State of California
California Regional Water Quality Control Board
Santa Ana Region

June 13, 2014
Staff Report

ITEM: 07

SUBJECT: Resolution in Support of Request for Cleanup and Abatement Account Funds for the West Valley Water District's Wellhead Treatment System for Perchlorate in the Rialto Groundwater Management Zone

DISCUSSION:

The Cleanup and Abatement Account (CAA) Fund was created by Water Code Sections 13440 and 13441. Monies received from court judgments and the assessment of administrative civil liabilities fund the CAA. The management of the CAA is the responsibility of the State Water Resources Control Board (State Board). Monies from the CAA are available to cleanup a waste or abate the effects of a waste discharge and to remedy an actual or potential unforeseen public health threat. The State Board, the regional boards, or any public agency with the authority to cleanup or abate the effects of waste discharges are eligible for funding from the CAA. The State Board allocates monies from the CAA for special projects and for emergency projects on a case-by-case basis.

A number of drinking water supply wells in the Rialto Groundwater Management Zone operated by the City of Rialto and the West Valley Water District (the District) are polluted by perchlorate and other contaminants. Water from the Rialto Groundwater Management Zone is used for domestic supply within the area.

Rialto is a city of approximately 100,000 people and a majority of the city's population belongs to minority groups. In 2003, the State Board found that the communities' water supply has been significantly impacted by military and hazardous waste disposal practices of a number of manufacturing facilities that operated in the area. This information, together with demographic information showing a high percentage of ethnic families, led the State Board to conclude that the community should be identified as an environmental justice community. More recently, in 2013, the Santa Ana Watershed Project Authority (SAWPA) identified Rialto as a disadvantaged community.

The District is currently operating a fluidized bed reactor (FBR) system to treat polluted water from two wells (Rialto No. 6 and WVWD No. 11). The FBR is a biological treatment system that reduces perchlorate into chloride and nitrate into nitrogen. The FBR was funded, in part, by $2.7 million from the CAA. Recently the Department of Defense has provided a grant of $3.4 million to the District to construct and operate the first-ever, full-scale, fixed bed reactor (FXR) parallel to its existing FBR system. The FXR is also a biological treatment system and pilot studies have indicated that this system may be more efficient compared to the FBR system. The cost of the FXR reactor is $3.4 million and the design and construction costs are in excess of $3.0 million. The District is requesting a grant from the State Board of $3.0 million from the CAA funds for the design and construction of the FXR reactor. The District is requesting that these grant funds be provided to them over a three year period. The FXB system would use the

same input stream as the FBR system. This setup would allow for a side-by-side comparison of the two systems. The information obtained during the operation of the two systems will provide a performance record that could be utilized to evaluate their efficiencies and to facilitate the use of these systems throughout the State.

The District has indicated that the proposed FXB construction project is shovel-ready, and could be in operation parallel to the existing FBR system within a year. It is appropriate that the CAA funds be utilized for support of this wellhead treatment project.

Support letters for the FXB project from the Department of Defense's Environmental Security Technology Certification Program, Congresswoman Gloria Negrete McLeod, and Senator Diane Feinstein are attached to this Staff Report.

RECOMMENDATION: Adopt Resolution No. R8-2014-0045 in support of the request from the West Valley Water District for $3 million from the Cleanup and Abatement Account to support the wellhead treatment project for perchlorate.

State of California
California Regional Water Quality Control Board
Santa Ana Region

RESOLUTION NO. R8-2014-045

In Support of the Request for Cleanup and Abatement Account Funds for the West Valley Water District's Wellhead Treatment Systems for Perchlorate in the Rialto Groundwater Management Zone, San Bernardino County

WHEREAS:

1. Sections 13440 and 13441 of the California Water Code established the State Water Pollution Cleanup and Abatement Account to be administered by the State Water Resources Control Board (State Board).

2. Section 13442 of the Water Code provides that grants to public agencies are available from the Cleanup and Abatement Account. The State Board may order monies to be paid from the Cleanup and Abatement Account to assist a public agency or a regional board to assist it in cleaning up waste or abating its effects on waters of the State.

3. The Rialto Groundwater Management Zone is beneficially used for municipal and domestic supply, in addition to other uses. A significant water quality problem currently exists in the Rialto Groundwater Management Zone, due to volatile organic compounds and perchlorate pollution. The perchlorate pollution has already impacted a number of municipal supply wells that are within the jurisdiction of the West Valley Water District (The District).

4. The State Board designated the Rialto area as an environmental justice community.

5. The U.S. EPA is addressing the plume of volatile organic compounds and perchlorate in the geographic area defined as Operable Unit 1 (OU1) in the Rialto Groundwater Management Zone, through an Interim Remedy for regional treatment of the plume under the National Contingency Plan.

6. Funding from the Department of Defense, in combination with previous State Board grants, has been utilized for the construction and operation of the combined wellhead treatment system for two of the impacted wells (Rialto No. 6 and WVWD No. 11). The treatment system utilizes a fluidized bed reactor (FBR) for biological treatment of perchlorate and nitrate. Biological treatment systems, such as the FBR, convert perchlorate to chloride and nitrate to nitrogen gas, thereby eliminating these contaminants from the environment, without producing a concentrated waste stream for disposal.

7. The Rialto FBR wellhead treatment system has been in operation since 2013 and it is needed to ensure that an adequate supply of drinking water is available to the public in the region, and to contain the pollutant plume.

8. Recently, the Department of Defense's Environmental Security Technology Certification Program developed and pilot-tested another biological treatment system, Fixed Bed Reactor or FXB. The results from the pilot studies of FXB indicate that the FXB system

may be even more efficient than the FBR system for treating perchlorate and nitrate.

9. Currently there are no full-scale FXB systems in operation for treating drinking water. The Department of Defense has agreed to provide $3.4 million to the District to construct and operate a full scale FXB system parallel to the FBR system. This would be the first-ever full-scale FXB treatment system and it would provide critical data to compare and evaluate the two systems for perchlorate and nitrate treatment.

10. The grant provided by the Department of Defense would only pay for the FXB reactor and does not cover the cost of design, construction, installation and source water. The District is requesting a grant of $3.0 million from the Cleanup and Abatement Account to cover the cost of design, construction, installation and source water for the FXB system. The total cost of the project is estimated to be in excess of $6.4 million. The District has indicated that the $3 million grant from the State Board could be provided over the next three years. This approach would allow time for construction, and the District would be able to advance funds for the project, to be reimbursed by the grant funds over a three year period.

11. The local community will benefit by cleaning up its groundwater, by reducing reliance on imported water and by having a more reliable local water supply source.

12. The information obtained during the operation and monitoring of the FBR and FXB will provide a performance record that could be utilized to facilitate the use of such sustainable “green” technologies throughout the State and the nation.

13. The District has indicated that the proposed FXB construction project is shovel-ready, and could be in operation parallel to the existing FBR system in 2016.

THEREFORE, BE IT RESOLVED THAT:

1. The Regional Board supports the West Valley Water District’s request for $3 million from the State Board’s Cleanup and Abatement Account Funds.

2. The Executive Officer is directed to forward a copy of this Resolution to the State Board.

I, Kurt V. Berchtold, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Santa Ana Region, on June 13, 2014.

_____

Kurt V. Berchtold
Executive Officer