

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

TIME SCHEDULE ORDER NO. R5-2010-0029-01  
(as amended by Order No. R5-2010-0098)

REQUIRING THE CITY OF DAVIS  
WASTEWATER TREATMENT PLANT  
YOLO COUNTY

TO COMPLY WITH REQUIREMENTS PRESCRIBED IN ORDER NO. R5-2007-0132-02  
(NPDES PERMIT NO. CA0079049)

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

1. On 25 October 2007, the Central Valley Water Board adopted Waste Discharge Requirements (WDR) Order No. R5-2007-0132, NPDES Permit No. CA0079049, prescribing waste discharge requirements for the City of Davis at the Wastewater Treatment Plant, Yolo County. On 5 February 2009, the Central Valley Water Board amended the NPDES Permit by adopting WDR Order No. R5-2007-0132-01 and on 23 September 2010 amended the NPDES Permit a second time by adopting WDR Order No. R5-2007-0132-02. For the purposes of this Order, the City of Davis is hereafter referred to as “Discharger” and the City of Davis Wastewater Treatment Plant is hereafter referred to as “Facility”.
2. WDR Order No. R5-2007-0132-02 allows discharges at two locations. Discharge Point 001 is to the Willow Slough Bypass and Discharge Point 002 is to the Conaway Ranch Toe Drain. Both of these waterways are waters of the United States and are tributary to the Yolo Bypass.
3. WDR Order No. R5-2007-0132-02 contains Final Effluent Limitations IV.A.1.a for Discharge Point 001, which reads, in part, as follows:

Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Cyanide	µg/L	3.8	--	9.5	--	--
Selenium, Total Recoverable	µg/L	4.4	--	7.1	--	--
	lbs/day <sup>1</sup>	0.28	--	0.44	--	--

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

4. WDR Order No. R5-2007-0132-02 contains Final Effluent Limitations IV.A.2.a for Discharge Point 002, which reads, in part, as follows:

Effluent Limitations – Discharge Point 002

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper, Total Recoverable	µg/L	16		34		
Selenium, Total Recoverable	µg/L	4.4	--	7.2	--	--
	lbs/day <sup>1</sup>	0.28	--	0.45	--	--

1 Based on an average dry weather flow of 7.5 mgd.

5. The final effluent limitations for cyanide and selenium, described in Findings 2 and 3 above, become effective on 18 May 2010. The final effluent limitations for copper are new effluent limitations that were required when the Central Valley Water Board amended the NPDES Permit on 23 September 2010.
  
6. California Water Code (CWC) 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.”*
  
7. On 29 October 2009, the Discharger submitted justification for a compliance schedule for cyanide and selenium. 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. The Discharger indicated that the proposed schedule is as short as practicable, and that full compliance by 18 May 2010 may not provide adequate time for the Discharger to implement actions for the Facility to consistently comply with the final effluent limits for cyanide and selenium.
  
8. WDR Order No. R5-2007-0132-02 contains, in part, the following interim limits for Discharge Point 001 that were in effect through 18 May 2010:

Interim CTR Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Cyanide	µg/L	--	--	9.6	--	--
Selenium, Total Recoverable	µg/L	--	--	7.2	--	--
	lbs/day <sup>1</sup>	--	--	0.45	--	--

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

9. WDR Order No. R5-2007-0132-02 contains, in part, the following interim limits for Discharge Point 002 that were in effect through 18 May 2010:

Interim CTR Effluent Limitations – Discharge Point 002

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Selenium, Total Recoverable	µg/L	--	--	7.2	--	--
	lbs/day <sup>1</sup>	--	--	0.45	--	--

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

10. **Selenium.** The source of selenium in the Discharger’s influent is primarily due to the high levels of selenium contained in the municipal water supply. The municipal water supply for the City of Davis is primarily from groundwater sources. The Discharger anticipates that the most cost effective method for lowering the level of selenium in the effluent is to obtain new municipal water supplies by using groundwater contained in the deep aquifer and/or by obtaining surface water supplies. The Discharger is currently in coordination with the City of Woodland, University of California, Davis, and Yolo Flood Control and Water Conservation District in developing a regional treated surface water supply project that is expected to improved drinking water quality. The improved drinking water supply will improve the water quality entering the Facility. On 15 October 2009, a Joint Powers Authority, which consists of the Cities of Davis and Woodland, was sworn in and officers and staff appointed. The schedule currently shows completion of the project by middle of 2016. However, the participating agencies are evaluating a schedule with completion possible by the end of 2014.
11. **Cyanide.** Design alternatives for a Facility upgrade to identify a cost effective project that will achieve compliance with the final effluent limits for cyanide are in review by two emeritus professors of the University of California, Davis College of Civil and Environmental Engineering and a panel of wastewater treatment professionals. A final report to the Davis City Council is expected in the first quarter of 2010. In addition, the analytical testing methodology for cyanide has been suspected of resulting in false positive results due to the complex chemistry associated with cyanide. The United States Environmental Protection Agency is currently developing regulatory changes to the analytical testing methods to address possible interferences that may be caused by

sample preservation. The proposed changes to the analytical testing requirements could result in compliance with the cyanide effluent limitations.

12. The Discharger is also conducting a study on the feasibility for the agricultural reuse of treated effluent on the Conaway Ranch. The feasibility study is expected to be completed by September 2010. If reuse is considered feasible, the Discharger would be able to eliminate the surface water discharge and design and construction would be completed by 2015. A final decision on the reuse project is expected by 25 October 2010 as required by Order No. R5-2007-0132-02. If agricultural reuse at Conaway Ranch is found to be infeasible, the Discharger will continue with plans to upgrade the Facility to meet the final effluent limits for cyanide and selenium.
13. On 23 June 2010, the Discharger submitted an Infeasibility Analysis Report for copper in Discharge 002. 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 measure 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. The Discharger indicated that the proposed schedule is as short as practicable, and that immediate compliance with the final effluent limitation for copper at Discharge No. 002 is not possible or practicable.
14. **Copper.** A Source Identification Study conducted by the Discharger estimated that up to 25% of the influent copper concentrations may be attributed to discharge from car wash facilities. Best Management Practices (BMPs) are being established for sand and oil separators including cleanout frequencies. Currently, additional control mechanisms for this source are being evaluated. Furthermore, the Discharger plans to conduct a study to establish a site-specific metals translator for copper at Discharge 002, which could effect the water quality-based effluent limits for copper.
15. The Discharger requests time to develop and implement a Pollution Prevention Plan (PPP); and given the uncertainty as to the potential need to design and construct a new treatment process at the Facility, the Discharger requests additional time to re-evaluate copper sources and develop a site-specific metals translator, complete the agricultural reuse feasibility study, introduce new municipal water supply, find a more accurate analytical technique to comply with the new final effluent limits for copper, cyanide, and selenium contained in WDR Order No. R5-2007-0132-02.
16. Immediate compliance with the new effluent limitations for cyanide, selenium and copper is not possible or practicable. The Clean Water Act and the California Water Code authorize time schedules for achieving compliance.

### **Mandatory Minimum Penalties**

17. CWC section 13385(h) and (i) require the Regional Water Board to impose mandatory minimum penalties upon dischargers that violate certain effluent limitations. CWC 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, if all the [specified] requirements are met...For the purposes of this subdivision, the time schedule may not exceed five years in length....*”
18. In accordance with CWC section 13385(j)(3), the Central Valley Water Board finds that, based upon results of effluent monitoring, the Discharger is not able to consistently comply with the new water quality-based effluent limitations for copper, cyanide, and selenium. The final effluent limitations for these constituents are new, or more stringent, requirements included in WDR Order No. R5-2007-0132-02. The final effluent limits for cyanide and selenium became effective on 18 May 2010 and final effluent limits for copper became effective when the Central Valley Water Board amended the NPDES Permit on 23 September 2010, and new or modified control measures are necessary in order to comply with the limitations, and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.
19. By statute, a Cease and Desist Order or Time Schedule Order may provide protection from MMPs for no more than five years. Prior to issuance of TSO R5-2010-0029, the Central Valley Water Board had not issued an Order to provide MMP protection for this facility. Therefore, compliance with this Order exempts the Discharger from mandatory penalties for violations of the final effluent limitations for Discharge Points 001 and 002 for selenium and cyanide and for Discharge Point No. 002 for copper in accordance with CWC section 13385(j)(3). Protection from MMPs for cyanide and selenium begins on 18 March 2010 and may not extend beyond the compliance schedule listed in this Order (i.e., 31 January 2015). Protection from MMPs for copper begins on the adoption date of this Order and may not extend beyond the compliance schedule listed in this Order (i.e., 30 September 2014).
20. Since the time schedules for completion of actions necessary to bring the waste discharge into compliance exceeds one year, this Order includes interim requirements and dates for achievement. The time schedules do not exceed five years.

The compliance time schedules in this Order include interim effluent limitations for cyanide and selenium. The interim effluent limitations for cyanide and selenium are based on the current treatment plant performance. The maximum daily interim limitations for cyanide and selenium in WDR Order No. R5-2007-0132-02 are reestablished in this Order.

The compliance time schedule in this Order includes interim performance-based effluent limitations for copper at Discharge Point No. 002. The interim effluent limitations consist of a maximum daily effluent concentration derived using sample data provided by the Discharger. In developing the interim limitations, where there are 10 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 percent 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, 3<sup>rd</sup> Edition, January 1986*). Where actual sampling shows an exceedance of the proposed 3.3-standard deviation interim limit, the maximum detected concentration has been established as the interim limitation.

The following tables summarize the calculations of the interim performance-based effluent limitation for copper at Discharge Point No. 002:

**Interim Effluent Limitation Calculation Summary for Discharge Point No. 002**

Parameter	Units	MEC	Mean	Std. Dev.	# of Samples	Interim Limitation
<b>Copper, Total Recoverable</b>	µg/L	39	<b>10.8</b>	<b>7.6</b>	<b>23</b>	<b>39</b>

21. The Central Valley Water Board finds that the Discharger can maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with the final effluent limitations cannot be achieved by the existing discharge. 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 limitations, however, establish an enforceable ceiling concentration until compliance with the final effluent limitation can be achieved.

**Other Regulatory Requirements**

22. On **18 March 2010 and on 23 September 2010**, 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 a Time Schedule Order under CWC section 13300 to establish a time schedule to achieve compliance with waste discharge requirements.
23. The issuance of this Order is not a “project” as defined by the California Environmental Quality Act (Public Resources Code, Section 21000, *et seq.*) (CEQA), and does not have the potential to cause a significant adverse impact on the environment (Title 14 CCR section 15061(b)(3)). This Order enforces preexisting requirements to improve the quality of ongoing discharges that are part of the CEQA “baseline”; and includes interim

effluent limitations to ensure that discharges do not increase above the CEQA baseline. Any measures to meet effluent limitations are the result of WDRs Order R5-2007-0069 and not this Order. Even assuming the issuance of this Order is a “project” within the meaning of CEQA, issuance of this Order is exempt from the provisions of in accordance with Water Code Section 13389, which exempts the adoption or modification of a NPDES Permit for an existing source. This Order only serves to implement a NPDES permit and is therefore exempt under Section 13389. The issuance of this Order is also exempt under Section 15321(a)(2), Title 14, California Code of Regulations (CCR).

24. 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 CWC 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 that this Order becomes final, except that if the thirtieth day following the date that this Order becomes final falls on a Saturday, Sunday, or state holiday (including mandatory furlough days), 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.

**IT IS HEREBY ORDERED THAT:**

1. The Discharger shall comply with the following time schedule to ensure compliance with the final effluent limitations for cyanide and selenium contained in WDR Order No. R5-2007-0132-02 as described in the above Findings:

<u>Task</u>	<u>Date Due</u>
Submit and implement an Pollution Prevention Plan (PPP) pursuant to CWC section 13263.3	1 December 2010
Annual Progress Reports <sup>1</sup>	1 December, annually
Full compliance with the final effluent limitations for cyanide and selenium	1 February 2015

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<sup>1</sup> The progress reports for cyanide and selenium 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 maximum daily effluent limitations shall be effective immediately and until 31 January 2015, or when the Discharger is able to come into compliance, whichever is sooner.

Parameter	Units	Maximum Daily Effluent Limitation
<i>Discharge Point 001</i>		
Cyanide	µg/L	9.6
Selenium, Total Recoverable	µg/L	7.1
	lbs/day <sup>1</sup>	0.44
<i>Discharge Point 002</i>		
Selenium, Total Recoverable	µg/L	7.2
	lbs/day <sup>1</sup>	0.45

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

3. The Discharger shall comply with the following time schedule to ensure compliance with the final effluent limitations for copper at Discharge Point No. 002, as described in the above Findings.

<u>Task</u>	<u>Date Due</u>
Submit Method of Compliance Workplan/Schedule	<b>Within 6 months</b> after adoption of this Order
Submit and implement Pollution Prevention Plan (PPP) <sup>1</sup> pursuant to CWC section 13263.3 for copper	<b>Within 1 year</b> after adoption of this Order
Progress Reports <sup>2</sup>	<b>28 February, annually</b> , after approval of work plan until final compliance
Full compliance with copper effluent limitations	<b>30 September 2014</b>

<sup>1</sup> The PPP shall be prepared and implemented for copper and shall meet the requirements specified in CWC section 13263.3.

<sup>2</sup> The progress reports 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.

4. The following interim effluent limitation shall be effective immediately. The interim effluent limitation at Discharge Point 002 for copper shall be effective up through 30 September 2014, or when the Discharger is able to come into compliance with final effluent limitations, whichever is sooner:

Parameter	Units	Maximum Daily Effluent Limitation
Copper, Total Recoverable	µg/L	39

5. For the compliance schedules required by this Order, the Discharger shall submit to the Central Valley Water Board on or before the compliance report due date, the specified document or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, and shall include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the time schedule.
6. If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may apply to the Attorney General for judicial enforcement. If compliance with these effluent limitations is not achieved by the Full Compliance date, the discharge would not be exempt from the mandatory minimum penalties for violation of certain effluent limitations, and would be subject to issuance of a Cease and Desist Order in accordance with CWC section 13301.

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 **18 March 2010 and amended on 23 September 2010.**

Original Signed by Kenneth D. Landau for  
PAMELA C. CREEDON, Executive Officer