CITY OF STOCKTON

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TENTATIVE WASTE DISCHARGE REQUIREMENTS AND TIME SCHEDULE ORDER FOR CITY OF STOCKTON REGIONAL WASTEWATER CONTROL FACILITY

The City of Stockton (City) is in receipt of the Tentative Waste Discharge Requirements (Tentative Order) and Time Schedule Order (Draft TSO) for the City's Regional Wastewater Control Facility (RWCF). On behalf of the City, I would like to thank you and your staff for your efforts in putting forth the Tentative Order. In general, the City believes that it can substantially comply with the Tentative Order and supports a majority of the provisions contained therein. However, the Tentative Order includes some provisions that are of concern to the City. Our detailed comments, and recommended revisions related to the issues of concern are provided below.[1]

Effluent Limitations for Electrical Conductivity

As expressed in our comments on the preliminary draft submitted on July 18, 2008, the City is concerned with the alternative seasonal limitations for electrical conductivity (EC) of 700 µmhos/cm (1 April - 31 August), and 1,000 µmhos/cm (1 September - 31 March). It is our understanding that these proposed final effluent limits have been imposed based on a belief that the South Delta water quality objectives apply to the City's point of discharge. (Tentative Order at p. F-39.) The Tentative Order proposes to apply the South Delta objectives by claiming the compliance location at the Brandt Bridge on the

[1] The City submitted comments to the Regional Water Quality Control Board (Regional Water Board) on July 18, 2008. The City hereby incorporates by reference the City's previous comments and all attachments thereto to these comments pursuant to Title 23 of the California Code of Regulations section 648.3.

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San Joaquin River is in the same geographical area as the City's discharge. (*Id.*) The City disagrees, and believes these EC limits are improper.

First, the South Delta water quality objectives are not an appropriate basis for regulation of the RWCF. In fact, the City's point of discharge on the San Joaquin River is over 6 miles downstream of the Brandt Bridge, and the City's mixing zone for its discharge extends only 3.5 miles upstream. (Tentative Fact Sheet at p. F-21.) Considering the distance between the City's point of discharge and Brandt Bridge, and that the City's effluent does not affect compliance at Brandt Bridge, the City fails to see how the South Delta objectives would apply to the San Joaquin River at the City's point of discharge. Because they are not applicable, the alternative final seasonal limits should be removed from the Tentative Order.

Second, water quality in the Delta is currently at the center of many processes, including but not limited to the Delta Vision Process, the Bay Delta Conservation Plan, State Water Resources Control Board (State Water Board) and Regional Water Board Strategic Plans for the Delta, development of a Central Valley and Delta Salinity Management Plan, and multiple efforts to address pelagic organism decline. In addition, the South Delta salinity standards are currently under review by the State Water Board in accordance with implementation provisions contained in the Bay-Delta Water Quality Control Plan. This review in process includes an updated, independent scientific investigation of irrigation salinity needs in the southern Delta. Due to all of these efforts, and others, there are considerable questions as to what salinity standards are applicable for various areas of the Delta in general, and the San Joaquin River where the effluent is discharged from the RWCF specifically. It is not appropriate to include final effluent limitations for EC in the City's Tentative Order, especially based on the South Delta salinity standards, considering the number of unknowns, and in particular, the impact that all of these processes may have on water quality in the San Joaquin River. To address this uncertainty, the City recommends that the Tentative Order include a finding that identifies EC as a constituent of concern for the future that must be reevaluated. In the meantime, an interim limitation based on current performance combined with provisions that require the City to take reasonable steps to control salinity to the extent feasible, will ensure that the City's discharge remains at or below its current level. For this finding, we recommend the following language:

> <u>This Order contains interim limitations for electrical conductivity (EC). This Order requires the Discharger to update and implement a pollution prevention plan for salinity and demonstrate reasonable progress in reducing salinity in its discharge to the San Joaquin River. A final EC limit may be included in a subsequent renewal or amendment of this Order if the State Water Board adopts new or revised water quality objectives for salinity in the Delta that would apply to the San Joaquin River where the Discharger discharges its effluent.</u>

Furthermore, when there are no adopted numeric objectives, and when the Regional Water Board intends to rely on the Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985) (UN Report), the Regional Water Board is required to consider site-specific factors. "The UN Report makes it clear that site-specific considerations are important in assessing irrigation water suitability." (*In the Matter of the Own Motion Review of City of Woodland*, Order WQO 2004-0010 (June 7, 2004) at p. 7.) Because the agricultural water quality goals in the UN Report are not intended to be interpreted as absolute values, the Regional Water Board must consider site-specific factors such as rainfall, soil quality and type, etc. before applying the values as contained therein. If such information is not readily available, it is appropriate to require a study to obtain the relevant information before adopting effluent limitations based on the agricultural water quality goals. Such a process is consistent with the State Water Board's conclusions in Order WQO 2004-0010. (*Id.* at pp. 7-9.) Such a process is also consistent with the Regional Water Board's permitting approach for EC in other similar permits. (See Order No. R5-2008-0055, Waste Discharge Requirements for City of Vacaville Easterly Wastewater Treatment Plant.)

Thus, in this case, the Regional Water Board should remove all final effluent limitations for EC from the Tentative Order. In lieu of final effluent limitations, the Tentative Order should include an interim limitation for EC of 1,300 µmhos/cm as an annual average and include the above-recommended finding regarding salinity provisions within the Tentative Order.

Banking Provisions for Mercury

The City's existing permit establishes a mercury-banking program. (See Order No. R5-2002-0083 at p. 26.) In reliance on these provisions, the City has worked diligently to reduce mercury in its effluent and to establish a mercury-banking program. The Tentative Order removes the banking provisions, and fails to provide any explanation for the removal. Further, the Tentative Order fails to preserve or provide the City with any credits banked under Order No. R5-2002-0083. To preserve the mercury-banking program and previous banked credits, the City recommends that the Tentative Order at section IV.A.2.a, page 12 be amended as follows:

> Mercury. The total annual mass discharge of total mercury shall not exceed 0.92 pounds. This interim performance-based limitation shall be in effect until the Regional Water Board establishes final effluent limitations after adoption of the final Sacramento-San Joaquin Delta Methylmercury TMDL. Actual mass loading over or under this limitation shall be banked for future offset in accordance with Order R5-2002-0083, and shall not be considered a violation as long as the Discharge has a positive net total in the bank, including consideration of credits banked under Order R5-2002-0083.

Reclamation Specifications

The City is concerned that the Reclamation Specifications language in the Tentative Order may inadvertently restrict the City's ability to use treated wastewater for a variety of on-site uses. (Tentative Order at p. 12.) Under the Tentative Order, it appears that on-site uses would be limited to landscape irrigation, and through this limitation would exclude other important uses such as wash-down water for equipment, process water for the belt presses and gravity belt thickeners, and injector water for the disinfection process. The restriction of on-site uses here is inappropriate and inconsistent with the provisions of Title 22 of the California Code of Regulations. Section 60303 of Title 22 specifically states that "[t]he requirements set forth in this chapter shall not apply to the use of recycled water onsite at a . . . wastewater treatment plant, provided access by the public to the area of onsite recycled water use is restricted." (22 C.C.R. § 60303.) In other words, onsite uses of recycled water at the wastewater treatment plant are not subject to Title 22 and, therefore, reclamation specifications as articulated in the Tentative Order are not required or appropriate for onsite uses at the RWCF.

To properly clarify application of the reclamation specifications as they appear in the Tentative Order, the City recommends that the Tentative Order at section IV.C.1, page 12 be revised as follows:

> Offsite use of reclaimed water covered by this Order shall be limited to dust control, and compaction by building contractors, and street sweeping~~, and limited on-site landscape irrigation~~. Additional offsite specific reclamation uses may be approved by the Executive Officer with the submission of a written report demonstrating, to the satisfaction of the Executive Officer, that the uses will be in compliance with the terms of this Order.

Furthermore, V.B.5.g. should be revised to delete the reference to "or employee" as it implies that this provision applies to employees at the wastewater treatment facility.

Salinity Reduction Goal

The Tentative Order contains a salinity reduction goal that requires the City to demonstrate reasonable progress in reducing salinity in its discharge to the San Joaquin River. (Tentative Order at p. 25.) Further, the Tentative Order would establish an intermediate goal of source water plus an increment of 500 µmhos/cm. According to the Regional Water Board's *Management Guidance for Salinity in Waste Discharge Requirements*, this goal is consistent with an effluent limitation in the Tulare Lake Water Quality Control Plan (Tulare Lake Basin Plan), and represents best practical treatment or control for municipal dischargers subject to the Sacramento-San Joaquin River Basins Water Quality Control Plan (Sacramento-San Joaquin Basin Plan). The City disagrees with the use of the increment-based goal here because it is unrealistic and not reflective of actual consumptive uses.

The Tulare Lake Basin Plan is not, of course, applicable to the San Joaquin River or the City of Stockton. It is not appropriate to import a provision from a separate Basin Plan not adopted for this Basin. Moreover, when the Tulare Lake Basin Plan was reviewed and updated in 1995, there was considerable discussion regarding the use of 500 µmhos/cm as the appropriate measure of mineral pick-up for municipal use. In particular, the City of Fresno submitted comments that questioned the increment of 500 µmhos/cm as a measurement of typical consumptive uses. (Administrative Record for the Water Quality Control Plan for the Tulare Lake Basin, City of Fresno Wastewater Management Division, Comments on the Proposed Water Quality Control Plan for the Tulare Lake Basin (Aug. 1, 1995) at p. 1282.)[2] In its comments, Fresno indicated that the 500 µmhos/cm increment was one value from the literature where there was *only* domestic use (i.e., no industrial or commercial uses) and where there were *no water softeners*. In other words, the 500 µmhos/cm increment is not reflective of mineral pick-up that occurs when municipal wastewater also includes inputs from industrial and commercial sources as well as water softeners. Based on the comments and testimony received, the Regional Water Board staff admitted that the effluent limitation was based on typical increases that occur from domestic use and that it was an issue that should be revisited due to changes in the Valley. (Administrative Record for the Water Quality Control Plan for the Tulare Lake Basin, Item 3, Consideration of Adopting Proposed new Edition of the Water Quality Control Plan for the Tulare Lake Basin and the Workplan for the Triennial Review (Aug. 17, 1995) at p. 1399.)[3]

In 2002, the Regional Water Board adopted its *Issue List and Work Plan for the 2002 Triennial Review of the Water Quality Control Plan for the Tulare Lake Basin*, which represents major water quality concerns based on current knowledge. (http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/index.shtml.) Issue 3 on the list was the "Electrical Conductivity Effluent Limit," which limits municipal and domestic discharges to the EC of the source water plus 500 µmhos/cm. As part of the work plan, the Regional Water Board determined it necessary to study the characteristics of municipal wastewater to determine typical mineral composition, sources of atypical salt concentrations, and alternative salinity control measures. However, it is unclear to the City whether the studies were conducted, or if the Regional Water Board affirmatively decided to maintain the 500 µmhos/cm increment effluent limitation in the Basin Plan as a valid measure of mineral pick-up. In light of questions and concerns surrounding the appropriateness of the 500 µmhos/cm increment, and the lack of further information to support is applicability, the City recommends that the Tentative Order be revised to remove the reference to an increment of 500 µmhos/cm over source water as an appropriate intermediate goal.

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[2] The document from the Administrative Record for the Water Quality Control Plan for the Tulare Lake Basin cited here is hereby incorporated by reference pursuant to Title 23 of the California Code of Regulations, section 648.3.

[3] The document from the Administrative Record for the Water Quality Control Plan for the Tulare Lake Basin cited here is hereby incorporated by reference pursuant to Title 23 of the California Code of Regulations, section 648.3.

Further, the City is concerned that the water supply value identified in the Tentative Order (i.e., 273 µmhos/cm) is not reflective of the City's actual water supply on a weighted, annual average basis. The City's water supply quality can vary significantly depending on the availability of surface water supply and degree of reliance on groundwater wells. Also, EC values will fluctuate pending the type of wet season, with EC values increasing during drought conditions because of water conservation efforts.

Based on our concerns, the City recommends that the Tentative Order, at section VI.C.3, page 25 be revised as follows:

> The Discharger shall provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to the San Joaquin River. The Regional Water Board finds that ~~an annual average salinity goal of the maximum weighted average electrical conductivity of the City of Stockton's water supply (i.e. 273 µmhos/cm in March 2005), plus an increment of 500 µmhos/cm for typical consumptive use, is a reasonable, intermediate goal that can be achieved through~~ the proper implementation of a pollution prevention plan is presumed to provide reasonable progress in reducing salinity in its discharge. The Discharger shall submit annual progress reports in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.)

Treatment Pond Operating Requirements

The Tentative Order contains new pond operating requirements, including a requirement that ponds should maintain a freeboard of at least two-feet at all times. (Tentative Order at p. 26.) The City is concerned with this new provision for several reasons. First, the City's ponds are currently regulated by the Division of Dam Safety (DODS) within the Department of Water Resources. To the extent that the Regional Water Board intends to impose the requirement to prevent flooding, the Regional Water Board is not the appropriate entity with jurisdiction. As such, the Regional Water Board should delete the freeboard requirements in deference to DODS' regulatory authority.

Second, the Tentative Order fails to provide sufficient justification for the new freeboard requirement. The Fact Sheet to the Tentative Order merely states, "[r]equirement for the operation and maintenance of the treatment ponds are established to prevent flooding, reduce nuisances, and reduce public health concerns." (Tentative Order at p. F-73.) Except for the prevention of flooding, which is addressed immediately above, the Fact Sheet fails to explain how two-feet of freeboard is necessary to reduce nuisance and public health concerns.

Third, as a practical matter, there is no justifiable reason to impose the freeboard requirement on the City's ponds. The City's ponds have been in existence for over 40 years and have never over-flowed, even during extreme rain events. This is due to the City's operations at the RWCF, which include continuous monitoring of pond levels,

and, more importantly, the ability to increase pumping capacity as necessary to accommodate precipitation and storm event impacts on pond capacity. Thus, the City's operations of the RWCF and its ponds provide the necessary assurance that the ponds are able to accommodate seasonal precipitation and design storm events without necessitating the need for two-feet of freeboard.

Other Comments

Definition of Daily Discharge

Attachment A to the Tentative Order contains a definition for daily discharge that would require the City to date its composite samples based on the calendar day in which the 24-hour period ends. (Tentative Order at p. A-2.) The City's current practice for dating composite samples is to date the sample, as well as other daily parameters, including daily flow, for the date started. The City's reason for this approach is because the City's discharge days are from 8:00 a.m. to 8:00 a.m., and, therefore, the majority of the discharge occurs on that date. The Tentative Order does not contain a requirement to date any other daily parameter, including flow, for the day that the discharge day ends. Not doing so will create a disassociation between any given discharge day's flow and parameters derived from composite samples. However, if a discharge day's flow were dated for the day that the discharge ends, there would be a dissociation between any given discharge day's flow and any grab sample parameters, including the daily disinfection sample which, in a database, would incorrectly be associated with the previous discharge day, whether or not any discharge occurred. This situation would unnecessarily complicate assessment of compliance with monitoring requirements and calculation of loading rates. To avoid this result and allow the City to maintain its current practice, we recommend that the definition be revised as follows:

> For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ~~ends~~ begins.

If the concern regarding dating of composite samples is related to the sample holding time starting when the sample is picked up, that is currently addressed without problems on sample receiving logs and chain of custody forms.

SO_2 & Na HSO_3 Monitoring

The Tentative Monitoring and Reporting Program (Tentative MRP) would require continuous effluent monitoring for sulfur dioxide (SO_2) and sodium bisulfite (Na HSO_3). (Tentative MRP at p. E-3.) The City does not currently monitor for these two constituents, and is concerned with the imposition and implication of these monitoring requirements.

The City uses SO_2 and Na HSO_3 to de-chlorinate effluent from the RWCF after disinfection and before discharge to protect aquatic life. The chemicals themselves are not known for causing detrimental impacts to surface waters. Further, monitoring of SO_2 and Na HSO_3 is not necessary to determine compliance with effluent limitations proposed in the Tentative Order as there are no effluent limitations for either of these constituents.

Considering the fact that SO_2 and Na HSO_3 monitoring is not necessary to determine permit compliance, or gather appropriate information regarding ambient water quality, the City considers these monitoring requirements to be unnecessary, and inconsistent with State law and policy. First, the Regional Water Board may require monitoring or "other information as may be reasonably required." (Wat. Code, § 13383(b).) The requirement here is unreasonable because it is not necessary to determine permit compliance or evaluate surface water quality. Second, in 2004 when the State Water Board adopted its emergency regulations for revisions to the permit fee schedule, the State Water Board included a surcharge for monitoring to support the Surface Water Ambient Monitoring Program. With the imposition of the surcharge, the State Water Board stated that permit compliance monitoring should be minimized to provide "appropriate information regarding permit compliance and ambient water quality." (State Water Board Resolution No. 2004-0032.) Thus, monitoring for the sake of monitoring is an unnecessary burden on local agencies.

As a practical matter, operators at the RWCF are not currently calculating the percent overfeed relative to chlorine residual. At most, staff monitor and report the amount of SO_2 in pounds used each day, and note if Na HSO_3 was used. The new requirement will impose additional burdens on plant personnel. Further, the proposed monitoring requirement is expressed as a continuous requirement. If plant personnel are required to calculate percent of overfeed, the monitoring requirement should be revised to be a daily frequency requirement. In summary, the City recommends that monitoring requirements for SO_2 and Na HSO_3 be removed from the Tentative MRP. At the very least, the requirements should be revised to clarify the monitoring frequency when the information is a calculated measurement, as allowed by footnote 13 to Table E-3.

Ammonia Monitoring

The Tentative MRP includes effluent and receiving water monitoring requirements that would require a method detection limit for ammonia (as N) to be at or below 0.1 mg/L. (Tentative MRP at p. E-5, footnote 12 to Table E-3, and at p. E-10, footnote 7 to Table E-6.) The requirement for a method detection limit here is inappropriate and should, instead, specify a reporting limit. The City's existing in-house methodology currently supports a reporting limit of 0.5 mg/L. To minimize outside laboratory monitoring costs, the City requests that the footnotes be amended as follows:

> The ~~method detection~~ reporting limit shall be at or below ~~0.1 mg/L~~ 0.5 mg/L until such time that an alternative in-house method can be implemented to achieve a reporting limit of 0.1 mg/L or lower.

Cyanide Monitoring

The Tentative MRP includes an effluent monitoring requirement for cyanide that allows the City to test cyanide as specified in 40 C.F.R. Part 136, or alternatively analyze samples within 15 minutes, without preservatives. (Tentative MRP at p. E-5, footnote 11 to Table E-3.) The City supports the monitoring language for cyanide as proposed in footnote 11 to Table E-3. However, the Tentative MRP requires the sample type to be a 24-hour composite. By definition, a 24-hour composite sample cannot be analyzed within 15 minutes to avoid the need for adding in sample preservation-chemicals. To ensure that the City is able to analyze for cyanide without preservation, we recommend that the sample type for cyanide be revised to require a grab sample.

Whole Effluent Toxicity Testing Requirements

Acute Toxicity Testing

The Tentative MRP would require the City to perform acute toxicity testing on a weekly basis. (Tentative MRP at p. E-5.) Considering the City's results from previous weekly acute toxicity testing, the City contends that weekly monitoring is unnecessary. (See Fact Sheet at p. F-48, "[b]ased on the weekly acute toxicity test results conducted during December 2003 through January 2007, the Discharger demonstrated compliance with these acute toxicity requirements.") Furthermore, EPA Region 9 recommends a minimum of monthly WET testing for major dischargers (i.e., >1 MGD). (EPA Region 9 and 10 Toxicity Training Tool, September 2007.) Thus, the City requests the following modification in light of its historical compliance with the acute toxicity limitation:

> The Discharger shall perform ~~weekly~~ monthly acute toxicity testing, concurrent with effluent ammonia sampling.

At the very least, the acute monitoring requirement should be revised to only require weekly monitoring for up to a year, unless acute toxicity is demonstrated during that time, in light of the change in test species from fathead minnow to rainbow trout. Alternatively, the City recommends the following revisions:

> The Discharger shall perform weekly acute toxicity testing, concurrent with effluent ammonia sampling unless acute toxicity has not been demonstrated over the course of a year of weekly sampling; under such circumstances, the Discharger shall perform monthly acute toxicity testing, concurrent with ammonia sampling.

The City also requests the following modification to the methods language in the Tentative MRP to ensure that the most current analytical methods are implemented:

> The acute toxicity testing samples shall be analyzed using EPA 821 R 02 012, Fifth Edition and its subsequent amendments or revisions.

Chronic Toxicity Testing

As referenced in the Fact Sheet, the City has spent considerable effort evaluating WET bioassay results, particularly for *Selenastrum capricornutum* (green algae). (Tentative Order at pp. F-48 - F-50.) In April 2007, the City and its consultant presented the findings of these efforts to Regional Water Board staff. A final copy of the report was submitted to the Regional Water Board in early May. The presentation and report contain four major recommendations for action. At the time, it was expected that the Regional Water Board would review and consider the City's recommendations during the NPDES renewal process. Nonetheless, while the Tentative Order acknowledges some of the findings, some issues remain outstanding. In particular, the San Joaquin River is at times toxic to *Selenastrum capricornutum* and at other times biostimulatory. This variable and contradictory behavior makes use of the receiving water inappropriate as a bioassay control. Given the very sensitive toxicity monitoring trigger and the lack of any dilution credit, there is a significant expenditure of resources investigating bioassay results based upon a variable "control." Therefore, the City requests the following modifications on pages E-6 and E-7 of the Tentative MRP:

> 7. Dilutions – The chronic toxicity testing for *Pimephales promelas* and *Ceriodaphnia dubia* shall be performed using the dilution series identified in Table E-4, below. *Selenastrum capricornutum* testing shall use laboratory control water as the diluent and follow the dilution series identified in Table E-4, below.
>
> The receiving water control shall be used as the diluent (except for *Selenastrum capricornutum* testing) unless initial tests results indicate that the receiving water is toxic as compared to the laboratory control.
>
> If the receiving water is toxic, laboratory control water may be used as the diluent, in which case, the receiving water should still be sampled and tested to provide evidence of its toxicity.

Table E-4. Chronic Toxicity Testing Dilution Series.

Sample	Dilutions (%)					Controls	
	100	50	25	12.5	6.25	Receiving Water	Laboratory Water
% Effluent	100	50	25	12.5	6.25	0	0
% Receiving Water[1]	0	50	75	87.5	93.75	100	0
% Laboratory Water	0	0	0	0	0	0	100

1 If receiving water is toxic, laboratory water will be used for the dilution series as described in EPA method 821-R-02-013 Section 7.12. If receiving water is determined to be biostimulatory for *Selenastrum capricornutum*, laboratory control water shall be used for the dilution series.

The City also requests the following modification to ensure that the most current analytical methods are implemented:

> The presence of chronic toxicity shall be estimated as specified in Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821 R 02 013, October 2002 and its subsequent amendments or revisions.

Pond Monitoring Requirements

The Tentative MRP would require the City to monitor its secondary effluent and the facultative ponds for boron, chloride, dissolved iron, dissolved manganese and sodium on a monthly basis. (Tentative MRP at pp. E-12 - E-13.) The Tentative MRP would also require the City to monitor groundwater for these constituents on a quarterly, or biannual basis. (Tentative MRP at pp. E-10 - E-11.) Groundwater monitoring requirements, and by extension the pond monitoring requirements, are imposed by the Regional Water Board under its authority pursuant to Water Code section 13267. However, the use of such authority is not without limits. To require monitoring under section 13267, the Regional Water Board must provide the City with written explanation regarding the need for the information and must also provide the City with evidence supporting the requirement. (Wat. Code, § 13267(b)(1).) Furthermore, the burden and cost of obtaining the information must "bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports." (*Id.*)

In this case, the Fact Sheet provides no explanation or evidence as to why these additional monitoring requirements have been added. The City submits that these additional monitoring requirements, and the additional cost, have not been appropriately justified. Thus, the Regional Water Board has failed to meet its burden to impose such requirements, and the monitoring requirements should be removed from the Tentative MRP.

Groundwater Monitoring Requirements

The Tentative MRP would require the semi-annual groundwater sampling to be conducted in January and July. (Tentative MRP at p. E-17, Table E-12.) Biannual groundwater sampling is often performed in Spring and Fall to coincide with the natural annual low and high water-table elevations. Groundwater gradients and water quality data most often fluctuate between extremes at these times and semi-annual samples at these times best reflect the natural range of data values. For this reason, the City recommends that semi-annual groundwater monitoring be conducted in late March and early October, and that Table E-12 be revised accordingly.

Biosolids Monitoring

The Tentative MRP contains new biosolids monitoring requirements for Priority Pollutants and for Hazardous Waste Characterization, which would require the City to collect composite samples and submit a characterization of sludge quality when sludge is removed from the lagoon for disposal. (Tentative MRP at p. E-11.) The proposed language does not specify the frequency for these requirements. The City removes sludge from the lagoons on an almost daily basis, Monday through Friday. If the City is required to conduct the identified tests on a daily basis, the City's monitoring and reporting costs will increase dramatically. Further, the requirement to monitor biosolids on a daily basis is inconsistent with applicable federal regulations, which require monitoring once every two months. (See 40 C.F.R. § 503.) To avoid the need to monitor biosolids daily, the City recommends that the Tentative MRP be revised to clarify that composite samples of biosolids required pursuant to proposed provision IX.A.1.2. be revised to clarify that sampling should occur when biosolids are removed from the facility and in a manner that is consistent with federal regulations under Title 40, section 503 of the Code of Federal Regulations. We recommend that this provision be revised as follows:

> A composite sample of sludge shall be collected when sludge is removed from the ~~lagoon~~ facility for disposal in accordance with USEPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested in accordance with 40 C.F.R. 503. ~~for metals listed in Title 22~~.

Further, the City requests that provision IX.A.1.4. be revised to require monitoring twice a year instead of "upon removal of sludge."

Hardness

Generally, the City concurs with the Tentative Order regarding hardness and how the Regional Water Board used hardness in calculating criteria to determine if the effluent has reasonable potential to cause or contribute to an exceedance of a water quality standard in the receiving water. Below, we offer specific corrections to the hardness

and copper sections of the Fact Sheet contained in the Tentative Order to ensure consistency throughout the Fact Sheet.

In the paragraph preceding Equation 2 at page F-18, we recommend the following statement:

> In considering the range of hardness values observed in the San Joaquin River near the City's discharge, the highest receiving water hardness combined with the lowest effluent hardness results in the most stringent effluent criteria for the applicable metals.

In the hardness section of the Tentative Order at page F-18, Equation 2, H_{rw} should be stated to be the lowest or highest recorded receiving water hardness.

In its discussion regarding hardness to calculate CTR criteria for copper, the Fact Sheet language at page F-29 appears to be inconsistent with the hardness language expressed on pages F-16 through F-18. To ensure consistency, we recommend that the language on page F-29 be revised as follows:

> Using the ~~worst-case measured design hardness from the receiving water~~ reasonable worst-case ambient hardness, estimated here as the lowest effluent hardness, (~~90~~8 mg/L as $CaCO_3$) and the USEP recommended dissolved-to-total translator, the applicable chronic criterion (maximum 4-day average concentration) is ~~8.53~~9.17 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is ~~12.68~~13.7 µg/L, as total recoverable.

For the Reasonable Potential Analysis summarized in Attachment G, the criteria appear to be calculated with a hardness of 90 mg/L as $CaCO_3$. For consistency, please revise the hardness dependent metals criteria to reflect the final hardness values and criterion calculation (i.e., Equation 1 or Equation 2) discussed in the Fact Sheet. The criteria values calculated using the hardness as discussed in the Fact Sheet are listed in Table 1. Utilizing the final hardness values in the respective equations does not change the reasonable potential analysis for any of the metals.

Table 1: Hardness Dependent Metals Criteria Calculated using CTR Parameters and Hardness Values as Discussed in TO Fact Sheet.

Metal	Criteria (µg/L)	
	CMC	CCC
Cadmium	4.12[(2)]	2.42[(1)]
Copper	13.7[(1)]	9.17[(1)]
Chromium (III)	1710[(1)]	204[(1)]
Lead	65.5[(2)]	2.55[(2)]
Nickel	461[(1)]	51.3[(1)]
Silver	0.73[(2)]	---
Zinc	118[(1)]	118[(1)]

(1) Equation 1 from Fact Sheet and Design Hardness of 98 mg/L as $CaCO_3$.
(2) Equation 2 from Fact Sheet H_{eff} of 98 mg/L as $CaCO_3$ and H_{rw} of 220 mg/L as $CaCO_3$.

In conclusion, the City appreciates the continued opportunity to work with Regional Water Board staff in the development of a renewed NPDES permit for the City's RWCF. With the suggested revisions provided above, the City finds the Tentative Order reasonable and protective of water quality. Please contact Steve Gittings directly at 209/937-8781 for any questions or concerns regarding the comments contained here.

MARK J. MADISON
DIRECTOR OF MUNICIPAL UTILITIES
CITY OF STOCKTON

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