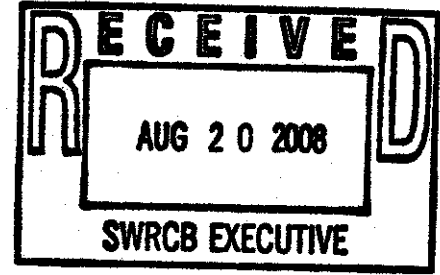


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11
12 BEFORE THE

13 CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

14
15 In the Matter of Waste Discharge Requirements for
City of Davis Wastewater Treatment Plant;
16 California Regional Water Quality Control Board –
Central Valley Region Order No. R5-2007-0132;
17 NPDES No. CA0079049.

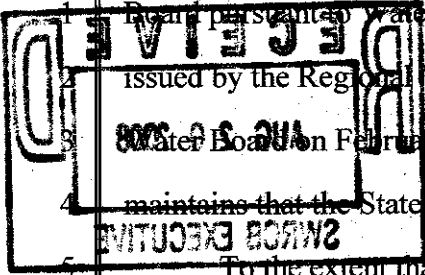
SWRCB/OCC File A-1894

CITY OF DAVIS RESPONSE TO
DRAFT STATE WATER BOARD
ORDER

18
19
20 The City of Davis (City) hereby responds to the State Water Resources Control Board's
21 (State Water Board) Proposed Order in the matter of Petition of California Sportfishing Protection
22 Alliance (CSPA) for the City of Davis Wastewater Treatment Plant, Yolo County, Central Valley
23 Water Board issued on July 21, 2008.

24 I. INTRODUCTION

25 On October 25, 2007, the Central Valley Regional Water Quality Control Board (Regional
26 Water Board) adopted Order No. R5-2007-0132, renewing the waste discharge requirements and
27 NPDES Permit No. CA 0079049 (Permit) for the City of Davis Wastewater Treatment Facility
28 (WWTF). Subsequently, CSPA filed a Petition for Review (Petition) before the State Water



1 Board pursuant to Water Code section 13320 that raised a number of objections to the Permit
2 issued by the Regional Water Board. The City filed a response to CSPA's Petition with the State
3 Water Board on February 4, 2008, explaining that all of CSPA's contentions lack merit. The City
4 maintains that the State Water Board should dismiss CSPA's claims in their entirety.

5 To the extent that the Proposed Order dismisses CSPA's claims related to chronic toxicity,
6 hardness-dependent metals, and electrical conductivity, as well as other claims not addressed by
7 the Proposed Order, the City supports the State Water Board's Proposed Order. However, to the
8 extent that the Proposed Order finds the Permit failed to comply with applicable state and/or
9 federal laws and regulations, or that its provisions constitute an improper exercise of Regional
10 Water Board discretion, the City respectfully disagrees. Although the City does not agree with all
11 of the Permit provisions as adopted by the Regional Water Board, the Permit is protective of
12 beneficial uses.

13 The City is particularly concerned with the Proposed Order's discussion and findings
14 related to hardness because the Proposed Order's findings would result in unnecessarily stringent
15 Permit requirements and are not supported by applicable regulations and/or evidence in the record.
16 For the reasons set forth below, the State Water Board should revise its Proposed Order.

17 **II. ARGUMENT**

18 **A. The Proposed Order Fails to Comply with the CTR in Selecting Hardness Values to**
19 **Derive Hardness-Dependent Criteria**

20 Of significant concern to the City are the Proposed Order's conclusion and supporting
21 rationale regarding the selection of hardness values for the calculation of California Toxics Rule
22 (CTR) metals criteria that are hardness-dependent. (See 131.38(b)(2), (c)(4).) The City disagrees
23 with the Proposed Order's conclusion that the Regional Water Board should have used the lowest
24 valid upstream receiving water hardness values regardless of flow conditions. (Proposed Order at
25 pp. 11-12.) The Regional Water Board's selection of hardness in the City's Permit is consistent
26 with the CTR, the State's *Policy for Implementation of Toxics Standards for Inland Surface*
27 *Waters, Enclosed Bays, and Estuaries of California* (SIP), and is a proper exercise of Regional
28 Water Board discretion.

1 **1. The Selection of Hardness Values to Derive CTR Criteria is Subject to the**
2 **CTR, Not the SIP**

3 The Proposed Order mistakenly characterizes selection of hardness values as necessary to
4 determine reasonable potential and to calculate effluent limitations. (Proposed Order at pp. 8-9.)
5 This mischaracterization leads to the incorrect conclusion that the CTR and the SIP conflict with
6 regard to the selection of hardness values, and the Proposed Order appears to improperly rely on
7 the SIP to justify its final conclusion. (Proposed Order at pp. 8-10.) To the extent that such a
8 conflict does exist, the CTR would supersede the SIP.

9 The CTR criteria are part of the state's water quality standards. (40 C.F.R. § 131.38(b).)
10 For most water quality criteria, the CTR lists a specific numeric value for the constituent in
11 question. (See 40 C.F.R. § 131.38(b).) Metals criteria, however, must be derived based on a
12 number of site-specific factors that affect the relative toxicity of these pollutants in specific
13 receiving waters. Of primary relevance here is the site-specific factor that requires CTR metals
14 criteria be derived using an appropriate hardness value. "Freshwater aquatic life criteria for certain
15 metals are expressed as a function of hardness because hardness and/or water quality
16 characteristics that are usually correlated with hardness can reduce or increase the toxicities of
17 some metals." (Federal Register Notice, Vol. 65, No. 97 (May 18, 2000) regarding Establishment
18 of Numeric Criteria for Priority Toxic Pollutants for the State of California (CTR Federal Register
19 Notice) at p. 31692.) When deriving aquatic life criteria for metals from the equations in the CTR,
20 the actual ambient hardness of the receiving water is to be used when the hardness is less than
21 400 mg/L. (40 C.F.R. § 131.38(c)(4).) When a mixing zone is not applicable, the criteria (the
22 equations in the case of hardness-dependent metals) apply throughout the water body including at
23 the point of discharge into the water body. (40 C.F.R. § 131.38(c)(2)(i).) Further, the CTR
24 requires the hardness values used to be consistent with design discharge conditions of the
25 receiving water, which are the critical low flow values upon which the Permit limits are based.
26 (40 C.F.R. § 131.38(c)(2)-(4).) In other words, to derive CTR metals criteria, the Regional Water
27 Board must select actual ambient hardness of the receiving water, at the most critical point up to
28 and including at the point of discharge, that occurs during design discharge conditions of the

1 surface water. In some cases, as here, the low flow value of the receiving water is zero and
2 therefore the design discharge condition is 100% effluent in the receiving water.

3 The SIP, on the other hand, is the State's policy for *implementing* priority pollutant
4 criteria, including water quality criteria from the CTR. (See SIP at p. 3, footnote 1; see also *In the*
5 *Matter of the Review on its Own Motion of Waste Discharge Requirements for the Avon Refinery,*
6 Order WQ 2001-06 (Mar. 7, 2001) ["The Implementation Policy, in general, applies to the
7 implementation of water quality standards for NTR and CTR criteria and priority pollutant
8 objectives for inland surface waters and enclosed bays and estuaries."], at p. 11.) The primary
9 purpose of the SIP is to establish a standardized approach for permitting discharges. (SIP at p. 3.)
10 To do this, the SIP sets forth a process for determining reasonable potential, and from there
11 establishes methodologies for calculating water quality-based effluent limitations when there is
12 reasonable potential. The first step of the SIP process requires the appropriate Regional Water
13 Board to identify the lowest (most stringent) applicable water quality criteria. (SIP at p. 6.) Thus,
14 in Step 1, the Regional Water Board must review the CTR and other criteria to determine which
15 are the most stringent. In the case of hardness-dependent metals in the CTR, this requires the
16 Regional Water Board to first derive appropriate metals criteria according to the CTR to
17 determine what criteria are the most stringent. Once the criteria are determined pursuant to the
18 CTR, then the Regional Water Board is required to follow the SIP to determine reasonable
19 potential and to calculate effluent limitations. (See SIP at pp. 6-8.) Thus, there is no conflict
20 between the CTR and the SIP because the SIP itself directs Regional Water Boards to rely in this
21 case on criteria derived according the CTR.

22 The SIP also contains language that unfortunately implies the CTR criteria are static
23 numeric values that are subsequently adjusted for hardness as a step in the SIP's procedures. (See
24 SIP at pp. 5-6.) This and other similar language in the SIP appears to lead to the conclusion in the
25 Proposed Order that there is a conflict between the CTR and SIP in selecting hardness values.
26 However, because CTR metals criteria themselves are hardness-dependent, the hardness value
27 must be selected to actually derive the appropriate criteria. Because the CTR criteria encompass
28

1 hardness, the SIP must defer to the CTR for the proper methodology for selecting hardness values,
2 as this step is critical to defining the applicable criteria, not simply implementation.

3 Even if there were an inconsistency between the CTR and SIP, the U.S. EPA has not
4 approved an amendment of the CTR. Thus, the language in the Proposed Order that implies the
5 SIP can be used to select hardness values "from high-flow receiving water during wet season flow
6 conditions" to derive CTR criteria, would not apply unless and until such language is approved by
7 U.S. EPA as an alternative water quality criteria, and the CTR is amended accordingly. (Proposed
8 Order at p. 10.) In light of the fact that hardness-values must be selected in a manner that is
9 consistent with the CTR to derive CTR metals criteria, the conclusions and rationale in the
10 Proposed Order on this issue are unsupportable and should be withdrawn by the State Water
11 Board.

12 **2. The Selection of Hardness in the Manner as Suggested by the Proposed Order**
13 **Results in Overly Restrictive Criteria and Effluent Limitations**

14 The Proposed Order at page 9 suggests that hardness values should be selected to represent
15 all flow conditions, and not just low flow, design discharge conditions as required by the CTR.
16 (40 C.F.R. § 131.38(c)(2)-(4).) Further, the Proposed Order would have the Regional Water
17 Board select hardness values during wet weather events without consideration of available
18 dilution during such wet weather conditions. The Proposed Order's methodology is not
19 technically sound and would result in overly restrictive water quality criteria that do not represent
20 actual receiving water conditions that aquatic life experience in receiving water at the point of
21 discharge.

22 Evidence in the record demonstrates that the Proposed Order approach is overly protective
23 and overly restrictive. (See Exhibit 1, August 29, 2005, Memorandum to Keith Smith from Larry
24 Walker Associates regarding *Hardness Dependent Trace Metals Criteria*, (Hardness Memo)
25 submitted on September 1, 2005, with the City's Report of Waste Discharge.) The Hardness
26 Memo sets forth a protocol for selecting hardness for hardness-dependent criteria that is protective
27 of the beneficial uses for any combination of receiving water flow rates. The protocol in the
28 Hardness Memo is derived from and is consistent with the CTR and SIP, forming a standardized

1 approach applicable to all Central Valley discharges. In brief, the Hardness Memo demonstrates
2 that the shape of the hardness versus criteria value curve for each metal establishes the approach
3 that will provide protection of aquatic uses during all discharge conditions. For example, for
4 metals with a characteristic curve that is "concave down" (e.g., copper, nickel, zinc), the use of
5 effluent hardness alone will yield criteria for the point of discharge that protect downstream
6 aquatic life beneficial uses under all flow conditions. For metals which have a characteristic
7 hardness curve that is "convex up" (e.g., lead, silver), the combined consideration of effluent and
8 receiving water hardness, applied in a formula presented in the Hardness Memo, will yield criteria
9 that are always protective of aquatic life beneficial uses. As demonstrated in the Hardness Memo,
10 any combination of effluent and receiving water and their respective concentrations of metals and
11 hardness will be below applicable CTR criteria downstream of the point of discharge. Thus, the
12 Hardness Memo establishes an approach for selecting hardness that results in CTR metals criteria
13 that are protective for all effluent and receiving water flows, including low-hardness storm flows
14 and the critical design condition as required under the CTR. Applying the methodology contained
15 in the Hardness Memo, it is readily apparent that using the worst case, upstream hardness
16 measured during wet weather conditions, would result in overly restrictive water quality criteria.

17 Further, the Proposed Order states that the hardness values cannot be readily determined
18 for CTR design conditions because the flow is statistically based and, because a field
19 measurement may not be available at the 1Q10 or 7Q10 flow rates. (Proposed Order at p. 9.) In
20 addition, the Proposed Order implies that, because receiving water hardness does not depend
21 strictly on receiving water flow rate, it is not possible to determine hardness at the CTR design
22 flow rates. (*Id.*) Neither of these points are valid. The design condition for the Permit issued to
23 the City's WWTF assumes that the receiving water flow rate is zero. (See Permit at p. F-17.)
24 Under this design condition, the total flow downstream of the City's discharge point is effluent.
25 Thus, the use of the effluent hardness data under these circumstances is in effect a field
26 measurement. Additionally, the Hardness Memo provides for a straightforward, scientifically
27 sound approach for determining the proper hardness value to derive metals criteria protective of
28 beneficial uses under all conditions. In short, the protocol provided in the Hardness Memo

1 considers protection of aquatic uses during all possible conditions resulting from a discharge into
2 a receiving water, including hardness levels in the effluent and receiving water, and any
3 combination of flow rates.

4 Also, the emphasis on upstream hardness in the Proposed Order is misplaced because
5 upstream flow is not affected by the discharge, and this approach fails to account for the fact that
6 effluent hardness will mix with upstream hardness to result in an in-plume hardness that aquatic
7 life will actually experience. Thus, limiting hardness selection to upstream values in an area
8 unaffected by effluent ignores the best available science and will result in overly restrictive and
9 overly protective water quality criteria.

10 **3. The Regional Water Board's Approach for Selecting Hardness was a Proper**
11 **Exercise of Regional Water Board Discretion**

12 At the time that the Regional Water Board drafted and subsequently adopted the City's
13 Permit, the protocol set forth in the Hardness Memo as discussed above, was still being evaluated
14 and considered by Regional Water Board staff. In lieu of the City's proposed protocol, the
15 Regional Water Board used its discretion and best professional judgment to select hardness values
16 for the calculation of hardness-dependent metals criteria that were slightly more protective of the
17 aquatic life beneficial use for all discharge conditions than the method articulated in the City's
18 Hardness Memo. To that end, the Regional Water Board selected hardness values, "based on the
19 lowest receiving water stream hardness of samples that have not been centrifuged and were taken
20 during critical low flow periods from May 2001 through May 2005." (Regional Water Board
21 Response to CSPA's Petition for Review (Regional Water Board Response), submitted
22 February 4, 2008, at p. 22.) Further, Regional Water Board staff recommended these values
23 because they believed them to be "protective of water quality." (Hearing Transcript for City of
24 Davis, Wastewater Treatment Plant, Yolo County (Oct. 25, 2007), at 65:18-19.) This approach
25 approximates the requirements in the CTR to base the hardness data selection on the design flow
26 condition and also approximates the results that would be produced through use of the
27 methodology in the Hardness Memo. The Regional Water Board selected hardness values based
28 on low flow periods consistent with the CTR, because the lowest hardness values occur when

1 there are high flows in the Yolo Bypass and significant dilution is available, resulting in a non-
2 critical design condition. (*Id.*) Thus, the Regional Water Board properly determined that the use
3 of hardness values during wet weather conditions to derive CTR criteria was not appropriate
4 because these values failed to reflect design discharge conditions, because they failed to account
5 for available dilution, and because they would have resulted in overly protective water quality
6 criteria that the Regional Water Board determined to be unreasonable. The Regional Water
7 Board's approach in the City's Permit is consistent with the CTR, which requires the selection of
8 hardness during design discharge (i.e., low flow) conditions to derive hardness-dependent metals
9 criteria, and is therefore a proper exercise of its discretionary authority.

10 Moreover, the Proposed Order contains conflicting and confusing language. On the one
11 hand, the Proposed Order implies that the Regional Water Board has the discretion to select
12 hardness values in a manner that is consistent with the approach taken in the City's Permit. For
13 example, the Proposed Order states, "[b]ecause high flow conditions may deviate from the design
14 flow conditions for selection of hardness as specified in the CTR, it may not be necessary, in some
15 circumstances, to select the lowest hardness values from high flow or storm event conditions."
16 This language implies that the Regional Water Board has the discretion to select hardness values
17 that the Regional Water Board determines are representative of design flow conditions, as
18 required by the CTR. (Proposed Order at p. 11.) However, in the next sentence, and in the
19 proposed findings at page 20, the Proposed Order directs the Regional Water Board to use
20 hardness values that are "protective of water quality criteria under all flow conditions," and
21 specifically directs the Regional Water Board to use hardness values from high flow/storm events
22 that the Regional Water Board purposefully excluded when it adopted the City's Permit. If the
23 Proposed Order is adopted with this language, it would severely restrict Regional Water Board
24 discretion, and would require the Regional Water Board to select hardness values for the City, and
25 other Central Valley permittees, that would result in CTR criteria that are overly conservative, not
26 reflective of actual receiving water conditions occurring at or below the point of discharge, and
27 inconsistent with the CTR. Such a result cannot be supported by current and applicable
28 regulations, or evidence in the record.

1 **B. The Proposed Order Improperly Concludes that there is Reasonable Potential for**
2 **Copper and Silver at the Conaway Ranch Toe Drain Discharge Location**

3 Based on its proposed conclusion that the Regional Water Board selected incorrect
4 hardness values for the calculation of hardness-dependent criteria, the Proposed Order also
5 concludes that there is reasonable potential for copper and silver at the Conaway Ranch Toe Drain
6 discharge location, and that the Permit must be remanded to include effluent limitations for these
7 constituents. (Proposed Order at pp. 16-18.) For the reasons explained above, the City disagrees
8 with the conclusion of the Proposed Order regarding the selection of hardness values for deriving
9 applicable criteria. Thus by extension, the City also disagrees with the Proposed Order's findings
10 and conclusions regarding copper and silver at the Conaway Ranch Toe Drain discharge location.

11 The hardness values selected by the Regional Water Board to derive metals criteria
12 comply with the CTR and are a proper exercise of Regional Water Board authority. When such
13 hardness values are used to derive metals criteria, there is no reasonable potential for the City's
14 discharge to cause or contribute to a violation of applicable water quality criteria. Because there
15 is no reasonable potential for any CTR hardness-dependent metal, effluent limitations for silver
16 and copper are not necessary.

17 **III. CONCLUSION**

18 In summary, the Proposed Order improperly finds that hardness values should be selected
19 regardless of flow conditions and should ignore the influence of hardness in the effluent. The
20 proposed approach fails to consider dilution that is available when hardness values are influenced
21 by storm events. More importantly, the Proposed Order's approach is inconsistent with the CTR,
22 which requires that hardness values for the derivation of CTR metals criteria be selected to reflect
23 design discharge conditions of the receiving water. In the City's case, the Proposed Order would
24 result in the calculation of CTR metals criteria that are overly protective and overly restrictive.
25 The City is currently undertaking major wastewater facilities upgrades, now estimated to cost well
26 over \$150 million, to comply with the Permit. The burden to ratepayers is considerable. The
27 Proposed Order would lead to additional and more stringent requirements which the improved
28 WWTP could not meet. When publically owned treatment works (POTWs), such as that owned

1 and operated by the City, are required to comply with overly protective and overly restrictive
2 criteria, they are often forced to upgrade current treatment processes at considerable expense to
3 the public that in reality provide no added environmental protection or benefit. The City fails to
4 see how such a result properly promotes the State Water Board's purpose of protecting water
5 quality and providing reasonable protection of beneficial uses.

6 The City respectfully submits that the State Water Board should not adopt the provisions
7 in the Proposed Order regarding hardness. Instead, the State Water Board should dismiss all of
8 CSPA's claims related to hardness and the determination of reasonable potential for hardness-
9 dependent metals.

10 McDONOUGH, HOLLAND & ALLEN

11 Dated: August 20, 2008

12 By _____
13 Harriet Steiner
14 Attorneys for City of Davis

15 SOMACH SIMMONS & DUNN

16 Dated: August 20, 2008

17 By _____
18 Theresa A. Dunham
19 Attorneys for City of Davis

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1 PROOF OF SERVICE

2 I am employed in the County of Sacramento; my business address is 813 Sixth Street,
 3 Third Floor, Sacramento, California; I am over the age of 18 years and not a party to the
 4 foregoing action.

5 On August 20, 2008, I served the following document(s)

6 **CITY OF DAVIS RESPONSE TO DRAFT STATE WATER BOARD ORDER**

7 XX (by mail) on all parties in said action, in accordance with Code of Civil Procedure
 § 1013a(3), by placing a true copy thereof enclosed in a sealed envelope, with postage fully
 8 prepaid thereon, in the designated area for outgoing mail, addressed as set forth below:

| | | |
|----------------------|---|---|
| 9 10 11 12 | Mike Jackson, Esquire Law Office of Mike Jackson P. O. Box 207 429 W. Main Street Quincy, CA 95971 Attorneys for Petitioner California Sportfishing Protection Alliance | Andrew Packard, Esquire Law Office of Andrew Packard 319 Pleasant Street Petaluma, CA 94952 Attorneys for Petitioner California Sportfishing Protection Alliance |
| 13 14 15 | Mr. Bill Jennings Executive Director California Sportfishing Protection Alliance 3536 Rainier Avenue Stockton, CA 95204 | Mr. Doug Eberhardt, Chief Permits Office U.S. EPA, Region 9 75 Hawthorne Street San Francisco, CA 94105 |
| 16 17 18 | Ms. Pamela C. Creedon Executive Officer Central Valley Regional Water Quality Control Board 11020 Sun Center Drive, Suite 200 Rancho Cordova, CA 95670-6114 | Mr. Loren Harlow Assistant Executive Officer Central Valley Regional Water Quality Control Board, Fresno Office 1685 E Street Fresno, CA 93706-2020 |
| 19 20 21 22 | Mr. Jack DelConte Assistant Executive Officer Central Valley Regional Water Quality Control Board 11020 Sun Center Drive, Suite 200 Rancho Cordova, CA 95670-6114 | Mr. James Pedri Assistant Executive Officer Central Valley Regional Water Quality Control Board, Redding Office 415 Knollcrest Drive Redding, CA 96002 |
| 23 24 25 | Mr. Kenneth D. Landau Assistant Executive Officer Central Valley Regional Water Quality Control Board 11020 Sun Center Drive, Suite 200 Rancho Cordova, CA 95670-6114 | Ms. Amy Simpson Water Resources Control Engineer Central Valley Regional Water Quality Control Board, Redding Office 415 Knollcrest Drive Redding, CA 96002 |

SOMACH SIMMONS & DUNN
A Professional Corporation

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| <p>Harriet A. Steiner, Esquire McDonough, Holland & Allen 555 Capitol Mall, 9th Floor Sacramento, CA 95814 Attorneys for City of Davis</p> | <p>Mr. Keith Smith, Utilities Engineer City of Davis Department of Public Works 23 Russell Boulevard Davis, CA 95616</p> |

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 20, 2008, at Sacramento, California.

Crystal Rivera