

## **Response to Written Comments**

**In Consideration of Waste Discharge Requirements Order No.  
R1-2013-0001, Renewal of National Pollutant Discharge  
Elimination System (NPDES) Permit for the Santa Rosa  
Subregional Water Reclamation System**

**Regional Water Quality Control Board, North Coast Region  
November 21, 2013**

## LIST OF ACRONYMS AND ABBREVIATIONS

<b>ACL</b>	<b>Administrative Civil Liability</b>
<b>Basin Plan</b>	<b>Regional Water Quality Control Plan</b>
<b>BMP</b>	<b>Best Management Practice</b>
<b>Cal. Code Regs.</b>	<b>California Code of Regulations</b>
<b>Cal. Wat. Code</b>	<b>California Water Code</b>
<b>CDPH</b>	<b>California Department of Public Health</b>
<b>CECs</b>	<b>Constituents of Emerging Concern</b>
<b>CEQA</b>	<b>California Environmental Quality Act</b>
<b>CFR</b>	<b>Code of Federal Regulations</b>
<b>CTR</b>	<b>California Toxics Rule</b>
<b>CWA</b>	<b>Clean Water Act</b>
<b>DCP</b>	<b>Discharge Compliance Project</b>
<b>DMR</b>	<b>Discharge Monitoring Report</b>
<b>EIR</b>	<b>Environmental Impact Report</b>
<b>GWDR</b>	<b>General Waste Discharge Requirements</b>
<b>LA</b>	<b>Load Allocation</b>
<b>MOA</b>	<b>Memorandum of Agreement</b>
<b>MRP</b>	<b>Monitoring and Reporting Program</b>
<b>MS4</b>	<b>Municipal Separate Storm Sewer System</b>
<b>NPDES</b>	<b>National Pollutant Discharge Elimination System</b>
<b>POTW</b>	<b>Publicly Owned Treatment Works</b>
<b>Regional Water Board</b>	<b>Regional Water Quality Control Board</b>
<b>ROWD</b>	<b>Report of Waste Discharge</b>
<b>RPA</b>	<b>Reasonable Potential Analysis</b>
<b>SIP</b>	<b>Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California</b>
<b>SMR</b>	<b>Self-Monitoring Report</b>
<b>SNMP</b>	<b>Salt and Nutrient Management Plan</b>
<b>SSO</b>	<b>Sanitary Sewer Overflow</b>
<b>State Water Board</b>	<b>State Water Resources Control Board</b>
<b>TMDL</b>	<b>Total Maximum Daily Load</b>
<b>TSD</b>	<b>Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001, March 1991)</b>
<b>TSO</b>	<b>Time Schedule Order</b>
<b>USEPA</b>	<b>United States Environmental Protection Agency</b>
<b>UVT</b>	<b>Ultraviolet Transmittance</b>
<b>WDR</b>	<b>Waste Discharge Requirement</b>
<b>WET</b>	<b>Whole Effluent Toxicity</b>
<b>WLA</b>	<b>Waste Load Allocation</b>
<b>WQBEL</b>	<b>Water Quality-Based Effluent Limitation</b>

## Comment Letters Received

<b>Comment Page No.</b>	<b>Affiliation</b>	<b>Date Received</b>	<b>Author</b>
4	City of Santa Rosa	12/03/2012	Miles Ferris
20	City of Santa Rosa	07/22/2013	David Guhin
43	Russian River Watershed Protection Committee	12/03/2012	Brenda Adelman
57	Russian River Watershed Protection Committee	07/22/2013	Brenda Adelman
64	General Public	12/03/2012	John Short
69	General Public	07/22/2013	John Short
74	Coast Action Group	11/26/2012	Alan Levine
76	Russian River Watershed Association	12/03/2012	Jake MacKenzie
77	Northern California River Watch	12/07/2012	Larry Hanson
78	Northern California River Watch	07/22/2013	Sarah Danley
79	General Public (Form Letter 1)	Various	Various
---	Friends of the Gualala River, received after the close of the comment period.	08/05/2013	Chris Poehlman
---	General Public (Form Letter 2), received after the close of the comment period.	Various	Various

## **City of Santa Rosa – Comment Letter No. 1**

*On December 3, 2012, the City of Santa Rosa (hereinafter “City” or “Permittee”) submitted 78 comments on the draft Order released on October, 31, 2012. On July 22, 2013, the City submitted 71 comments on the revised draft Order released on June 20, 2013. A number of the comments received identified typographic errors, unclear requirements, or made requests for permit revisions that were deemed acceptable to Regional Water Board staff and resolution of the comments were reflected in the previous draft Order or the proposed Order without a written staff response. Some comments from the Permittee are summarized here by Regional Water Board staff with reference to the comment number included in the City’s letter. Please refer to the comment letters for the full text of comments. The following are responses to other significant comments from the Permittee on December 3, 2012:*

### **Comment No. 1: No Net Loading Effluent Limitations for Nitrogen and Phosphorus.**

The City does not believe that either the 303(d) listings for nitrogen and phosphorus in the Laguna de Santa Rosa or the “no net loading” limitations in the draft Order are supported or reasonable. Further, the City is not confident that the Nutrient Offset Program is a viable means to comply with the proposed “no net loading” requirements in the draft Order. The proposed “no net loading” effluent limitations are contrary to State Water Board and judicial precedent, unsupported, unnecessary, and unreasonable. The City requests replacing the “no net loading” effluent limitations with final limitations based on the anticipated WLAs in the upcoming nutrient TMDL and that interim mass load limitations be imposed for total nitrogen and total phosphorus until the TMDLs are adopted and approved.

**Response:** See response to Comment No. 1 from the City’s July 2013 comment letter.

### **Comment No. 1B. The City’s discharges to receiving waters are disassociated from any upstream impairment.**

**Response:** The Regional Water Board is currently developing new TMDLs for nitrogen and phosphorus that will apply to all water bodies in the Laguna de Santa Rosa, Santa Rosa Creek, and the Mark West Hydrologic Subareas, referred to collectively as the greater Laguna de Santa Rosa watershed. While it is true that certain indicators of impairment, particularly low dissolved oxygen and the presence of nuisance benthic macrophytes (*Ludwigia*), are most pronounced in reaches of the Laguna de Santa Rosa that are upstream of the City’s preferred discharge location at Delta Pond, available data and other information suggest that biostimulatory conditions are present in both the lower mainstem Laguna and lower Mark West Creek, both of which are influenced by the City’s existing discharge at Delta Pond and could be influenced by potential discharges at Meadow Lane and at Discharge Point 015, should they occur.

### **Comment No. 1D. Significant challenges encountered with implementation of Nutrient Offset Policy.**

**Response:** Regional Water Board staff appreciates the efforts taken by the City to implement the Nutrient Offset Policy. However, with the implementation of any new program, particularly one as complicated as the Nutrient Offset Policy, it should be

expected that there will be some challenges initially and gradual improvement in implementation as the parties gain experience with the process of project proposal, review, and approval. This certainly has been the case. Since 2012, all three offset credit projects proposed by the City have been approved by the Executive Officer, and in 2013, the City has sought conceptual approval from Regional Water Board staff for an even greater number of potential offset credit projects. These conceptual proposals are currently under review by Regional Water Board staff.

**Comment No. 1E. No net loading effluent limitations for total nitrogen and total phosphorus are contrary to State Water Board and Judicial precedent (Tosco), unsupported, unnecessary, and unreasonable.**

The City's reliance on State Water Board Order No. WQ 2001-06 ("Tosco") is misplaced. It bears noting that the City raised similar arguments in its petition on its current permit during the last adoption cycle. The City's petition was dismissed and the analysis contained in the dismissal memo is reflected, in large part, below.

In Tosco, several petitioners, including Tosco, objected to alternative final limits in refinery permits for pollutants identified as impairing the receiving waters. The permit provided that the final effluent limits would be based on the anticipated completion of a TMDL; however, if a TMDL was not timely completed, the final limit would be no net loading for bioaccumulative pollutants and the applicable water quality objective applied end-of-pipe for non-bioaccumulative pollutants. The San Francisco Bay Regional Water Board imposed the alternative final limits based on its determination that the receiving waters lacked assimilative capacity for the impairing pollutants.

Among other things, the State Water Board held that the no net loading limits were inappropriate for several reasons. First, the San Francisco Bay Regional Water Board concluded that the San Francisco Bay lacked assimilative capacity solely on the fact that it was listed as impaired pursuant to section 303(d) of the Clean Water Act. Second, the State Water Board noted that evidence in the record indicated that the refineries were insignificant sources for some of the impairing pollutants. Third, the State Water Board cited evidence that it was technically infeasible for the refineries to comply with some of the alternative limits. Fourth, it would be preferable, under this fact scenario, to establish a TMDL-based compliance schedule as was then authorized in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California ("SIP").

The Proposed Order is clearly distinguishable from the underlying permit in Tosco. First, the Proposed Order does not rely on the receiving water's 303d-listing as the basis for concluding that there is no assimilative capacity. Rather, the Proposed Order relies on robust analysis contained in the Revised Fitzgerald Memo (October 22, 2013) and the Fact Sheet to support its finding of no assimilative capacity for phosphorus. Second, as opposed to the facts in Tosco, the City's discharge cannot be considered an insignificant source of phosphorus. Third, the City has several compliance options, including participating in an offset program, which makes it feasible to comply with the no net loading limitation for phosphorus. As noted elsewhere in these responses, City and Regional Water Board staff have worked diligently over the past several years

to implement the offset program and ensure its success. Fourth, the preferred approach identified by the State Water Board in Tosco to rely on a TMDL-based compliance schedule is no longer legally viable as USEPA later disapproved this provision. As explained in the Fact Sheet and elsewhere in these responses, the Regional Water Board has established a scientific and regulatory basis for imposing the no net loading limitation.

In response to the claim that the Regional Water Board did not articulate in the draft permit that the “no net loading” is necessary to prevent nuisance or adversely affect beneficial uses, a more complete explanation of the justification has been provided in the Fact Sheet for the revised Order and additional information provided in the proposed Order.

Regarding consideration of factors listed in Water Code section 13241: The Fact Sheet explained that staff considered the factors listed in Cal. Water Code section 13241 for the non-NPDES discharges. However, Regional Water Board staff are not required to consider 13241 factors when issuing NPDES permits because those permits are driven solely by federal law. The 13241 factors allow for discretion in setting the effluent limits - discretion which we cannot by law exercise when the NPDES permit is solely based on federal regulations. In considering the options for compliance with the no net loading and the costs to comply, staff naturally reviewed economic considerations in the City’s DCP EIR and have met with City staff.

**Comment No. 1F. Replace “no net loading” effluent limitations with interim performance-based limits and final limits based on the WLA in the upcoming TMDLs.**

**Response:** See response to comment No. 1E, above, and the Fact Sheet.

**Comment No. 2 (Cover Letter): Reclamation Activities as Discharges.** The City requests global changes to the permit removing the concept of “discharges” to “receiving waters” when referring to water reclamation activities and replacing the terms with an appropriately descriptive nomenclature.

**Response:** The Proposed Order was revised to make clear that authorized water reclamation activities do not result in a discharge.

**Comment No. 3 (Cover Letter): New Reclamation and Reporting Requirements.** The City states that many of the new requirements in the draft Order are overly burdensome and apparently taken directly from the State’s GWDR for Landscape Irrigation Uses of Municipal Wastewater. The City requests the removal or revision of many of these requirements, in accordance with the detailed comments contained in the comment letter.

**Response:** The draft Order contained many requirements from the State’s GWDR for Landscape Irrigation that Regional Water Board staff has determined are not applicable to the Permittee’s well-established Water Recycling Program. Regional Water Board staff has removed or revised many of the requirements in question in response to the City’s comments. Where a request by the Permittee for modification of a requirement was not approved, a response by Regional Water Board staff is provided.

**Comment No.4 (Cover Letter): Sanitary Sewer Overflow Requirements.** The Permittee asserts that provisions in the draft Order related to SSOs are duplicative with the State's GWDR for Sanitary Sewer Systems and are unnecessary.

**Response:** Many of the duplicative requirements cited by the Permittee were removed from the draft Order. See responses to Comments Nos. 8, 24, and 25.

**Comment No. 6: Enforceability of Conditions of Previous Permit. (Ref: WDR Page 2)** The City objects to language in the permit included subsequent to "IT IS HEREBY ORDERED" related to the enforceability of the expiring NPDES permit and request that this specific language be stricken and replaced by language in this section used in other regional permits.

**Response:** This section of the Proposed Order was revised as follows:

*IT IS HEREBY ORDERED that Waste Discharge Requirements (WDR) Order No. R1-2006-0045, as amended by the Order No. R1-2008-0091, and Monitoring and Reporting Program (MRP) No. R1-2006-0045, are 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 Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the North Coast Regional Water Quality Control Board (Regional Water Board) from taking enforcement action for past violations of the previous Order.*

**Comment No. 7: Diversions of Recycled Water in event of WWTP upset or failure. (Ref: WDR Section III.D. Page 6)** This section prohibits the reclamation use of untreated or partially treated waste (receiving a lower level of treatment than described in section II.A of the Fact Sheet) from anywhere within the collection, treatment, or disposal systems. However, in the unlikely event of a Laguna Treatment Plant filtration or UV disinfection failure or upset, the procedure is to capture the water in Reclamation ponds Alpha or Brown (see the Laguna Treatment Plant emergency response procedure section 4.b.). The water captured in the City's reclamation ponds Alpha or Brown is then used for City farm irrigation only. The City requests that this section be modified to permit disposal of partially treated waste on City-owned land. The City owns property, in part, so such waste can be managed in situations such as this. The City controls access to and use of the land so public health will be adequately protected.

**Response:** This section was revised in response to comments on the June 2013 draft permit as follows:

- c. **Diversions.** In the event of treatment plant failure such that the disinfected effluent does not meet water Reclamation Specifications in section IV.C.2.b, the Permittee is authorized to divert the partially-treated waste to City-owned land provided that all diversions of partially-treated waste comply with ~~Reclamation Requirements in section IV.C.1 and~~ the Laguna Treatment Plant emergency response procedure (Off-Spec Condition Response Plan) and consistent with title 22 requirements.

**Comment No. 8: SSO Prohibition is Unnecessary and Duplicative. (Ref: *WDR Section III.E. Page 6*)** The City states that discharge prohibitions III.B and III.E regarding sanitary sewer overflows are unnecessary and contains provisions duplicative of other discharge prohibitions. Imposing duplicative provisions merely creates additional enforcement jeopardy for a single event that might fall under numerous prohibitions. If Section III.E. were retained, there is no need to separately list (a) waters of the State and (b) groundwater, since groundwater is already encompassed within the definition of “waters of the State,” and regulated by the SSO WDR. (See Cal. Wat. Code §13050 (e)(means “any surface water or groundwater”). In addition, there is no regulatory need for this prohibition to be specifically applied to SSOs since the City is already separately covered by the GWDR for Sanitary Sewer Systems (Order No. 2006-0003-DWQ).

**Response:** Regional Water Board staff’s response to the City’s objection to this prohibition was addressed in detail in response to the City’s Petition of its previous permit, WDR Order No. R1-2006-0045. As explained in the petition response and the Fact Sheet for the draft Order, the intent of the prohibition is to protect shallow groundwater that may be used for a drinking water source and other state waters (e.g., wetlands, vernal pools) that are not considered waters of the United States, but are common in the North Coast Region, in particular in the Santa Rosa Plain. The GWDR for Sanitary Sewer Systems prohibits SSOs only to waters of the United States.

Regional Water Board staff agrees that the definition of “waters of the State” includes groundwater. Consequently, the redundant term “groundwater” has been deleted from Prohibition III.E in the Proposed Order.

**Comment No. 10: Mass-Based Effluent Limitations for BOD and TSS are Unnecessary and Requests for Revision of Effluent Limitations for pH for Continuous Monitoring. (Ref: *WDR Section IV.A.1.a*)** The draft Order failed to explain the necessity for including both mass limits and 85 percent removal requirements as both are not required by either federal or state law. Under federal law, mass limits are specifically not required for Technology-Based Limits, such as BOD and TSS. The federal regulations only require concentration-based effluent limits and 85 percent removal requirements. (See 40 C.F.R. §133.102(a)(1)-(3) and (b)(1)-(3)

**Response:** Mass limitations for BOD and TSS have been removed from the Proposed Order. For pH, the Proposed Order was revised to provide for an alternative means of compliance when effluent is monitored continuously for pH.

**Comment No. 12: Removal of Effluent Limitation and Monitoring for Acute Toxicity. (Ref: *WDR Section IV.A.2.b Page 9*)** The draft Order contains an effluent limitation for acute toxicity, even though there is no demonstrated reasonable potential, simply because a similar effluent limitation was imposed in the previous permit. (See page F-41 (“Consistent with Order No. R1-2006-0045”); page F-60 (“retained from the previous Order”); but see RPA Analysis tables on Fact Sheet page F-37 to F-38; see also Fact Sheet at F-42 (“All acute toxicity testing results during the term of the previous permit were 100 percent survival.”).) Effluent limitations are not required where there is no reasonable potential.

**Response:** This effluent limitation for acute toxicity implements the Basin Plan's narrative water quality objective for toxicity, which states that "effluent limits based on acute bioassays of effluent will be prescribed" for waste discharges to surface waters. Removing the acute toxicity limit would make the permit out of compliance with the Basin Plan. No change is necessary.

**Comment No. 15: Reclamation Specifications. (Ref: *WDR Section IV.C.2*)** The City's recycled water/reclamation activities do not involve direct discharges to waters of the State or the United States, and recycled water applied to land is not for the purpose of disposal. However, Section IV.C.2 requires recycled water deliveries to meet effluent limitations that are intended to be applicable to discharges to surface waters of the United States. This is an inappropriate application of effluent limitations to reclamation projects that do not involve such discharges. Therefore, the City requests removal of Section IV.C.2. Alternatively, the language in Section IV.C.2 should be revised reflect the applicable requirements for reclamation projects.

**Response:** The draft Order was revised to clearly differentiate effluent limitations for discharges to surface water from reclamation specifications for distribution to the recycled water system. The reclamation specifications for BOD<sub>5</sub>, TSS, and pH in section IV.C.2 of the draft Order are justified and appropriate so that recycled water applied to the ground surface does not cause exceedances in applicable water quality objectives for the protection of groundwater quality. See also response to Comment No. 45 (July 2013 Comment letter).

**Comment No. 16: Revision of Reclamation Capacity Requirement and Removal of Reclamation Alternatives Requirement. (Ref: *WDR Sections IV.C.3 and 4. Pages 10-11. Reclamation Capacity and Reclamation Alternatives and Fact Sheet Sections V.I.3.e. Page F-55*)** The draft Order contains requirements that the City maintain a minimum reclamation capacity and utilize all reasonable alternatives for reclamation. The Fact Sheet contains no legal justification or authority for these requirements, and the City believes that these are inappropriate requirements. It is in the City's best interest to maintain its reclamation capacity which, with the Geysers Expansion Project in 2007, is 4,607 million gallons. Consequently, this requirement need not be included in a federally enforceable NPDES permit. Therefore, the City requests that the phrase "The Permittee shall maintain, at a minimum," be changed to "The Permittee currently possesses..."and make corresponding changes to the Fact Sheet at F-55, Provision V.D.1.e. In addition, the City requests that Provision IV.C.4. be removed as unnecessary and not justified for inclusion in the permit.

**Response:** Section IV.C.3 (Reclamation Capacity) is required to ensure that there is adequate capacity in storage and reclamation system so that discharge to surface water is minimized. The provision implements the Basin Plan requirement in Chapter 4, Implementation Plans, North Coastal Basin, paragraph 4, which prohibits discharges of waste to the Russian River from May 15 through September 30, and during other times when the waste discharge is greater than one percent of the receiving stream's discharge flow as set forth in NPDES permits.

Section IV.C.4 (Reclamation Alternatives) requires the Permittee to use all reasonable alternatives for water reclamation. These requirements implement the objectives of

the State Water Board to increase the use of recycled water in California and Cal. Wat. Code section 13550 that states that it is a waste and unreasonable use of water for water agencies not to use recycled water when it is available and not being put to beneficial use. This requirement also implements the Basin Plan prohibition limiting discharges to the Russian River to an approved percentage of the flow in the receiving stream by requiring the Permittee to maximize use of its reclamation system.

**Comment No. 18: Filtration Process Requirements are not Effluent Limitations as defined in Water Code. (Ref: *WDR Section IV.D.1. Page 11*)** Some of the requirements in this section read like effluent limitations, even though they are operational requirements. Therefore, the language should include language clarifying that these filtration process requirements are not effluent limitations, and subject to mandatory minimum penalties. The City requests that the Tentative Order specify that Filtration Process Requirements are Operation and Maintenance specifications, and not effluent limitations as defined in Water Code section 13385.1(d)

**Response:** Section IV.D is cited in Finding II.C as a requirement to implement state law only, which states that violations of the requirement are not subject to enforcement remedies for NPDES permits, which includes mandatory minimum penalties under Water Code section 13385(d). No change is necessary.

**Comment No. 20: Notification for Noncompliance with Turbidity Process Requirements (Ref: *WDR Section IV.D.1.b.iv. Page 12*)** This section states that the Permittee shall provide notification to the Regional Board if chemical addition or wastewater diversion is activated. Notification is unwarranted (and not required by Health and Safety Code Sections 60304 and 60307) if effluent turbidity 24-hr average does not exceed 2 NTU.

**Response:** The requirement was revised to state that notification shall be provided in accordance with Regional Water Board Standard Provision VI.A.2.b, which applies when the noncompliance may result in significant threat to human health or the environment.

**Comment No. 21: Prescriptive Requirements for Disinfection Violates Cal. Wat. Code § 13360, which Prohibits Mandating Manner of Compliance. (Ref: *WDR Section IV.D.2. Pages 12 through 14*)** The permit language in this section on pages 12-14 (Disinfection Requirements) of the draft Order violates Water Code §13360(a)'s prohibition on mandating the manner of compliance and is inconsistent with other permits adopted in this region. For these reasons, the language of this section should be modified to conform to the language adopted in other region permits (e.g., Order No. R1-2012-0031 at pg. 10), and modified to reflect Santa Rosa's existing system.

**Response:** The establishment of prescriptive water reclamation requirements in permits is consistent with State law, which under Cal. Wat. Code § 13523, authorizes regional water boards to prescribe water reclamation requirements for water that is used or proposed to be used as reclaimed water after consulting and receiving the recommendations of CDPH. The requirements in section IV.D.2 were incorporated into the Proposed Order at the recommendation of CDPH, consistent with the MOA between

CDPH and the State Water Board, to comply with water recycling criteria in title 22 of the California Code of Regulations. No change to the Order is needed.

The permit revision for section IV.D.2 proposed by the Permittee is not sufficient to ensure the microbiological water quality objective is being met. In addition to achievement of the microbiological water quality standard, proper operation of the UV disinfection system is critical to ensure continuous compliance. The requirements prescribed in this section are designed to demonstrate proper operation and management of the UV disinfection system at all times.

**Comment No. 22b: Removal of Minimum UV Transmittance Requirement. (Ref: *WDR Section IV.D.2.d. Page 12*)** This section requires that the UV Transmittance (UVT at 254 nanometers) in the wastewater shall not fall below 55 percent of maximum at any time, unless otherwise approved by CDPH. However, the City's UV system controls dose using a calculation (accepted by CDPH) in which UVT as one of the factors in determining the ballast power level needed to provide the required dose. Thus, the dose would account for low UVT, and a minimum UVT is unnecessary.

**Response:** The minimum 55 percent UVT standard is based on National Water Research Institute guidance based on the expected water quality for media filters. Based on the understanding at CDPH that the UVT at the Santa Rosa plant is normally 60-65 percent, CDPH recommended a minimum 55 percent UVT for Permittee's media filters. However, based on new testing information demonstrating that the Permittee's ultraviolet light disinfection system performance did not deteriorate at a UVT as low as 50 percent of maximum, CDPH now recommends that for this Permittee only, the permit may state the minimum UVT is 50 percent. The Proposed Order was revised to include a 50 percent minimum UVT.

**Comment No. 24: Spill Notification Provisions in Reference to SSOs. (Ref: *WDR Section VI.A.2.b. Page 17*)** Included within Provision VI.A.2.b. are requirements for notification and reporting for "sanitary sewer overflows" that should be removed to avoid imposing requirements in the City's NPDES permit that conflict and/or duplicate requirements contained in the SSO WDR that separately applies to the City and under which the Regional Water Board already receives appropriate notifications and reporting (discussed further in Comment 25). Further, the City seeks to avoid federalizing SSO notification and reporting requirements as not all SSOs involve discharges to waters of the United States to which NPDES permit requirements should apply. Creating differing standards for monitoring and reporting of SSOs from the State Water Board's already established program, and exposing the City to duplicative liability under different permits and laws for the same occurrence is unreasonable and unsupported.

The City also requests that the phrase "irrigation runoff" be modified to "recycled water main break or equivalent release." This is consistent with recent discussions with Regional Water Board staff and the City's Non-Storm Water Discharge Plan (requirement of City NPDES Storm Water Permit). Further, since recycled water main breaks or equivalent releases are addressed in this Section, reference generally to "waste" when describing unauthorized spills should be removed, as recycled water is not a "waste" under the Water Code (see Water Code §13050(n)).

Further, as Regional Water Board staff members are not available on weekends or holidays, the City requests that Regional Water Board notification be changed from “twenty-four (24) hours” to “the next business day.”

**Response:** The notification requirements in the Proposed Order have been significantly revised in response to the City’s comment. Notification for SSOs has been deleted in its entirety from the Proposed Order. Regional Water Board staff has determined that sufficient and appropriate notification for SSOs is provided by compliance with the General WDRs for Sanitary Sewer Systems (referred to in the comments as the SSO WDR).

The terms “recycled water main breaks or equivalent release” has been added to section VI.A.2.b of the Order for noncompliance events that must be reported to Regional Water Board staff within 24 hours if noncompliance may result in a significant threat to human health or the environment. For after-hours reporting, the Proposed Order directs the Permittee to contact the California Emergency Management Agency (CalEMA) for notification of emergencies requiring 24-hour notification. Regional Water Board staff is then alerted by CalEMA. All other spills of recycled water are reported in accordance with section X.E.3 of the MRP.

**Comment No. 25: SSO Reporting. (Ref: WDR Section VI.C.6.a.i and ii. Page 24)** Sections VI.C.6.a.i. and ii. introduce new requirements related to SSOs that are unnecessary, duplicative, and/or conflict with the State Water Board’s SSO WDR, and these should be removed. Further, it appears the Regional Water Board is requiring compliance with the SSO WDR via the NPDES permit, when the SSO WDR is already independently applicable to the City, and the City secured coverage under that WDR many years ago.

**Response:** See Response to Comment No. 24.

**Comment No. 28: Compliance Determination Precludes Affirmative Defense. (Ref: WDR Section VII. Pages 28 through 33)** Some of the proposed language in this section unlawfully presumes that the Permittee “shall be deemed out of compliance,” even though there may be an explanation or defense for such non-compliance (see e.g., Standard Provisions D.1.G. and H). Further, the language eliminates due process prior to a finding of non-compliance (such as a hearing, and the opportunity to present contrary evidence or defenses). Reliance on the permit template prepared by the State Water Board, from which the requirement in this section is taken, is not acceptable, as the permit template is not a regulation, but merely a guidance document able to be readily changed.

**Response:** The compliance determination language in question comes from the SIP, section 2.4.5, not just from the template as stated in the comment. There is nothing in the provision that limits the Permittee from challenging the determination of noncompliance or providing an affirmative defense.

**Comment No. 29: Certification Statement and Accuracy. (Attachment D Section V.B.5. Page D-6)** The draft Order contains certification language that must be modified in relation to toxicity testing results. The word “accurate” needs to be removed from this certification or, alternatively, after the word “accurate,” the following caveat should be

included: “(except in the case of toxicity testing, the accuracy of which cannot be guaranteed).”

More specifically, because of the inherent and recognized uncertainty (and false positives) surrounding toxicity (WET) testing results, the certification requirements in Section V.B.5. must be modified to remove the word “accurate” from the certification for all WET tests. When EPA promulgated its whole effluent toxicity tests in 40 CFR Part 136, it stated: “Accuracy of toxicity test results cannot be ascertained, only the precision of toxicity can be estimated.” (emphasis added).

If the Regional Water Board does not wish to modify this regulatory language, then the Fact Sheet should recognize that EPA has stated that the accuracy of toxicity tests cannot be guaranteed and the Regional Water Board should, at the very least, insert language clarifying the certification requirement that cites a March 2003 memorandum from USEPA on the subject.

**Response:** The language in the certification statement is included verbatim from federal regulations. It is inappropriate to add qualifying statements to the federal requirement.

USEPA clarified in its March 3, 2000, memorandum to EPA Regional Water Management Division Directors and Enforcement Division Directors that the purpose for and meaning of the DMR certification was to certify only that all the WET test results had been submitted and not tampered with or inappropriately modified prior to reporting on the DMR. The memorandum sought to resolve the confusion over the term “accuracy”, which is sometimes used as a term of art to describe a performance characteristic of a measurement system; however, in the context of DMR certification, the term “accuracy” is a certification of information submission in that the information provided is “accurate” as the layperson uses the term, rather than “accurate” as that term is used to describe quantifiable performance of a measurement system. Therefore, the DMR/SMR certification is not intended to certify that the WET test results are accurate including whether or not the WET test results are valid from a toxicity test standpoint (e.g., quality assurance/quality control on the test was done properly by the analytical laboratory). Rather when a person certifies that the submission of WET testing information is “accurate” to the best of their knowledge and belief, the person certifies that the results obtained using the WET test procedures are faithfully and truthfully transcribed on the information submission, and the results were, in fact, results obtained using the specified testing procedures.

**Comment No. 34: Mercury Monitoring. (Ref: *Attachment E Section IV.A.2 Page E-8 and Section IV.B Page E-9*)** Tables E-5 and E-6 list the monitoring frequency for total recoverable mercury as “Weekly.” Since mercury in the Subregional System’s discharge does not show reasonable potential to cause or contribute to an exceedance of an applicable water quality standard, mercury should not be required to be sampled any more frequently than other CTR priority pollutants (i.e., quarterly). By removing the lines in Tables E-5 and E-6 specific for mercury, mercury will be included in the line for “remaining CTR priority pollutants” and monitored quarterly.

**Response:** The weekly monitoring requirement for total recoverable mercury was revised in the June 2013 draft Order to require only quarterly monitoring, which is consistent with other CTR pollutants where it was found that there was no reasonable potential for the discharge to exceed the applicable water quality standard. However, because recent information has become available regarding the presence of mercury above the state-recommended consumption level in fish caught in the Laguna De Santa Rosa, Regional Water Board staff is proposing to retain the weekly effluent mercury monitoring frequency.

**Comment No. 36: Grab Sampling for Chronic Toxicity. (Ref: Attachment E Section IV.A.2 Page E-8; Section IV.B Page E-9; and Section V.A.2 Page E-10)** The MRP Section IV.A.2 and IV.B Tables E-5 and E-6 and MRP section V.B.1 indicate the samples for chronic toxicity should be 24-hour composites. The current permit requires samples for chronic toxicity to be grab samples. Grab samples are appropriate because the City is discharging from a static body of water (as opposed to most POTWs that are discharging from the outfall pipe of the plant). Delta Pond is a homogenous mix of water and, therefore, there is no valid reason for collecting composite samples.

In addition, a discrepancy exists between the testing frequency for chronic toxicity as specified in MRP Section IV.A.2 and IV.B, Tables E-5 and E-6, and MRP section V.B.1. The tables in the MRP indicate quarterly chronic testing, but MRP section V.B.1 page E-12 requires annual testing.

**Response:** The sample type has been revised to replace 24-hour composite sampling with grab sampling, as requested; however, quarterly monitoring frequency is retained and is appropriate for the Subregional System with a dry weather design flow of 21.34 MGD. For consistency, the Proposed Order (MRP section V.B.1) was revised to require quarterly, not annual testing.

**Comment No. 40: Revise Chronic Toxicity Monitoring Trigger. (Ref: Attachment E Section V.B.9.a. Page E-13 and MRP Section V.B.9.b Page E-14)** These sections relate to the toxicity level that will trigger performance of a TRE. Any indication of toxicity ( $TUc > 1.0$ ) in the accelerated monitoring bioassays and the “Permittee shall cease accelerated monitoring, and within 30 days of the date of completion of the accelerated monitoring, initiate the TRE Workplan.” However, the City’s experience is that chronic toxicity is variable and transient. The Tentative Order seems to acknowledge this problem with variable and transient toxicity in the selection of a  $TUc$  of 1.6 to trigger accelerated testing. The City requests that the variability and transience of toxicity also be acknowledged in the  $TUc$  value that triggers a TRE, by expressing the trigger as a monthly median, so that a TRE is not required unless clear evidence exists of persistent toxicity.

**Response:** The 1.6  $TUc$  trigger for chronic toxicity is derived from the monthly median limitation and corresponds to a daily maximum. The use of a median of results for this trigger would be inconsistent with this formulation. No change is necessary.

The TSD defines persistent toxicity as toxicity present above the effluent limit (or trigger) more than 20 percent of the time, and recommends that a TRE should be required if the additional monitoring shows persistent toxicity. As outlined in the TSD (page 118, section 5.8.3), if the first trigger is a failed test, the Permittee needs 4 passed

tests to remain below 20 percent. One additional test result exceeding the effluent limit (or trigger) would mean two out of five tests (or 40 percent) exceeded the effluent limit (or trigger). No change is necessary.

**Comment No. 43: Revise Visual Observations Requirement in MRP. (Ref: *Attachment E Section VII.A Recycled Water Monitoring. Page E-17. Table E-7*)** The City has an aggressive recycled water inspection program, but it would be very difficult for them to inspect all the users weekly and even more difficult to conduct daily inspections during periods of frost protection (night, weekends for example). If this task were to be required by the users (as allowed in Footnote 6), it would be quite burdensome and thus discourage recycled water use. Since there are other places in the permit where inspections and spill reporting are required, the City requests that these “visual observations” be changed to at least quarterly.

**Response:** The prevention and correction of unauthorized recycled water runoff, ponding, and structural deficiencies is critical to Regional Water Board’s support of water recycling through urban and agricultural irrigation. The Permittee’s request to reduce the frequency of visual observations from weekly to quarterly would not provide timely information to the Permittee. However, Regional Water Board staff has determined that monthly visual observations will suffice as a minimum requirement, but recommends more frequent monitoring at locations where incidental runoff is frequently observed or may occur under certain circumstances.

**Comment No. 47: Revise Minimum UV Transmittance Requirement. (Ref: *Attachment E Sections IX.C.2 and 3. Pages E-22 and E-23*)** These sections require that the UV transmittance (UVT at 254 nanometers) in the wastewater shall not fall below 55 percent of maximum at any time, unless otherwise approved by CDPH. However, the City’s UV system controls dose using a calculation (accepted by CDPH) in which UVT one of the factors in determining the ballast power level needed to provide the required dose. Thus the dose would account for low UVT, a minimum UVT is unnecessary. See also Comment 22.

**Response:** Agree. See response to Comment 22(b).

**Comment No. 48: Provide Example in Table E-10 for Monthly Report Due Date. (Ref: *Attachment E, Section X.B. Page E-23*)** The City requests an example be provided in Table E-11 for monthly SMR due dates, such as:

Reporting requirement for monthly sampling: “First day of second calendar month following month of sampling. *For example, data collected in March would be due on May 1.*”

**Response:** Regional Water Board staff believes that the due date of the report is clear without an example provided.

**Comment No. 49: Provide consistency for “Once per Permit Term” monitoring frequency in Table E-10 and clarify in Table E-11 that Receiving Water Monitoring at RSW-012B is “two weeks or the length of the first discharge period if less than two weeks.”. (Ref: *Attachment E Section X.b Table E-11 Page E-24*)** The final row in Table E-11 states that the Sampling Frequency is “once per permit term,” and the Monitoring

Period for the term is “all.” The City requests that the Monitoring Period be changed to “two weeks or the length of the first discharge period if less than two weeks” as an appropriate monitoring period for the model verification required in Attachment E Section VIII.A.1.a. The City also suggests that the Sampling Frequency of “once per permit term” be changed to “once per permit cycle,” to be consistent with Attachment E Section VIII.A.1.a.

**Response:** “Once per Permit Term” is the preferred language and replaces the language in Table E-11. In addition, a table note was added to Table E-10 to clarify that for receiving water monitoring at RSW-012B, the monitoring period is “two weeks or the length of the first discharge period if less than two weeks.”

**Comment No. 50: Quarterly Recycled Water Report- Reporting Over-irrigation and Runoff. (Ref: *Attachment E Section X.D.2.b.d.ii. Page E-27*)** This section requires site inspections and reporting of recycled water violations, including all observations of recycled water over-application and/or runoff. The City requests that this section be modified to make clear that incidental runoff is not a violation.

**Response:** While true that incidental runoff is not a violation of the Order, the requirement (section X.D.3.a(d) of the MRP of the Proposed Order) simply requires reporting of occurrences of over-irrigation and runoff. The Proposed Order is clear that runoff meeting the definition of incidental runoff is not a violation. No change is necessary.

**Comment No. 53: Reporting of Monthly Recycled Water Use at Each Site Quarterly Reporting To Regional Board are Unnecessary. (Ref: *Attachment E Section X.D.2.b.h. Page E-28*)** This section requires that the quarterly report include documentation of the total volume of recycled water supplied to each recycled water user for each month of the reporting period. However, because the volume of recycled water supplied to each user is fairly stable, monthly reporting is unnecessary. As indicated in Comment 44, the City requests that this be changed to annual reporting as part of the Annual Recycled Water Report and deleted from the Quarterly Recycled Water Report requirements.

**Response:** State water recycling regulations (Cal. Wat. Code section 13523.1(b)(4)) require that master reclamation permits include a requirement for the Permittee to submit a quarterly report that includes the total amount of reclaimed water supplied to users. The Proposed Order requires the City to measure and report the total reclaimed water supplied by site and by month to facilitate assessment whether reclaimed water is being overapplied at certain sites given site-specific characteristics and weather conditions. Quarterly measurement of reclaimed water would not always be useful to make this assessment. No change is recommended.

**Comment No. 54: Clarify that Incidental Runoff is not a Permit Violation. (Ref: *Attachment E Section X.D.2.c*)** The City requests that this section be clarified to indicate that incidental runoff does not represent a violation of this permit and to specify that the information about incidental runoff shall be reported annually.

**Response:** Regional Water Staff agrees that incidental runoff is not a violation of the Order. However, repeated occurrences of incidental runoff at the same location may indicate that the runoff is no longer incidental and is a problem that requires correction

by the recycled water user. This section of the Proposed Order was revised to require the City to identify repeated occurrences of incidental runoff (section X.D.3.a.ii(3)).

**Comment No. 55: Remove Requirement to Report Scheduled and Non-scheduled Maintenance at Water Reclamation Sites. (Ref: *Attachment E Section X.D.2.c. Page E-28 (second paragraph from bottom of page)*)** A summary of scheduled and non-scheduled maintenance of the reclamation system appurtenances and irrigation areas realistically cannot be conducted because (1) what constitutes “maintenance” is vague, and (2) maintenance is the responsibility of the recycled water user and is ongoing. If the users have to track and report every action, such as adjusting sprinkler head, it will discourage maintenance, or discourage recycled water use.

**Response:** This section was clarified to require a summary of major repairs that affected the reclamation system during the previous quarter. Major repairs do not include adjustment of sprinkler heads or equivalent routine maintenance and repair. The requirement is intended to obtain information about significant repairs that involve the design and/or operation of the reclamation system at a use site or sites.

**Comment No. 67: Remove Requirement to Report Incidental Runoff at Reclamation Sites. (Ref: *Attachment G Section II.8. Page G-4*)** The City requests that this section (Attachment G, section II.8) be clarified to indicate that incidental runoff does not represent a violation of this permit and to specify that the information about incidental runoff shall be reported annually.

**Response:** Staff agrees that incidental runoff is not a violation of the Order. However, repeated occurrences of incidental runoff at the same location may indicate that the runoff is no longer incidental and is a problem that requires correction by the recycled water user. The permit section has been revised to require reporting of runoff incidents only when the runoff occurrence does not meet the conditions of incidental runoff, which would be a violation of permit conditions.

**Comment No. 68: Designation of Site Supervisors at Reclamation Sites. (Ref: *Attachment G Section II.9. Page G-5*)** Health and Safety Code Section 7586 states that “[t]he health agency and water supplier may, at their discretion, require an industrial water user to designate a user supervisor . . . .” Section II.9 of Attachment G requires that a site supervisor be designated, but the authority to do so under Section 7586 does not extend to the Regional Water Board. As described in the City’s Recycled Water User’s Guide, the City requires, by ordinance, that a site supervisor is designated consistent with the authority granted under Section 7586. By requiring approval of, and by approving the Recycled Water User’s Guide as a condition of operating the reclamation system, the Regional Water Board has required designation of a site supervisor. A specific requirement is not necessary to address any Regional Water Board concern that site supervisors be required.

Section II.9 of Attachment G requires the City to conduct quarterly interviews with each site User Supervisor to determine whether system modifications have been made properly, to solicit their assessment of system peculiarities, and to verify employee training. Mandatory quarterly interviews would be burdensome on the customers and would be a cost to them, which could ultimately discourage recycled water use. As it is, any issues are addressed when noticed and the City follows up with the customer on any needed

corrective action. It is unclear what system modifications would require reporting. The customers should not be required to report normal operations and maintenance. The term “system peculiarities” is also unclear. In addition, this section appears to require the users to train employees. The City trains the Site Supervisor, but cannot feasibly train all employees of customers.

**Response:** CDPH requires recycled water users to identify a site supervisor of the use area as a component of the title 22 Engineering report. The MOA between the State Water Board and CDPH requires the Regional Water Board to incorporate recommendations and requirements related to recycled water into waste discharge requirements. The permit requirement for identifying a site supervisor responsible for each use site is consistent with the MOA and title 22.

The requirement to conduct quarterly interviews in Section II.9 (Attachment G) of the December 2012 draft Order was replaced with a more general requirement, consistent with title 22, that the Permittee ensure that site supervisors are appropriately trained.

**Comment No. 69: Remove Requirements to Report All Recycled Water Regulation Violations. (Ref: Attachment G Section II.10. Page G-5)** This section requires customer reporting of all of recycled water regulation violations identified in the permit, including incidents of unauthorized irrigation activity and runoff incidents. It is not clear what “unauthorized irrigation” is and how it is different from spill reporting and inspections. Currently, the City staff does inspections and the City also has waste water and storm water programs that apply to recycled water. The City provides a phone number and a website where runoff/water waste can be reported. In addition, permit section X.E. requires spill reporting. Thus, Attachment G Section II.10 is redundant.

**Response:** The requirement to report all violations, “including incidents of unauthorized activity” in the draft Order (Attachment G, section II.10) is not included in the revised Attachment G. This section was replaced with the following requirement:

“7. The Permittee shall require each recycled water user to report to the Permittee all violations of recycled water regulations identified in this Order, including runoff incidents not meeting the conditions of incidental runoff. All reported violations of recycled water regulations shall be included in the Permittee’s Quarterly Recycled Water Report.”

This section indicates one piece of information that must be included in the Quarterly Recycled Water Report. Spill notification requirements in section X.E of the draft Order are not a substitute for this requirement. Notification requirements in section X.E.3 pertain to discharges of recycled water over 1,000 gallons to waters of the state. The section in the Attachment G requires reporting of runoff incidents not meeting the conditions of incidental runoff.

**Comment No. 70: Remove Limitation that Nutritive loading at Recycled Water Sites not Exceed Nutritive Demand of Vegetation. (Ref: Attachment G Section II.11. Page G-5)** This section requires that the nutritive value of organic and chemical fertilizers and of the recycled water not exceed the nutritive demand of the landscape or vegetation receiving the recycled water. However, the application of nutrients, such as fertilizers or

compost, by the recycled water users is not under control of the City. In addition, monthly reporting of nutrient levels to recycled water users is unnecessary since the nutrient levels remain relatively constant.

**Response:** Appropriate use of fertilizers that takes into account nutrient levels in recycled water and communicate nutrient levels in recycled water to users is a requirement in the Water Recycling Policy to demonstrate compliance with the State Anti-degradation Policy (Resolution 68-16) for recycled water projects over groundwater basins where a salt and nutrient management plan is being prepared. The City should revise its Recycled Water User's Guide if it believes that it does not have adequate control over conditions at sites to which it provides recycled water.

The requirement to communicate the nutrient value of the recycled water to the recycled water users each month is not included in the revised Attachment G.

**Comment No. 71: BMPs for Recycled Water Use. (Ref: *Attachment G Section II.13.a-j, Page G-6*)** This section lists several BMPs to prevent runoff. As discussed in Comment 6, the City had developed an extensive list of BMPs in the Recycled Water User's Guide and recycled water users are required to implement these BMPs. The City requests that this guide be used as the basis for required BMPs.

**Response:** Regional Water Board staff believes that the BMPs listed in Attachment G are minimum BMPs needed to protect groundwater, surface water and public health, and they apply to all recycled water sites, both existing and those approved after 2007. The City should revise its Recycled Water User's Guide if it believes that it does not include this set of minimum BMPs.

**Comment No. 72: Control of Windblown Spray of Recycled Water. (Ref: *Attachment G Section II.15, Page G-7*)** This section states that direct or windblown spray, mist, or runoff from irrigation areas shall not enter roadways or any area where the public would be accidentally exposed to recycled water and references Cal. Code Regs., title 22, section 60310(e)(3). Cal. Code Regs, title 22, section 60310(e)(3) actually states "Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff." The term "any area where the public would be accidentally exposed to recycled water" is extremely vague and could potentially prohibit use of recycled water. This language is not contained in title 22, not based on public health risk, and should be omitted

**Response:** While it is true that protection of roadways is not included in title 22, section 60310(e)(3), Regional Water Board staff often observe recycled water blowing into a roadway and have determined that it is in the interest of public health to control its occurrence to the extent possible. The requirement was modified in the revised Attachment G to correct the citation of the regulation, but the requirement that recycled water be prevented from entering roadways and other areas where the public could be accidentally exposed is retained, because the requirement is reasonable and appropriate to protect public health.

## **City of Santa Rosa – Comment Letter No. 2**

*The following are responses to significant comments from the Permittee submitted on July 22, 2013, with reference to the comment number identified in the City's comment letter:*

**Comment No. 1: Discharge Requirements for Total Nitrogen and Total Phosphorus are Inappropriate.** (Ref.: *WDR Page 9, Section IV.A.2.b.i.*) This comment, as presented in Attachment 1 to the City's *Comments regarding Draft Tentative Waste Discharge Requirements and Master Reclamation Permit for the Santa Rosa Subregional Water Reclamation System* (hereinafter "the City's comment letter"), dated July 22, 2013, contains 16 pages of written material, including tables, figures, and photos. This comment contains three major sections as follows. First, the City proposes changes to several sections of the draft Order pertaining to effluent limitations for nitrogen and phosphorus. Second, the City presents a summary of its objections to staff's rationale for including the "no net loading" effluent limitation for total phosphorus in the draft Order. Third, the City presents a detailed explanation of those objections.

**Background.** Reasonable potential analyses and effluent limitations for nutrients included in the draft Order were based in part on data and information presented in a June 14, 2013 memorandum from Rebecca Fitzgerald, supervisor of the Regional Water Board's TMDL Unit, to Charles Reed et al., and on works referenced therein. In response to public comments received by the City (and others), this memorandum was revised and reissued on October 22, 2013, and is attached to the Executive Officer's Summary Report. Many of the issues raised in the City's Comment No. 1 are addressed in the revised memorandum (hereinafter "the Revised Fitzgerald Memorandum"), and sections of the Fact Sheet for the draft Order have been revised accordingly.

**General Response.** Information to support the 'no net load loading' effluent limitation for total phosphorus and the performance-based effluent limitation for total nitrogen in the Proposed Order is presented in the Fact Sheet. Conclusions reached therein by Regional Water Board staff are based, in part, on the information contained in the Revised Fitzgerald Memorandum, as well as from information provided by the Permittee in the ROWD and from other sources as cited in the Fact Sheet. On the basis of available information, Regional Water Board staff concludes that the discharge from the Subregional System will cause, has the reasonable potential to cause, or contribute to an exceedance of water quality standards. Therefore, Regional Water Board staff is required by NPDES regulations at 40 CFR 122.44(d) to include effluent final limitations for total phosphorus that are no less stringent than the effluent limitations in the previous permit. Less stringent effluent limitations for total nitrogen are newly established in this Order, also in accordance with federal regulations.

The legal and technical basis for the final effluent limitation for total phosphorus in the Proposed Order is set forth more specifically in the Fact Sheet, as summarized below:

- The mainstem Laguna de Santa Rosa and lower Mark West Creek are impaired by low dissolved oxygen levels, which occur as a result of the excessive growth and decay of aquatic biomass in the Laguna system, and that are harmful to some beneficial uses.

- Aquatic biomass production in the Laguna is controlled by excessive amounts of phosphorus, the limiting nutrient in the Laguna system.
- There is no assimilative capacity for discharges of phosphorus and any additional phosphorus loading contributes more phosphorus to the system's already high internal phosphorus load.
- The City of Santa Rosa is permitted to discharge waste from its wastewater treatment facility to the mainstem Laguna de Santa Rosa and lower Mark West Creek under conditions contained in its NPDES permit.
- The Permittee's Subregional System is a controllable source, among many other significant sources of phosphorus entering the mainstem Laguna de Santa Rosa and lower Mark West Creek.
- The Permittee's NPDES permit must control the discharges of phosphorus so that no additional phosphorus is added to the system that will exacerbate existing conditions and delay the recovery of beneficial uses in the Laguna system.
- An effluent limitation of "no net loading" will effectively control discharges of phosphorus from the Subregional System.
- The Permittee is able to comply with the "no net loading" effluent limitation using treatment upgrades to reduce effluent phosphorus concentrations, by diverting more treated flow to the water reclamation system, or by offsetting phosphorus loads through implementation of its approved Nutrient Offset Program.

As explained in the Revised Fitzgerald Memorandum, waters of the mainstem Laguna de Santa Rosa and lower Mark West Creek (hereinafter collectively "the Laguna", "the Laguna de Santa Rosa", or "the Laguna system") are impaired due to biostimulatory conditions, regularly fail to meet Basin Plan water quality objectives for dissolved oxygen due to biostimulatory conditions, and do not currently meet recommended water quality criteria for nitrogen, phosphorus, and chlorophyll *a* (and indicator of algal biomass).

Regional Water Board staff provides the following responses to unique, substantive portions of this comment as paraphrased in sections below.

**Comment 1A: "No Net Loading" Effluent Limitation for Total Phosphorus and Proposed Revisions to the Draft Order.** While the City greatly appreciates removal of this type of requirement for nitrogen, the City believes the same rationale for removal of the nitrogen requirement applies to total phosphorus. The City requests that total phosphorus be similarly regulated by a performance-based mass effluent limitation until completion of the upcoming nutrient TMDL, and that the Nutrient Offset Program, to which the City remains committed, be utilized to offset any nutrient discharges in excess of the performance-based mass effluent limitations for total phosphorus and nitrogen. The comment also includes proposed revisions to the draft Order.

**Response:** See response to Comment No. 1E from the City's December 2012 comment letter.

Because Regional Water Board staff is not recommending changes to effluent limitations for total phosphorus, most of the permit revisions proposed by the Permittee were not accepted. However, Regional Water Board staff made appropriate

structural revisions to section VII.N (Compliance Determination) that are consistent with the Permittee's proposed revisions to this section.

**Comment 1B: The City's Contribution of Phosphorus to the Laguna is Insignificant.** The City's relative contribution of total phosphorus loading to the Laguna de Santa Rosa is very small, compared to contributions from other external sources. Therefore, including a no net loading provision for total phosphorus in the draft Order is unreasonable, and not likely to result in a measurable water quality benefit.

**Response:** First, this comment appears to misstate the applicable legal standard. This comment appears to argue that effluent limitations are only appropriate if they are likely to, by themselves, result in a meaningful water quality benefit. This is inconsistent with relevant federal regulations. As explained in more detail in the Fact Sheet, when, as it has occurred here, reasonable potential is established, then effluent limits must be established which are consistent with the relevant water quality standard.

Second, regarding the relative significance of the City's discharge, many of the objections raised by the City in its comment letter are based on an assumption that the City's relative contribution of total phosphorus loading to the Laguna is very small – approximately 0.11%. This figure is purportedly based on information presented in a technical memorandum by Regional Water Board staff (Butkus 2011, as cited in the City's comment letter). The data used by the City to calculate this percentage are presented in Table 1 and Figure 1 of the City's Comment No. 1.

Staff is unable to verify the connection between data presented in the City's Comment No. 1 and the apparent source of those data (Butkus 2011). In fact, the City's estimates are drastically different than staff's estimates. The City's estimate of average total annual phosphorus loading to the Laguna from all external sources is roughly 3,670,000 lbs/yr<sup>1</sup>, of which the City's discharge represents 0.11%. By contrast, staff's estimate of average total annual phosphorus loading to the Laguna is roughly 180,000 lbs/yr, of which the City's discharge represents 5.60%.

Butkus (2011) was not used as a supporting document for the Revised Fitzgerald Memorandum, nor was it used to support staff's reasonable potential analyses in the Fact Sheet for the draft Order or in the Proposed Order. However, given the City's interest in work presented by Butkus (2011), and given the substantial discrepancies between the estimates cited above, Regional Water Board TMDL staff has initiated the process of revising the subject memorandum for clarity, completeness, and to correct minor errors. Once completed, the revised memorandum will replace the previous version, and will be made publically available as a provisional TMDL development product. Meanwhile, staff has shared with the City the source data behind its phosphorus loading estimates, and continues to work with the City toward a shared understanding of staff's TMDL development work to date. A current summary of staff's best available source data is presented below in Table 1, which should be used in lieu of the table (and figure) originally featured in the City's Comment No. 1.

---

<sup>1</sup> The City originally presented its data in units of millions of tons/yr. However, the City has since acknowledged that the correct units are lbs/yr.

As indicated in Table 1, the City’s relative discharge of total phosphorus to the Laguna in an average year is 10,050 lbs, which represents 5.60% of all external phosphorus loading to the Laguna system. An average discharge of this size, when considered in the context of the information presented in the Revised Fitzgerald Memorandum, and subject to NPDES permit regulations, is sufficiently large to validate the ‘no net loading’ effluent limitation for total phosphorus in the Proposed Order.

**Table 1. Relative Discharges of Total Phosphorus to the Laguna de Santa Rosa**

Land Cover	Total-P		Dissolved P		Particulate P	
	Median Loading Rate	Relative Loading Rate	Median Loading Rate	Relative Loading Rate	Median Loading Rate	Relative Loading Rate
	(lbs/yr)	(%)	(lbs/yr)	(%)	(lbs/yr)	(%)
Forested	5,859	3.3%	4,519	3.8%	1,340	2.2%
Rangeland	15,702	8.8%	9,377	8.0%	6,325	10.2%
Orchards & vineyards	13,837	7.7%	7,767	6.6%	6,070	9.8%
Cropland & pasture	82,145	45.8%	53,749	45.8%	28,396	45.8%
Residential: non-sewered	14,856	8.3%	8,162	7.0%	6,694	10.8%
Residential: sewered	20,713	11.5%	14,529	12.4%	6,184	10.0%
Commercial	8,816	4.9%	5,617	4.8%	3,199	5.2%
Other Land Covers	1,600	0.9%	997	0.8%	603	1.0%
Permitted Santa Rosa Load	10,050	5.6%	8,040	6.8%	2,010	3.2%
Permitted Windsor Load	5,799	3.2%	4,639	4.0%	1,160	1.9%
<b>Total</b>	<b>179,376</b>	<b>100.0%</b>	<b>117,397</b>	<b>100.0%</b>	<b>61,980</b>	<b>100.0%</b>

**Comment 1C: The City’s Winter-time Discharges do not pose a threat to Water Quality.** The City suggests that it only discharges phosphorus into the Laguna de Santa Rosa during the winter, and that harmful water quality responses due to excessive biomass in the Laguna only occur during the summer.

**Response:** Staff disagrees with the City on each of these points, as documented in the Revised Fitzgerald Memorandum, and as further explained below.

- The discharge season, as defined in the Proposed Order is October 1 through May 14. However, due to storage and monitoring requirements in the City’s approved Discharge Management Plan, the City’s ability to discharge at any time during the discharge season is effectively constrained. Based on the results of modeled simulations recently provided by the City to Regional Water Board staff, the City is likely to discharge between December and March under average precipitation conditions, and additionally during the months of November and April under unusually wet conditions. Thus the Proposed Order allows the City to discharge during the fall, winter and spring – a condition reflected in staff’s reasonable potential analysis in the Fact Sheet.
- Available data in the Laguna system and other information suggest that harmful effects of high phosphorus concentrations are not limited to the summer. As

explained in the Revised Fitzgerald Memorandum, phosphorus levels in the Laguna cause biomass (i.e., aquatic plant and algae) production, which in turn causes responses in dissolved oxygen levels. Means by which biomass affects dissolved oxygen levels tend to vary throughout the year. When conditions favor plant and algae growth (generally during the spring and summer), dissolved oxygen levels are driven to harmfully low levels by respiring plants. When conditions favor plant and algae decay and decomposition (generally during the fall and winter), dissolved oxygen levels are driven to similarly low levels by respiring bacteria. Diel dissolved oxygen data demonstrating these effects in the Laguna system are presented and described by Butkus (2010 and 2011, as referenced in the Revised Fitzgerald Memorandum). The data show that surface waters in the Laguna regularly fail to meet Basin Plan objectives for dissolved oxygen – not just during the summer, but year-round.

**Comment 1D: The Soluble Fraction of the City’s Discharges of Phosphorus does not Pose a threat to Water Quality.** The City suggests that only the particulate fraction of its discharge is likely to be captured in the Laguna system<sup>2</sup>.

**Response:** Staff disagrees with the City on this point, as mentioned in the Revised Fitzgerald Memorandum, and as further explained below.

Particulate and dissolved forms of phosphorus discharged into the Laguna throughout the year may be captured through a variety of means. Means by which the City’s discharge may be captured in the Laguna system are summarized in Table 2.

---

<sup>2</sup> Based on available data, the City asserts that its total phosphorus discharges consist of 20% particulate forms of phosphorus, and 80% soluble (or dissolved) forms of phosphorus.

**Table 2. Modes and Timing of Phosphorus Capture in the Laguna de Santa Rosa**

<b>Discharge</b>	<b>Mode of Capture <sup>1</sup></b>	<b>Timing of Capture <sup>2</sup></b>
Dissolved Phosphorus	Readily taken up by growing plants and algae.	Occurs year-round, but more likely in the spring and summer, or under preferable growing conditions.
	Readily sorbed by mineral particulate matter in the channel bottom, floodplain, and/or in suspension.	Occurs year-round, but more likely during and following storm events.
	Readily sorbed by organic particulate matter in the channel bottom, floodplain, and/or in suspension.	Occurs year-round, but more likely in the fall and winter, and during and following storm events.
Particulate Phosphorus	Deposited in the channel bottom.	Occurs year-round, but more likely during and following storm events.
	Deposited in the floodplain.	Occurs during and following storm events.

**Table Notes:**

<sup>1</sup> Sediment transport dynamics in the Laguna system are not well understood. However, sedimentation rates have been studied by Philip Williams & Associates (PWA), among others. According to PWA (2004, as referenced in the Revised Fitzgerald Memorandum), the Laguna has an estimated sediment trap efficiency of approximately 50%. Though sediment trap efficiency does not necessarily correspond to directly to capture of particulate phosphorus, it is relevant information with regard to the fate and transport of phosphorus in the Laguna system.

<sup>2</sup> Instream hydraulics in the Laguna system are not well understood. The City typically discharges during storm events. Backwater effects and protracted floodplain (and wetland) inundation are commonly observed during these events. In addition, available stream flow data from the United States Geological Survey (USGS) indicate reverse flows in the Laguna upstream of the City's discharge point during at least four separate storm events since 2009 (USGS Gage No. 11465750). These phenomena are not adequately reflected in the City's Comment No. 1, or in its assessment of water travel times (Attachment 3 to the City's comment letter). These observed flow conditions provide counter evidence to the City's assertion that its discharge is flushed out of the Laguna System and does not contribute to summertime water quality conditions.

**Comment 1E: The City's discharges of phosphorus do not pose a threat to water quality in the Laguna because of low equilibrium saturation concentrations.** The City states that soluble phosphorus concentrations recently measured in the Laguna are three times higher than what the City claims is the maximum equilibrium concentration. Under such saturated conditions, the City contends that its discharges of phosphorus to the Laguna are not likely to be captured in the system via sorption processes, and thus will not add to existing biostimulatory conditions.

**Response:** Staff disagrees with the City's rationale.

First, staff question whether the concept of equilibrium saturation for soluble phosphorus truly applies in dynamic aquatic settings such as in the Laguna de Santa Rosa. Second, equilibrium concentration values based on conditions specific to the

Laguna have not been developed. Third, it is inappropriate to assume that the value put forth by the City, based on work by Froelich (1988), is representative of conditions in the Laguna. Reasons include:

- The equilibrium concentration specified by the City (0.05 mg/L) does not directly appear in the referenced work. The specified value was apparently selected by the City from a wide range of values presented by the author. The variability of the equilibrium concentrations presented by the author spans three orders of magnitude, and range from 0.001 mg/L to 0.109 mg/L. In its comment letter, the City does not explain the method it used to select the specified value.
- The referenced work presents equilibrium concentrations estimated by the author based on the results of six buffer experiments (i.e., laboratory studies) conducted between 1960 and 1985. According to the author, the experiments were performed using natural soils and sediments collected from the following locations: wooded streams in New York and New Hampshire, the Mississippi River, the Colorado River, and the Amazon River. Conditions in these predominately lotic aquatic systems cannot reasonably be expected to approximate conditions in the lake-like Laguna de Santa Rosa.

**Comment 1F: The City's discharges of phosphorus do not pose a threat to water quality in the Laguna because of short water travel times.** The City claims that water travel times between the City's point of discharge at Delta Pond and the Laguna's confluence with the Russian River are relatively short (i.e., never greater than 7 hours) during periods when the City is most likely to discharge. As such, the City claims that its discharges of soluble phosphorus to the Laguna are not in the system long enough to be captured via sorption processes, and thus will not add to existing biostimulatory conditions.

**Response:** Staff disagrees with City's claims regarding water travel times for reasons described below.

The City's estimates of water travel times are based on simulations using a hydrologic model (as described in Attachment 3 to the City's comment letter). The model was originally developed to investigate the water quality impacts of potential future scenarios for discharges by the City of Santa Rosa into the Russian River and Laguna de Santa Rosa at various locations. Based on staff's review of Attachment 3 to the City's comment letter (and works cited therein), water travel times predicted by the City's hydrologic model are likely underestimated, due to selected model parameter values, simplified channel representation, chosen design flows, and the model's limited ability to simulate reverse flow conditions. Specifically:

- Model simulations were performed using an assumed Manning's roughness coefficient of 0.040 along the entire length of the modeled Laguna reach. According to Chow (1959), this value represents clean, winding, natural streams with some pools and shoals. Actual channel conditions in the Laguna are more complex than this description suggests, and would be better represented by a higher value. For example, a Manning's roughness coefficient of 0.070 represents a natural channel with sluggish reaches, weeds and deep pools. In this case, the low roughness

coefficient used in the City's model simulations likely leads to underestimated water travel times for the Laguna.

- The City's model assumes that the Laguna de Santa Rosa has a trapezoidal channel shape, a fixed width of 5 meters, and side slopes that may vary, but remain fixed along 200 meter stream segments. The modeled reach begins upstream at Stony Point Road, and ends at the Laguna's confluence with the Russian River.

While the model allows for channel constrictions to be represented in 200 meter segments, it does not allow for abrupt constrictions to be considered, such as those caused by bridges in several locations downstream of the City's discharge point at Delta Pond (such as at Guerneville Road, River Road, and Trenton Healdsburg Road). Abrupt channel constrictions cause velocities in the Laguna to slow considerably during high flow events, as flood waters pool behind the bridge abutments and piers. In this case, the simplified representation of channel structure used in the City's model simulations leads to underestimated water travel times for the Laguna.

- In the City's modeled assessment of water travel times, the wettest design flow simulated for the Laguna at its confluence with the Russian River is 2,300 cubic feet per second (cfs), which the City lists as having a 1 percent probability of exceedence (i.e., the 100-yr flow event). However, available stream flow data from the United States Geological Survey (USGS) indicate that 2,300 cfs is regularly exceeded at this location (specifically, lower Mark West Creek at Trenton-Healdsburg Road, USGS Gage No.11466800). In fact, approximately 22 separate events have occurred within the last 5 years of recent record, during which stream flows have exceeded the City's maximum design event.<sup>3</sup> In this case, low design flows used in the City's model simulations leads to unknown, but likely substantial effects on the City's estimates of water travel times for the Laguna.
- According to the City, the model used to assess water travel times in the Laguna identified no backflow conditions (i.e., when the direction of flow is reversed) for any of the five simulated design events. However, available USGS stream flow data indicate reverse flows in the mainstem Laguna have occurred during at least four separate storm events since 2009, as measured upstream of the City's Delta Pond discharge point (USGS Gage No. 11465750 at Occidental Road)<sup>4</sup>. In this case, the model's apparent inability to simulate reverse-flow conditions known to occur in the Laguna mainstem leads to underestimated water travel times.

Reference Cited: Chow, V.T. 1959. Open-Channel Hydraulics. McGraw-Hill Book Company, New York, NY.

**Comment No. 2: Separation of Master Water Reclamation and NPDES Permits.** The City's discharge and reclamation activities should be regulated in two separate permits,

---

<sup>3</sup> Complete daily stream flow records are available at the referenced gage for the following hydrologic years: 2006, 2007, 2008, 2012, and 2013.

<sup>4</sup> The four events occurred on the following dates: Feb. 22, 2009; Jan. 18, 2010, Mar. 13, 2012, Dec 21, 2012.

with the City's limited and intermittent discharges to waters of the United States regulated by a federal NPDES permit, and the remainder of the City's reclamation or other activities regulated by a Master Reclamation Permit (Water Code section 13523.1) and/or Waste Discharge Requirements (Water Code section 13263) issued pursuant to state law, namely the Porter-Cologne Water Quality Control Act.

**Response:** Regional Water Board staff is considering the possibility of separate permits for the City's federal NPDES permit and the remainder of the City's reclamation activities; however, separating the permits is not a priority at this time. As staff time becomes available, we will consider adopting Waste Discharge Requirements for reclamation activities. Such a permit, however, would not authorize any discharge, incidental or otherwise, from the reclamation area; so NPDES permit coverage of some type would still be needed to avoid unpermitted discharges in the case of a broken sprinkler head for example. Regional Water Board staff will continue to work with City staff to resolve these permitting issues.

Finding II.C of the permit clearly states what sections in the permit implement state law only and is not subject to enforcement remedies available for federal NPDES violations. The City provides no evidence that a dual permit increases the City's exposure to third party enforcement under the Clean Water Act. No change is necessary.

**Comment No. 4: Permit Effective Date Should be 50 days after Adoption. (Ref.: *WDR Page 3, Table 3.*)** The draft permit's stated effective date of November 1, 2013 is not consistent with the state's memorandum of agreement with USEPA that states that "the permit shall be effective on the 50<sup>th</sup> day after the date of adoption." The permit effective date and expiration date should be modified accordingly.

**Response:** It is common practice in state-issued NPDES permits to set the permit's effective date on the first day of the month after 50 days have passed since the date of permit adoption. The purpose of this is to avoid commencement of permit requirements in the middle of the monthly monitoring period. USEPA Region 9 is aware of this practice and has had no objections. No change is necessary.

**Comment No. 5: Permit Section Beginning "IT IS HEREBY ORDERED" AND ENFORCEABILITY OF PREVIOUS PERMIT. (Ref.: *WDR Page 3*)** The permit section that begins "IT IS HEREBY ORDERED..." should be modified to be consistent with language in other state-issued permits related to the enforceability of the previous permit.

**Response:** This permit section has been revised, consistent with the State Water Board NPDES template, to read as follows:

*IT IS HEREBY ORDERED, that Waste Discharge Requirements (WDR) Order No. R1-2006-0045, as amended by Regional Water Board Order No. R1-2008-0091, and Monitoring and Reporting Program (MRP) No. R1-2006-0045, are 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 (Water Code) (commencing with section 13000) and regulations and guidelines adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Permittee shall comply with the requirements of this Order. This action in no way prevents the*

*North Coast Regional Water Quality Control Board (Regional Water Board) from taking enforcement action for past violations of the previous permit.*

**Comment No. 8: Specifying Advanced Waste Treatment Dictates Manner of Compliance in Violation of CWC 13360(a).** (Ref: *WDR Page 7, Footnote 1 (and throughout.)*) The definition of advanced treated wastewater in footnote 1 ignores State Water Board precedent. Pursuant to Water Code section 13360(a), no waste discharge requirement or other order of a Regional Board shall specify the design, location, type of construction, or particular manner of compliance for that requirement or order. This issue has been litigated against regional boards previously. To avoid running afoul of this statutory requirement, the City requests that the term “equivalent treatment” be included in the Draft Order as noted in Comment No. 8.

**Response:** In the Implementation Plan for the North Coast Basin (Basin Plan, Chapter 4) it states that for Russian River and its tributaries from October 1 through May 14, the discharges of municipal waste shall be of advanced treated wastewater (AWT) in accordance with effluent limitations contained in NPDES permits for each affected discharger. However, the treatment processes listed in footnote 1 are not effluent limitations and should not have been used to define AWT in the Proposed Order. Accordingly, this definition will be deleted and AWT will be defined as wastewater meeting the effluent limitations in Table 6 of the Proposed Order. Similarly, the reference to the definition of AWT on page F-59 will also be deleted.

For references to tertiary recycled water or tertiary treatment on pages E-36 and F-58, respectively, the language proposed by the City “or equivalent” is not appropriate because it is not consistent with the definition of disinfected tertiary recycled water in section 60301.230 of title 22.

**Comment No. 10: Daily Maximum Limits for WQBELs are Not Authorized by Federal Law or Justified in the Draft Permit.** (Ref.: *WDR Page 9, Section IV.A.2.a Table 5, and Attachment F, Pages 133 and 134 Tables F-8 and F-9.*) The Draft Order in Table 5 (and in Tables F-8 and F-9) contains Maximum Daily effluent limits for chlorodibromomethane and dichlorobromomethane. Federal law only authorizes monthly and weekly average effluent limitations for publicly owned treatment works (“POTWs”) without a demonstration that such effluent limitations are “impracticable.” (See 40 C.F.R. §122.45(d)(2) (“For continuous discharges all permit effluent limitations, standards and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as: (2) Average weekly and average monthly limitations for POTWs.”).) The Draft Order includes not only average weekly and average monthly limits, but also includes these maximum daily limits. (See Table 4.) These proposed limits are more stringent than required by federal law and have not been adequately justified.

**Response:** As described in the Fact Sheet, the reasonable potential analysis and development of effluent limitations for chlorodibromomethane and dichlorobromomethane follow the protocol in the SIP, which results in daily maximum and monthly average effluent limitations. The rationale for expressing final limitations as a monthly average and a daily maximum for priority pollutants is provided in the Final Functional Equivalent Document for the 2000 SIP. No change is needed.

**Comment No. 11: Acute Toxicity Limits Should Be Removed For Lack of Reasonable Potential.** (Ref.: *WDR Page 10, Section IV.A.2.b.iii*) There is no evidence that demonstrates that there is reasonable potential to trigger the need for an acute toxicity effluent limitation, which is proposed in the Draft Order. The Draft Order at page F-47 and F-48 states that “The Permittee consistently maintained compliance with the acute toxicity limitations during the term of the previous permit. All acute toxicity testing results during the term of the previous permit were 100 percent survival.” Provision IV.A.2.b.iii and Provision VII.K should be removed and the other Toxicity Requirements in the Draft Order should be modified as described in Comment No. 11.

Also, modify Fact Sheet Section IV.C.5.b., Chronic Aquatic Toxicity. The second to the last paragraph in this section must be modified since it is inconsistent with the findings of the State Water Board that toxicity triggers are not equivalent to effluent limitation.

**Response:** The Basin Plan’s narrative water quality objective for toxicity describes how compliance with this objective will be determined. In the third paragraph of this objective, it states “*In addition, effluent limits based on acute bioassays of effluent will be prescribed.*” Regional Water Board staff interprets this statement to mean that NPDES permits must include an acute toxicity effluent limitation. Removing the limitation as requested would make the permit out of compliance with the Basin Plan. See response to (Santa Rosa) Comment No. 12 from December 2012. No changes to the acute toxicity requirements are necessary.

For the chronic toxicity trigger, section IV.C.5.b of the Fact Sheet has been revised in accordance with the City request.

**Comment No. 12: Reclamation Requirements in Section IV.C.2 are not Consistent with Title 22 and should also be Removed.** (Ref.: *WDR Page 11 Sections IV.C.2.a. and IV.C.2.b and Attachment E, Table E-7*) In the December 2012 draft of the draft Order, reclamation specifications stated that water used for reclamation should be TBELs contained in section IV.A of the permit. The Regional Water Board responded by adding the same limitations found in section IV.A to section IV.C.2. However, it should be further clarified that these reclamation specification are not effluent limitations and are not subject to mandatory minimum penalties under Water Code section 13385. In addition, Section IV.C requires compliance with Title 22, and the requirements in Section IV.C are currently inconsistent with Title 22. Since Title 22 does not include BOD, TSS or pH limits, and the Fact Sheet does not justify including them, these limits should not be included. The City again requests removal of Sections IV.C.2.a. and IV.C.2.b.

**Response:** The City is required to produce recycled water that meets requirements for disinfected tertiary recycled water, as defined in title 22 of the California Code of Regulations. Title 22 states that disinfected tertiary recycled water means wastewater that is filtered and subsequently disinfected to meet disinfection criteria in section 60301.230. Filtered wastewater is further defined in Title 22 as oxidized wastewater that meets filtration criteria in section 60301.320. Therefore, disinfected tertiary recycled water must be oxidized, filtered, and disinfected to meet requirements in sections 60301.320 and 60301.230. The reclamation specifications in sections IV.C.2.a and IV.C.2.b ensure that treated wastewater meets title 22 requirements. These

specifications have been consistently achieved by the Permittee to date. No change is necessary.

Finding II.C of the permit clearly states that section IV.C implements state law only and is not subject to enforcement remedies available for federal NPDES violations, which include mandatory minimum penalties under Water Code section 13385. No change is necessary.

**Comment No. 15: Filtration Process Requirements Should Be Clearly Noted as not subject to Mandatory Minimum Penalties. (Ref.: *WDR Page 12 and 13, Sections IV.D.1. and IV.D.2.*)** The City requests that the Tentative Order specify that Filtration Process Requirements are Operation and Maintenance specifications, and not effluent limitations as defined in Water Code section 13385.1(d).

**Response:** Finding II.C of the permit clearly states that section IV.D implements state law only and is not subject to enforcement remedies available for federal NPDES violations, which include mandatory minimum penalties under Water Code section 13385.

**Comment No. 16: Revision of Reclamation Capacity Requirement and Removal of Reclamation Alternatives Requirement. (Ref.: *WDR Pages 12-15, Section IV.D; Appendix E Pages E-23 to E-24, Sections IX.B, IX.C.2., IX.C.3; and Attachment F Pages F-60 to F-62, Sections IV.G.3.c and IV.H.1.*)** The Draft Order violates Water Code §13360(a)'s prohibition on mandating the manner of compliance and is inconsistent with other permits adopted in this region. For these reasons, the language of this section should only include the effluent requirements to be met, not the manner in which those effluent requirements must be met. The sections identified in Comment No. 16 should be removed.

**Response:** Regional Water Board staff disagrees. No change is necessary. See the response to Comment No. 21 from December 2012.

**Comment No. 18: A Minimum UV Transmittance Requirement is Unnecessary. (Ref.: *WDR Page 13, Section IV.D.2.d. and Attachment E Page E-24, Sections IX.C.2 and 3.*)** This section requires that the UV Transmittance (UVT at 254 nanometers) in the wastewater shall not fall below 50 percent of maximum at any time, unless otherwise approved by CDPH. As per Comment 22b of the City's December 3, 2012 Comment Letter, the City's UV system controls dose using a calculation (accepted by CDPH) in which UVT as one of the factors in determining the ballast power level needed to provide the required dose. Thus, the dose would account for low UVT, and a minimum UVT is unnecessary.

**Response:** UV disinfection systems demonstrated and tested following the National Water Research Institute/American Water Works Association's UV Disinfection Guidelines (NWRI 2012), should be adequate to achieve the objective of Title 22 Chapter 3 Article 1 Section 60301.230(a)(2). Santa Rosa submitted a test protocol, which included a minimum UVT. UVT is a critical parameter and any UVT lower than what was tested falls outside the range that demonstrates compliance with Title 22 Section 60301.230 (a) 2. The NWRI guidance assumes media filters should produce water quality with the minimum UVT at 55 percent. Normally, the UVT at the Santa Rosa plant is 60-65 percent. Therefore, the normal recommendation from CDPH is a

minimum 55 percent UVT for media filters. However, since there was extensive MS2 bioassay work performed, with some test runs at a UVT as low as 50 percent, and performance did not deteriorate, CDPH recommends that for only the Santa Rosa plant, the permit may state the minimum UVT is 50 percent. A potential issue to consider is that any future modification to allow a higher filtration rate should be examined in light of the impact on UVT.

**Comment No. 19: The Minimum UVT should be 49%, not 50%. (Ref.: WDR Page 13, Section IV.D.2.d. and Attachment E Page E-24, Sections IX.C.2 and 3.)** The Carollo bioassay referenced in Comment 17 determined that the percent of maximum UVT should be 49 percent. Should the Regional Board decline the City's requested change in Comment 18 above, the City requests the Draft Order reflect the findings of this study.

**Response:** According to the review of the study by CDPH, there was one test at a UVT of 49.4 percent, which underperformed the UV dose by 72 percent; therefore at 49 percent, the UV system at Santa Rosa did not demonstrate sufficient disinfection. No change is necessary.

**Comment No. 20: Diversion of Flow in Response to High Coliform Results Should be Removed. (Ref.: WDR Page 13, Section IV.D.2.h.iii.)** As per Comment 22c of the City's December 3, 2012 Comment Letter, diverting flow to waste as a response to high daily and weekly median total coliform values is operationally impossible. Flow is beyond recall by the time the 2-4 day test is complete.

**Response:** Agree. The Proposed Order was revised to require the Permittee to follow the Off-Spec Condition Response Plan when off-spec conditions occur.

**Comment No. 23: Receiving Water Limitation for Temperature is Inappropriate and Use of USEPA Region 10 Guidance Constitutes an Underground Regulation. (Ref.: WDR Page 17, Section V.A.12.d, and Attachment F Page F-63.)** The Draft Order contains a new receiving water limitation for temperature, which is not based on federal or state law, or even the Basin Plan, but is based on a guidance document from EPA Region 10, not Region 9 that has jurisdiction over the City's NPDES permit. (See Draft Order at page F-63.) This temperature criteria set to protect salmonids in the extreme Northwest of the United States has not been adopted or justified for use in Northern California. Use of this inapplicable guidance constitutes an improper underground regulation. Therefore, the new temperature requirement should be removed since not based on properly adopted and approved temperature objectives in the Basin Plan.

**Response:** The additional receiving water limitation is consistent with the existing water quality objective for temperature, which requires that receiving water temperatures shall not be altered unless it can be demonstrated to not adversely affect the beneficial uses present. This water quality objective requires that the objective be interpreted in the context of the beneficial uses present. The USEPA Region 10 guidance was developed based on the available literature describing the thermal thresholds of salmonids. The guidance was developed for the salmonid species present in the northwest, but is based on the species, not the geography. The thermal criteria presented in the USEPA Region 10 guidance is completely consistent with the salmonid

species of Coho salmon, steelhead trout, and occasionally Chinook salmon which are present in the mainstem Laguna de Santa Rosa and lower Mark West Creek. The thermal criteria presented in the USEPA Region 10 guidance are also consistent with literature describing salmonid temperature thresholds in the North Coast Region. The Regional Water Board has no information to suggest the 7-day average of the daily maximum criterion is inappropriate, given the known thermal tolerances of these species. No change is necessary.

**Comment No. 25: TRE Workplan Clarification. (Ref.: WDR Page 21, Provision VI.C.2.a.ii.)** This provision states that the TRE workplan should be reviewed and updated as necessary every five years. The City requests that this statement be revised for clarification.

**Response:** The requirement was revised as requested to require the Permittee to review the TRE workplan within 180 days of the adoption of the permit. A new requirement was added in this section that requires the Permittee to submit the results of the review and, if necessary, an updated TRE workplan with its next ROWD.

**Comment No. 27: Draft Order Includes Duplicative Requirements related to Proper Operation and Maintenance. (Ref.: WDR Pages 23 and 24, Provisions VI.C.4 and VI.C.5.a.i (and corresponding parts of the Fact Sheet) and Attachment E, Page E-3 Section I.D.)** The Draft Order includes several provisions that duplicate the Standard Provisions and could cause the City to incur more than one permit violation for the same event. For example, Provisions VI.C.4 (*Construction, Operation and Maintenance Specifications*) and VI.C.5.a.i. (*Proper Operation and Maintenance*), duplicate the provisions contained in Attachment D at page D-1, Provision I.D. (*Proper Operation and Maintenance*). Provision VI.C.5.a.i. also duplicates Standard Provisions I.E. (*Duty to Mitigate*), V.E. (*Twenty-Four Hour Reporting*) and V.H. (*Other Noncompliance*). It is already clear from Attachment F at pages F-4 and F-5 that “[t]he Permittee’s collection system is part of the treatment system that is subject to this Order.” Therefore, this statement and the recitation to Standard Provisions in Provision VI.C.5.a.i. is unnecessary and duplicative. For these reasons, the City requests removal of Provisions VI.C.4. and VI.C.5.a.i. A similar argument applies to the new section in Attachment E, Section I.D., which requires maintenance and calibration of monitoring instruments - these too would fall under the Standard Provision for “Proper Operation and Maintenance” and need not be included.

**Response:** Regional Water Board staff agrees that permit requirements in Provision VI.C.5.a.i are duplicative with identical requirements contained in Attachment E. Accordingly, these duplicative requirements were deleted from the Proposed Order. Permit Provision VI.C.4 (Construction, Operations, and Maintenance Specifications) is not intended to be duplicative; rather, the intent of this provision is to require the Permittee to maintain an up-to-date O&M manual and to describe reasonable expectations for what should be included in an acceptable O&M manual. Nevertheless, subsection VI.C.4 was revised to remove what might be interpreted as duplicative requirements, but retains requirements pertaining to an O&M manual.

**Comment No. 29: Clarify of Remove Adequate Justification for Solids Treatment and Storage Ponds. (Ref.: WDR Page 27, Section VI.C.5.c.vii.)** This subsection defines adequate protection for the solids and sludge treatment and storage sites as “protection

from at least a 100-year storm.” The City questions the authority and justification for this protection level, and also requests clarity as to the duration. Most design storms are set by recurrence interval and duration (*e.g.*, 2-year, 24-hour storm), not just a recurrence interval as set forth here. Because this provision lacks justification and inserts confusion and uncertainty into the permit, the last sentence of this section should be removed.

**Response:** The requirement is intended to be consistent with protection for a Class III waste management unit pursuant to title 27, section 20365, CCR, which requires protection from inundation and erosion from a design storm with a 100-year recurrence interval and 24-hour duration. The Proposed Order was revised to specify the design storm duration.

**Comment No. 31: Compliance Determination Section Precludes an Affirmative Defense for Noncompliance.** (Ref.: *WDR Pages 29-31, Section VIII.*) Some of the proposed language in this section unlawfully presumes that the permittee has incurred a “violation, or “shall be deemed out of compliance,” even though there may be an explanation or affirmative defense for such noncompliance (*see e.g.*, Standard Provisions D.1.G. (*Bypass*) and H. (*Upset*)). Further, the language eliminates due process prior to a finding of non-compliance (such as a hearing, and the opportunity to present contrary evidence or defenses). Reliance on the permit template prepared by the State Water Board is not acceptable, as the permit template is not a regulation, but merely a guidance document able to be readily changed. Therefore, the City requests that all references to “violation(s)” be removed and the wording be changed in the compliance determination language to reflect that exceedances are *alleged* violations, since they may also NOT be deemed violations if a defense exists.

**Response:** Justification for the compliance determination language in Section VII (Compliance Determination) is addressed in Regional Water Board staff’s response to Comment No. 28 from December 2012. With regard to the use of the term “violation(s),” Regional Water Board staff has revised the Proposed Order to preferentially use the term “noncompliance,” where appropriate.

**Comment No. 32: Failure to Consider Dilution Credits for Effluent Limitations.** The SIP specifically authorizes the consideration of dilution credits when “establishing and determining compliance with effluent limitations for applicable human health ... or the toxicity objective for aquatic life protection in a RWQCB Basin Plan.” (SIP at Section 1.4.2 at page 15.) The Draft Order recognizes and uses a Zone of Initial Dilution for compliance with receiving water limitations but, without justification, states that this “concept was not used for determining reasonable potential or establishing water quality-based effluent limitations (WQBELs) for priority pollutants or water quality objectives other than dissolved oxygen, pH, turbidity, and temperature.” This inconsistent treatment of dilution is not only unjustified, but contrary to state and federal law that clearly allow the consideration of dilution in reasonable potential calculations (40 CFR §122.44(d)(1)(ii) (allowing consideration of “the dilution of the effluent in the receiving water”); *see also* SIP, Section 1.4 at page 8 (including D in effluent limit calculation where D equals the dilution credit).)

No dilution was considered or granted for human health-based effluent limitations or for chronic toxicity. (*See e.g.*, Draft Order at page 20, footnote 7 (“This Order does not allow

any credit for dilution for the chronic condition.”) This failure to consider dilution when the City may only discharge during periods of high flow, and when the City’s discharge is less than 5 percent of the flow, is an abuse of discretion. Harmonic mean dilution or long-term arithmetic mean flow during period of discharge should have been used for the City’s highly treated, intermittent discharges.

Specifically, the City requests that dilution be considered in both the reasonable potential analysis and, if reasonable potential still exists, in the calculation of effluent limitations for chlorodibromomethane and/or dichlorobromomethane.

**Response:** The concept of a Zone of Initial Dilution was borrowed from the California Ocean Plan for the purpose of implementing the Subregional System’s receiving Water Monitoring model and was only intended for use for complying with water quality objectives for dissolved oxygen, pH, turbidity, and temperature using the Permittee’s Water Monitoring model. Use of this concept for the discharge of waste from the Delta Pond should not be construed as establishment of a mixing zone policy for the water body or extended to another watershed.

A dilution credit was not applied in developing effluent limitations for chlorodibromomethane (CDBM) and dichlorobromomethane (DCBM) due to insufficient information provided by the Permittee in the ROWD to calculate a dilution ratio. The RPA was conducted using information provided in the ROWD, which did not contain information verifying that the discharge at Delta Pond is completely mixed, which is the condition in the SIP necessary to apply a dilution credit in the absence of a mixing zone study. At discharge locations where the Permittee can demonstrate that there is complete mixing or where the Permittee has completed an independent mixing zone study that demonstrates to the satisfaction of the Regional Water Board that a dilution credit is appropriate, Regional Water Board staff will consider application of dilution credits for developing effluent limitations for priority pollutants, in accordance with section 1.4.2.1 of the SIP.

In accordance with procedures in the SIP, a dilution credit, when granted by the Regional Water Board, is used only in the calculation of effluent limitations. The SIP does not permit consideration of a dilution credit for the RPA.

**Comment No. 34: MLs for Priority Pollutants. (Ref.: *Attachment E Table E-1*)** Table E-1 previously included gas chromatography/mass spectroscopy (GCMS) for dibromochloromethane and dichlorobromomethane, but these values were removed. Both values should be maintained as both are set forth in the SIP at page 4-1. Under the SIP at page 23, Section 2.4.2, “[t]he discharger may select any one of those cited analytical methods for compliance determination.” Removal of the GCMS ML unreasonably and arbitrarily limits the City’s options for available MLs. In addition, the GC methodology is outdated and some the equipment required to run the analyses with this method for halogenated volatiles is no longer being manufactured. Since the Laguna Environmental Laboratory ML for GCMS is as low as that for GC (0.5 µg/L), there is no reason to exclude GCMS. For these reasons, both GC and GCMS should be included with MLs as specified in the SIP.

**Response:** In addition to the exception provided by the commenter, section 2.4.2 of the SIP also states that “If no ML value is below the effluent limitation, then the RWQCB shall select as the RL, the lowest ML value, and its associated analytical method, listed in Appendix 4 for inclusion in the permit.” There are two effluent limitations each for DBCM and DCBM and no ML value in Appendix 4 is below all four of the effluent limitations; therefore, Regional Water Board staff is required to include the lowest ML and its associated analytical method in the permit. However, in light of the ability of the Permittee’s laboratory to run the GCMS at a greater sensitivity than the ML for GCMS listed in Appendix 4 of the SIP and because the Permittee has indicated is intent to test at a detection level comparable to the lowest ML in Appendix 4 of the SIP for CDBM and DCBM, the table has been revised to include the SWRCB ML for these constituents. A footnote has also been added to Table E-1 to condition the use of the GCMS method.

**Comment No. 35: Monitoring Location Names. (Ref.: Attachment E Table E-2)** The monitoring location names in Table E-2 have changed from what they were in the current Permit. The monitoring location names in the current Permit were changed from what they were in the permit before that. These changes require changes to the quarterly and discharge reports. For consistency, the City requests that the monitoring location names not be changed.

**Response:** Regional Water Board staff understands the potential for confusion in the naming of monitoring locations in the draft Order. However, the monitoring locations were named to conform to naming conventions established in the State Water Board’s NPDES template, for the purpose of statewide consistency. No change is necessary.

**Comment No. 36: Typographic Error Regarding Monitoring of Radionuclides. (Ref.: Attachment E, Page E-8, Table E-4, Footnote 4)** Footnote 4 concerns types of radionuclides, but radionuclides are not required monitoring in Table E-4. Therefore, footnote 4 should be deleted.

**Response:** The monitoring requirement for radionuclides was inadvertently omitted from Table E-4 for discharges to Discharge Points 006A, 006B, 012A(2) and 012B and was corrected in the Proposed Order.

**Comment No. 39: Retain Multiple Species Screening for Chronic Toxicity. (Ref.: Attachment E Page E-11, Section V.A.3.)** This section requires all acute toxicity tests to be run with both the water flea (*Ceriodaphnia dubia*) and the rainbow trout (*Oncorhynchus mykiss*). This change is contrary to both the current permit and the previous draft permit, which required that both species be used for the first two suites of testing after which only the most sensitive species need be used. The change is also contrary to federal guidelines.

**Response:** The previous permit required the Permittee to conduct monthly acute toxicity monitoring of the treated effluent using the most sensitive species determined from a sensitive species test conducted once every five years. In the Proposed Order, the monitoring frequency is reduced to annual but requires the Permittee to conduct the test using all required species, both an invertebrate and a vertebrate, to compensate for the reduction in frequency.

**Comment No. 43: Require TRE only when there is clear evidence of persistent toxicity.** (Ref.: *Attachment E Page E-15, Section V.B.9.a., and Page E-14, Section V.B.9.b.*) These sections relate to the toxicity level that will trigger performance of a TRE. Currently, any indication of toxicity (TUC > 1.0) in the accelerated monitoring bioassays requires that the “Permittee shall cease accelerated monitoring, and within 30 days of the date of completion of the accelerated monitoring, initiate the TRE Workplan....” However, the City’s experience is that chronic toxicity is variable and transient. The City also requests that the variability and transience of toxicity also be acknowledged in the TUC value that triggers a TRE so that a TRE is not required unless clear evidence exists of persistent toxicity.

**Response:** The language in section V.B.9 is sufficiently broad to capture the possibility that pollutant specific monitoring or other investigations conducted during the TRE may identify the pollutant(s) or cause of effluent toxicity. In addition, in the TRE Workplan, the Permittee can propose a procedure to determining when a TRE may be terminated because there is insufficient evidence that there is a consistent pattern of toxicity. For clarity, Fact Sheet section VII.B.2.a of the Proposed Permit has been modified to identify various means that could be used to demonstrate that conditions support cessation of a TRE.

The changes to the accelerated monitoring triggers proposed by the Permittee are not consistent with the TSD and USEPA guidance for WET monitoring. No change is necessary.

**Comment No. 45: Requirement to Monitoring Recycled Water for Drinking Water Constituents is Inappropriate.** (Ref.: *Attachment E Page E-18, Table E-7.*) The Draft Order at Table E-7 requires annual testing of recycled water for “Title 22 Drinking Water Constituents”. This requirement has not been adequately justified. (See Draft Order at pages F-65 to F-67.) Further, this requirement is not justified because the recycled water is being used at the Geysers or for irrigation purposes, not for drinking water-related recycled water uses. Thus, the water need not meet Title 22 drinking water standards, only bacteriological and other requirements for the uses for which the water is being provided. For these reasons, the City requests that the requirement to monitor recycled water for all “Title 22 Drinking Water Constituents” be removed.

**Response:** Recycled water applied to the ground surface must not cause exceedances of applicable water quality objectives for the protection of groundwater quality. Because the groundwater underlying the Permittee’s urban and agricultural reuse sites has a designated beneficial use of Municipal and Domestic Supply (MUN), drinking water standards apply. An alternative means to demonstrate compliance with groundwater objectives would be to monitor the groundwater quality at each water reuse site within the Subregional System, which is not practical given the large number of reuse sites and the difficulty in distinguishing between potential pollutant sources.

**Comment No. 46: Infeasibility of Daily Recycled Water Flow Monitoring and Reporting.** (Ref.: *Attachment E, Page E-19, Table E-7*) Footnote 1 of Table E-7 requires that the City report each month, the number of days that treated wastewater was used for reclamation at all authorized reclamation sites, as well as the average and maximum daily flow rate. However, the City does not have the metering capability to comply with this

request. Meters at each reclamation site record only total flow and would need to be read daily to obtain daily use rates. City staff are not available to undertake this effort and if recycled water users were required to report every day, it would be extremely burdensome and discourage recycled water use. Therefore, the City requests that this footnote be deleted.

**Response:** Measurement of daily application rate is necessary to demonstrate that the application does not exceed agronomic rates. However, the Proposed Order was revised to remove average and maximum daily flow measurement because Regional Water Board staff agrees that these measurements are infeasible.

**Comment No. 48: Unnecessary to Monitoring Receiving Water for Nutrients. (Ref.: *Attachment E Page E-20, Table E-9.*)** The City objects to a requirement for receiving water nutrient monitoring. Despite repeated offers to collaborate with the Regional Water Board staff to identify and collect nutrient data to support an adequate nutrient TMDL, Board staff has not yet engaged in a substantive discussion on the matter. At such time that a comprehensive nutrient data collection strategy is developed, the City would be pleased to discuss how it can support implementation. Without such a comprehensive plan, the utility of the nutrient data is unknown and therefore this requirement should be deleted from the permit.

**Response:** The requirement to measure nitrogen compounds and phosphorus at the receiving water monitoring locations identified in Table E-9 is consistent with the monitoring requirements at the receiving water monitoring locations associated with the Permittee's primary discharge location.

The absence of a comprehensive plan for nutrient monitoring at these locations does not render the data unusable. Monitoring data collected at these locations could be used to determine compliance with receiving water quality objectives or other purposes, including for development of the nutrient TMDL for the Laguna de Santa Rosa and for demonstration of compliance with anti-degradation requirements. Currently, there are limited receiving water data at these monitoring sites, so collection of additional data improves understanding of receiving water conditions. Regional Water Board staff has considered the cost of this monitoring requirement for the Permittee and determined that the data obtained is commensurate with the cost of monitoring. No change is necessary.

**Comment No. 50: Biosolids Monitoring. (Ref.: *Attachment E Page E-22, Section IX.A.1; Page E-31, Section X.D.4.a; and Page E-34, Section X.D.5.a-d*)** The Regional Water Board has failed to justify the need for biosolids monitoring and other requirements particularly when, at pages 27-28 of the Draft Order, regulation of biosolids is specifically stated to be regulated under the statewide biosolids WDR, Order No. 2004-2012-DWQ. Thus, all biosolids monitoring and compliance reporting requirements should be removed from this permit that does not regulate biosolids disposal.

Further, although this section relates to "biosolids," the Draft Order continues to use the word "sludge." In this section, and elsewhere where appropriate, the word "sludge" should be replaced with "biosolids." The same comment would apply to MRP Section X.D.4.a. and b., and MRP Section X.D.5.a.-d.

**Response:** The USEPA's POTW *Sludge Sampling and Analysis Guidance Document* (EPA 833-B-89-100) recommends that POTWs sample and analyze their sludge at least annually to determine if the sludge quality is such that the sludge may be safely reused, recycled, or disposed. This guidance document also states that characterization of sludge composition may identify operational problems and indicate potential environmental problems if reused or disposed. Where applicable, the Permittee may use monitoring data generated through compliance with the Order to demonstrate compliance with the biosolids monitoring and reporting requirements in the statewide biosolids WDR.

Provision VI.C.5.c defines biosolids as sludge that has been treated, tested, and demonstrated to be capable of being beneficially and legally used as soil amendment for agriculture, silviculture, horticulture, and land reclamation activities. Where there is the potential for confusion between the terms “sludge” and “biosolids” in the Proposed Order, Regional Water Board staff has revised the Proposed Order to clarify the use.

**Comment No. 51: Annual Summary Report is Unnecessary. (Ref.: *Attachment E Page E-28 and E-29, Section X.D.2.a.-f.*)** This appears to be a new requirement for an annual report beyond what is currently required without any justification or burden/benefit analysis required under Water Code section 13267(b). Thus, the entire section should be removed. If this section adequately justified through additional edits to the Draft Order and maintained, then the City requests that the requirements in sections c and e be modified. These sections are particularly irrelevant and intrusive. The City is willing to include a statement in the annual report that monitoring instruments, including flow meters, were calibrated as per the manufacturers’ recommendations. The annual report is certified by the responsible City person as being true and correct under penalty of law, so this should be sufficient.

**Response:** The reference to 13267(b) in the MRP was misplaced and has been removed from the Proposed Order. Section 13383 of the Water Code provides a regional water board the authority to establish “monitoring, inspection, entry, reporting, and recordkeeping requirements” to discharges of waste.

Although Regional Water Board staff does not agree that section X.D.2.c of the draft Order, requiring that the annual report include names, certificate grades, and general responsibilities of employees of the Laguna Treatment Plant, is irrelevant and intrusive, staff agrees that this information need not be submitted as part of the annual summary report. However, the names and certificate grades of licensed operators of the Facility should be posted at the location, in accordance with title 23, division 3, chapter 26, section 3719.16 of the CCR and should be available upon request by Regional Water Board staff or authorized representatives during a compliance inspection. The Proposed Order was revised to remove Section X.D.2.c in the draft Order.

Section X.D.2.c of the Proposed Order is necessary to determine compliance with the requirement to properly operate and maintain all facilities and treatment systems used to achieve and/or document compliance with the Order. Reliance on the general certification statement that the annual report is true and correct is not a sufficient demonstration of compliance. No change is necessary.

**Comment No. 52: Reporting of Number and Dates of Inspections of Recycled Water Use Sites is too Onerous. (Ref.: Attachment E Page E-29, Section X.D.3.i.d.)** This section requires the number and dates of inspections conducted for each use site during the reporting cycle. This is a new requirement that would be extremely burdensome for City staff with no corresponding increased benefit. Therefore, the City requests that requirement for reporting number and dates of all inspections, whether or not noncompliance was observed, be omitted.

**Response:** Regional Water Board staff requires this information to document that all recycled water use sites are being regularly inspected. No change is necessary.

**Comment No. 53: Reporting of Major Repairs of Recycled Water System is overly Burdensome and will Discourage Reclamation. (Ref.: Attachment E page E-30, Section X.D.3.ii.b.)** This section requires the annual recycled water report to include a summary of major repairs scheduled or completed that affected the reclamation system appurtenances and irrigation areas. For non-City owned property, this would require an added burden for the City and recycled water customers that could discourage recycled water use. Therefore, the City requests that this section be limited to major repairs the City makes to the system.

**Response:** Regional Water Board staff requires this information to document the condition and level of maintenance at all recycled water use sites. No change is necessary.

**Comment No. 58: Remove beneficial uses for WET, FLD, CUL and FISH. (Ref.: Attachment F Page F-13 and F-14, Table F-3.)** The Fact Sheet incorrectly added up to four new beneficial uses to the Laguna de Santa Rosa (Hydrologic Subarea 114.21) and Santa Rosa Creek (Hydrologic Subarea 114.2116), including Wetland Habitat (WET), Flood Attenuation (FLOOD), Native American Culture (CUL), and Subsistence Fishing (FISH). This information is inaccurate and contrary to the Basin Plan. The beneficial uses designated in the Basin Plan for the Laguna de Santa Rosa (Hydrologic Subarea 114.21) and for Santa Rosa Creek (Hydrologic Subarea 114.22) do not include CUL, FLD, WET, or FISH uses. (See NCRWQCB Basin Plan at 2-11.00.) These are not designated as potential uses. Although the Basin Plan at page 2-12.00, Table 2-1, designates Freshwater Wetlands with WET as an Existing Use (“E”) and CUL and FLD as Potential Uses (“P”), there is no designation of FISH. Further, since Table 2-1 does not designate WET for Hydrologic Subareas 114.21 or 114.22, the Freshwater Wetlands designations should not apply in those subareas. In addition, the Fact Sheet fails to provide any evidence that any of these uses are existing uses that would justify the addition of these uses in the Draft Order absent designation in the Basin Plan. (See accord 40 C.F.R. §131.3(e).) For these reasons, these four uses should be removed from Table F-3.

**Response:** While it is true that the CUL, FLD, WET, and FISH beneficial uses are not designated in Table 2-1 of the Basin Plan specifically for the Laguna Hydrologic Subarea and Santa Rosa Hydrologic Subarea, they are identified as existing beneficial uses in the region and must be protected where they exist. There is significant evidence to conclude that WET, FLD, and FISH are existing beneficial uses in the Laguna de Santa Rosa and FLD is an existing beneficial use in Santa Rosa Creek. The Fact Sheet was revised to include a discussion of these existing beneficial uses. In addition to including

the WET, FLD, and FISH beneficial uses, the Water Quality Enhancement (WQE) beneficial use has been added to Table F-3 for the Laguna de Santa Rosa (HAS 114.21) because it is associated with the WET beneficial use and exists in the Laguna de Santa Rosa. The CUL beneficial use for the Laguna de Santa Rosa has been removed from the Proposed Order for lack of supporting documentation that the use exists.

**Comment No. 59: Inadequate Justification of BOD and TSS Mass Loadings. (Ref.: *Attachment F Pages F24 through F-26, Section IV.B.*)** The Draft Order inadequately justifies the necessity for including both mass limits and 85 percent removal requirements as both are not required by either federal or state law. Under federal law, mass limits are specifically *not required* for Technology-Based Limits, such as BOD and TSS. The federal regulations only require concentration-based effluent limits and 85 percent removal requirements. (See 40 C.F.R. §133.102(a)(1)-(3) and (b)(1)-(3); see e.g., Order No. R2-2012-0051, Table 6 (monthly and weekly conventional pollutant limits only with no mass limits required).)

The Fact Sheet at page F-24 states that 40 C.F.R. “section 122.45(f) requires the establishment of mass-based effluent limitations for all pollutants limited in Orders, except for 1) pH, temperature, radiation, or other pollutants which cannot be appropriately expressed by mass, and 2) when applicable standards and limitations are expressed in terms of other units of measure.” (Emphasis added.) Further, that same page recognizes that the BOD and TSS limitations are all expressed in concentration, not mass. Because the technology-based limitations are expressed in concentration (i.e., “other units of measure” besides mass), the exception to the requirement for mass limits has been met and mass limits are not required under federal law.

If being imposed under state law or the discretionary ability to include mass limits in addition to concentration based limit under section 122.45(f)(2), then these requirements are more stringent than *required* by federal law and have not been adequately justified nor have all of the considerations under Water Code section 13263 and 13241 been satisfied. (See *City of Burbank v. State Water Resources Control Board*, 35 Cal. 4th 613, 629 (2005).)

There is no evidence that the City could or would “artificially dilut[e] its effluent to meet concentration-based limits” as suggested on page F-26 and, in fact, the City meets concentration-based limits much more stringent than those proposed under federal secondary treatment requirements. There is also no evidence to transform these technology-based limits into water quality-based effluent limitations, which the Fact Sheet states at page F-26 “are necessary and appropriated to protect water quality because the effluent is at times discharged to effluent dominated water bodies, primarily Santa Rosa Creek but also Laguna de Santa Rosa, and mass loading of these pollutants may degrade water quality,” when they are specifically stated in that same paragraph to be “technology-based... on the Subregional System’s existing design dry weather capacity...” Without evidence to support the findings of necessity for these limits and without the Water Code section 13241 analysis required for these limits that are more stringent than required by federal law, the mass limits for BOD and TSS must be removed.

**Response:** Regional Water Board staff has determined that mass-based limitations for BOD and TSS for effluent that is stored in storage ponds prior to discharge to surface water are not required. However, in order to comply with the federal prohibition

against backsliding in NPDES permits, mass-based effluent limitations for BOD and TSS are retained for direct discharges to surface water (i.e., effluent that is not stored in a storage pond prior to discharge to surface water). For more details, see Response to Comment No. 10 from the December 2012 comment letter and the updated Fact Sheet.

**Comment No. 68: Allowance for use of hose bibs. (Ref.: *Attachment G Page G-7, Section B.18*)** Pending legislation would allow hose bibbs under certain circumstances and a change to this section to accommodate enactment of such legislation and to correct spelling consistent with Title 22 is requested.

**Response:** This requirement is excerpted verbatim from title 22. Therefore, it would be improper to modify or otherwise change the meaning of this requirement, except to correct the spelling of hose bibs to “hose bibbs.”

**Comment No. 69: Overly Stringent Prohibition of Degradation of Water Supply.** (Ref.: *Attachment G Page G-7, Paragraph B.21.*) The proposed language in this section seems to imply that no degradation is allowed through the use of recycled water, which is not the case. The State’s Antidegradation Policy is not a “no degradation” policy, it specifically allows degradation when certain findings about the importance of the use and the levels of degradation. The Recycled Water Policy has also cleared the use of recycled water under the Antidegradation Policy. Thus, this sentence should be modified.

**Proposed Revisions to Draft Order:**

21. The use of recycled water shall not cause statistically significant degradation of any water supply above applicable water quality objectives.

**Response:** Water Reclamation Requirement B.21 was revised to read, “The use of recycled water shall not cause degradation of any water supply, except in conformance with the State Antidegradation Policy.”

## **Russian River Watershed Protection Committee – Comment Letter No. 1**

*On December 3, 2012, the Russian River Watershed Protection Committee (RRWPC) submitted comments on the draft Order released on October 31, 2012. On July 22, 2013, the RRWPC submitted comments on the draft Order released on June 20, 2013. Both comments letters contained numerous and wide-ranging comments on the draft Orders. Comments from RRWPC are summarized here by Regional Water Board staff. Please refer to the comment letter for the full text of comments. The following are staff responses to significant comments from the RRWPC on December 3, 2012:*

### **Comment No. 1: State Recycled Water Policy**

**General Staff Response:** The RRWPC provided numerous comments critical of the State's Recycled Water Policy, which was approved in 2009, and a recent amendment to the Policy adopted in January 2013. The Recycled Water Policy is not the topic of this Order. Comments related to the adopted Policy are misplaced.

**Comment No. 2: Fertilizer Use and Recycled Water Irrigation.** Neither the permit nor the Reclamation Plan makes mention of the need to limit irrigation on lands that have been treated with bioactive chemical products, including fertilizer. What is the fate of the chemicals listed above if the lands that use those products are over-irrigated? How will they impact the wildlife and aquatic life that have to live in the water 24/7?

**Response:** In accordance with the Recycled Water Policy, fertilizer use may be considered as part of the SNMP in estimating nutrient loadings to groundwater. In its draft SNMP, the City considered fertilizer use within the urban sector where recycled water is applied and concluded that site supervisor requirements in title 22 effectively reduce the likelihood of over-application of fertilizers and soil amendments at these sites. In addition, the transport of land-applied fertilizer to surface waters via recycled water should be minimal because over-irrigation and incidental runoff from recycled water use sites irrigated are minimized through compliance with the City's Recycled Water User's Guide and the Basin Plan's prohibition of discharges (i.e., runoff) of recycled water to surface waters unless the runoff events meet the definition of incidental.

**Comment No. 3: Increased Capacity Means Increased Discharge to Surface Waters Through Incidental Runoff.** The permit allows an increase in flow to the treatment plant up to 25.9 mgd and assumes that the increased effluent would be used for/by reclamation and not discharged to surface waters. Therefore the requirements for the allowed increased capacity will be far less stringent. Yet summer irrigation discharge cannot be adequately quantified and is bound to occur, especially if irrigation occurs at night or the late evening.

**Response:** Requirements for the production and use of reclaimed water are contained in Cal. Wat. Regs., sections 13500-13577 and in CDPH regulations at title 22, sections 60301-60357. The Proposed Order contains requirements that are consistent with these regulations. This commenter appears to be asserting that reclaimed water should be regulated as if it were an indirect discharge to surface water because reclaimed

water will necessarily discharge to surface waters. The Proposed Order acknowledges that incidental runoff is unavoidable, but the environmental and public health risk is low if the incidents are infrequent and low volume. In addition, the Proposed Order requires the City to implement its Recycled Water User's Guide, which if implemented effectively, will minimize irrigation runoff in the estimation of Regional Water Board staff.

Regional Water Board staff agrees that requirements to minimize or prevent irrigation runoff need to be enforced. Regional Water Board staff is working with City staff to update and revise the Santa Rosa Non-Storm Water Discharge Best Management Practices Plan submitted to the Regional Water Board as required by the NPDES MS4 Permit Order No. R1-2009-0050 and the City's Recycled Water User's Guide to better track and report noncompliance with recycled water requirements and improve enforcement of existing and anticipated new requirements.

**Comment No. 4: Undated CEQA Review is Needed.** Page F-12, section III.A of the Fact Sheet concludes that CEQA review has been adequate even though this section comes immediately after the one (Section II.D) describing three enforcement actions during the course of the last permit. It seems as though there have been changed conditions since the last permit had been approved that should be addressed. There was no updated CEQA process by the City since December 2007, which is now five years ago. Changed conditions include lowering of Russian River flows because of the Biological Opinion; adoption of the Recycled Water Policy, which encourages much greater reuse of wastewater at a time when runoff can have much greater impact, adoption of the MS4 permit which allows incidental runoff and finally the Basin Plan Amendment allowing incidental runoff.

The MS4 Permit and Basin Plan Amendment were authorized for 'incidental runoff' before information had been attained on salt and nutrient issues, groundwater studies by USGS were available, and TMDLs had been promulgated for Laguna nutrients, dissolved oxygen and temperature. Naturally, without adequate information, the CEQA equivalent could not possibly have addressed these issues.

**Response:** As explained in the Fact Sheet, CEQA analysis is not required for the NPDES discharges to surface waters. The comment above appears to concern, in part, the receiving waters of the NPDES discharge. Therefore, to the extent that the comment relates to these NPDES discharges, the comment is misplaced.

The permit violations and subsequent enforcement actions taken against the Permittee and identified in the Fact Sheet do not undermine the CEQA finding that the increased use of reclaimed water will be less than significant. The violations of the coliform limitations were of short duration and corrected and do not indicate that the disinfection system is inadequate.

Incidental runoff is judged not to be a significant risk to public health or aquatic life because it occurs infrequently, is low volume, and is corrected quickly. When these conditions are not met, corrective action by the Permittee, in accordance with the Recycled Water User's Guide and/or enforcement action by the Regional Water Board is required.

**Comment No. 5: Determination of Application Rate for Recycled Water.** This permit

fails to clarify how runoff will be controlled and what amount of runoff will be considered 'incidental'. The Draft Permit does not define how proper application rates will be achieved. Therefore it can't possibly assure that anti-degradation goals will be realized. It fails to define how agronomic rates will be calculated and therefore limits ability to define runoff itself. It allows ponding, a sign of over irrigation, for up to 24 hours. It calls for self-reporting, but allows nighttime irrigation when agronomic rates are much lower and there is much greater risk of runoff. Who will be watching?

**Response:** The appropriate recycled water application rate will be site-specific, depending on site conditions, vegetation demand, and field conditions of the soil. The application rate is determined by the City upon commencement of the recycled use project and adjusted as needed to achieve efficient water use and prevent runoff. If recycled water is applied taking into account specific site conditions, water percolation will be complete, incidental runoff will be minimal and migration of contaminants to groundwater will be insignificant; thus satisfying anti-degradation requirements.

The determination whether runoff from an urban or agricultural irrigation site is "incidental" does not necessarily depend on the volume released, although a large volume release may indicate negligence on the part of the user, which would cause the release to be determined to be non-incidental. Regional Water Board staff continues to work with the Permittee to more clearly distinguish incidental runoff from non-incidental runoff.

Ponding is not necessarily a sign of over-irrigation and only would be problematic if the ponded recycled water resulted in runoff, created conditions that promoted mosquito breeding, or otherwise posed a threat to public health through unreasonable public exposure to the recycled water. Runoff from ponded water is unlikely because ponding necessarily occurs on flat surfaces where there is a low risk of runoff. The allowance of ponding for no more than 24 hours is to prevent conditions that promote mosquito breeding.

The Proposed Order requires the Permittee to implement its Recycled Water User's Guide, which in turn, makes the water user responsible for complying with and enforcing City rules and regulations for recycled water that are designed, in part, to minimize incidental runoff and prevent non-incidental runoff. Failure to adequately implement its recycled water program would constitute noncompliance with the Proposed Order and would be subject to enforcement action by the Regional Water Board.

As detailed in the City's Non-Storm Water Discharge BMP Plan, the City has a number of programs to minimize or prevent non-storm water discharges, including incidental runoff. The City operates a spill call phone line, a website, and 24-hour hotline for reporting after hour spills and compliance and enforcement units that respond to complaints and reports of noncompliance. Runoff incidents that occur at night can be reported to the 24-hour hotline.

**Comment No. 6: Runoff is not Negligible and Health Risks are Not Accounted For.** The RRWPC is concerned about the assumption that runoff will be so negligible that it can't possibly do any harm. Further, it does not account for health and safety risks resulting from unregulated and undocumented chemicals that may be left in the wastewater as noted above.

**Response:** Staff is unaware of reported incidences where the application of recycled water has resulted in documented health and safety problems. Regulation of recycled water in the Proposed Order is consistent with the State's Recycled Water Policy.

**Comment No. 7: Night time Irrigation and Runoff.** If irrigation is at night, who will know whether agronomic rates are being met? How is the amount of runoff calculated, especially if most occurs at night?

**Response:** As stated in response to Comment No. 5, above, the application rate is site specific, determined upon project start-up, and adjusted as needed to prevent and minimized runoff, incidental runoff. If there is evidence of water waste at recycled water use sites, reported by the site supervisor, observed by City staff during an inspection, or reported by the public, the City's Recycled Water User's Guide and the City's Non-Storm Water BMP Plan, describes measures that the City will take to correct the noncompliance.

Regional Water Board staff has concluded that it is impractical to require the Permittee to measure the amount of runoff from multiple reuse sites throughout its extensive recycled water system. With proper implementation of the Recycled Water User's Guide, irrigation runoff, both incidental and non-incidental, should be minimal.

**Comment No. 8: Inadequate Compliance Oversight** What safeguards are in place to assure that all self-monitoring reports will be conducted strictly according to protocol? How do you know whether test samples used the proper water source? How do you know that undesirable results weren't thrown out and the test repeated until desired results were achieved?

**Response:** Permit compliance inspections are conducted at the Permittee's Laguna WWTP at least annually. During the course of a typical inspection, laboratory records are inspected to document that the proper test protocols are employed and records are in order. Results of inspections are part of the facility file record and may be reviewed by the public in accordance standard procedures for file review.

**Comment No. 9: Contribution to Sediment Impairment in Laguna.** While Santa Rosa's BOD, TSS, total coliform bacteria, and settleable solids in their wastewater are generally in compliance and less than permit limits, nevertheless, these discharges have been going on for a long time, and we wonder how much sediment accumulation has occurred? Bacterial and nutrient problems keep getting worse in the lower river. *Ludwigia* is now a constant nuisance that may harbor pathogens, including West Nile Virus, possibly causing illness to those recreating and pets utilizing the river.

As the river becomes more impaired with sediments, to what extent will these problems become exacerbated? Is there a point where it will become necessary to adjust (raise) limits for Santa Rosa's discharge because the impairment has gotten worse? (I guess this would be part of a sediment TMDL, but we are concerned about on-going incremental increases that over time, turn into a much bigger problem.

**Response:** The amount of accumulated sediment in the Laguna de Santa Rosa traceable to the Permittee's surface water discharge has not been evaluated. However, effluent

monitoring results for the Permittee indicate that the measurement of effluent settleable solids, one indicator of sediment that will settle under ambient conditions, is consistently below the reporting limit of 0.1 milliliters per liter. Using this measure, the amount of sediment settling during or after discharge to surface waters is very small under normal discharge conditions and under existing treatment performance. However, should the Permittee's discharge be identified as a source of sediment, the sediment TMDL would apply a WLA to the City's discharge. The WLA would then be translated into effluent limitations and/or other requirements in a future permit.

**Comment No. 10: Incidental runoff contributes nutrients that are not included in the “no net loading limit.”** While it is good that Santa Rosa discharges must meet a “no net nutrient” standard, this incidental runoff will be allowed to add relatively high levels of nutrients (phosphorus in particular) with no clear enforcement mechanisms defined. The agronomic rates will be determined in a later report and the application rates are as yet undefined. The nutrient application rate is undefined. If this process has followed a CEQA equivalent, why are critical requirements dependent on future reports? Future reports are not allowed as mitigation in CEQA and they should not be allowed here either unless public process is reopened.

**Response:** The City's Nutrient Offset Program was designed as a means for the City for comply with effluent limitations for nitrogen and phosphorus in its NPDES permit. Runoff, whether incidental or non-incidental, is not included in the “no net loading” effluent limitation for the permitted surface water discharge. Non-incidental runoff constitutes permit noncompliance and is subject to enforcement action. The volume of incidental runoff reaching surface water is considered to be minimal.

The Nutrient TMDL for the greater Laguna de Santa Rosa is currently in development and expected to be completed during the term of the new NPDES permit for the City of Santa Rosa. The contribution of nutrients from recycled water irrigation runoff, both incidental and non-incidental, is an area of interest to Regional Water Board staff developing the nutrient TMDL and may figure into future actions by the Regional Water Board.

In accordance with the Recycled Water Policy, in order to meet anti-degradation requirements, each application site, or multiple sites, must be subject to an operation and maintenance plan that specifies agronomic rate(s) and describes BMPs to ensure compliance with the agronomic rate(s). Existing irrigation sites and irrigation sites approved prior to the effective date of the Recycled Water Policy are operated under a set of design standards, rules, regulations, and BMPs that are established to minimize or prevent incidental runoff; however, for these sites, allowable agronomic rates for individual sites, or site types, have not yet been provided to the Regional Water Board. The Permittee must provide a description of agronomic rate compliance for all existing recycled water irrigation sites in the Annual Recycled Water Report pursuant to section X.D.3.ii.f of the MRP. All new recycled water irrigation projects must comply with the Recycled Water Policy, which includes the provision to specify agronomic rate(s) for water reuse sites.

**Comment No. 11: Salt and Nutrient Management Plan is insufficient for Laguna.** The Fact Sheet (p. F-20) refers to the Recycled Water Policy's mandate to develop an area wide

salt and nutrient management plan (rather than individual assessments). It seems as though it should be necessary to do both. As they are waiting for data from USGS for the Plan, and this can take an unknown amount of time, it seems as though individual projects need to do some kind of assessment in light of Laguna and Russian River impairments.

**Response:** The State's Recycled Water Policy states that the appropriate way to address salt and nutrient issues is through the development of regional or subregional salt and nutrient management plans rather than through imposing requirements solely on individual recycled water projects. The Proposed Order is consistent with that approach.

**Comment No. 12: Permit Objectives are Moving Target.** This permit document seems to be filled with 'donut holes' where a fairly stringent goal is stated (compliance with Anti-Degradation for instance), but then is surrounded by slippery contingencies that allow escapes through the back door, mostly provided by the Recycled Water Policy.

**Response:** The purpose of the State's Recycled Water Policy is to increase the use of recycled water from municipal wastewater sources in a manner that implements state and federal water quality laws. The State Water Board has found that recycled water is safe for approved uses when it is used in compliance with the Policy and title 22. The Proposed Order implements the State's Recycled Water Policy.

**Comment No. 13: No Effluent Monitoring for Endocrine Disrupting Chemicals.** The Recycled Water Policy Amendment calls for no monitoring of endocrine disrupting chemicals for application of tertiary wastewater on landscapes. RRWPC has written extensive comments on this, which went unanswered. (See attachments) As mentioned before, Dr. Vandenberg wrote of the low dose effects on endocrine disrupting chemicals. They did not respond to her either. The justification for this finding (by State Scientific Panel) was first that these chemicals have no impact at low doses. Then they switched horses to say that there is little likelihood of exposure. This also is false, since we have photographed extensive over-irrigation of wastewater repeatedly at bus stops across the street from Santa Rosa's Utility Center. These chemicals have huge impacts on young people, and repeatedly flooded area next to City bus stop. We submitted dated pictures to Regional Board in early 2012 to prove this.

Yet the draft permit states on page 15 (No. 10), "*The discharge shall not cause receiving waters to contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, plants, animals, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods, as specified by the Regional Water Board.*" It is really hard to believe that with all the health problems showing up prematurely in the general population, the disappearance and malformations of wildlife being observed, it's a little hard to believe that Santa Rosa has such a sterling record in regards to their toxicity testing. Why is the City so resistant to testing for endocrine disrupting chemicals in their wastewater (especially estradiol) if their treatment methods are so reliably safe? Why is the City resistant to testing fish living in their wastewater for signs of vitellogenin production (fish feminization). Years ago Santa Rosa's Board of Public Utilities agreed to do this, and two weeks later withdrew their commitment.

**Response:** Attachment A of the Recycled Water Policy (Requirements for Monitoring Constituents of Emerging Concern for Recycled Water) states that monitoring of health-based CECs or performance indicator CECs is not required for recycled water used for landscape irrigation because there is a low risk for ingestion of recycled water. Further, the Policy (Attachment A, section 1.1) states that the “Regional Water Boards shall not issue requirements for monitoring of additional CECs in a recycled water beyond the requirements in the Policy except when monitoring is recommended by CDPH or requested by the recycled water project proponent.” The draft Permit is consistent with the Policy.

Regional Water Board staff is participating in the development of a pilot study that will investigate the presence of CECs in receiving waters statewide. Staff anticipates that the study will provide guidance for monitoring of municipal wastewater treatment effluent and receiving waters for CECs. Recommendations from this study could then be incorporated into discharge permits in the north coast region.

**Comment No. 14: Lack of Enforcement for Over-irrigation Incidents.** What administrative penalties for over irrigation have been handed out? RRWPC has filed complaints on multiple Rohnert Park and Santa Rosa over-irrigation incidents, with numerous dated and identified photos, and nothing seemed to happen in the public view. What does it take for the Regional Board to issue a Cease and Desist Order? How can the public maintain confidence in this process when things are somehow dealt with behind the scenes?

**Response:** ACL Order No. R1-2010-0075, adopted by the Regional Water Board on October 28, 2010, assessed a total civil liability of \$72,750 for permit violations, including violations for discharges of reclaimed water to surface water. A Notice of Violation and a notice to submit a technical report under section 13267(b) of Cal. Wat. Code was issued on February 22, 2010, for incidents of over-irrigation at water reuse sites in Rohnert Park that occurred in August 2009. The City responded by amending its runoff incident notification procedures and expanding its operator working hours to have system coverage from 4:30 am to 9:00 pm, when most irrigation takes place. The Notice of Violation and the City’s Technical Report are on file at the Regional Water Board office.

The North Coast Regional Water Board and its staff endeavor to make the permitting process, from the preparation of the draft Order through permit adoption, as transparent as possible. Regional Water Board staff’s efforts to assess and ensure permit compliance, including taking appropriate enforcement for noncompliance, are conducted in a manner that attempts to balance staff resources and state and regional priorities while remaining in compliance with the State’s Enforcement Policy. The Regional Water Board and its staff encourage public participation in its mission to protect water quality by providing public notice of its decisions in accordance with state and federal law.

**Comment No. 15: Inadequate Consideration of Public Comments.** RRWPC has a similar concern (lack of public process) about the Nutrient Offset program. Santa Rosa identified an offset project (Beretta Dairy). There was a public comment period. RRWPC submitted a lengthy letter, and the next thing we heard, the project had been approved. Now, a new

notice has gone out on a different project. What's the point of commenting, when the public is not included in the process?

**Response:** The City's Nutrient Offset Program is not the topic of the Proposed Order. However, responses to comments on actions taken by the Regional Water Board or its Executive Officer are made available to the public at public hearings and/or through posting on the Regional Water Board website. In the case of the Beretta Dairy nutrient offset credit project, a response to written comments was posted on the website with the notification by the Executive Officer approving the project. Public participation in the consideration of this project was consistent with conditions of the Nutrient Offset Program.

**Comment No. 16: Consideration of Dilution and Temperature when Establishing Effluent Limitations.** Another factor inadequately considered, is that of discharge to a waterway when low flows predominate. Could one say that even a small discharge into a very low flowing and water quality impaired stream, will have a much bigger impact than if normal flows were taking place. The NPDES discharge permit covers the period when flows tend to be higher and therefore the impaired constituent would be somewhat diluted. Is dilution considered when setting standards? If it is, then shouldn't standards be raised when discharge is allowed under summer conditions, especially where heat is a factor?

In fact, the impacts of this discharge on the environment during summer conditions have not been fully explored. We all know, even without scientific studies, that the Laguna impairments are greatly exacerbated during heated summer conditions. We wonder if that was factored in when the standards were set. Whether or not it was, shouldn't it be considered now?

**Response:** The draft Order limits the discharges to surface water to the period from October 1 through May 14 and prohibits the Permittee's discharge of treated wastewater at a rate that exceeds five percent of the flow of the Russian River. In addition, the Permittee modulates its discharge from Delta Pond, currently the City's exclusive discharge point, in accordance with a discharge flow model that effectively limits the discharge volume significantly below the five percent permitted flow. These requirements prohibit the Permittee's ability to discharge during the summer and significantly limit discharges during other times when surface water flows in the watershed are low. In addition, as a practical matter, discharges to surface water during dry conditions are rare because it is during these conditions that the Permittee is using treated wastewater for fulfilling commitments to recycled water users and has no incentive to "waste" water that can be reused.

**Comment No. 17: Incidental Runoff and Seasonal Discharge Prohibition.** There seems to be an internal conflict in the permit:

In reference to the summer discharge prohibition, the Fact Sheet states on page F-24, "*The discharge of wastewater effluent from the Subregional System...is prohibited during the period of May 15<sup>th</sup> to September 30<sup>th</sup>....*" And it explains, "*The original intent of this prohibition was to prevent the contribution of wastewater to the baseline flow of the Russian River during the period of the year when the Russian River and its tributaries experience the heaviest water contact recreation use.*" Did the standard change when the discharge went

from point to non-point by virtue of its use as irrigation? This assumption that only occasional and minimal discharges will occur is simply not verifiable by the record, since it is so hard to ascertain the estimates of runoff that actually occurred.

**Response:** The season discharge prohibition applies to all discharges of municipal waste to the Russian River and its tributaries. This prohibition also applies to treated municipal wastewater suitable for reclamation. Incidental runoff of irrigated recycled water may be authorized under terms of a NPDES permit where BMPs are established to minimize the volume and frequency of incidental runoff.

Incidental runoff that occurs as a result of urban irrigation is regulated under the City's MS4 permit and the City's NPDES permit (Master Reclamation Permit). Larger, unauthorized discharges of runoff of reclaimed water do occur on occasion as a result of mechanical failures, human error, and other reasons. Regional Water Board staff is notified of these violations and have been working with the Permittee to correct deficiencies in water reclamation system so as to minimize occurrences of incidental runoff and prevent larger runoff events.

**Comment No. 18: Protection of Public Health and Trihalomethanes in Effluent.** The Fact Sheet at pages F-28 & 29 indicates that the RPA for dichlorobromomethane and chlorodibromomethane indicates their limits may be exceeded through the discharge of wastewater. How will public health and other beneficial uses be protected if these substances are distributed on the land and into the atmosphere through the spray process? In fact, what is the fate of public health if this is sprayed into areas where the public is present? (Size and strength of spray is an issue also that needs to be considered when calculating agronomic rates of application. There is one property on Guerneville Rd. by Campobello that uses a gigantic spray that I often see going into the nearby creek and occasionally into the road. It's an agricultural field around 3200 Guerneville Rd. on south side of road.)

**Response:** The public health risk from exposure to recycled water is managed through compliance with water recycling regulations established by CDPH. The Proposed Order is consistent with CDPH regulations.

**Comment No. 19: No Demonstration of Compliance with Anti-Degradation Policy.** While no net loading of nutrients is applied to surface discharge, when the discharge is considered reclamation, the no net discharge does not seem to apply in that monitoring for phosphorus is not required for landscape irrigation (or for endocrine disrupting chemicals either). Unless there are specific application rates in the reclamation permit, there will be no clear handle to judge compliance and whether anti-degradation standards are being met.

**Response:** The effluent limitation for no net loading of total phosphorus specified in section IV.A.2.b of the draft Order applies only to the surface water discharge points identified in Table E-2 of the MRP. There are no monitoring requirements for reclaimed water for phosphorus because nitrogen typically governs the agronomic rate calculation. Accumulation of phosphorus in the soil is expected to be minimal because the treated effluent has low total phosphorus concentration compared to plant demand (see the City of Santa Rosa website at <http://ci.santa-rosa.ca.us/departments/utilities/recycle/landscapeinfo/Pages/RecycledWaterQualityandPlant>

[Needs.aspx](#)) and there is plant uptake after recycled water application. Migration of phosphorus to surface water through landscape irrigation is also expected to be minimal because incidental runoff is infrequent and low volume and recycled water is applied in vegetated areas where erosion of phosphorus-bound soil is prevented through site-specific BMPs.

**Comment No. 20: Phosphorus Levels Need more Study and Control.** The Fact Sheet (Page F-31) includes a table that compares typical water quality levels of other water bodies with Santa Rosa's Total Kjeldahl Nitrogen (TKN) and Total Phosphate. Other nutrient impaired water bodies averaged 1.06 for Nitrogen and 0.60 for Phosphate. Santa Rosa's average readings for TKN and Total Phosphate between September 2006 and August 2010 was 1.3 and 2.2, respectively. That means Santa Rosa's phosphate readings are almost four times the level of other impaired water bodies and much more than what I believe is normally recommended (0.01 mg/L). Does this not justify the thorough study of phosphorus for irrigation use and the implementation of VERY stringent measures to prevent all runoff? Do the limitations noted on top of Page F-32 apply to reclamation wastewater? If so, there should be very few circumstances, and those should be much more specifically defined, where 'incidental runoff' should be allowed.

The Reclamation Permit fails to specify phosphorus limits to be met and monitored for the Salt & Nutrient Management Plan.

The section on Aquatic Toxicity goes on to state that effluent monitoring for nitrate and ammonia. Why was phosphorus not included?

Why is there no RPA for Phosphorus but there was for ammonia and nitrates? (p. F-39)

**Response:** Although phosphorus is the biostimulatory substance of importance for the Laguna de Santa Rosa and is thought to be the primary cause of the impairment of the water body, there is no evidence that phosphorus loading from incidental runoff is a significant source compared to other nonpoint source discharges, regulated point sources, and sediment-sequestered phosphorus. See Response to Comment 18, above. More work is being done by Regional Water Board staff and others to identify pathways for delivery of phosphorus to the Laguna as part of the Nutrient TMDL for the greater Laguna de Santa Rosa watershed.

Because phosphorus is identified as a biostimulatory substance, the draft Order includes monitoring requirements for total phosphorus for surface water discharge points identified in Table E-2 of the MRP. Data collected in the course of complying with this Permit may be used to inform the SNMP. Provisions and requirements of the SNMP, where applicable to the regulated discharges, will be incorporated into the Permittee's discharge permit after completion of the SNMP. The draft Order contains a reopener provision to incorporate these provisions. This approach is consistent with the Water Recycling Policy.

Phosphorus is not referred to in the Aquatic Toxicity section of the Fact Sheet because phosphorus is not considered by Regional Water Board staff as a contributing source of aquatic toxicity.

The need for WQBELs for phosphorus was considered in section IV.C.3.a.i (Biostimulatory Substances) of the Fact Sheet. The determination is the effluent

limitations for phosphorus were needed. Because establishing a numeric WQBEL for phosphorus is deemed infeasible, a narrative (BMP-based) WQBEL, expressed as no net loading, is specified. If the Nutrient TMDL currently in development for the Laguna de Santa Rosa assigns a waste load allocation to the WWTP, the permit may be reopened to include effluent limitations for phosphorus that implement the TMDL.

**Comment No. 21: No Recognition and Control of Summer Discharges Via Incidental and Irrigation Runoff.** The permit assumes that summer discharges will be negligible based on some anticipated agronomic studies that will occur in the future. While it is true that the permit can be reopened, as mentioned before, we don't trust the process if nighttime irrigation is promoted and allowed. RRWPC photographs of runoff that included pictures of irrigation water running down the drain clearly indicated that it was occurring and when it was occurring (date). Yet we were told we didn't have enough information with our photos. (All were clearly identified as to location, time, and temperature).

The public has the same problem. We don't trust that this runoff is benign, is as low an amount as claimed in reports, is monitored and reported in a timely fashion, and is so negligible as to not causing any water quality problems and meets anti-degradation requirements. If water quality is to be protected, and anti-degradation requirements met, it is critical that specific guidelines be included in the Reclamation Permit that calls for setbacks, preference for drip rather than spray irrigation, (more stringent controls needed for spray), limitations on strength of spray, specific criteria for determining agronomic rates that should be adjusted daily, if not hourly, more regular inspections by irrigating staff, periodic inspections by Regional Board staff, etc. (In fact, our concerns seem justified by the table on page F-31 of the Fact Sheet).

Since no net loading is allowed for regular winter discharges, at what point does that standard apply for summer irrigation runoff, when the nutrient problem is often greatly exacerbated in the Laguna and Russian River? Further, when we are in a drought period with high temperatures, the nutrient problem can become so great that even a little runoff can become a serious problem, especially in relation to algae, *Ludwigia*, and other invasive species. The exact point at which runoff becomes a permit violation is undefined. If this is incorrect, please spell out the specific measurable circumstances where a violation will be known to occur. This is particularly important where nutrients are concerned.

**Response:** The Recycled Water User's Guide includes City policy that requires use of point application methods (drip irrigation) where overhead irrigation would result in overspray, runoff, or nonuniform application for irrigation projects initiated after 2007. The City policy also requires design of irrigation systems to prevent runoff and overspray onto adjacent pavement, sidewalks, structures and other nonlandscaped areas. The City policy does not apply to urban and agricultural irrigation projects that commenced before 2007. The Water Reclamation Permit (Attachment G, Provision B.12) specifies a 100-foot setback to all surface water and "appropriate" setbacks to street gutters and storm drain inlets for new recycled use sites. Regional Water Board staff is working with the Permittee to ensure that operation and management at urban and agricultural irrigation projects that commenced before 2007 are effective in preventing runoff and minimizing incidental runoff.

Runoff at individual irrigation sites that does not meet the conditions of incidental runoff constitutes permit noncompliance and noncompliance is subject to enforcement action by the Regional Water Board. There is no threshold of runoff volume that

distinguishes incidental runoff from runoff that is in violation of the permit. Unauthorized discharges of 50,000 gallons or more of tertiary treated recycled water require timely notification to the Regional Water Board pursuant to state regulations (Cal. Water Code section 13529.2). However, formal enforcement by the Regional Water Board for water quality violations, including incidents of runoff or spills of tertiary-treated recycled water, is taken in accordance with the State Water Board's Enforcement Policy to ensure the most efficient and effective use of available resources.

**Comment No. 22: Radiological Waste.** On the top of page F-25 (No. 11), it states that discharge of radiological waste is prohibited. Since all such waste has a very long half-life, and since radiological waste is now regularly flushed down toilets, how does treatment plant deal with this? The waste has to go somewhere, and wherever it goes, it's radioactive. I have never heard this addressed anywhere. How can the public be assured that the treated waste that is sprayed on play areas where the general public recreates is not radioactive?

**Response:** Monitoring data for radioactivity in the Permittee's recycled water is available in the City's Discharge Compliance Project EIR. Staff has reviewed this data and determined that there is no reasonable potential for the discharge to exceed MCLs for the radionuclides measured (uranium, radium (226+228), gross alpha, gross beta, tritium and strontium 90). Nevertheless, periodic monitoring to determine the level of these radionuclides in the treated effluent is reasonable. Accordingly, once per permit term monitoring of the treated effluent for uranium, radium (226+228), gross alpha, gross beta, tritium and strontium 90 has been added to the Proposed Order.

**Comment No. 23: Permit does not Comply with Anti-Degradation Policy.** On page F-47 of the Fact Sheet, it states: "*The authorized rate of discharge is increased above that of the previous permit, but the rate of discharge authorized to discharge to surface waters has not increased.*" It goes on to state that the increased volumes of water will go to the Geysers and to the Urban Reuse Project. Once again, we challenge that the rate of discharge will increase with summer runoff, unless most stringent requirements are placed in permit to assure that won't happen. Some think that past behavior is predictive of future actions.

**Response:** The Water Recycling Policy found that water recycling projects complying with the Policy, collectively, satisfy the requirements of Resolution No. 68-16. The Water Recycling Policy goes on to state that recycled water projects within a groundwater basin where a salt and nutrient management plan is being prepared may be approved by the Regional Water Board if the project meets the criteria for a streamlined irrigation permit and the project uses less than 10 percent of the available assimilative capacity of the basin or less than 20 percent of the available assimilative capacity for multiple projects in a basin. The draft SNMP prepared by the City of Santa Rosa predicts that the concentrations for both TDS and nitrate will increase over a 25-year time horizon based on the analysis and use a portion of the assimilative capacity, but that the incremental contribution of regional stakeholders recycled water goals is minimal, with new recycled water from all stakeholder's recycled water will contribute less than one percent of the of the total mass loading of TDS and no additional mass loading of nitrate.

Regional Water Board staff does not agree that increased water reclamation will

necessarily increase the volume of incidental runoff that enters surface water and cause degradation of water quality. If it is determined that a project will not result in a lowering of water quality, no anti-degradation analysis is required and the Anti-degradation Policy is satisfied.

**Comment No. 24: Lack of Response to Spill Reports.** When RRWPC filed a complaint on Rohnert Park's over irrigation practices, we discovered that Rohnert Park and Santa Rosa had an agreement that was about 17 years old at the time and had never been enforced. Supposedly, Santa Rosa had not monitored Rohnert Park's irrigation. We documented a great deal of runoff that was repeated over a period of time. We never got formal feedback on this by Regional Board staff although we understand there were some changes made. North Coast Board should review reclamation contract between Rohnert Park and Santa Rosa every two years to ascertain that it is adequate and being fully implemented.

**Response:** See response to Comment No. 14. Also, Regional Water Board staff will review the contract between the City of Rohnert Park and the Permittee to ensure that the agreement is consistent with the requirements of the State's Water Recycling Policy and this Order.

**Comment No. 25: Salt and Nutrient Management Plan and Anti-degradation.** Discharge of recycled water, according to Fact Sheet (Page F-48) may result in degradation in ground water from salts and nutrients. This is expected to be addressed in the Salt and Nutrient Management Plan. We wonder if buildup of salts in soils, the reason why many vineyard managers are hesitant to use recycled wastewater, will be studied in the Salt and Nutrient Management Plan. Nonetheless, when a problematic issue comes up around this plan, and the possibility of some degradation is acknowledged, the phrase "*maximum benefit to the State*" appears to make some degradation equal in importance to increased water supplies. Six very non-specific goals are then stated to assure that water quality will not be degraded as a result of this project.

**Response:** The State's Water Recycling Policy and the included requirements of the Salt and Nutrient Management Plan are not the subject of the Proposed Order.

**Comment No. 26: Recycled Water Requirements and Anti-degradation.** The Fact Sheet describes (Page F-50) requirements in the Reclamation Permit that gives terms of this Order. This includes programmatic and site-specific technical reports containing hydraulic and nutrient agronomic rates for every new irrigation project that comes on line. RRWPC believes that ALL reclamation sites should be held responsible for such reports and that the reports should detail the conditions under which irrigation should take place. (John Short addresses this also.) There should be no irrigation in winter months and/or when the temperature reaches a certain level, say 45 degrees. (So little water can be soaked up by the ground when cold temperatures prevail that it's not worth the energy needed to irrigate.) Slopes should be considered and setbacks from streams should be required of all irrigators, not just new ones. Wind, weather forecasts, soil type, saturation, etc. should all be considered no less than on a weekly basis. And types and strengths of sprays should also be addressed.

**Response:** The requirements for site-specific technical reports for new irrigation

projects have been removed from the Proposed Order. The rationale for the removal of these requirements is that the Permittee's Recycled Water User's Guide provides adequate guidelines for new recycled water projects to prevent runoff and minimize incidental runoff. Given the variability of irrigation use sites and the wide range of weather conditions, prescriptive requirements in the Order, such as conditions under which irrigation is allowable, and specifications for allowable irrigation system components are unnecessary as long as the Recycled Water User's Guide is followed and problems are corrected in a timely manner. Where the Permittee authorizes irrigation at existing reuse sites, or where the Recycled Water User's Guide does not apply, Regional Water Board staff will work with the Permittee to ensure that the Permittee enforces conditions upon recycled water users that prevent runoff and minimize incidental runoff.

**Comment No. 27: Determination of Agronomic Application Rate.** The length of time it will take to complete and implement the Salt & Nutrient Management Plan and Engineering Study to determine agronomic rates and impacts of salt and nutrients is unreasonable (up to five years).

**Response:** The compliance schedule for the Salt and Nutrient Management Plan is not the subject of the Proposed Order. Nevertheless, Regional Water Board staff has determined that the City's Recycled Water User's Guide is adequate to minimize the impact of recycled water use in the Santa Rosa groundwater basin.

## **Russian River Watershed Protection Committee – Comment Letter #2**

*Comments from RRWPC submitted on July 22, 2013, are grouped into topics and summarized here by Regional Water Board staff. Please refer to the comment letter for the full text of comments. The following are staff responses to significant comments from the RRWPC:*

### **TOPIC 1: Effluent Limitations for Total Nitrogen**

**Comment No. 1a:** The new mass emission rate limitation alters the intent of the previous permit and appears to constitute permit backsliding. No additional nutrients discharges to creeks should be allowed until the TMDL is complete.

**Response:** The less stringent effluent limitation for total nitrogen in the Proposed Order is allowable under federal regulations preventing backsliding in permits, based on new information available to Regional Water Board staff that was not available when the previous permit was adopted. Compliance with the anti-backsliding policy is discussed in detail in sections III.B.7 and IV.D.1 of the Fact Sheet. See also Regional Water Board staff's response to Comment 1 from the City of Santa Rosa's July 2013 comment letter for additional information about the RPA for total nitrogen and total phosphorus.

Effluent limitations for nitrogen and phosphorus may be modified based on results of an approved Nutrient TMDL for the greater Laguna de Santa Rosa.

**Comment No. 1b:** Does the limitation include loadings from storm water runoff, irrigation runoff, or seepage of irrigation water into creeks through groundwater transport?

**Response:** No. The effluent limitation for phosphorus applies only to end-of-pipe discharges to surface water. Discharges of irrigation runoff to surface waters are not authorized by this permit, and consequently, nutrient loading that results from this unauthorized discharge is not included in the surface water effluent limitations for phosphorus or nitrogen.

Nutrient loading from storm water from the City of Santa Rosa is also not included in the effluent limitations for phosphorus and nitrogen because storm water is not regulated by the Proposed Order.

Regional Water Board staff has very limited information to quantify nutrient loading to creeks that can be attributed to nitrogen in the City's recycled water. If recycled water is applied at agronomic rates and incidental runoff is minimized, nitrogen loading from this source is assumed to be low; however, this question might be considered in the development of the nutrient TMDL for the greater Laguna de Santa Rosa watershed.

**Comment No. 1c:** Can nitrogen convert to nitrate in groundwater.

**Response:** Yes. Conversion of nitrogen to ammonium, nitrate and nitrite occurs in soil through the natural process of biodegradation.

**Comment No. 1d:** Irrigation spills result in a significant amount of nitrogen discharged to the Laguna during the summer. Special nutrient studies should be conducted upstream and downstream of Rohnert Park and Santa Rosa creeks to discover the extent of the impact of irrigation runoff.

**Response:** Irrigation runoff and spills of recycled water not meeting the definition of incidental runoff are not authorized by this permit and are subject to enforcement actions by the Regional Water Board. Requirements to investigate the impact of unauthorized discharges would be most appropriately established as part of an enforcement action. However, given the geographic and temporal variability of irrigation runoff events and the presence of other sources of pollutants entering creeks, it would be challenging to develop a study that could clearly identify effects of irrigation runoff.

## **TOPIC 2: Reclamation Operation: Discharge Management Plan**

**Comment No. 2a:** This document should be determined by the Regional Water Board Executive Officer to be inadequate because it does not describe the operation of the irrigated water component of the Subregional System.

**Response:** The Permittee's "Discharge Management Plan" was submitted in compliance with a requirement contained in Waste Discharge Requirements Order No. R1-2006-0045 that requires the Permittee to operate its recycled water and disposal flows in accordance with the 2003 *Geyser's Discharge Management Plan*. This Plan was approved by the Executive Officer. The "Discharge Management Plan" provides an update to that document. The Proposed Order requires the Permittee to submit in its Quarterly and Annual Recycled Water Reports much more detailed information about the Permittee's recycled water program than has been required in the past.

**Comment No. 2b:** Does the term "discharge" refer to winter discharge to surface waters and not summer irrigation?

**Response:** Regional Water Board staff has adopted the convention of referring to discharges of waste to land and surface water as "discharges" and differentiated that term from recycled water use and application.

## **TOPIC 3: Reclamation Capacity**

**Comment No. 3a:** RRWPC requests that detailed analysis of urban irrigation wastewater applications be fully analyzed to assure that all reclamation requirements are followed, monitored, and enforced.

**Response:** Before a water recycling project is approved, the Permittee must prepare and submit to CDPH a title 22 engineering report that demonstrates how the recycled water user will comply with title 22 water recycling regulations. To be issued a permit from the City of Santa Rosa the recycled water customer must agree to comply with local rules, regulations, and standards of the Recycled Water User's Guide. Failure to comply with the recycled water user permit may result in termination of recycled water service.

Regional Water Board staff endeavor to ensure that all permittees fully comply with waste discharge requirements and to take appropriate enforcement actions when there is noncompliance. To date, the Regional Water Board staff has conducted thorough reviews of compliance with permit requirements at some use sites within the Rohnert Park area, primarily in response to complaints. However, more detailed analyses of other irrigation sites could be conducted by Regional Water Board staff where site conditions or compliance history indicate that more attention is needed.

**Comment No. 3b:** RRWPC requests that the definition of ‘acres’ on urban irrigation sites not include buildings and impervious surfaces as part of the irrigation area.

**Response:** Regional Water Board staff reviewed the Title 22 Engineering Report for the Permittee’s urban water reuse program submitted to the Regional Water Board on March 15, 2011, for irrigation sites along Stony Point Road between West College Avenue and Occidental Road, along Stony Circle, and for portions of Glenbrook Drive and Occidental Road in Santa Rosa and confirmed that the recycled water use areas are clearly identified in the design drawings and the stated square footage is consistent with the demarcated landscape areas.

**Comment No. 3c:** RRWPC requests that agronomic rates defined for each parcel and parcel maps showing specific areas to be irrigated to avoid impervious surfaces and consequent runoff.

**Response:** Comment noted. It is the expectation of Regional Water Board staff that the agronomic rate calculation not include the area of impervious surfaces.

**Comment No. 3d:** RRWPC believes that in constrained urban areas, only drip irrigation and very low pressure spray should be used to apply wastewater.

**Response:** Regional Water Board staff agrees that drip irrigation and low pressure sprays are ideally suited for constrained areas and areas where there is an elevated risk for runoff as a result of site conditions.

**Comment No. 3e:** RRWPC believes that it essential that conditions for cutting off water delivery of repeat runoff offenders should be spelled out clearly.

**Response:** Section B.5 (Attachment G) of the Proposed Order requires that the Permittee discontinue recycled water service if there is reason to believe that recycled water requirements are not being met and cannot be immediately corrected. Regional Water Board staff has been working with the Permittee to strengthen its procedures for ensuring compliance with water reclamation requirements, including termination of water service for sites where there is repeated noncompliance.

#### **TOPIC 4: Monitoring Program**

**Comment No. 4a:** It constitutes backsliding that visual observations are proposed to be conducted monthly instead of weekly.

**Response:** Water reclamation requirements in the Proposed Order implement state law and, as such, are not subject to federal anti-backsliding requirements. Even if water reclamation requirements were subject to anti-backsliding, the Proposed Order would not violate the requirement because the previous permit did not require visual monitoring of any frequency. The Proposed Order establishes the new permit requirement.

**Comment No. 4b:** RRWPC recommends that the permit require that the frequency of visual observations be adjusted according to the volume applied and user's compliance history.

**Response:** Regional Water Board staff agrees that the frequency of visual monitoring should be adjusted to account for site conditions. Footnote 6, Table E-7, of the Proposed Order was revised to state that "...visual observations shall be conducted at least monthly, with more frequent monitoring at reuse sites where site conditions result in an elevated threat of runoff and at reuse sites where incidental runoff events are routinely reported. Visual observations shall be used to verify..." (emphasis added) Regional Water Board staff will also work with the Permittee to incorporate this concept into its Recycled Water User's Guide and/or its Non-Storm Water BMP Plan.

**Comment No. 4c:** Based on the City's reclamation records, the City of Rohnert Park is regularly overirrigating, resulting in multiple and high volume spills.

**Response:** Regional Water Board staff shares the commenter's concerns about recycled water runoff from reuse sites in Rohnert Park and is working with the Permittee to revise its program to better prevent the occurrence of these runoff events and to improve enforcement of program violations when they occur.

**Comment No. 4d:** Has Regional Water Board staff checked to see if reclaimed water use notification signs are present at schools in Rohnert Park?

**Response:** Regional Water Board staff last inspected recycled water use sites in the Subregional System in 2011. Notification signs were observed at City parks. Schools that use recycled water were not included in that inspection.

**Comment No. 4e:** Reclamation reports should include a detailed irrigation plan to prevent discharge to impervious surfaces where runoff can occur.

**Response:** The Permittee requires that each site prepare a detailed irrigation plan prior to granting approval for receipt of recycled water.

## **TOPIC 5: 2010 Rohnert Park Complaint**

**Comment No. 5:** Given the irrigation runoff at Rohnert Park schools, parks, playgrounds, and the community center, it is unacceptable that the draft permit reduces visual monitoring requirements from weekly to monthly. The Commenter goes on to describe results of her review of recycled water use inspection reports that appear to unrealistic, misleading, or inadequate to document runoff.

**Response:** Although the minimum inspection frequency required by the permit was changed from weekly in the October 2012 draft Order to minimum of monthly inspections in the Proposed Order, the City's Recycled Water User's Guide (page 20) recommends weekly or twice-monthly inspections. Regional Water Board staff has been assured by the Permittee that inspections have historically taken place at a frequency at or greater than the recommended frequency. As an example, the Commenter's attachment provides an example where inspections occurred daily between August 27, 2009 and September 9, 2009.

The 2010 complaint regarding irrigation runoff in Rohnert Park is not the topic of the Proposed Order. However, the Commenter's review does highlight to Regional Water Board staff that there is a need to more closely track recycled water use to better document that it is being applied at agronomic rates and in a manner that does not result in runoff and waste.

### **TOPIC 6: Water Reclamation System Reporting**

**Comment No. 6a:** There is not enough monitoring to detect runoff events and quantify runoff volumes.

**Response:** As explained in the response to Comment No. 5, the Proposed Order requires that recycled water users conduct visual monitoring at least monthly.

**Comment No. 6b:** Use of an objective third-party to conduct inspections is the only way to obtain an accurate assessment of runoff.

**Response:** The concept of self-monitoring is integral to the water quality protection program in the state of California. Permittees in a broad range of regional water board programs are assigned the responsibility for conducting their own compliance sampling. Falsification of monitoring reports is considered to be a rare but serious infraction and companies and/or persons involved are dealt with severely to the maximum extent allowed by law. It is the position of the State Water Board's Enforcement Policy that such enforcement actions are deterrent enough to protect the overall integrity of the self-monitoring system.

**Comment No. 6c:** Commenter recommends requirements including: 1) Parcel-specific analysis to determine appropriate recycled water use and maximum allowable volumes, and 2) Prohibitions and restrictions for use of spray irrigation under certain site conditions.

**Response:** The Proposed Order requires that recycled water users have determined the appropriate application rate, duration, and site specific conditions at each use site so that the application of recycled water for irrigation does not result in runoff. Where there is evidence of runoff that does not meet the definition of incidental, the Regional Water Board will work with the permittee to bring recycled water applications at the site back into compliance, including taking formal enforcement action when appropriate.

**Comment No. 6d:** Commenter recommends no recycled water irrigation from November to April.

**Response:** Regional Water Board staff believes that it is unreasonable to prohibit recycled water use from November through April. The Proposed Order allows recycled water application when the application can meet requirements in the Proposed Order, the City's Recycled Water User's Guide, Attachment G, and the Permittee's Non-Storm Water BMP Plan. Application of recycled water during inappropriate times is also limited by Water Reclamation Requirement B.10 (Attachment G), which prohibits the application of recycled water on saturated or frozen ground or during rainfall events such that runoff is induced.

### **Topic 7: Irrigation Data and Evidence of Excessive Use**

**Comment No. 7a:** The commenter provides examples and an analysis that purports to indicate excessive irrigation at selected recycled water use sites.

**Response:** Regional Water Board staff will follow up with the Permittee regarding these allegations.

**Comment No. 7b:** There are contradictions in the permit about reporting of runoff events. In addition, Section X.E.3 of the MRP is confusing and appears to authorize runoff that is not determined to be incidental.

**Response:** The permit requirement cited (Attachment G, page G-5, section B.12.c) requires correction of leaks within 72 hours, not reporting. Reporting requirements for recycled water runoff are found in section X.E.3 of the MRP (Attachment E). Regional Water Board staff sees no contradiction between reporting requirements.

The Proposed Order includes requirements to minimize or prevent incidental runoff. Runoff that does not meet the definition of incidental is not authorized by the Proposed Order.

**Comment No. 7c:** The permit does not contain specific information about how runoff is to be prevented.

**Response:** Best management practices for the prevention of runoff and the protection of domestic water supply and surface water quality are described the City's Recycled Water User's Guide, Attachment G, and the Permittee's Non-Storm Water BMP Plan.

### **TOPIC 8: Anti-degradation**

**Comment No. 8:** The City's recycled water discharge does not comply with the State anti-degradation Policy.

**Response:** See staff response to (RRWPC) Comment Nos. 2, 5, 19, and 23 (December 2012).

### **TOPIC 9: Constituents of Emerging Concern (CECs)**

**Comment No. 9:** RRWPC expresses concern that CECs are not being monitoring in recycled water.

**Response:** See staff response to (RRWPC) Comment No. 13 (December 2012).

#### **TOPIC 10: Proposed Change in Santa Rosa-Rohnert Park Recycled Water Agreement**

**Comment No. 10:** Will a new agreement between the City of Santa Rosa and the City of Rohnert Park change anything in regards to the permit?

**Response:** No. The City is responsible to ensure that it and its users comply with terms of the permit.

#### **OTHER TOPICS**

**Comment No. 11:** RRWPC expresses concern about authorizing an expansion of the City's recycled water system until the Laguna Nutrient TMDL and the Salt/Nutrient Management Plans are completed and approved.

**Response:** See staff responses to Comment Nos. 3, 20, 23, from the December 2012 comment letter.

**Comment No. 12:** RRWPC requests a public review of the engineering report for the expansion before it is approved by the Regional Water Board Executive Officer.

**Response:** Under terms of the MOA between the State Water Board and CDPH, the title 22 Engineering Report is reviewed and assessed for completeness and adequacy by CDPH. However, Regional Water Board staff will make the report available for public review prior to its approval by the Executive Officer.

**Comment No. 13:** RRWPC provides an analysis of irrigation reports from August 27, 2009 to September 9, 2009 to support its argument that irrigation sites need to be more closely monitored and that the permit should be strengthened to do that.

**Response:** Comment noted.

## **General Public Comments (John Short – Comment Letter No. 1)**

*On December 3, 2012, Mr. John Short submitted comments submitted on the draft Order released on October 31, 2012. Comments from Mr. Short are summarized here by Regional Water Board staff. Please refer to the comment letter for the full text of comments.*

**Comment No. 1: Incomplete List of Beneficial Uses.** The permit does not include the more recently adopted beneficial uses contained in a Basin Plan amendment. Several beneficial uses, including wetland habitat, flood attenuation, cultural resource and subsistence fishing should be included.

**Response:** Wetland Habitat, Flood Attenuation, Native American Culture, and Subsistence Fishing are not designated as beneficial uses specific to the Laguna de Santa Rosa or Santa Rosa Creek, but these water bodies clearly support some of these beneficial uses. Existing beneficial uses for which there is supporting evidence of existing use have been included in the Proposed Order. The Native American Cultural beneficial use is not sufficiently documented at this time to support designation in the draft Order for the Laguna de Santa Rosa and Santa Rosa Creek. See response to Santa Rosa Comment No. 58 from the Permittee’s July 2013 comment letter.

**Comment No. 2: Use of Outdated Water Quality Criteria for Ammonia.** The USEPA has notified the state (see comments on the Sacramento Regional wastewater permit) of new, more protective criteria necessary to protect sensitive aquatic species in freshwater streams. The proposed permit uses scant data and old outdated criteria to determine that no permit limits for ammonia are necessary. This conclusion is reached despite the fact that the Laguna has been previously listed as impaired for ammonia and subsequently delisted without an adequate TMDL and without sufficient data showing the elimination of this pollution. Due to the sensitive nature of the Laguna, the presence of critical endangered species, and the number of other unregulated ammonia discharges in the watershed, I would suggest that numeric ammonia limitations, based on the updated USEPA criteria be included in this permit.

Alternatively, I would ask that any past data be evaluated against the new USEPA criteria to re-evaluate any calculated reasonable potential and the permit changed accordingly, Also, permit references to the old criteria should be revised to use the new criteria or at least to remove reference to old criteria and allow for the generic use of the most up-to-date, scientifically defensible criteria.

**Response:** A reasonable potential analysis was conducted using available monitoring information from Discharge Location 012B, the only discharge location used by the Permittee during the last permit term. Based on the effluent data at the time the RPA was conducted, there was no potential for the discharge to exceed the numeric water quality criterion recommended by the USEPA. The ammonia criterion in the 1999 Update of Ambient Water Quality Criteria for Ammonia (EPA 822-R-99—014) were used for the RPA because the 1999 criteria were the approved criterion during development of the draft Order. Although new recommended water quality criteria for ammonia were recently published (August 22, 2013), Regional Water Board staff has

determined that there was insufficient time in advance of the permit adoption hearing to appropriately apply the new criteria.

At the time of the development of the NPDES permit for the Sacramento Regional County Sanitation District (NPDES Permit No. CA0077682), the 2013 Criteria Update was not yet approved and was also unavailable for use in the NPDES permit for the City's Subregional System. Its application in the Sacramento Regional permit was prospective to provide clear guidance to Sacramento Regional CSD for the design of its proposed nitrification/denitrification treatment system, a circumstance that is not present in the draft Order for the Santa Rosa Subregional System.

**Comment No. 3: Requirements Not Met for Basin Plan Exception for Incidental Runoff.** The two primary regulatory mechanisms intended to protect water resources are (1) treatment standards for setting the quality of treated wastewater used for reclamation and (2) criteria to ensure that reclaimed wastewater is applied at "agronomic rates". If these regulatory safeguards are satisfied, the state has the authority to allow some minimal degradation of ground and surface water quality. The Regional Board has also recognized the importance of reclamation discharges and completed a process to provide exemptions for low volume, accidental releases of reclaimed water that may violate Basin Plan discharge prohibitions. In order to obtain a Basin Plan prohibition exemption, a discharger is required to submit a technical report showing irrigation design criteria and application rates along with a plan to inspect and enforce applicable criteria. Santa Rosa has not completed this process.

**Response:** Exceptions to the Basin Plan's seasonal discharge prohibition are contained in the Basin Plan's Action Plan for Low Threat Discharges and Action Plan for Storm Water Discharges. Both action plans require that a discharger or permittee submit permit application information or, for certain low-threat non-storm water flows (e.g., incidental runoff of recycled water from landscape irrigation), a general management program to eliminate or minimize non-storm water discharges into surface waters. Regional Water Board adoption of the Proposed Order, which includes recycled water management requirements and a directive for the City to implement its Recycled Water User's Guide, satisfies the intent of the Basin Plan requirement to obtain Regional Water Board approval for a recycled water management program.

The Permittee has submitted for approval its Non-Storm Water Discharge Best Management Practices BMP Plan, which complements the Recycled Water User's Guide for control of recycled water use. This document is currently under review by Regional Water Board staff who are working with City staff to improve the document's procedures for tracking and reporting noncompliance with recycled water requirements and to improve enforcement of existing requirements.

**Comment No. 4: Existing Reclamation Sites are Treated as Exempt from State Policy.** The Permit seemingly creates regulatory standards for reclamation discharges, allows groundwater degradation in certain cases, and dismisses potential permit violations while implying that most existing reclamation sites do not meet the stated standards. Discharges (except from future facilities) would not be expected to meet the minimum criteria in the State Recycled Water Policy, the Basin Plan discharge prohibitions and the state anti-degradation policy. The Board seems to imply that existing reclamation sites are somehow

exempt from state policy and only new facilities must comply with minimum standards. While existing reclamation facilities may be “existing facilities” under CEQA, ongoing discharges from these facilities are new discharges under the state water code which clearly states that no one has an inherent right to pollute.

**Response:** All uses of reclaimed water must comply with all applicable state regulations. This is clearly stated in section IV.C.1 of the draft Order. There is no distinction made in the Proposed Order between existing and new reclaimed water sites, except regarding the installation of purple pipe and maintenance of minimum separation requirements for potable water mains and recycled water pipelines. However, confusion may have arisen because Attachment G, section IV, appears to make that distinction by requiring technical reports demonstrating compliance with water recycling requirement for future recycled water use sites and only requiring the Permittee to submit a workplan identifying a plan and compliance schedule for existing recycled water use sites. This confusion has been eliminated by a revision of Attachment G that removes the requirement for technical reports.

**Comment No. 5: Anti-degradation.** As reiterated in a recent state court case, all reclamation discharges must be subject to the state’s anti-degradation water quality policy. According to the permit, the anti-degradation objective can only be met if reclaimed wastewater meets the minimum criteria detailed in the reclamation requirements including application at agronomic rates. The Regional Water Board must make sure that Santa Rosa complies with the minimum state and regional criteria for wastewater reclamation. In addition, Santa Rosa must formally comply with the Basin Plan process for an exception to the Basin Plan prohibitions before any actual discharge of incidental runoff could be forgiven. Any reclaimed water discharge that does not comply with permit reclamation language, anti-degradation objectives, Basin Plan prohibitions or ground water prohibitions must be considered a violation subject to enforcement.

**Response:** In response to anti-degradation, see response to Comment No. 22 from RRWPC (December 2012) and response to Comment No. 3, above, which addresses the need for a Basin Plan exception for incidental runoff.

Exception for incidental runoff from reclaimed water is allowed under both the Action Plan for Low Threat Discharges and the Action Plan for Storm Water Discharges (as a non-storm water discharge). Low-threat point source discharges may be permitted to surface waters and may be exempted from the Basin Plan seasonal and year-round point source discharge prohibition and discharge flow limitation, provided that the following conditions are met: (1) the discharges are regulated under a NPDES permit, and (2) BMPs approved by the Regional Water Board are established and implemented to minimize or prohibit discharges.

**Comment No. 6: Special Studies in Previous Permit.** The basic concept of applying reclaimed wastewater only at agronomic rates (based on nutrients and water demands) is not new. This item was discussed during the last renewal of the Santa Rosa permit. Although many members of the public wanted regulatory language to require that all facilities meet the minimum reclamation criteria immediately, the Board decided to allow time for the discharger and staff to evaluate existing reclamation activities. The Board included a reclamation special study requirement in the previous permit to allow for

upgrades to application rates and existing facilities where necessary. The currently proposed permit is silent about the previous special study or any improvements to existing reclamation facilities. Instead the permit appears to allow the discharger to submit its own informal schedule for regulatory compliance.

**Response:** The Permittee's existing permit, Order No. R1-2006-0045, does not include a special reclamation study. Regional Water Board staff requires that all reclamation activities comply with requirements in title 22 and with all water reclamation requirements contained in the Permittee's waste discharge requirements. The requirement in the draft Order for the Permittee to submit a workplan that includes a compliance schedule was removed from the revised draft Order.

**Comment No. 7: Mercury TMDL for the Laguna de Santa Rosa.** The existing 303(d) list identifies that the Laguna is impaired due to mercury. The permit discusses various 303(d) impairments and permit criteria intended to ensure that the discharge will not cause or contribute to this impairment. Unfortunately, the permit is silent on the mercury listing. Santa Rosa's discharge contains mercury, some in the toxic bio-available form, and some as elemental mercury. Some mercury (and other pollutants) may attach to sediment or algae and not be identified in the typical filtered water samples collected for compliance. Because the City discharges mercury and the Laguna is impaired for mercury, any discharge of mercury should be prohibited.

**Response:** The impairment listing of the Laguna de Santa Rosa for mercury is identified in section III.E, second paragraph of the Fact Sheet. In the following paragraph, it is stated that the mercury TMDL is not yet scheduled.

Effluent monitoring data indicate that Santa Rosa's discharge contains mercury, but at a level below the numeric water quality objective in the California Toxics Rule. The reasonable potential analysis, conducted in accordance with the SIP, found that there was no reasonable potential to exceed the numeric water quality objective. (See Table F-4. Summary of RPA Results) Other information that could be used to make a determination of reasonable potential was considered by Regional Water Board staff, including the fish tissue sampling results on which the mercury listing is based.

Regional Water Board staff has determined that more information is required about the extent of fish tissue contamination, the methylation process in the Laguna, and the contributions of mercury from other sources before additional controls on the discharge of mercury, up to and including a prohibition, are established in the City's NPDES permit. This assessment will occur as part of the mercury TMDL. Until the mercury TMDL is further developed, Regional Water Board staff has determined that weekly effluent monitoring for mercury by the City is appropriate. Additional information on the topic is included in response to Comment No. 13 (J. Short, July 2013).

**Comment No. 8: Sediment Sampling of the Laguna de Santa Rosa is necessary.** Sediment sampling of the Laguna and a study of invertebrate biology is necessary to address this habitat and human health concern from mercury.

**Response:** Comment noted. Regional Water Board staff expects that sediment sampling will be a component of the source assessment in development of the mercury TMDL for the Laguna de Santa Rosa.

**Comment No. 9: Removal of Effluent Limitations for Nitrate constitutes Backsliding.**

The existing Santa Rosa permit contains effluent limits for nitrate intended to protect public health. The proposed permit removes this limitation seemingly in violation of federal anti-backsliding criteria. The permit contains a section to discuss anti-backsliding but does not recognize the nitrate issue. The permit seems to indicate that limited data is available to indicate “reasonable potential” for nitrate. While this explanation may be appropriate for setting new effluent limits it is insufficient to justify the removal of an already established water quality effluent limit. Since Santa Rosa has had discharges exceeding the nitrate limit and it is common knowledge that nitrates in wastewater effluent are a common problem, we do not believe that there is adequate legal justification to remove this previously established limit.

**Response:** A reasonable potential analysis, based on protocol established for the SIP, was conducted using available monitoring information provided by the Permittee. Based on the monitoring data, there was no potential for the discharge to exceed the most stringent water quality criterion, as described in section IV.3.b the Fact Sheet.

Removal of the limitation is allowable based on new information. The finding citing the legal justification for removal of the nitrate limitation is in section IV.D.1 of the Fact Sheet.

## General Public Comments (John Short – Comment Letter No. 2)

*On July 22, 2013, Mr. John Short submitted comments on the revised draft Order released on June 20, 2013. His comments are grouped into topics and summarized here by Regional Water Board staff. Please refer to the comment letter for the full text of comments. The following are staff responses to significant comments:*

### TOPIC 1: Nitrogen Pollution

**Comment No. 1:** The draft revised permit and TSO would rollback progress on limiting pollution in the Laguna and would conflict with . . . [the] existing TMDL – the existing nitrogen TMDL contains specific load reductions targets for wastewater, storm water and dairies. These specific load reductions were never implemented in any regulatory process. There has been no evaluation to determine if any of the TMDL targets have been met. Allowing a significant new discharge of nitrogen to the Laguna without evaluating compliance with the existing TMDL is inappropriate.

**Response:** The net load goals for total nitrogen and total ammonia identified in the 1995 TMDL, known as the *Waste Reduction Strategy for the Laguna de Santa Rosa*, are not enforceable because the TMDL lacked a firm compliance date. To remedy this, these goals will be replaced with updated waste load allocations when the updated nutrient TMDL for the Laguna de Santa Rosa is adopted.

The Proposed Order replaces the seasonal mass-based effluent limitation for total nitrogen with a performance-based concentration limitation, expressed as a monthly average. A performance-based effluent limitation will ensure that the Permittee will maintain its existing level of nitrogen removal and prevent water quality degradation while the Permittee reduces or offsets phosphorus discharges.

**Comment No. 2:** The draft revised permit and TSO would rollback progress on limiting pollution in the Laguna and would conflict with . . . other regulatory programs . . .” including dairies, municipal storm water, and onsite wastewater treatment systems. “It would be inconsistent and unfair to increase nitrogen discharges from the City’s wastewater facility while requiring costly nitrogen controls for other dischargers in the watershed.

**Response:** The effluent limitations for total nitrogen that have been revised in the Proposed Order are performance-based and will not lead to an increase in nitrogen discharges compared to the previous permit. In the absence of a completed nutrient TMDL for the Laguna de Santa Rosa, it is speculative to assume what nitrogen controls will be required by its implementation plan.

**Comment No. 3:** The draft revised permit and TSO would rollback progress on limiting pollution in the Laguna and would conflict with Regional Board staff technical findings. The [June 14, 2013 Fitzgerald] technical report contained substantial findings to support the existing nitrogen effluent limit (zero-net loading) and does not offer any substantial new information to conclude that discharges of nitrogen from this facility would not cause or contribute to exceedances of water quality standards. In part, the technical memo concludes that excessive nitrogen is a ‘causative agent’ of an aquatic systems

biostimulatory response. . . .After reviewing 377 data points, staff found that at least 358 are exceeding water quality criteria. . . .”

**Response:** Regional Water Board staff determined there is no reasonable potential for total nitrogen to cause or contribute to exceedances of the Biostimulatory Substances Water Quality Objective, and the technical memorandum from Rebecca Fitzgerald dated June 14, 2013, does include new information to support this determination. However, staff recognizes that the link between the memorandum’s evaluation of total nitrogen data, the discussion of phosphorus as the limiting nutrient, and the interpretation of the objective was not as linear as it could have been. A revised memorandum was issued on October 22, 2013 (see Attachment to Executive Officer’s Summary Report), to provide additional clarification in response to this and other comments.

In order to interpret the narrative Biostimulatory Substances Water Quality Objective, staff evaluates available data and information under three distinct categories: biostimulatory stressors, indicators of a biostimulatory response, and stressor-response relationships. Biostimulatory stressors (or causal factors) include, but are not limited to: concentrations of total nitrogen and total phosphorus, water temperatures, riparian cover, channel geometry, and stream flows. Response indicators include, but are not limited to: concentrations of dissolved oxygen and chlorophyll a (a measure of algal biomass), pH levels, and other observable phenomena such as macrophytes and algae blooms, and changes in the species composition of plant and animal communities that occupy the water body. The Revised Fitzgerald Memorandum identifies recommended numeric criteria or objectives for both stressors and response indicators, and also compares available data to those criteria or objectives.

Where sufficient site-specific data are available, staff use a combination of research, analysis, and/or modeling to characterize relationships between biostimulatory stressors and observed responses, and if possible, to determine which stressors cause (or control) those responses in a particular water body. As described in the Revised Fitzgerald Memorandum, data and information available for the mainstem Laguna and lower Mark West Creek indicate that, based on current conditions, phosphorus is the primary nutrient stressor that limits algal and macrophytic biomass production, and thus causes harmful biostimulatory responses such as decreases in dissolved oxygen levels. Reductions in nitrogen loads beyond current levels are not expected to result in added protections of the beneficial uses, or significant water quality improvements.

**Comment No. 4:** The draft revised permit and TSO would rollback progress on limiting pollution in the Laguna and would “conflict with . . . permitting history – the existing permit contains conservative pollutant limits for nutrients.”

**Response:** The change in the effluent limitation of nitrogen from no net loading to a performance-based concentration limitation was as a result of new information that is described at length in the Fact Sheet. Less stringent permit requirements in renewed NPDES permits are permissible where there are findings made in accordance with 40 CFR 122.44(l). Regional Water Board staff found that a relaxation of the final limitation for nitrogen was allowable based on new information.

**Comment No. 5:** While preliminary discussions regarding eventual TMDL strategies point toward phosphorous as the 'limiting nutrient,' much work remains to be completed. The TMDL will require detailed scientific peer review as well as formal review by technical experts from USEPA and the SWRCB.

**Response:** While the TMDL will undergo scientific peer review and consideration by the State Water Board and the USEPA, staff is confident in the data, the cited and relied upon published literature, and conclusions that are presented in the technical memo, including those related to phosphorus as the limiting nutrient. The data were appropriately referenced and made available in the draft Order.

**Comment No. 6:** "Even if technical experts agree that phosphorous is the 'limiting nutrient,' that does not mean that limits for other nutrients are not needed, particularly where ambient nitrogen levels exceed water quality standards. Indeed, waterbodies with nutrient biostimulatory pollution commonly have a single nutrient that is most limiting. That does not mean that other nutrients should not also be controlled."

**Response:** Staff determined that reducing total nitrogen below current levels will not result in any improvement in the biostimulatory response seen in the Laguna de Santa Rosa and lower Mark West Creek. Please refer to the response to Comment No. 3. Since a water quality benefit to biostimulatory responses from further reductions in total nitrogen is not expected, it is unnecessary to require a no net loading limitation for total nitrogen at this time.

**Comment No. 7:** Discharges of nitrogen permitted under this permit will violate receiving water limitations for biostimulatory substances and the State Anti-degradation Policy.

**Response:** For discussion of the reasonable potential analysis for nitrogen to exceed the narrative water quality objective, see response to Comment No. 3, above, and the Fact Sheet. The performance-based limitation for nitrogen is established in the Proposed Order to comply with anti-degradation requirements.

**Comment No. 8:** Instead of relaxing and/or granting additional time to comply with effluent limitations for nitrogen and phosphorus, a better approach would be for the City should consider small-scale nutrient offset projects with broad public support that will set the stage for future watershed-wide TMDL efforts.

**Response:** Regional Water Board staff is in active discussions with the Permittee related to the development of a wide range of potential offset projects.

**Comment No. 9:** There is no information in the permit package to conclude that the additional discharge of 42,000 pounds per year of nitrogen would be protective of water quality.

**Response:** This proposed seasonal discharge limitation has been replaced with a concentration-based limitation that is based on the Permittee's recent treatment performance. Regional Water Board staff expects that discharges containing nitrogen at this existing performance level will not cause degradation of existing water quality.

**Comment No. 10:** If the Regional Water Board decides to grant additional time to comply with effluent limitations, the City should be required to conduct small scale pollution education projects, provide BMP installation grants, and fund restoration projects from the Laguna watershed management plan for each year of deferred compliance.

**Response:** Regional Water Board staff expects that any additional time granted under terms of a TSO will be used by the Permittee to develop nutrient offset projects that will reduce phosphorus loading to the Laguna de Santa Rosa prior to implementation of the nutrient TMDL and that will improve habitat and ecosystem conditions in the long-term.

**Comment No. 11:** The City should fund a watershed advocate whose mission would be to educate residents about the problems in the Laguna.

**Response:** Comment noted.

## **TOPIC 2: Mercury Pollution**

**Comment No. 12:** Subsistence fishing and cultural uses of the Laguna by Native Americans are current beneficial uses that are severely threatened by mercury bioaccumulation.

**Response:** The presence and extent of the beneficial uses and the threat to them from mercury contamination of fish tissue is not yet fully understood. Regional Water Board staff anticipates that these relationships will be better understood as a result of the mercury TMDL for the Laguna de Santa Rosa and appropriate actions will occur at that time. See also response to Comment No. 1 from John Short's December 2012 comment letter.

**Comment No. 13:** It is crucial that the Regional Board start mercury monitoring and assessment activities as soon as possible. The bioaccumulation of mercury threatens endangered salmonids as well as all other aquatic species in the Laguna. Protection of public health, particularly seasonal workers, the homeless and Native Americans living adjacent to the Laguna, is an urgent issue (with associated concerns for environmental justice) that should not be ignored.

**Response:** Regarding effluent limits:

Regional Water Board staff has determined that effluent limits for mercury are not required because there is no reasonable potential for the discharge of mercury from the Laguna Wastewater Treatment Facility to exceed the most stringent water quality objective or water quality criterion of 0.050 ug/L. For total mercury, the maximum effluent concentration measured was 0.00276 ug/L from discharge points 006A, 006B, and 015, and 0.00164 ug/L from discharge points 012A and 012B.

The regional and state water boards are currently developing a Statewide Mercury Program to restore and improve the chemical, physical, and biological integrity of our waters by reducing levels of mercury in order to support beneficial uses such as fish consumption and wildlife protection. Options for the Statewide Mercury Program include the establishment of new water quality objectives for methylmercury in fish

tissue and implementation actions for NPDES facilities. Entities responsible for NPDES facilities could be required to monitor mercury in discharges. The Permittee is already monitoring weekly for total mercury in its discharge. Under the Statewide Mercury Program, it is also possible that NPDES facilities could be subject to WQBELs, which could be derived using performance-based limits or derived from the fish tissue methylmercury objective (which could be converted to aqueous total mercury concentrations using bioaccumulation factors and translators). Until the Statewide Mercury Program is adopted and takes effect, Regional Water Board staff is relying upon the findings of the reasonable potential analysis mentioned above.

Regarding monitoring and special study requirements:

In this instance, Regional Water Board staff maintain that it is not appropriate for one discharger of mercury to be responsible for assessing other sources of mercury in the watershed. There is a lack of a nexus between the discharge of mercury from the Laguna Wastewater Treatment Facility and other potential sources of mercury in the watershed, which likely include the erosion of soil with naturally high levels of mercury, atmospheric deposition, and storm water runoff from urban areas. Mercury mines can also be a source, although staff is not currently aware of any mercury mines within the Laguna de Santa Rosa watershed.

## **Coast Action Group (CAG)**

**Comment No. 1: Removal of Effluent Limitations for Nitrate constitutes Backsliding.** CAG supports continuing the objective of Zero Net Discharge of nutrients as part of this permit. This is an important facet of controlling nutrient inputs that are an issue in the Laguna de Santa Rosa.

**Response:** Comment Noted. Also see response to Comment No. 9 from John Short's December 2012 comment letter.

**Comment No. 2: Monitoring of Effluent Discharges and Groundwater for Nutrients and other Chemicals.** There should be a robust monitoring program in place to assess issues of effects of nutrient discharges in the Laguna. Since the permit allows for distribution of tertiary wastewater there should also be in place monitoring for nutrient effects from same as well as monitoring for effects of chemicals known to exist in waste water that may make their way into ground and surface waters.

**Response:** The Proposed Order requires weekly monitoring of phosphorus and nitrogen compounds for treated effluent discharged to surface waters and monthly monitoring of recycled water for nitrogen compounds. Receiving waters are required to be monitored monthly for phosphorus and nitrogen compounds when there is a surface water discharge.

The Recycled Water Policy states that the appropriate way to address salt and nutrient issues arising from water reclamation was through SNMPs rather than imposing requirements on individual recycled water projects. Accordingly, groundwater monitoring proximate to individual recycled water sites is not prescribed in the Proposed Order.

**Comment No. 3: Fertilizer Use on Irrigated Lands Exacerbates Nutrient Pollution in Laguna and Violates Anti-degradation Policy.** When runoff occurs, which happens frequently, it not only carries with it the herbicides, pesticides, and fertilizers, etc. that are applied to the land prior to irrigation with wastewater, but also exacerbates nutrient pollution in the Laguna and Russian River. This violates anti-degradation requirements and more serious measures should be in place to assure it will not happen. This NPDES permit and reclamation plan must demonstrate how anti-degradation requirements are met.

**Response:** Water recycling requirements in the Proposed Order are consistent with the State's Recycled Water Policy. See response to (RRWPC) Comment No. 2 and elsewhere. As described in the Recycled Water Policy, a water recycling project may be approved without further anti-degradation analysis if the project meets criteria for a streamlined irrigation permit, which includes appropriate consideration and use of fertilizer at water use sites.

**Comment No. 4: Phosphorus Limitations and Monitoring.** The City should be required to meet phosphorus limits in addition to nitrogen limits; agronomic rates should be

adjusted daily; irrigation should take place when plants are most in need of water (not in middle of night), and monitoring of pesticides and other toxins should be monitored (especially most common and dangerous ones) monthly.

**Response:** The Proposed Order includes a narrative (BMP-based) effluent limitation for total phosphorus, expressed as not net loading. An explanation of the rationale for this effluent limitation is provided in the Fact Sheet and in the response to the Permittee's Comment No. 1 from its July 2013 comment letter.

Nutrient levels in the City's highly treated recycled water are consistently low, approximately 9 mg/L total nitrogen and 2 mg/L total phosphorus, and contribute no more than 35 percent of nutrient needs for turfgrass, according to the Permittee. Consequently, nutrient applied through irrigation of recycled water is not considered by Regional Water Board staff to create a significant potential for impacts to groundwater quality. Numeric reclamation limitations for nitrogen and phosphorus for recycled water are unnecessary.

Irrigated lands accept and absorb applied water both at all times during the day. Irrigation during non-daylight hours promotes more efficient water use by reducing wind drift and evaporation and reduces the opportunity for direct public exposure to recycled water.

Priority pollutants, which include pesticides and other chemicals that pose a threat to aquatic life and human health, have been monitored in the City's treated effluent at least quarterly for many years. Monitoring results have demonstrated that the City's treated effluent, much of which is delivered to the recycled water system, is relatively free of harmful levels of priority pollutants. Regional Water Board staff has determined that quarterly monitoring for priority pollutants is appropriate based on previous monitoring results.

**Comment No. 5: Phosphorus Limitations and Monitoring.** The Anti-degradation Policy and BMPs should be in place to protect ground and surface waters from potential effects of recycled water distribution.

**Response:** Minimum BMPs are listed in Attachment G, section B.12. In addition, the City Recycled Water User's Guide contains management practices and design guidelines for recycled water projects to protect groundwater and surface water.

**Comment No. 6: Phosphorus Limitations and Monitoring.** A letter from CAG to the SWRCB on Recycled Water Policy is included to define our concern regarding the use of recycled water for irrigation.

**Response:** Comment Noted.

**Russian River Watershed Association (RRWA)**

*Comments from the RRWA are summarized here by Regional Water Board staff. Please refer to the comment letter for the full text of comments.*

**Comment No. 1: New Water Recycling Requirements.** New Recycled Water Requirements are overly burdensome without identifiable benefit.

**Response:** See Response to Comment No. 3 from the City of Santa Rosa.

**Comment No. 2: Quarterly Meeting with Site Supervisors is Infeasible.** Requirement to meet quarterly with site supervisors is infeasible given the size of the City's reclamation system and a disincentive for expansion of the system.

**Response:** This requirement was removed from the Proposed Order.

**Comment No. 3: Support for City of Santa Rosa.** RRWA supports the City of Santa Rosa's recommended changes.

**Response:** Comment noted.

## **Northern California River Watch – Comment Letter No. 1**

*Northern California River Watch submitted comments on December 7, 2012, after the close of the comment period. Comments from River Watch are summarized here by Regional Water Board staff. Please refer to the comment letter for the full text of comments.*

### **Comment No. 1: The Permit Should Include a 100 foot Setback from Waterways for Spray Irrigation Application and Requirement for Drip Irrigation for Median Strips.**

Irrigation spray can project wastewater containing unregulated chemicals (including endocrine disrupting chemicals and pharmaceuticals) through the air, thereby expediting human contact and water contamination. We request that all current and future spray irrigation take place at least 100' from waterways unless preferred drip irrigation is used. Median strips should only be drip irrigated.

**Response:** See responses to RRWPC related to threats posed by over-irrigation. The request for the draft Order to include minimum setbacks is responded to in response to (RRWPC) Comment Nos. 21 and 26.

### **Comment No. 2: Fertilizer Use on Irrigated Lands Exacerbates Nutrient Pollution in Laguna and Violates Anti-degradation Policy.**

Concerned with all pesticide application residues and byproducts and their accumulative potential. When runoff occurs, which happens frequently, it not only carries with it the herbicides, pesticides (such as 1,3-Dichloropropene, Glyphosate, and Mancozeb), and fertilizers, etc. that are applied to the land prior to irrigation with wastewater, but also exacerbates nutrient pollution in the Laguna and Russian River. This violates anti-degradation requirements and more serious measures should be in place to assure it will not happen. Santa Rosa should be required to meet Phosphorus limits in addition to Nitrogen limits; agronomic rates should be adjusted daily; irrigation should take place when plants are most in need of water (not in middle of night), and monitoring of pesticides and other toxins should be monitored (especially most common and dangerous ones) monthly.

**Response:** See response to RRWPC Comment No. 2 for response to questions regarding fertilizer use. See response to RRWPC Comment Nos. 19 and 26 regarding compliance with the State Anti-degradation Policy for recycled water.

**Comment No. 3: Monitoring for Estrogen and chemotherapy Drugs.** We are concerned about the adequacy of monitoring of the above pollutants, especially estrogen (17B-estradiol), which should be regularly monitored in the wastewater used for irrigation. We also support fish tissue samples from Laguna fish living full time in highly impaired waterway. Chemo drugs are another concern and should be tracked.

**Response:** See response to (RRWPC) Comment No. 13.

## **Northern California River Watch – Comment Letter No. 2**

*On July 22, 2013, Northern California River Watch submitted comments on revised draft Order released on June 20, 2013. Comments from River Watch are summarized here by Regional Water Board staff. Please refer to the comment letter for the full text of comments.*

**Comment No. 1:** River Watch incorporates by reference comments from other parties related to the failure to comply with anti-degradation requirements, undermining of the 1995 TMDL requirements, violation of anti-backsliding regulations for relaxation of nitrogen limitations, the lack of BMPs for irrigation, and the failure to incorporate proper effluent controls for mercury.

**Response:** For Regional Water Board staff responses regarding anti-backsliding and antidegradation considerations due to relaxation of effluent limitations for nitrogen in the Proposed Order see responses to the July 2013 comments from John Short (“Topic 1 – Nitrogen Pollution”). Staff responses to anti-degradation concerns expressed by RRWPC are provided in response to the December 2012 comment letter (Comment Nos. 2, 5, 19, 22, 23). Staff responses to comments regarding the need for BMPs for irrigation of recycled water is provided throughout the staff response to RRWPC. For responses to comments regarding mercury, see Staff responses to the July 2013 from John Short (“Topic 2 – Mercury Pollution”).

In addition, a discussion of compliance with anti-backsliding requirements for nitrogen limitations is discussed in the permit Fact Sheet.

**Comment No. 2:** the Draft Permit fails to indicate compliance with effluent limitations set forth in the California Toxics Rule (40 CFR Part 136) as well as other limitations, such as for temperature, set forth in the previous permit.

**Response:** Regional Water Board staff does not understand this comment. Water quality-based effluent limits for priority pollutants listed in the CTR are established in the Proposed Order where Regional Water Board staff has determined that pollutants are discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above a water quality criterion, in accordance with the SIP. The City complies with receiving water limitations for temperature in accordance with its Receiving Water Monitoring Plan, as described in the ROWD and the Proposed Order.

## **General Public Comments (Comment Form Letter No. 1)**

*Approximately forty form letters were submitted by post or email during the comment period that closed on December 4, 2012. Comments from this letter are summarized here by Regional Water Board staff. Please refer to the comment letter (typical) for the full text of comments.*

### **Comment No. 1: The Permit Should Include a 100 foot Setback from Waterways for Spray Irrigation Application and Requirement for Drip Irrigation for Median Strips.**

Irrigation spray can project wastewater containing unregulated chemicals (including endocrine disrupting chemicals and pharmaceuticals) through the air, thereby expediting human contact and water contamination. We request that all current and future spray irrigation take place at least 100' from waterways unless preferred drip irrigation is used. Median strips should only be drip irrigated.

**Response:** See responses to RRWPC related to threats posed by over-irrigation. The request for the draft Order to include minimum setbacks is responded to in response to (RRWPC) Comment Nos. 21 and 26.

### **Comment No. 2: Fertilizer Use on Irrigated Lands Exacerbates Nutrient Pollution in Laguna and Violates Anti-degradation Policy.**

Concerned with all pesticide application residues and byproducts and their accumulative potential. When runoff occurs, which happens frequently, it not only carries with it the herbicides, pesticides (such as 1,3-Dichloropropene, Glyphosate, and Mancozeb), and fertilizers, etc. that are applied to the land prior to irrigation with wastewater, but also exacerbates nutrient pollution in the Laguna and Russian River. This violates anti-degradation requirements and more serious measures should be in place to assure it will not happen. Santa Rosa should be required to meet Phosphorus limits in addition to Nitrogen limits; agronomic rates should be adjusted daily; irrigation should take place when plants are most in need of water (not in middle of night), and monitoring of pesticides and other toxins should be monitored (especially most common and dangerous ones) monthly.

**Response:** See response to RRWPC Comment No. 2 for response to questions regarding fertilizer use. See response to RRWPC Comment Nos. 19 and 26 regarding compliance with the State Anti-degradation Policy for recycled water.

**Comment No. 3: Monitoring for Estrogen and chemotherapy Drugs.** We are concerned about the adequacy of monitoring of the above pollutants, especially estrogen (17B-estradiol), which should be regularly monitored in the wastewater used for irrigation. We also support fish tissue samples from Laguna fish living full time in highly impaired waterway. Chemo drugs are another concern and should be tracked.

**Response:** See response to (RRWPC) Comment No. 13.

**Comment No. 4: Ponding of Recycled Water.** Ponding is a sign of over-irrigation and should only be allowed for brief amounts of time, such as one hour, but not 24 hours as allowed in the draft Order.

**Response:** See response to (RRWPC) Comment No. 5.