

California Regional Water Quality Control Board North Coast Region

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ORDER NO. R1-2006-0045

(Revised July 24, 2008) (Revised April 23, 2009) NPDES NO. CA0022764

WASTE DISCHARGE REQUIREMENTS AND MASTER RECLAMATION PERMIT FOR THE SANTA ROSA SUBREGIONAL WATER RECLAMATION SYSTEM

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger	City of Santa Rosa	
Name of Facility	Santa Rosa Subregional Water Reclamation Facility	
Facility Address	4300 Llano Road	
	Santa Rosa, CA 95407	
	Sonoma County	

The United States Environmental Protection Agency and the California Regional Water Quality Control Board, North Coast Region have classified this discharge as a major discharge.

The discharge by the Santa Rosa Subregional Water Reclamation Facility from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Locations

Discharge Point	Effluent Descripti on	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
002- Arlington Pond	AWT	38 °, 22', 39" N	122 °, 45', 26" W	Colgan Creek
003- Brown Pond	AWT	38 °, 24', 25" N	122 °, 47', 49" W	Unnamed Ditch, tributary to Laguna de Santa Rosa
005- LaFranconi Pond	AWT	38 °, 24', 20" N	122 °, 46', 42" ₩	Unnamed Ditch, tributary to Laguna de Santa Rosa
006A- Meadow Lane Pond D	AWT	38 °, 22', 17" N	122 °, 46', 31" W	Laguna de Santa Rosa
006B- Meadow Lane Pond D	AWT	38°, 22', 17" N	122 °, 46', 31" W	Laguna de Santa Rosa
008 West College Pond 1C	AWT	38 °, 26', 30" N	122 °, 45', 49" ₩	Santa Rosa Creek
009- Ambrosini Pond	AWT	38 °, 26', 43" N	122 °, 47′, 19" ₩	Santa Rosa Creek
012A- Delta Pond	AWT	38°, 26', 54" N	122 °, 49', 27" W	Santa Rosa Creek
012B- Delta Pond	AWT	38 °, 26', 54" N	122 °, 49', 27" W	Santa Rosa Creek
014- Meadow Lane A Pond	AWT	38°, 22', 17" N	122 °, 46', 31" W	Laguna de Santa Rosa
015- Laguna Treatment Plant	AWT	38°, 22', 17" N	122 °, 46', 31" W	Laguna de Santa Rosa
016- Laguna Joint Wetlands	AWT	38 °, 22', 17" N	122 °, 46', 31" ₩	Laguna de Santa Rosa

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	September 20, 2006
This Order shall become effective on:	November 9, 2006
This Order shall expire on:	November 9, 2011
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, as application for issuance of new waste discharge requirements, not later than:	March 20, 2011

IT IS HEREBY ORDERED, that Order No. 2000-03 (the "Long Range" NPDES Order) is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the federal Clean Water Act, and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Catherine Kuhlman, Executive Officer, do hereby certify the following is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on September 20, 2006 and revised on July 24, 2008 and April 23, 2009.

Catherine Kuhlman,	Executive	Officer

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II. FINDINGS

The California Regional Water Quality Control Board, North Coast Region (hereinafter Regional Water Board), finds:

- A. Background. The City of Santa Rosa (hereinafter Discharger) is currently discharging under Order No. 2000-03 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0022764, adopted on March 15, 2000. The Discharger submitted a Report of Waste Discharge, dated September 15, 2004 and applied for an NPDES permit renewal to discharge up to 21.34 MGD, Average Dry Weather Flow (ADWF) of treated wastewater from the City of Santa Rosa Subregional Water Reclamation System (hereinafter Subregional System). The application was deemed complete on March 15, 2005.
- B. **Facility Description.** The Discharger owns and operates the Subregional System, a Publicly Owned Treatment Works (POTW) that consists of a wastewater collection system, wastewater treatment facility (WWTF), effluent disposal system, and water recycling facilities. In addition to the wastewater collection system owned and operated by the Discharger, satellite wastewater collection systems individually owned, operated and maintained by the Cities of Cotati, Rohnert Park, and Sebastopol convey wastewater from those communities to the WWTF.

The WWTF consists of grit removal in aerated grit chambers, sludge and scum removal in primary sedimentation tanks, biological secondary treatment (activated sludge) with alum coagulation, flocculation, and clarification followed by tertiary filtration and ultraviolet light disinfection that meet Title 22 guidelines. Biosolids generated during the treatment process are thickened, anaerobically digested, dewatered using belt filters and polymer addition, and beneficially used as soil amendment. Wastewater is discharged from Discharge Points 002, 003, 005, 006A, 006B, 008, 009, 012A, 012B, 014, and 015 and 016 (see table on cover page) to the Laguna de Santa Rosa and its tributaries, waters of the United States and tributary to the Russian River within the Russian River Hydrologic Unit (114.00) and its tributaries. Storm water falling within the confines of the composting facility is returned to the treatment facility headworks. The treatment facility currently operates under a Storm Water Pollution Prevention Plan. Attachment B provides a topographic map of the area around the facility. Attachment C provides a flow schematic of the facility.

C. Legal Authorities. This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the United States Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.

Discharge Point	Receiving Water Name	Beneficial Use(s)
002	Colgan Creek Unnamed Ditch, tributary to Laguna de Santa Rosa	Existing: Agricultural supply (AGR); industrial service supply (IND); Ground water recharge (GWR); navigation (NAV); hydropower generation
005	Unnamed Ditch, tributary to Laguna de Santa Rosa	(POW); contact (REC-1) and non-contact (REC-2) water recreation; commercial and Sport fishing (COMM); Warm freshwater
006A, 006B, 007, 014, 015, 016	Laguna de Santa Rosa	habitat (WARM); cold freshwater habitat (COLD); wildlife habitat (WILD); preservation or rare, threatened or endangered species (RARE); freshwater replenishment (FRESH); migration of aquatic organisms (MIGR); spawning, reproduction and/or early development (SPWN); Native American Culture (CUL), subsistence fishing (FISH); Flood peak attenuation/Flood water storage (FLD); Water quality enhancement (WQE). Potential: Municipal and domestic water supply (MUN); industrial process supply (PRO); shellfish harvesting (SHELL); aquaculture (AQUA).
008, 009, 012A, 012B	Santa Rosa Creek	Existing: Municipal and domestic water supply (MUN); agricultural supply (AGR); industrial service supply (IND); Ground water recharge (GWR); navigation (NAV); contact (REC-1) and non- contact (REC-2) water recreation; commercial and Sport fishing (COMM); Warm freshwater habitat (WARM); cold freshwater habitat (COLD); wildlife habitat (WILD); preservation or rare, threatened or endangered species (RARE); migration of aquatic organisms (MIGR); spawning, reproduction and/or early development (SPWN); Native American Culture (CUL), subsistence fishing (FISH), Flood peak attenuation/Flood water storage (FLD), Water quality enhancement (WQE). Potential: Industrial process supply (PRO); hydropower generation (POW); shellfish harvesting (SHELL); aquaculture (AQUA).

B. Land Discharge Specifications

This section of the standardized Order template is not applicable to the Santa Rosa Subregional Water Reclamation System as treated wastewater is not discharged or applied to land for the purpose of disposal.

C. Reclamation Specifications

In addition to the following, the Discharger shall comply with Water Reclamation requirements and Provisions contained in Attachment G of this Order.

- 1. Filtration Rate. The rate of filtration through the tertiary filters shall not exceed 5 gallons per minute per square foot of surface area or other filtration rates authorized in writing by the Executive Officer and under conditions recommended by the California Department of Public Health. -
- 2. **Turbidity.** The effluent from the filtration system shall at all times be filtered such that the filtered effluent meets the following specifications prior to discharge to the disinfection unit:
 - a. An average of 2 Nephelometric Turbidity Units (NTU) during any 24-hour period;
 - b. 5 NTU more than 5 percent of the time during any 24-hour period; and
 - c. 10 NTU at any time.
- 3. **Reclamation Capacity.** The Discharger shall maintain, at a minimum, a total reclamation capacity of 4,015 million gallons for Geysers recharge, and maintain the capability to irrigate 2,590 million gallons per year at 21.34 mgd average dry weather flow.
- 4. **Reclamation Alternatives.** The Discharger shall utilize all reasonable alternatives for reclamation. "Reasonable alternatives" for reclamation include, but are not limited to: full use of existing irrigation capacity; seeking additional irrigation capacity to the extent that storage capacity increases; and sending additional discharges to the Geysers steamfields during extreme weather conditions.
- 5. **Reclamation Operation**. The Discharger shall operate recycled water storage and disposal according to the *Geysers Discharge Management Plan*, submitted in October 2003 and approved by the Executive Officer, as may be amended and subsequently approved by the Executive Officer, from time to time.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. Receiving water monitoring shall be conducted in accordance with and at locations described in the MRP (Attachment E). For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with surface water limitations if, as a result of the discharge, downstream surface water conditions do not comply with this section. Compliance with the surface water limitations for dissolved oxygen, pH, turbidity, and temperature for the discharge from Discharge Point 012B (Delta Pond) at R-018 shall be determined as specified below:

The Discharger shall monitor flow, dissolved oxygen, turbidity, pH, and temperature in effluent and upstream receiving waters and use this information to modulate each day (or more frequently if receiving water conditions are variable) the amount of discharge such that receiving water quality limits in Sections V.A.1, 2, 3 and 10 of the Order are not exceeded at R-018 – the edge of the Zone of Initial Dilution, as determined according to the model incorporated into and described in Laguna Subregional Water Reclamation System Receiving Water Quality Limit Compliance Assurance and Monitoring Plan (hereinafter Model), which is included in Attachment E-5.

Compliance with receiving water limitations shall be measured at monitoring locations described in the MRP (Attachment E). The discharge shall not cause the following:

- The discharge shall not cause the dissolved oxygen concentration of the receiving waters to be depressed below 7.0 mg/l. In the event that the receiving waters are determined to have dissolved oxygen concentration of less than 7.0 mg/l, the discharge shall not depress the dissolved oxygen concentration below the existing level.
- 2. The discharge shall not cause the pH of the receiving waters to be depressed below 6.5 nor raised above 8.5. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally. If the pH of the receiving water is less than 6.5, the discharge shall not cause a further depression of the pH of the receiving water. If the pH of the receiving water is greater than 8.5, the discharge shall not cause a further increase in the pH of the receiving water.
- 3. The discharge shall not cause the turbidity of the receiving waters to be increased more than 20 percent above naturally occurring background levels.
- 4. The discharge shall not cause the receiving waters to contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

surface of the water or on objects in the water that cause nuisance or that otherwise adversely affect beneficial uses.

- 13. This discharge must not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the Federal CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.
- 14. The discharge shall not cause concentrations of chemical constituents to occur in excess of limits specified in Table 3-2 of the Basin Plan or in excess of more stringent Maximum Contaminant Levels (MCLs) established for these pollutants in Title 22, Division 4, Chapter 15, Articles 4 and 5.5 of the CCR.

B. Groundwater Limitations

- 1. The collection, storage, and use of wastewater or recycled water shall not cause or contribute to a statistically significant degradation of groundwater quality.
- 2. The collection, storage, and use of wastewater shall not cause groundwater to contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

VI. PROVISIONS

A. Standard Provisions

- 1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
- 2. **Regional Water Board Standard Provisions.** There are no applicable Regional Water Board standard provisions.

B. Monitoring and Reporting Program Requirements

- 1. The Discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order.
- 2.The Discharger may submit a proposal to monitor receiving water at locations different than receiving water locations specified in section VIII of the MRP. The proposal must be received by the Executive Officer within 180 days of the effective date of this Order and specify monitoring locations that are acceptable to the Executive Officer for the purpose of demonstrating compliance with this Order. The Executive Officer will inform the Discharger within 90 days after receipt of the proposal whether

the alternative monitoring locations are acceptable. In the interim, t<u>T</u>he Discharger shall comply with interim receiving water monitoring requirements using interim receiving water monitoring locations, as specified in Attachment E 5 of the MRP. If an acceptable alternative proposal is not timely received and approved by the Executive Officer, the downstream receiving water monitoring locations specified in the MRP (section VIII) shall replace interim receiving water monitoring locations in Attachment E 5 effective immediately.

C. Special Provisions

1. Reopener Provisions

- a. Standards Revisions. If applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen this Order and make modifications in accordance with such revised standards.
- b. Reasonable Potential. The Regional Water Board may modify, or revoke and reissue, this Order if present or future investigations demonstrate that the discharge governed by this Order has the reasonable potential to cause or contribute to excursions above any applicable priority pollutant criterion or objective or adversely impacting water quality and/or the beneficial uses of receiving waters.
- c. Whole Effluent Toxicity. As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.
- d. 303(d)-Listed Pollutants. If an applicable TMDL program is adopted, this Order may be reopened and the effluent limitations for the pollutant or pollutants that are the subject of the TMDL modified or an effluent concentration limitation imposed to conform this Order to the TMDL requirements. If the Regional Water Board determines that a voluntary offset program is feasible for and desired by the Discharger, then this Order may be reopened to reevaluate the effluent limitations for the pollutant or pollutants that are the subject of the TMDL and, if appropriate, to incorporate provisions recognizing the Discharger's participation in an offset program.
- e. **Filter Loading Rate.** The Discharger is participating in a study being conducted by the California Department of Health Services (DHS) regarding filter loading rates for filtered wastewater. This Order may be reopened and modified to

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Appendix A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Receiving Water Compliance at Delta Pond (Discharge Point 012B)

Compliance with receiving water limitations for dissolved oxygen, pH, turbidity, and temperature at monitoring location R-018 shall be determined using the data, which represents the edge of the Zone of Initial Dilution, generated from the Model by inputting the averaged effluent and receiving water turbidity values with a maximum averaging period of 24 hours and the effluent and receiving water flow, temperature, dissolved oxygen, and pH values with a maximum averaging period of 60 minutes. For discharge periods less than maximum averaging periods, receiving water constituent concentrations and units shall be determined by the Model by using a time-step equivalent to the discharge period. The Discharger shall submit in the monthly self-monitoring report all discharge and receiving water quality and flow data together with the Model inputs and outputs for each day of discharge.

The Model outputs shall represent the receiving water data for receiving water monitoring location R-018. If the Model-generated data show pollutant-specific receiving water violations at the edge of the Zone of Initial Dilution, this will constitute a permit violation for the applicable pollutant limit with a maximum of one violation per limitation per day.

B.C. Multiple Sample Data Reduction.

When determining compliance with an AMEL for priority pollutants and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

- The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
- 2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

Average Monthly Effluent Limitation (AMEL).

When less than daily monitoring is required, the monthly average shall be determined by summing the daily values and dividing by the number of days during the calendar month when monitoring occurred. If only one sample is collected in a calendar month, the value of the single sample shall constitute the monthly average.

If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for that month only. For purposes of Mandatory Minimum Penalties, a violation of an AMEL will be considered as one violation. Depending on the nature of the violation, the Regional Water Board may, however, pursue discretionary civil penalties for the remaining days of violation. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D.E. Average Weekly Effluent Limitation (AWEL).

When less than daily monitoring is required, the weekly average shall be determined by summing the daily values and dividing by the number of days during the calendar week when monitoring occurred. If only one sample is collected in a calendar week, the value of the single sample shall constitute the weekly average. For any one calendar week during which no sample is taken, no compliance determination can be made for that calendar week.

If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. For purposes of Mandatory Minimum

Penalties, a violation of an AWEL will be considered as one violation. Depending on the nature of the violation, the Regional Water Board may, however, pursue discretionary civil penalties for the remaining days of violation. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

<u>E.F.</u> Maximum Daily Effluent Limitation (MDEL).

If a daily discharge exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

E.G. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

G.H. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).