

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

TIME SCHEDULE ORDER R5-2013-0128  
REQUIRING  
THE CITY OF DAVIS  
WASTEWATER TREATMENT PLANT  
YOLO COUNTY

TO COMPLY WITH REQUIREMENTS PRESCRIBED IN ORDER R5-2013-0127  
(NPDES PERMIT CA0079049)

The California Regional Water Quality Control Board, Central Valley Region, (Central Valley Water Board) finds that:

1. On 4 October 2013, the Central Valley Water Board adopted Waste Discharge Requirements (WDR) Order R5-2013-0127, NPDES Permit No. CA0079049, prescribing discharge requirements for the City of Davis (hereinafter Discharger) Wastewater Treatment Plant (hereinafter Facility), in Yolo County.
2. WDR Order R5-2013-0127 allows discharges at two locations. Discharge Point No. 001 discharges treated wastewater to the Willow Slough Bypass, which is part of the Yolo Bypass. Discharge Point No. 002 discharges treated wastewater to the Conaway Ranch Toe Drain, which is also part of the Yolo Bypass. Both of these waterways are waters of the United States.
3. WDR Order R5-2013-0127 contains Final Effluent Limitations IV.A.1.a for Discharge Point No. 001, which reads, in part, as follows:

**Table 6. Effluent Limitations – Discharge Point No. 001**

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Aluminum, Total Recoverable	µg/L	392	750	--	--
Copper, Total Recoverable	µg/L	23	49	--	--

4. WDR Order R5-2013-0127 contains Final Effluent Limitations IV.A.2.a for Discharge Point No. 002, which reads, in part, as follows:

**Table 7. Effluent Limitations – Discharge Point No. 002**

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Aluminum, Total Recoverable	µg/L	400	750	--	--

### **Need for Time Schedule Extension and Legal Basis**

5. On 15 April 2013, the Discharger submitted an Infeasibility Analysis Report for copper. The Discharger's submittal included: (a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; and (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades) with projected time schedules to achieve compliance with final effluent limitations.
6. The Discharger's September 2011 Pollution Prevention Plan (PPP) for copper identified industrial and commercial, as well as residential sources and the water supply, as the main sources of copper in the intake. The PPP outlined the Discharger's efforts to control and reduce copper in the intake. The Discharger also believed that the overland flow ditch contributed to high copper concentrations in the effluent, and therefore, to ensure that elevated levels of copper are not discharged in the future at Discharge Point No. 001, the Discharger also intends to recycle the return ditch flow after cleaning by sending it back to the wastewater treatment plant. The Discharger plans on continuing to monitor influent concentrations and will update the source identification study to determine the most likely current sources of copper to the influent. The Discharger will monitor commercial sources, perform inspections, and implement BMPs, where commercial sources are significant. Finally, the Discharger plans on evaluating the feasibility of adjusting the pH of the water supply, which would reduce corrosion from copper plumbing.
7. Order R5-2007-0132-01 contained interim aluminum effluent limitations effective until 25 October 2017. In 2010, the Discharger conducted a feasibility study of agricultural reuse of treated effluent on the Conaway Ranch, which determined that reuse was infeasible. The Discharger has also conducted a comparison study between analytical methods approved for the determination of total or acid soluble aluminum of the influent and effluent samples which showed that acid-soluble results are lower than the total form, however not sufficiently lower to consistently achieve compliance with the aluminum final effluent limits. The Discharger's September 2010 PPP identified that the main source of aluminum comes within the treatment process, and not from the collection system. The major source of aluminum in wastewater is through alum and other aluminum compounds that are used as coagulants in water and wastewater treatment; however, the Discharger does not use alum or aluminum compounds at the Facility. But the wastewater at the Facility passes through a land-based treatment system, the overland flow fields, where additional aluminum load is likely added. Testing has shown that local soils contain high levels of aluminum.
8. On 4 April 2012, the Discharger submitted an Infeasibility Analysis Report for aluminum. The Discharger's submittal included: (a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; and (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades) with projected time schedules to achieve compliance with final effluent limitations.

9. The Discharger is in the process of upgrading the Facility to provide a tertiary level of treatment to wastewater. The proposed upgrade will include activated sludge and tertiary filters to achieve compliance with final effluent limitations for copper and aluminum. The Facility upgrades are expected to be online by 25 October 2017.

### **Mandatory Minimum Penalties**

10. California Water Code (Water Code) sections 13385(h) and (i) require the Central Valley Water Board to impose mandatory minimum penalties (MMP's) upon dischargers that violate certain effluent limitations. Water Code section 13385(j)(3) exempts the discharge from mandatory minimum penalties "*where the waste discharge is in compliance with either a cease and desist order issued pursuant to Section 13301 or a time schedule order issued pursuant to Section 13300 or 13308, if all the [specified] requirements are met...for the purposes of this subdivision, the time schedule may not exceed five years in length...*"
11. Per the requirements of Water Code section 13385(j)(3), the Central Valley Water Board finds that:
- a. This Order specifies the actions that the Discharger is required to take in order to correct the violations that would otherwise be subject to Water Code section 13385(h) and (i).
  - b. To comply with final effluent limitations, the Discharger proposed that additional time is necessary to allow the Discharger to complete Facility upgrades. The Discharger submitted a time schedule to prepare the California Environmental Quality Act (CEQA) documents, request for design build contractors, request design build proposals, award the design build project, complete construction of the Facility upgrades, and achieve full compliance with the final effluent limitations contained in WDR Order R5-2013-0127 by 25 October 2017. The Discharger indicated that once Facility upgrades are complete, the Discharger will be able to comply with final effluent limitations for aluminum and copper at Discharge Point No. 001 and aluminum at Discharge Point No. 002.
  - c. The final effluent limitations for aluminum at Discharge Points No. 001 and 002 and the final effluent limitation for copper at Discharge Point No. 001 in WDR Order R5-2013-0127 are new, more stringent, or modified regulatory requirements that became applicable to the waste discharge after becoming effective on 23 November 2013 and additional new or modified control measures are necessary in order to comply with the final effluent limitations for said pollutants. The new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days as reflected in the compliance schedule in this Order.
  - d. This Order establishes a time schedule to bring the waste discharge into compliance with the effluent limitations that is as short as possible, taking into account the technological, operational, and economic factors that affect the design, development, and implementation of the control measures that are necessary to comply with the effluent limitations.

12. By statute, a Cease and Desist Order or Time Schedule Order may provide protection from MMPs for no more than five years.
13. Compliance with this Order exempts the Discharger from MMPs for violations of the effluent limitations found in WDR Order R5-2013-0127 as follows:
  - a. Aluminum: Previous Order R5-2007-0132 contained a compliance schedule and interim limits at Discharge Point Nos. 001 and 002 from 25 October 2007 until 25 October 2015. The compliance schedule was extended to 25 October 2017 with the adoption of amended Order R5-2007-0132-01. This Order continues the compliance schedule and provides protection from MMPs at Discharge Point Nos. 001 and 002 until 25 October 2017.
  - b. Copper: The Discharger has not previously received protection from MMPs at Discharge Point No. 001 for copper. This Order provides protection from MMPs at Discharge Point No. 001 from 23 November 2013 until 25 October 2017.
14. In accordance with Water Code section 13385(j)(3), the total length of protection from MMPs for aluminum and copper does not exceed ten years from the date the effluent limitations became applicable to the waste discharge.
15. This Order provides a time schedule for completing the actions necessary to ensure compliance with the final effluent limitations for aluminum and copper at Discharge Point No. 001 and for aluminum at Discharge Point No. 002, contained in WDR Order R5-2013-0127. Since the time schedule for completion of actions necessary to bring the waste discharge into compliance exceeds one year, this Order includes interim effluent limitations and interim requirements and dates for their achievement.
16. This Order includes performance-based interim effluent limitations for aluminum and copper at Discharge Point No. 001 and for aluminum at Discharge Point No. 002. The interim effluent limitations are based on the current treatment plant performance.

The interim effluent limitations consist of statistically calculated performance-based average monthly and maximum daily effluent limits derived using sample data provided by the Discharger. In developing the interim limitations, when there are ten sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row). Therefore, the interim performance-based average monthly effluent limitations in this Order are established as the mean plus 3.3 standard deviations of the available data. The interim performance-based maximum daily effluent limitations were established in accordance with section 1.4 and Table 2 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP), by multiplying the interim average monthly effluent limitations

by the MDEL/AMEL multiplier. Derivation of the interim limitations are summarized in the tables below.

Effluent data from December 2007 through June 2012 was used to calculate the interim effluent limitations in the tables below. The following tables summarize the calculations of the daily maximum and average monthly interim effluent limitations for these constituents:

**a. Discharge Point No. 001**

Parameter	Units	MEC	Number of Data Points	Mean	Standard Deviation	Coefficient of Variation	Interim Average Monthly Effluent Limitation	Interim Maximum Daily Effluent Limitation
Aluminum, Total Recoverable	µg/L	1,270	59	576	311	0.54	1610 <sup>1</sup>	3075 <sup>3</sup>
Copper, Total Recoverable	µg/L	50	45	16	11	0.69	53 <sup>1</sup>	114 <sup>3</sup>

<sup>1</sup> Mean + 3.3 Standard Deviations of the Mean.

<sup>2</sup> Determined by Coefficient of Variation and Table 2 of the SIP.

**b. Discharge Point No. 002**

Parameter	Units	MEC	Number of Data Points	Mean	Standard Deviation	Coefficient of Variation	Interim Average Monthly Effluent Limitation	Interim Maximum Daily Effluent Limitation
Aluminum, Total Recoverable	µg/L	2,500	26	1,122	581	0.52	3040 <sup>1</sup>	5685 <sup>3</sup>

<sup>1</sup> Mean + 3.3 Standard Deviations of the Mean.

<sup>2</sup> Determined by Coefficient of Variation and Table 2 of the SIP.

17. The Central Valley Water Board finds that the Discharger can maintain compliance with the interim effluent limitations included in this Order. Interim effluent limitations are established when compliance with the final effluent limitations cannot be achieved by the existing Facility. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim effluent limitations, however, establish an enforceable ceiling concentration until compliance with the final effluent limitation can be achieved.

18. If an interim effluent limit contained in this Order is exceeded, then the Discharger is subject to MMPs for that particular exceedance as it will no longer meet the exemption in Water Code 13385(j)(3). It is the intent of the Central Valley Water Board that a violation of an interim monthly effluent limitation subjects the Discharger to only one MMP for that monthly

averaging period. In addition, a violation of an interim daily maximum effluent limit subjects the Discharger to one MMP for the day in which the sample was collected.

### **Other Regulatory Requirements**

19. Water Code section 13300 states: *“Whenever a regional board finds that a discharge of waste is taking place or threatening to take place that violates or will violate requirements prescribed by the regional board, or the state board, or that the waste collection, treatment, or disposal facilities of a discharger are approaching capacity, the board may require the discharger to submit for approval of the board, with such modifications as it may deem necessary, a detailed time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements.”*
20. Water Code section 13267 states in part: *In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.*
21. The Discharger owns and operates the wastewater treatment facility which is subject to this Order. The technical and monitoring reports required by this Order are necessary to determine compliance with the requirements in WDR Order R5-2013-0127 and with this Order.
22. Issuance of this Order is exempt from the provisions of the CEQA (Pub. Resources Code, § 21000 et seq.) to Water Code section 13389, since the adoption or modification of a NPDES permit for an existing source is statutorily exempt and this Order only serves to implement a NPDES permit. (*Pacific Water Conditioning Ass’n, Inc. v. Discharger Council of Discharger of Riverside* (1977) 73 Cal.App.3d 546, 555-556.).
23. On 4 October 2013, in Rancho Cordova, California, after due notice to the Discharger and all other affected persons, the Central Valley Water Board conducted a public hearing at which evidence was received to consider this TSO under Water Code section 13300 to establish a time schedule to achieve compliance with waste discharge requirements.

**IT IS HEREBY ORDERED THAT:**

Pursuant to Water Code Sections 13300 and 13267:

1. The Discharger shall comply with the following time schedule, and submit the following reports, to ensure compliance with the final effluent limitations for aluminum and copper contained in WDR Order R5-2013-0127 as described in the above findings. The reports shall be submitted pursuant to Water Code section 13267.

<b>Task</b>	<b>Compliance Date</b>
Submit a copy of the CEQA documentation prepared for City Council approval for upgrade project	1 November 2013
Submit a report showing that qualifications have been requested from Design Build teams	1 November 2013
Submit an updated PPP pursuant to Water Code section 13263.3 and show that it has been implemented	1 November 2013
Submit a copy of the published Request for Proposals to selected Design Build teams	1 December 2013
Submit Annual Progress Reports <sup>1</sup>	1 January, annually
Submit documentation showing that the Design Build contract has been awarded	1 August 2014
Submit documentation that construction of facility upgrade project has been initiated	1 October 2014
Document that construction of facility upgrade project has been completed	1 October 2017
Submit documentation showing that the discharge fully complies with the final effluent limitations for aluminum and copper	25 October 2017

<sup>1</sup> The progress reports for aluminum and copper shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final date.

2. The following interim effluent limitations for aluminum and copper shall be effective immediately and until 25 October 2017, or when the Discharger is able to come into compliance, whichever is sooner.

<b>Parameter</b>	<b>Units</b>	<b>Average Monthly</b>	<b>Maximum Daily</b>
<b><i>Discharge Point No. 001</i></b>			
Aluminum, Total Recoverable	µg/L	1610	3075
Copper, Total Recoverable	µg/L	53	114
<b><i>Discharge Point No. 002</i></b>			
Aluminum, Total Recoverable	µg/L	3040	5685

<sup>1</sup> Based on an average dry weather flow of 7.5 MGD.

3. Any person signing a document submitted under this Order shall make the following certification:

*"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."*

4. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain work plans for, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall contain the professional's signature and/or stamp of the seal.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order or with the WDRs may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **4 October 2013**.

*Original Signed By*

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PAMELA C. CREEDON, Executive Officer