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Central Valley Regional Water Quality Control Board

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23 October 2017

REVISED SALINITY EVALUATION AND MINIMIZATION PLAN; ORDER R5-2014-0145; MALAGA COUNTY WATER DISTRICT; WASTEWATER TREATMENT FACILITY; FRESNO COUNTY

On 20 January 2016, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) provided a review of the Malaga County Water District's (District) Salinity Evaluation and Minimization Plan (Salinity Plan). The Central Valley Water Board directed the District to revise the Salinity Plan in order to fully satisfy the requirements of Waste Discharge Requirements Order R5-2014-0145 (NPDES No. CA0084239), Provision VI.C.3.a. The District submitted a revised Salinity Plan on 15 May 2017 to address the concerns raised in the 20 January 2016 review.

We have reviewed the 15 May 2017 revised Salinity Plan. As detailed in the enclosed memorandum, the revised Salinity Plan and associated cover letter comprehensively identify salinity sources to and from the wastewater treatment facility and propose a schedule to implement salinity management tasks. The District's revised Salinity Plan fulfills Waste Discharge Requirements Order R5-2014-0145, Provision VI.C.3.a, and therefore is hereby approved.

If you have any questions regarding this matter, please contact Nicolette Dentoni at (559) 444-2505 or at Nicolette.Dentoni@waterboards.ca.gov.

Mary L. Ledgerwood

for Pamela C. Creedon
Executive Officer

Enclosure: 23 October 2017 Memorandum

cc: Charles Garabedian, Jr., President, Malaga County Water District, Fresno, CA

TO: Matt Scroggins
Senior Water Resource Control Engineer
Central Valley Regional Water Quality Control Board

FROM: Nicolette Dentoni
Water Resource Control Engineer
Central Valley Regional Water Quality Control Board

DATE: 23 October 2017

SUBJECT: **REVISED SALINITY EVALUATION AND MINIMIZATION PLAN, MALAGA COUNTY WATER DISTRICT; WASTEWATER TREATMENT FACILITY; FRESNO COUNTY**

Background

On 20 January 2016, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) provided a review of the Salinity Evaluation and Minimization Plan (Salinity Plan) for the Malaga County Water District (District), Wastewater Treatment Facility (Facility). The review identified deficiencies in the submittal, due to incomplete salinity source identification and an insufficient salinity control implementation schedule. The District provided a revised Salinity Plan on 15 May 2017 prepared by Provost and Pritchard Consulting Group. The following is a review of the revised submittal to determine compliance with the requirements of Waste Discharge Requirements (WDRs) Order R5-2014-0145, Provision VI.C.3.a.

Salinity Concentrations at Site

Order R5-2014-0145 limits electrical conductivity (EC) in the effluent to a 12-month rolling average of 1,000 umhos/cm or 500 umhos/cm plus the EC of the source water, whichever is more stringent. The District has struggled with achieving compliance with the source plus 500 umhos/cm limitation since 2014. Beginning February 2016, the District initiated a series of step decreases in the EC local limits for industrial dischargers. From October 2016 through June 2017, the discharge has been in compliance with the EC effluent limitations. The Discharger attributes the effluent EC decrease to the new local limit and anticipates further decrease upon implementation of additional steps in this revised Salinity Plan.

Sources To and From the Facility

Supply water: The District utilizes three water wells (Wells 6, 7, and 8) for the potable water supply. The revised Salinity Plan includes a table of the 2011-2016 potable water supply averages for concentration and mass of chloride, EC, sulfate, and total dissolved solids (TDS). Based on this data, the average EC of the potable water distributed to water users is 307 umhos/cm (4,375 lbs/day).

Residential dischargers: During the development of the Local Limits Study, the District collected residential samples of the collection system during 2015-2016. The revised Salinity Plan includes a table of the 2015-2016 residential discharge averages for concentration and mass of chloride, EC, sulfate, and TDS. Based on this data, the residential users discharge on average

862 umhos/cm (545 lbs/day) of EC to the Facility. The District concludes that the residential users contribute a higher than expected EC to the Facility.

Industrial users: In February 2016, the District initiated a series of step decreases in the EC local limit for industrial dischargers. The August 2016 Local Limits Plan proposed an interim EC limit of 850 umhos/cm, which may be lowered upon future analysis. However, full compliance with the 850 umhos/cm interim limit has not yet been realized for all Significant Industrial Users (SIUs). The revised Salinity Plan includes a table of the 2011-2016 SIU averages, indicating an average loading of 2,153 lbs/day to the Facility.

Commercial users: During the development of the Local Limits Study, the District conducted monitoring on some commercial users, such as truck washes and restaurants. The revised Salinity Plan includes a table of 2015-2016 commercial discharge averages for mass loading for chloride and EC. Based on this data, the sampled commercial users discharge on average 252.9 lbs/day of EC to the Facility. The Mass Salinity Summary table indicates a large portion of commercial water was not sampled.

WWTF sources: The revised Salinity Plan states that no chemicals are added in the treatment process. Comparison of influent data to effluent data shows that EC is usually reduced from the influent to the effluent.

Salinity Minimization and Control Options

Residential discharges: The revised Salinity Plan states that, in general, residential discharges are expected to add between 200 and 300 umhos/cm to source water. However, residential dischargers in the District's service area add approximately 555 umhos/cm to the source water. The District suggests that powdered laundry and dishwasher detergents may be the cause of the high increase in EC. The District is planning on further sampling of the residential sources in order to better characterize the high EC, and it states that a public outreach program may be implemented if a large enough need is determined. The public outreach program may consist of recommendations on detergent types, cleaning product types, use of chemicals and food additives, and removal of domestic water softeners.

Industrial users: The revised Salinity Plan emphasizes the need to establish compliance with the EC local limits among all industrial dischargers. Two of the District's SIUs contribute wastewater with an EC greater than the local limit, a significant portion of which is due to boiler blow down wastewater. The District's recently approved Disposal Capacity Report includes a discussion of installing a boiler blow down treatment system for the two SIUs and in turn recycling the treated wastewater to the SIU cooling towers. This approach would decrease salinity and flow to the Facility. The revised Salinity Plan acknowledges the SIU boiler blow down recycling proposal as a viable option for salinity reduction.

Commercial users: The District states that high EC dischargers should be identified and potentially permitted as appropriate. Vehicle washes in the area, in particular, may be good candidates for the permitting due to typically high EC.

Implementation

The revised Salinity Plan puts forth a sampling schedule, including locations, sample types, and test types, for evaluation of EC throughout the collection system. The sampling effort may be used to identify non-permitted dischargers of high EC. The implementation schedule in the revised Salinity Plan describe intentions to sample, pursue SIU blow down treatment, evaluate high EC dischargers, survey water softener usage, focus on public education, and continue

salinity evaluations. The revised Salinity Plan's cover letter was submitted in 25 September 2017 and provided an update on the implementation actions. The additional sampling proposed in the plan was completed, and results are currently being analyzed. The District has completed the water softener survey and has a public information campaign for salinity awareness. The District is also in the process of applying for a grant for the SIU blow down treatment pilot project.

Conclusion

The revised Salinity Plan documents a general decrease in effluent EC and confirms that further actions are required to address EC in the service area. The District has demonstrated its commitment to manage salinity in the community of Malaga. Provided the District will continue pursuing the implementation schedule proposals, WDRs Order R5-2014-0145, Provision VI.C.3.a is fulfilled.