
North Coast Regional Water Quality Control Board

Response to Written Comments
Draft Monitoring and Reporting Program
Order No. R1-2020-0029
for the
City of Santa Rosa, Recycled Water Program
Regional Water Quality Control Board, North Coast Region
September 29, 2020

Comment Letter Received

The deadline for submittal of public comments regarding Monitoring and Reporting Program (MRP), Order No. R1-2020-0029, for the City of Santa Rosa (City or permittee) Recycled Water Program was September 3, 2020. Timely comments were received only from the City of Santa Rosa and the Russian River Watershed Protection Committee.

Regional Water Board staff met with the City on August 31, 2020 to discuss the City's comments. Responses to comments contained in this document are consistent with the discussion that occurred during those meetings.

In this document, comments from the City are summarized, followed by the Regional Water Board staff response. Text added to the Proposed MRP is identified by underline and text to be deleted from the Proposed MRP is identified by ~~strike-through~~ in this document. The term "Draft MRP" refers to the version of the Monitoring and Reporting Program (MRP) that was sent out for public comment. The term "Proposed MRP" refers to the version of the MRP that has been modified in response to comments and is being presented to the North Coast Regional Water Quality Control Board's Executive Officer for consideration.

Permittee Comments - City of Santa Rosa

Comment 1: The City requests that the NOA provide clarification that the City of Santa Rosa distributes recycled water to the City of Rohnert Park, in addition to the other recycled users listed.

The draft NOA includes transmission of water to the Regional Agricultural Distribution System, the Santa Rosa Urban Distribution System, and the Geysers Transmission system. Transmission of water to urban users in the City of Rohnert Park is included, but distribution and end use is not fully described, as other recycled water users are. The City requests the changes indicated below.

- Regional Agricultural Distribution System: Transmission and distribution of recycled water to agricultural users within the North County Agricultural Area of the Santa Rosa Plain, and transmission of recycled water east of to the City of Rohnert Park. Users are located directly along the distribution system and include privately managed farms and vineyards, as well as City-owned farms that are located within City limits. Distribution and use within the City of Rohnert Park is under the City of Rohnert Park's separate enrollment in the General Order.

Response 1:

The City's request is reasonable; however, for clarity the Regional Water Board has included the distribution of recycled water to the City of Rohnert Park as a separate item from the already listed recycled water uses.

The following use description has been added to the NOA's list of recycled water uses:

City of Rohnert Park Recycled Water Program: Transmission of recycled water to the City of Rohnert Park Recycled Water Program. The City of Rohnert Park is separately enrolled under the General Order.

Comment 2: The City requests modification of the annual calibration requirement (Section 1.4 of the MRP) for all flow measuring devices to specify that this is not applicable to the customer water meters assigned to each user.

The MRP requires annual calibration of "all flow measurement devices," which is a standard requirement in NPDES permits that applies to flow monitoring at wastewater treatment plants. This City indicates that this requirement should only apply to those flow meters that relate to the City's provision of recycled water but that it is overly burdensome to require the City to annually calibrate each flow meter within the reuse system.

The City asks that wording be employed that indicate a three-year minimum meter calibration check interval for agricultural re-use and a 15-year replacement interval for urban re-use.

Response 2:

The City's request to remove customer meters from the annual calibration requirement is reasonable. The Regional Water Board recognizes that the types of meters used to measure the volume of recycled water delivered to each customer are not subject to significant accuracy degradation over time and do not contain the means to verify flow in-place. While the City has proposed an appropriate flow verification and meter replacement plan, Regional Water Board staff do not feel that the documentation of this needs to be included in the MRP. However, Regional Water Board staff do feel that these meters need to be visually inspected at a minimum frequency to verify their condition. Regional Water Board staff has update section 1.4 of the MRP to say:

“1.4. Instrument Calibration Provision

All monitoring instruments and devices used by the Administrator to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices (except customer meters) shall be calibrated no less than the manufacturer's recommended intervals or one-year intervals, (whichever comes first) to ensure continued accuracy of the devices. Customer meters not requiring periodic calibration per the manufacturer, at a minimum, shall be visually inspected and documented to be in proper operational condition on an annual basis.”

Comment 3a: The City requests that the sampling frequency for salts and nutrients be reduced from monthly to twice per year.

The City indicates that the sampling of nutrients is provided to track long-term trends and to determine nutrient loading to the groundwater basin. They indicate that little benefit is provided by monthly monitoring and that these costs should not be passed to ratepayers.

Response 3a:

Regional Water Board staff have reviewed historic salt and nutrient data to determine how much potential error may be present under various sampling frequencies. Review of the associated operational data indicates that nearly all recycled water irrigation occurs during second and third quarter of the calendar year. Biannual sampling with sampling events occurring in the second and third quarter was determined to provide adequate representation of the recycled water salt and nutrient concentrations and did not result in a significant increase in the potential error for this data. Table 2 of the MRP has been modified as follows:

Table 2. Recycled Water Monitoring Requirements – Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽²⁾
Recycled Water Flow ⁽¹⁾	mgd	Meter	Continuous	---
Ammonia Nitrogen (as N)	mg/L	Grab	Monthly <u>Biannual</u> ⁽⁵⁾	Part 136
Nitrate Nitrogen (as N)	mg/L	Grab	Monthly <u>Biannual</u> ⁽⁵⁾	Part 136
Nitrite Nitrogen (as N)	mg/L	Grab	Monthly <u>Biannual</u> ⁽⁵⁾	Part 136
Organic Nitrogen (as N)	mg/L	Grab	Monthly <u>Biannual</u> ⁽⁵⁾	Part 136
Total Nitrogen (as N)	mg/L	Calculation ⁽³⁾	Monthly <u>Biannual</u> ⁽⁵⁾	Part 136
Total Dissolved Solids (TDS)	mg/L	Grab	Monthly <u>Biannual</u> ^(4,5)	Part 136
Sodium	mg/L	Grab	Monthly <u>Biannual</u> ^(4,5)	Part 136
Chloride	mg/L	Grab	Monthly <u>Biannual</u> ^(4,5)	Part 136
Boron	mg/L	Grab	Monthly <u>Biannual</u> ^(4,5)	Part 136

Table Notes

1. Each month, the Administrator shall report the daily average and monthly average flows.
2. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Regional Water Board or State Water Board, such as with the current edition of Standard Methods for Examination of Waters and Wastewater (American Public Health Administration).
3. Total Nitrogen shall be calculated as the sum of the results for Ammonia Nitrogen, Nitrate Nitrogen, Nitrite Nitrogen, and Organic Nitrogen.
4. The monitoring frequency for TDS, Sodium, Chloride, and Boron may be reduced or eliminated by the Regional Water Board Executive Officer through the modification of this MRP if monitoring data demonstrates that concentrations of these constituents are consistently lower than water quality objectives for protecting groundwater.
5. Biannual sampling to occur in second and third quarter of each calendar year.

Comment 3b: The City requests that the agronomic rate requirements in Table 3 be changed from monthly to annual.

The City requests that the MRP be modified so that the City may continue to use their current practice of assessing compliance with agronomic loading through annual calculations, rather than the proposed monthly basis, specifically using the annual average of these parameters.

Response 3b:

The City's request is reasonable, and the requested change has been made. This comment and resulting change is covered in more detail within comment 5.

Comment 4: The City requests that the word "leak" is removed from the "Storage Pond Leak Monitoring Program"

The City requests the removal of the word "leak" from the "Storage Pond Leak Monitoring Program", consistent with the City's request for the same change to Special Provision VI.C.2.g of the City's WDR/NPDES Permit Order No. R1-2020-0012.

5.1. Storage Pond Monitoring

The Administrator shall monitor all recycled water storage ponds and impoundments as described in Table 3.

Additional storage pond monitoring related to recycled water storage is being addressed through the Storage Pond ~~Leak~~ Monitoring Program, Special Provision VI.C.2.g of WDR/NPDES Permit Order No. R1-2020-0012."

Response 4:

The City's request is reasonable. This requested correction has been made.

Comment 5: The City requests that the agronomic rate requirements in Table 4 be changed from monthly to annual.

The City requests that the MRP be modified so that the City may continue to use their current practice of assessing compliance with agronomic loading through annual calculations, rather than the proposed monthly basis, specifically using the annual average of these parameters. The City indicates that because the nitrogen content of the recycled water does not vary substantially, that monthly flow meter data can adequately identify concerns with over-application without making monthly calculations of nitrogen application. They further express that this change would be consistent with the default MRP in the General Order.

Response 5:

The City's request to change the observation frequency for acreage applied, application rate, and total nitrogen application rate is reasonable. The indicated frequency for these parameters was mistakenly listed as monthly in the draft MRP and was intended to be listed as Annually. Table 4 has been updated to reflect a Minimum Sampling/Observation Frequency of Annually for the requested parameters.

Table 4. Recycled Water Use Area Requirements ⁽¹⁾

Parameter	Units	Sample Type	Minimum Sampling/ Observation Frequency ⁽²⁾
Recycled Water User	---	---	---
Recycled Water Flow ⁽³⁾	gpd ⁽⁴⁾	Meter ⁽⁵⁾	Monthly
Acreage Applied ⁽⁶⁾	Acres	Calculated	Monthly <u>Annually</u>
Application Rate (hydraulic)	Inches/acre/year	Calculated	Monthly <u>Annually</u>
Total Nitrogen Application Rate ^(7,8)	Lbs/acre/month	Calculated	Monthly <u>Annually</u>
Soil Saturation/Ponding	---	Observation	Monthly
Discharge off-Site	---	Observation	Monthly
Nuisance Odors/Vectors	---	Observation	Monthly
Notification Signs ⁽⁹⁾	---	Observation	Monthly
Rainfall	Inches	Gage	Daily
Maximum Allowable Hydraulic Agronomic Rate ⁽¹⁰⁾	Inches	Calculation	Annually

Table Notes

1. Recycled water production and use area monitoring shall be reported with the annual report (section 6.2 of this MRP). Non-compliance incidents shall be reported as specified in section 6.3 of this MRP.
2. Or less frequently if approved by the Regional Water Board Executive Office through the modification of this MRP.
3. Estimation of recycled water shall not include other potable or non-potable "make-up" water used in conjunction with recycled water use.
4. gpd denotes gallons per day.
5. Meter requires meter reading, a pump run time meter, or other approved method of flow monitoring.

Parameter	Units	Sample Type	Minimum Sampling/ Observation Frequency ⁽²⁾
<p>6. Acreage applied denotes the acreage to which recycled water is applied.</p> <p>7. The source of the total nitrogen data used for the nitrogen application rate calculation shall be noted in the Administrator's annual recycled water report. The Administrator may use total nitrogen concentrations provided by the City of Santa Rosa or collect its own samples.</p> <p>8. Nitrogen concentrations shall be calculated and reported "as N". For example, nitrate-nitrogen = 27 mg/l as NO₃ shall be converted and reported as nitrate-nitrogen = 6.1 mg/L as N using a conversion factor of 14.067 (N)/62.0049 (NO₃).</p> <p>9. Notification signs shall be consistent with the requirements of Title 22, section 60310(g).</p> <p>10. Maximum allowable hydraulic agronomic rate for each recycled water use site will be calculated as follows: $[ETo-EP] \times [LFh = (LFm \times 0.6)] \times [Total Area] \times CF$ where:</p> <ul style="list-style-type: none"> • ETo (Reference Evapotranspiration) = Evapotranspiration is defined as the amount of water used by the plants (transpiration) and evaporated from the soil (evaporation). It is measured in inches by the Santa Rosa Irrigation Management System's weather station (CIMIS Station #83). Reference evapotranspiration is a standard measurement of evapotranspiration for cool-season turf. • EP (Effective Precipitation) = The depth of rainfall, measured in inches by Santa Rosa CIMIS weather station #83, that offsets ETo. Effective precipitation is assumed to be a third of the actual measured precipitation. • LFh (Landscape fraction high) = fraction of site's landscape area consisting of high-water use plants or uses. High water use plants include turfgrass, ornamental water features, annuals, plants in containers, and agricultural customers irrigating pastures, fodder crops, vegetable crops, or other high-water use crops. • LFm (Landscape fraction medium) = fraction of site's landscape area consisting of moderate and low water use plants such as trees, shrubs, and vines. The size of these landscaped areas is multiplied by a factor of 0.6 to account for their proportionately lower water use. • Total Area = total size of recycled water use area, in square feet. • CF (Conversion Factor) = 0.623, the number that converts the volumetric unit (square feet x inches) to gallons. 			

Comment 6: The City requests that the cross-connection testing requirement is only for dual-plumbed sites.

The City requests the additional text to clarify that all new sites receive a cross-connection test prior to initiating service, but only dual-plumbed sites receive routine testing every four years.

Response 6:

The City's request is reasonable. Note 2 of Table 4 has been updated to provide clarification.

Table 5. Cross-Connection and Backflow Monitoring Requirements

Parameter	Sampling Frequency	Required Frequency
Cross-connection inspection ⁽¹⁾	Annually	Annually
Cross-connection testing	Four Years ⁽²⁾	30 days/Annually ⁽³⁾
Backflow Incident	Continuous	24 hours from discovery
Backflow Prevention Device Testing and Maintenance	Annually ⁽⁴⁾	Annually

Table Notes

1. The Administrator shall ensure that the dual plumbed recycled water system (indoor and outdoor) is inspected for possible cross connection with the potable water system.
2. Testing of dual plumbed recycled water systems shall be performed prior to initiating recycled water service and at least every four years, or more frequently at the discretion of DDW. Testing results shall be maintained by the Administrator and submitted annually.
3. Cross-connection testing shall be reported pursuant to title 22 section 60314. The report shall be submitted to DDW within 30 days and included in the annual report to the Regional Water Board.
4. Backflow prevention device testing and maintenance shall be tested by a qualified person as described in title 17, section 7605.

Comment 7: The City requests that the due date for Annual Reports should be modified to April 1st.

The City requests the annual report to be submitted by April 1st of each year rather than March 1st. This request is consistent with the default MRP in the General Order.

Response 7:

The City's request is reasonable and the annual report's due date has been modified to April 1st. Section 6.2 of the MRP has been modified as follows:

“6.2. Annual Report

The Administrator shall submit an annual report to the Regional Water Board for each calendar year through the CIWQS Program Web site. The annual report shall be submitted by ~~March 1st~~ April 1st following the monitoring year.”

Comment 8: The City requests that duplicative reporting of Total Coliform Bacteria and Turbidity data be removed from the Annual Report.

Monitoring data for Total Coliform Bacteria and Turbidity should not be included in the Annual Report requirement (section 6.2.3), as it will have already been submitted to CIWQS under Order R1-2020-0012. Requiring the City to submit this same data in the Annual Report merely makes the draft NOA more difficult to interpret; the draft NOA elsewhere states that duplicative monitoring is not required (Section 1.7). Section 3.1.1 similarly states that reporting requirements for Turbidity and Total Coliform bacteria may be met through submittal of data collected as required under WDR/NPDES Order No. R1-2020-0012.

~~6.2.3 All monitoring results for Total Coliform Bacteria and Turbidity pursuant to the Recycling Monitoring Requirements established in Section VII of Monitoring and Reporting Program for WDR Order No. R1-2020-0012.~~

Response 8:

The Regional Water Board disagrees with the City's assessment that Section 1.7 and Section 3.1.1 would allow the reporting requirements of Turbidity and Total Coliform Bacteria to be met through the submittal of data collected as required under WDR/NPDES Order R1-2020-0012 (NPDES permit). While these sections indicate that the monitoring requirements for this data can be met through the data collected as required under the NPDES permit, they do not relieve the City of the specified reporting requirements.

Nevertheless, the Regional Water Board recognizes that duplicate reporting of the laboratory data may be burdensome on the City, and as Section 6.2.8 already requires a "summary of any operational problems, equipment or process malfunctions, including incidents of delivering recycled water that does not meet all recycled water quality requirements as established in WDR/NPDES Permit Order No. R1-2020-0012..."; any non-compliance event within this data is already required to be reported and it is not necessary to include additional reporting of Total Coliform Bacteria and Turbidity data. The annual reporting requirement for reporting Turbidity and Total Coliform Bacteria data, Section 6.2.3 of the Draft MRP, has been removed as requested.

Comment 9: The City requests that the Annual Report require less detail about individual recycled water use permits.

Specific information about individual user permits is not required in the default MRP in the General Order, and past reporting by the City has not included this level of detail. The City requests removal of this requirement.

Response 9:

The Recycled Water User Permits issued by the City contain the conditions of use for each site and the requirements for users to follow the rules and regulations set forth

under city code and the Recycled Water User's Guide. This is a critical tool for the City's recycled water program, and it is appropriate for the Regional Water Board to have the City track and report the current status of each User's permit. Section 6.2.4 of the MRP has been modified as follows:

"6.2.4. A summary table of all recycled water users, the status of the Recycled Water Use Permit for each User, date and term of recycled water user agreements, and use areas shall be provided. Maps may be included to identify use areas. Newly permitted recycled water Users and use areas shall be clearly identified. The Administrator shall maintain all Recycled Water User Agreements on file."

Comment 10: The City requests that the term "secondary recycled water" should be used in place of "disinfected secondary 23 recycled water" when referring to the emergency response procedures.

The City requests to use of the term "secondary recycled water" in place of the more specific term "disinfected secondary 23 recycled water" in the paragraph describing emergency response procedures. Consistent with the City's approved Title 22 Engineering Report, un-disinfected secondary recycled water can be used for pasture irrigation and at the Geysers Recharge Project (except Cooling Tower makeup water). This is a continuation of ongoing practices and does not constitute a change to Santa Rosa's recycled water program.

6.2.9. A summary of recycled water diversions enacted as part of the Laguna Treatment Plant emergency response procedure (Off-Spec Condition Response Plan). The summary shall include the volume, destination, and end use of the partially-treated recycled water, and a statement indicating that this water met the Title 22 requirements for use of disinfected secondary 23 recycled water (Title 22 section 60301.225) and is suitable for the resulting end use.

1 - Secondary Recycled Water ~~means-meets the requirements of Title 22 section 60301.225 or 60301.900. "disinfected secondary 23 recycled water" as defined by DDW or wastewater receiving advanced treatment beyond undisinfectd secondary.~~

Response 10:

The Regional Water Board agrees with the City's request to use the term "secondary recycled water" to ensure that the MRP is consistent with the City's approved Title 22 Engineering Report. It is not the intent of the Regional Water Board to require additional sampling of off-spec recycled water to verify that it meets disinfected secondary 23 recycled water compliance and the proposed wording change would be appropriately placed in the identified sections.

The requested change to Section 6.2.9 has been made to the MRP. Footnote 1 has been changed to:

“1 - Secondary Recycled Water means “disinfected secondary 23 recycled water” or “undisinfected secondary recycled water” as defined by Title 22 sections 60301.225 and 60301.900.DDW or wastewater receiving advanced treatment beyond undisinfected secondary.”

Comment 11: The City requests that the requirement to obtain DDW pre-approval for changes to the Recycled Water User’s Guide (Section 6.5 of the MRP) to be removed from the MRP.

The City indicates that they are open to providing a courtesy copy of changes to the Recycled Water User’s Guide, or obtaining pre-approval for certain specific portions of the Recycled Water User’s Guide, but that this is not part of the Title 22 Engineering Report that requires separate authorization by the Regional Water Board or DDW. The City further indicates that they acknowledge that DDW’s February 12, 2020 conditional acceptance letter noted that new types of uses must be approved by DDW, but that the letter does not indicate that DDW plans to review future versions of the User’s Guide for other types of program changes.

Response 11:

The City’s Engineering Report heavily relies on the content of the Recycled Water User’s Guide. While not expressed in DDW’s February 12, 2020 conditional acceptance letter to the City of Santa Rosa, DDW does indicate in their March 13, 2020 conditional acceptance letter to the City of Rohnert Park that “Subsequent updates to the Recycled Water User’s Guide must be reviewed and accepted by DDW prior to implementation by the City’s program.” Regional Water Board staff further discussed this comment with DDW staff who agreed that any changes to the Recycled Water User’s Guide that translates to changes in operations, program management, or implementation must be reviewed and accepted by DDW and the Regional Board prior to the change.

In advance of making any such changes, the City may consult with the Regional Board and DDW to waive such review requirement for minor and non-substantive changes.

Section 6.5.1 has been modified as follows:

“6.5.1. Updates to the Recycled Water User’s Guide must be reviewed by Regional Water Board and DDW staff and accepted by DDW prior to implementation by the Administrator’s program. The Administrator may consult with the Regional Water Board to waive the aforementioned requirement for minor and non-substantive changes. The Regional Water Board shall communicate with DDW when necessary to determine if a waiver request is appropriate.”

Public Comments – Russian River Watershed Protection Committee

The Russian River Watershed Protection Committee (RRWPC) was disappointed that they did not have more time to prepare a response to this public notice; indicating that COVID-19 and evacuations resulting from the current fires have interrupted their normal ability to speak to these items. They were able to provide a brief e-mail that discussed several items of concern that they wanted to address.

Comment 1: The RRWPC indicated that are concerned with recycled water application.

The RRWPC indicated that they have a concern with the setback requirement for recycled water use in relation to streets and sidewalks, including irrigation head placement, spray pressure and reach.

Response 1:

Currently no recycled water regulation provides for a minimum setback to streets or sidewalks, irrigation head placement, or spray pressure and reach. Regulations do however require that irrigation runoff be confined to the recycled water use area (Title 22, Section 60310). While the correct application of these subject concerns may be critical for a recycled water irrigation site to maintain compliance, they are ultimately addressed through the existing no runoff provision.

No changes were made to the Proposed MRP in response to this comment.

Comment 2: The RRWPC indicated that they are concerned with the frequency of inspections performed by Regional Water Board staff.

The RRWPC indicated that they have a concern with the inspection frequency by Regional Water Board Staff.

Response 2:

The Regional Water Board understands RRWPC's concern for infrequent inspections and will continue to perform inspections of recycled water use sites as resources allow. Additionally, the Administrator of each recycled water program is required to monitor their use sites and correct any observed non-compliance issues. The Regional Water Board recognized the need for more frequent inspections due to public concern and included a more frequent site inspection requirement in the site specific MRP (monthly instead of quarterly).

No changes were made to the Proposed MRP in response to this comment.

Comment 3: The RRWPC suggests that further analysis of water use be included.

RRWPC suggests that through the analysis of water use we may learn how much water is wasted, what path it may travel, and perhaps ending up in streams.

Response 3:

Over the past few years, Regional Water Board staff have worked cooperatively with the City to ensure compliance with the requirements to minimize or prevent irrigation runoff and to ensure protection of public health and the environment. As discussed in RRWPC comment 2, the Regional Water Board recognized the need for more frequent inspections due to public concern and increased the required frequency of site inspections. The MRP requires that any non-compliance events be summarized in the annual recycled water report, including any corrective actions resulting from these observations. Observations made during recent inspections of recycled water use sites did not indicate that excessive runoff was present in quantities that could reach streams or other water bodies. Regional Water Board staff will prioritize inspections of recycled water use sites where incidental runoff or reports of incidental runoff have been or appear to be most frequent.

No changes were made to the Proposed MRP in response to this comment.

Comment 4: The RRWPC indicated their concern that no improvements have to be made to existing recycled water use sites.

RRWPC indicates that they believe that no improvements have to be made to older recycled water systems, but only when they plan new ones. Their concern is that if this is the case, it may be many years before compliance is achieved.

Response 4:

All recycled water use sites must be operated in a fashion to prevent violation of Title 22 requirements. The Recycled Water General Order requires that the Administrator to take whatever actions are necessary, including termination of delivery of recycled water to the User, to correct any User violations. These requirements apply to existing sites, as well as new and redeveloped sites.

No changes were made to the Proposed MRP in response to this comment.