

**Response to Written Comments
and
Staff Initiated Changes**

**Draft Waste Discharge Requirements Order No. R1-2018-0034
National Pollutant Discharge Elimination System (NPDES)
for the City of Cloverdale
Wastewater Treatment Plant**

**Regional Water Quality Control Board, North Coast Region
September 6, 2018**

Comment Letter Received

The deadline for submission of public comments regarding draft Waste Discharge Requirements Order No. R1-2018-0034, National Pollutant Discharge Elimination System Permit (Draft Permit) for City of Cloverdale Wastewater Treatment Plant was June 25, 2018. The City provided timely comments which have been paraphrased and are followed by the Regional Water Board staff (Staff) response. The term "Draft Permit" refers to the draft that was sent out for public comment. The term "Proposed Order" refers to the version of the permit that has been modified in response to comments and is being presented to the Regional Water Board for consideration.

Permittee Comments

***Comment 1:** The City requests removal of the nitrate effluent limitations, which are based on an analytical error. The inclusion of nitrate effluent limits is based on a single erroneous nitrate sample result of 370 mg/L as N, which the City purposefully did not include in the data set submitted with the Permit application because of its statistical implausibility. The previous order contained a requirement to monitor effluent for nitrate four times per year. The City collected 23 samples for nitrate during the previous permit term, all of which were sent to Alpha Analytical Laboratory in Ukiah for analysis by EPA Method 300.0. Of these samples, 22 samples had a nitrate concentration in the range of 0.3 – 2.1 mg/L as N, exceeding the reporting limit of 0.2 mg/L and well below the 10 mg/L Maximum Contaminant Level (MCL) established for the protection of public health. These 22 samples were analyzed at the laboratory without dilution prior to analysis. One additional sample, collected November 19, 2015, was analyzed with a dilution factor of 50, and a reporting limit of 10 mg/L. The laboratory result indicated a sample result of 370 mg/L – a factor of 100 times larger than any other sample collected at the Facility. The City should have immediately invalidated this sample result, which is a clearly implausible and must be a result of either sample contamination or laboratory error.*

Response 1: Staff agrees that the nitrate sample result collected on November 19, 2015, is an outlier and likely due to sample contamination. Thus, this result has been omitted from

the reasonable potential analysis. As such, the effluent no longer has a reasonable potential to exceed the nitrate water quality objective. Effluent limits for nitrate at EFF-001 and EFF-002 have been removed from the Draft Permit. Monitoring frequency for nitrate at EFF-002 has also been changed from monthly to quarterly.

Comment 2: *The City requests removal of the requirement to maintain a disinfection residual of 1.5 mg/L at the end of the chlorine contact chamber, as well as duplicative monitoring requirements for monitoring location EFF-002.*

Response 2: Staff agrees. Changes have been made to the Draft Permit to eliminate the minimum chlorine residual requirement of 1.5 mg/L at INT-001 (end of chlorine contact chamber). Instead, the Proposed Order requires the Permittee to maintain a chlorine residual concentration that ensures the discharge meets the total coliform effluent limitations at the end of the disinfection process so that adequate pathogen reduction is continuously achieved at Discharge Point 002 (discharge to the percolation ponds). The chlorine residual monitoring at EFF-002 is still required and is consistent with monitoring requirements in NPDES permits for other facilities in the North Coast Region.

Comment 3: *The City requests the consolidation and streamlining of several overlapping Special Provisions and routine monitoring requirements such as:*

- a) The consolidation of a two-year groundwater characterization requirement (Provision VI.C.2.a) with a separate requirement (in the monitoring and reporting program) for quarterly groundwater elevation and gradient contour maps.*
- b) A request to include monitoring for copper, chlorodibromomethane, and dichlorobromomethane as part of the Groundwater Characterization Study, rather than as part of routine quarterly monitoring.*
- c) A request to reframe the "Pollution Prevention Plan" for chloride and electrical conductivity as a Special Study.*
- d) A request to revise the due date for the Antidegradation Re-evaluation so that it matches the due date for the Report of Waste Discharge (1 year prior to the expiration date of the Tentative Order, rather than 180 days prior).*

Response 3: Staff agrees to make changes to the draft permit as requested by the Permittee for items *b*, *c*, and *d* above. With respect to item *a* above, Staff agrees to change the requirement for groundwater elevation and gradient contour maps from quarterly to annually. The two-year Groundwater Characterization requirement (Provision VI.C.2.a) however is necessary in determining what wastewater specific constituents may be permeating into the subsurface and possibly degrading groundwater quality. The Permittee may submit their final groundwater quality characterization technical report, after two years of monitoring, in conjunction with their annual report due on March 1, 2021.

Comment 4: *The City requests the removal of the Industrial Waste Survey (IWS) Special Provision since it has an ongoing Sewer Use Permit Program which was recently extended to*

all commercial entities. Under this existing Program, the City already identifies industrial and commercial users and maintains records of their water usage, expected wastewater constituents of concern (such as oil and grease in food service establishments), and pretreatment systems (if any). A formal Industrial Waste Survey was completed in 2013, and no significant industrial users have been identified since that time. The City will continue to include relevant information in the Annual Report, as required under the Source Control Activity Reporting section of the Annual Report (page E-25 of the Tentative Order).

Response 4: Staff agrees. Changes have been made to the draft permit to remove the IWS Special Study Provision.

Comment 5: *The City requests removal of zinc monitoring requirements from the tentative Order since zinc did not demonstrate reasonable potential to exceed the water quality objective in the Russian River. The Tentative Order does not identify any rationale for quarterly zinc monitoring.*

Response 5: A scan for CTR pollutants on March 19, 2014, showed a zinc concentration of 43 µg/L in the effluent at EFF-002. Zinc did not demonstrate reasonable potential to exceed water quality objective of 98 µg/L, therefore quarterly monitoring requirements for zinc have been removed in the renewed permit.

Comment 6: *The City requests discontinuation of monitoring at Well #7, and discontinuation of water quality monitoring at Well #15.*

Well 7 was installed in 1990, while nearby Well 14 was installed in 1994. Both wells were installed for the specific purpose of monitoring the groundwater basin in the vicinity of the wastewater treatment plant. The construction of Highway 101 Bypass and Asti Road in 1994 resulted in drainage changes on the west side of the Facility. As a result, the area around Well 7 is often extremely wet in the winter. The site is difficult to access due to the wet conditions, which may also contribute to well contamination. The City requests discontinuation of monitoring requirements at Well 7. Well 14 provides similar information about groundwater elevations and water quality, and both sites are not needed.

Well 15 was installed in 1994. The Highway 101 Bypass and Asti Road construction also impacted the drainage in this area, and Well 15 is suspected to be heavily influenced by surface water conditions in Heron Creek – for example, Well 15 shows significantly lower chloride levels than Well 16, which is located further away from Heron Creek. Well 15 also shows highly variable nitrate concentrations compared to the other upgradient wells (Well 1 and Well 16). The City proposes to continue monitoring groundwater elevations at Well 15, but to suspend groundwater quality monitoring, since it appears that surface water may be drawn into the well.

Response 6: Staff acknowledges that the area surrounding Well 7 may be inaccessible during wet weather conditions. Under these conditions, Well 7 may be exempt from groundwater monitoring requirements as specified in Table E-8 of the monitoring and reporting program. However, Well 7 is strategically located south of the facility's polishing

pond and may be suitably located for detecting groundwater contaminants that may percolate from the polishing pond to the subsurface. Well 7 also provides valuable groundwater data during the dry season (July and October) when the well is accessible. Therefore, monitoring at Well 7 is required unless wet weather conditions render the well inaccessible.

With respect to Well 15, nitrate concentrations in the groundwater are unusually high relative to the other upgradient Well 1 and Well 16. Well 15 also shows significantly lower chloride concentrations in comparison to Well 1 and Well 16, further supporting the claim that surface water may be drawn into the well. As a result, the Permittee's request to suspend groundwater monitoring from Well 15, but continue the monitoring of groundwater elevation, has been granted. Changes have been made to the draft NPDES permit to reflect this request.

Comment 7: *The City requests modification of the minimum sampling frequency for certain constituents at Monitoring Location EFF-002 from "Four times per discharge season" to "Quarterly." The requested change in frequency applies to monitoring for chlorodibromomethane, dichlorobromomethane, hardness, temperature, and nutrients, which are specified in Table E-5 to be collected at a frequency of four times per discharge season (January, March, May, and November). Other constituents listed in Table E-5, such as copper, specific conductance, and chloride, are required to be monitored quarterly (February, May, August, and November). This combination of minimum sampling frequencies is unnecessarily complicated.*

Discharge to the percolation ponds occurs year-round, so a quarterly minimum sampling frequency requirement offers a more straightforward approach than the "Four times per discharge season" requirement as written for Monitoring Location EFF-002. The modification of minimum sampling frequency from "Four times per discharge season" to "Quarterly" would streamline the monitoring effort, without compromising quantity or quality of information obtained through collection.

Response 7: Staff agrees. Changes have been made to the draft permit to reflect this request.

Comment 8: *The City requests the inclusion of rationale for land discharge requirements in Section IV.F of the Fact Sheet. Land discharge specifications and requirements are included in Section IV.B of the Tentative Order (pages 7-8). Land discharge monitoring requirements are identified in Section V of the Monitoring and Reporting Program (Attachment E, page E-6). Given the prescribed land discharge requirements, the omission of a rationale for such requirements should be corrected.*

Response 8: Staff agrees. The following language has been added to item IV.F.1 of the Factsheet.

F. Land Discharge Specifications and Requirements

1. Scope and Authority

Section 13263 of the Water Code requires the Regional Water Board to prescribe requirements for proposed discharges, existing discharges, or material changes in an existing discharge based upon the conditions of the disposal area or receiving waters upon or into which the discharge is made or proposed. The prescribed requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Water Code section 13241. In prescribing requirements, the Regional Water Board is not obligated to authorize the full waste assimilation capacities of the receiving water.

Here, the Regional Water Board considered all of these factors when developing the WDRs for the land discharge. Limitations for BOD₅, TSS, and pH were scientifically derived to implement water quality objectives that protect beneficial uses. Both beneficial uses and the water quality objectives have been approved pursuant to state law. In addition, discharge prohibitions were included to prohibit the land discharge of untreated or partially treated waste, in order to protect public health and prevent nuisance. In addition, the Regional Water Board considered the factors set forth in Water Code section 13241, including the consideration of past, present, and probable future beneficial uses of the receiving water, which the Regional Water Board anticipates to be the same as set forth in the Basin Plan. The Regional Water Board considered the environmental characteristics, including water quality of the **Middle Russian** River Hydrologic Area, the water bearing capacity of groundwater basins in the vicinity of the discharge, and the need to maintain a land discharge.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

- a. **Beneficial Uses.** Beneficial use designations for groundwater established in the Basin Plan include MUN, AGR, IND, and PRO.
- b. **Basin Plan Water Quality Objectives.** The Basin Plan contains narrative objectives for taste and odor, bacteria, radioactivity, and chemical constituents (including those chemicals that adversely affect agricultural water supply) that apply to groundwater.

3. Determining the Need for Requirements for Discharges to Land.

The following land discharge specifications apply to land discharges to the percolation ponds.

- a. **BOD, TSS, pH, and coliform bacteria.** This Order includes technology-based effluent limitations for BOD₅, TSS, pH, and coliform bacteria as described in Section IV.B.2.b of the Fact Sheet.

- b. Nitrate.** Nitrate is known to cause adverse health effects in humans. For waters designated as domestic or municipal supply, the Basin Plan (Chapter 3) adopts the MCLs, established by DDW for the protection of public water supplies at title 22 of the CCR, sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals), as applicable water quality criteria. The MCL for nitrate (10 mg/L as N) is therefore applicable as a water quality criterion. The Permittee sampled its discharge at Monitoring Location EFF-002 four times per discharge season between November 2012 and January 2017. Monitoring results ranged from 0.62 mg/L to 2.1 mg/L based on 17 samples. Because nitrate levels in the effluent have been measured at concentrations lower than 10 mg/L, as N, the Regional Water Board concludes that discharges from the Facility do not have a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for the receiving water.

Comment 9: *The City requests revisions to the contact information listed in Table F-1 to include the following:*

*Authorized Person to Sign and Submit Reports:
Mark Rincón, Public Works Director, (707) 894-1722
Jay Robinson, Senior Wastewater Treatment Plant Operator,
(707) 894-1719.*

The requested change will help the City more easily interpret the permit.

Response 9: Staff agrees. Changes have been made to the draft permit to reflect this request.

Staff Initiated Changes

1. Receiving Water Limitations

After the public comment period closed, Staff determined that the receiving water limitation language in the Draft Permit did not reflect the current Basin Plan. The Basin Plan was updated in May 2017 to include a new surface water receiving water limitation for dissolved oxygen and a new groundwater receiving water limitation for toxicity. The Proposed Permit has been revised to reflect these new Basin Plan requirements as follows:

- a. Dissolved Oxygen.** Order Section V.A.1 has been modified to replace the old Basin Plan dissolved oxygen receiving water limitation with the new Basin Plan dissolved oxygen receiving water limitation as follows:

1. The discharge shall not cause the dissolved oxygen (DO) concentration of the receiving water to be depressed below 9 mg/L.

In those waterbodies for which the aquatic life-based DO requirements are unachievable due to natural conditions¹, site-specific background DO requirements can be applied² as water quality objectives by calculating the daily minimum DO necessary to maintain 85% DO saturation during the dry season and 90% DO saturation during the wet season under site salinity, site atmospheric pressure, and natural receiving water temperature³. In no event may controllable factors reduce the daily minimum DO below 6.0 mg/L.

For the protection of estuarine habitat (EST), the dissolved oxygen concentration of enclosed bays and estuaries shall not be depressed to levels adversely affecting beneficial uses as a result of controllable water quality factors.

~~The discharge shall not cause the dissolved oxygen concentration of the receiving water to be depressed below 7.0 mg/L. Additionally, the discharge shall not cause the dissolved oxygen content of the receiving water to fall below 10.0 mg/L more than 50 percent of the time, or below 7.5 mg/L more than 10 percent of the time in a calendar year. In the event that the receiving waters are determined to have a dissolved oxygen concentration of less than 7.0 mg/L, the discharge shall not depress the dissolved oxygen concentration below the existing level.~~

In addition, Fact Sheet section V.A. has been modified to add the following language to explain the reason for the change in the dissolved oxygen receiving water limitation: The dissolved oxygen limitation in this Order reflects the new Basin Plan dissolved oxygen limit that was adopted by the Regional Water Board on June 18, 2015, and effective beginning April 24, 2017, after receiving approval from U.S. EPA. The new Basin Plan dissolved oxygen limitation specifies limits for the WARM, COLD, and SPWN beneficial uses. The WARM, COLD and SPWN beneficial uses occur in the Middle Russian River Hydrologic Area. However, this Order includes only the SPWN limitations because it is the most protective limit, and the SPWN beneficial use is present throughout the entire discharge season.

- b. ***Chemical Constituents, Pesticides and Radioactivity.*** The following modifications were made so that permit language is consistent with the current

¹ Natural conditions are conditions or circumstances affecting the physical, chemical, or biological integrity of water that are not influenced by past or present anthropogenic activities.

² Upon approval from the Regional Water Board Executive Officer

³ The method(s) used to estimate natural temperatures for a given waterbody or stream length must be approved by the Executive Officer and may include, as appropriate, comparison with reference streams, simple calculation, or computer models.

Basin Plan language regarding chemical constituents, pesticides, and radioactivity.

Order section V.A.15 has been modified to remove the reference to article 4 as there are no pesticides listed in article 4, and to read: "The discharge shall not cause receiving waters to contain concentrations of pesticides in excess of Maximum Contaminant Levels (MCLs) established for these pollutants in title 22, division 4, chapter 15, ~~articles 4 and 5.5~~ of the CCR. "

Order section V.A.18 has been modified to specify all of the title 22 sections with numeric limits for chemical constituents, and reads: "The discharge shall not cause concentrations of chemical constituents to occur in excess of MCLs and secondary MCLs (SMCLs) established for these pollutants in title 22, division 4, chapter 15, articles 4, section 64431, article 5.5, section 64444, and article 16, section 64449 of the CCR."

Order section V.A.19 has been modified to specify the title 22 sections with numeric limits for radioactivity, and reads: "The discharge shall not cause receiving waters to contain radionuclides in concentrations which are deleterious to human, plant, animal or aquatic life, nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal or indigenous aquatic life, nor in excess of the MCLs and SMCLs established for these pollutants in title 22, division 4, chapter 15, article 5, sections 64442 and 64443 of the CCR."

Order section V.B.2 has been modified to include correct references to title 22 sections with numeric limits and reads: "The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause alterations of groundwater that contain chemical concentrations in excess of the MCLs and SMCLs specified established for these pollutants in title 22, division 4, chapter 15, article 4, sections ~~64435 (Tables 2 and 3) 64431, and article 5.5, section 64444, and article 16 section 64449 and the Basin Plan.~~"

Order section V.B.3 has been modified to make corrections to the title 22 sections related to radioactivity and reads: "The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause groundwater to contain radionuclides in concentrations that cause nuisance or adversely affect beneficial uses, nor in excess of the MCLs and SMCLs limits specified established for these pollutants in title 22, division 4, chapter 15, article 5, sections 64442 and 64443 of the CCR.

- c. ***Groundwater Toxicity.*** The following modifications were made to add the new language to reflect the current Basin Plan groundwater toxicity objective.

Order Section V.B.5 has been added to include the new groundwater toxicity objective, as follows: "Groundwaters shall not contain toxic substances in

concentrations that are toxic to, or that produce detrimental physiological responses in humans, or that adversely affects beneficial uses. This limitation applies regardless of whether the toxicity is caused by a single substance or the synergistic effect of multiple substances.”

Fact Sheet Section V.B has been modified to include the following statement:
“The Order includes a new groundwater toxicity limitation that was adopted by the Regional Water Board on June 18, 2015, and effective beginning July 18, 2016 after receiving approval from the California Office of Administrative Law. This new Basin Plan limit requires that groundwaters shall not contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, or that adversely affects beneficial uses. This limitation applies regardless of whether the toxicity is caused by a single substance or the synergistic effect of multiple substances.”