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ACWD
ALAMEDA COUNTY WATER DISTRICT

43885 SOUTH GRIMMER BOULEVARD • P.O. BOX 5110, FREMONT, CALIFORNIA 94537-5110
(510) 668-4200 • FAX (510) 770-1793 • www.acwd.org

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February 28, 2008

Mr. Dale Bowyer
California Regional Water Quality Control Board
1515 Clay Street
Oakland, CA 94612

Dear Mr. Bowyer:

Subject: Municipal Regional Stormwater Permit Tentative Order Comments

The Alameda County Water District (ACWD) appreciates the opportunity to comment on the "California Regional Water Quality Control Board-San Francisco Bay Region's, Municipal Regional Stormwater NPDES Permit" Tentative Order (MRSP).

ACWD is a local public agency that provides drinking water to approximately 327,700 people in the cities of Fremont, Newark, and Union City. Groundwater is a very important component of the water supply, currently furnishing 40% of the water ACWD distributes to its customers. In dry years, groundwater has contributed over 60% of the supply. ACWD has eighteen production wells within its district boundaries. Therefore, ACWD has developed and implemented various groundwater programs to manage and protect its groundwater resources. The proposed MRSP greatly impacts the implementation of two of ACWD's groundwater management programs: Groundwater Basin Monitoring and Water Supply Management. Components in both programs generate pumped groundwater discharges which will be regulated under the MRSP's Provision C.15.b, Conditionally Exempted Non-Stormwater Discharges. Below are brief descriptions of the two programs, followed by comments on the Provision.

Groundwater Basin Monitoring Program: In order to facilitate the management of ACWD's groundwater resources, ACWD monitors approximately 300 wells located through out the Niles Cone Groundwater Basin twice every year. ACWD samples approximately 80 wells during the spring and 145 wells during the fall. Water samples collected are mainly analyzed for chloride and total dissolved solids (TDS). The water quality data is used by ACWD to evaluate its ongoing efforts to mitigate the historical degradation of its groundwater basin by saltwater intrusion. All wells on the program are purged prior to sampling in order to obtain representative samples from the aquifers. On average, 2,100 gallons of water is purged from each well prior to sampling. Approximately six wells from various locations around the basin are sampled per day.

Water Supply Management Program: Since groundwater constitutes a significant portion of ACWD's total water supply, it is critical that the production wells are properly maintained so that a reliable source of groundwater is consistently available. Over time, it is necessary to periodically redevelop the wells to restore the wells to their original capacity and to maintain their efficiency. On average, one to two wells per year are rehabilitated. Well development typically takes three to ten days per well, and approximately 1.5 million gallons of water is discharged per day. The discharged groundwater does not contain chlorine or other chemicals contaminants.

Questions and Comments:

1. **Provision C.15.b, Conditionally Exempted Non-Stormwater Discharges**

   ACWD recommends that pumped groundwater that satisfies the following conditions be included in C.15.a, Exempted Non-Stormwater Discharges:

   a) Groundwater pumped from a well perforated in a drinking water aquifer(s) that is regularly tested for water quality parameters in accordance to California Department of Public Health (CDPH) requirements.

   b) Groundwater pumped from monitoring wells used for groundwater basin management purposes.

   c) No known sources of contamination are present in the immediate vicinity of the well where groundwater is being pumped.

   d) Groundwater discharge activities comply with Provision C.15.b.i(1)(i).

2. **Provision C.15.b.i(1)(d) states: "Permittees shall require that water samples from these discharge types be analyzed using approved USEPA Methods (e.g., (a) USEPA Method 160.2 for total suspended solids; (b) USEPA Method 8015 Modified for total petroleum hydrocarbons; (c) USEPA Method 8260 or equivalent for volatile organic compounds; and (d) USEPA Method 3005 for metals).**

   It is unclear from Provision C.15.b.i(1)(c) and Provision C.15.b.i(1)(d) what analyses are mandatory for conditionally exempted discharges. If all pumped groundwater is classified as conditionally exempt and subject to all the analyses listed above, then groundwater basin management will no longer be economically feasible. For example, in order for ACWD's Groundwater Basin Monitoring Program to comply with this Provision, over 200 wells per year will have to be sampled for total suspended solids, total petroleum hydrocarbons, volatile organic compounds, and metals. In addition to the analytical costs, thousands of gallons of purged water generated per day during each sampling event will have to be contained and stored until the collected samples are analyzed. This is highly impractical and virtually impossible to execute.

The comprehensive sampling is also excessive considering that stringent water quality testing is continually being conducted at ACWD drinking water supply wells as required by CDPH and at ACWD Aquifer Reclamation Program and Salinity Barrier Protection wells as required by Regional Board (NPDES CAG912004).

If all pumped groundwater must be considered conditionally exempt, then existing water quality data from representative wells, such as production wells, should be accepted to fulfill the requirements in Provision C.15.b.i(1)(c) and Provision C.15.b.i(1)(d). Another alternative is to allow sampling of a representative monitoring well from each aquifer instead of requiring sampling at every discharge point from the same aquifer.

3. **Provision C.15.b.i(1)(f) states: "Permittees shall require that turbidity of discharged water be maintained below 50 NTUs for discharges to dry creeks or storm drains. If receiving water is above 50 NTU, the discharge will not exceed background turbidity by more than 10 percent."**

   Groundwater turbidity is strongly related to groundwater extraction processes and is not always indicative of the water quality. Turbidimeters typically work by measuring the amount of light scattered by particles in the sample. Errors are introduced when large amount of air is entrained into the water sample. If the pumping method, such as air-lifting (which is used by ACWD), causes excess amount of air to be entrained into the water, then the discharge will have turbidity levels higher than that represented by the fine material in the water. Similarly during well development, groundwater is surged up and down the well, which tends to trap air in the water and causes unreliable turbidity readings. Depending on the application, turbidity may not be a good indicator of water quality for pumped groundwater and should be taken into consideration by this Provision.

Thank you for the opportunity to comment on the MRSP at this time. If you have any questions, please contact me at (510) 668-6530.

Sincerely,

Steve Dennis
Environmental Compliance Officer

By courier