevation of the bottom of each disposal module's sump, and (b) a *Well Installation Workplan* that contains the items listed in the first section of Attachment A to this Order. The workplan shall propose the installation of a piezometer or monitoring well as close as possible to each LGRS sump, and screened from the bottom of the LGRS sump to at least 5' below the sump. If the Discharger believes that an existing monitoring well is close as possible to an LGRS sump, then prior to the date that this workplan is due, the Discharger may discuss the issue with staff. However, unless provided written approval from the Executive Officer otherwise, the workplan due on 15 March 2015 shall contain a proposal for installation of a piezometer or monitoring well as close as possible to each LGRS sump.~~

- ~~8. By **15 June 2015**, the Discharger shall submit a *Well Installation Report of Results* that contains the information listed in the second section of Attachment A to this Order. The report shall document the installation of piezometers or monitoring wells next to each LGRS sump.~~
- ~~9. By **15 June 2015**, the Discharger shall submit a *Groundwater Lowering Workplan* containing a proposed method to immediately lower the groundwater in the event that a violation of Construction Specification D.2 is reported. If facility modifications are needed to implement the workplan, then a proposed timeline shall be included.~~

**[EXPLANATORY NOTE 8/18/14:** Please see the notes and comments above on this issue. It should be deleted from the Tentative Order.]

#### Runoff and Drainage Controls

- ~~40-6.~~ **By 15 March 2015**, the Discharger shall submit a *Runoff and Drainage Controls* technical report which evaluates whether the current controls for the Class II units comply with Specification C.10 of the WDRs (i.e., 1000 year, 24 hour precipitation), and whether the current controls for the Class III units comply with section 20365 of Title 27 (i.e., 100 year, 24 hour precipitation). If they do not, then the report shall also include a workplan and proposed schedule to return to compliance.

#### Temporary Fill Slope Stability

**By 15 March 2015**, the Discharger shall submit a *Temporary Fill Slope Stability* technical report containing an analysis of the appropriate slope for "temporary<sup>13</sup> refuse fill slopes" under both static and dynamic conditions using the performance criteria of Title 27 Section 2170(f)(5). The report shall show whether or not the temporary refuse fill slopes comply with Facility Specification C.2 and shall contain a map showing the existing slope (H:V) for all temporary fill areas. If the evaluation shows that the current slopes do not meet criteria

<sup>13</sup> Defined as areas which have not reached the final elevation grade.

of Facility Specification C.2, then the Discharger shall include a workplan and proposed timeline to make facility modifications.

### Flood Protection

~~41.7.~~ **By 1 January February 2015**, the Discharger shall either submit (a) a *Flood Protection* technical report containing a site drawing which indicates the location, distance, and height of all perimeter berms, and description of whether the berms comply with WDR Specifications C.12 and D.9, and if not, a workplan and proposed timeline to return to compliance, or (b) a RWD requesting a change to the flood control requirements of Specifications C.12 and D.9, which includes an engineering evaluation of the height of the berms necessary to provide stability to prevent global failure of the waste mass.

### Other Requirements

~~42.8.~~ All data, technical reports and plans, and monitoring reports prepared by the Discharger after the date of this Order shall be uploaded to the State Water Resources Control Board's web-based Geotracker database system (<http://geotracker.waterboards.ca.gov>), in compliance with the requirements of Title 23 Section 3890 et seq. This includes uploading all reports, plans, and data required under this Order and under any Order or permit issued by the State Water Quality Control Board.

~~43.9.~~ As required by the California Business and Professions Code sections 6735, 7835, and 7835.1, all reports shall be prepared by, or under the supervision of, a California Registered Engineer or Professional Geologist and signed by the registered professional. Each technical report submitted by the Discharger shall contain the professional's signature and/or stamp of the seal.

~~44.10.~~ As required by Provision G.6a, G.6d and G.6e of WDRs Order R5-2008-0118, all reports and transmittal letters shall be signed either by a principal executive officer of the corporation with at least the level of senior vice-president or by a duly authorized representative in accordance with Provision G.6d of the WDRs, and any person signing a document submitted to comply with this Order shall make the following certification:

*I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.*

**[EXPLANATORY NOTE 8/18/14:** This change is proposed to be consistent with Provision G.6d of the WDRs, which provides for signature of reports and transmittals by a duly authorized representative.]

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability.

Failure to comply with this Order or with the WDRs may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

**[EXPLANATORY NOTE 8/18/14:** See note above regarding the use of a TSO; we would be willing to work with RWQCB staff to include appropriate enforcement mechanisms in a TSO if necessary to address staff's concerns about enforcement of the order's requirements.]

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: [http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on XX October 2014.

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PAMELA C. CREEDON, Executive Officer

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(Date)

Attachment: Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports