



City of Phoenix

OFFICE OF ENVIRONMENTAL PROGRAMS

September 7, 2010

Benjamin H. Grumbles, Director
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007

Re: West Van Buren WQARF Site
Roosevelt Irrigation District Well Investigation Work Plan

Dear Mr. Grumbles:

The city of Phoenix (the "city") appreciates the opportunity to comment on the Roosevelt Irrigation District Well Investigation Work Plan (Work Plan), dated August 9, 2010, prepared by Montgomery & Associates on behalf of Roosevelt Irrigation District (RID). The Work Plan was submitted to ADEQ in response to your letter of June 24, 2010 granting conditional approval of RID's Early Response Action (ERA) Work Plan.

Your conditional approval of the Work Plan required that "RID must conduct well testing and modeling to insure that changes in pumping will not adversely affect groundwater quality and levels within the WVBA beyond what would be expected with the current pumping conditions. The investigation must determine how ERA Work Plan implementation will affect both the aquifer and wells in the area of the plume".

The city believes that operation of the RID wells in the area of the West Van Buren plume is the predominant factor controlling the movement of the contaminants that comprise the plume. To date, there has been only limited analysis of the characteristics of the aquifer and of the potential suitability of individual RID wells to be physically modified and/or operated in a manner that results in cost-effective aquifer restoration. Given that paucity of analysis, you understandably requested that RID undertake the reasonable task of scientifically analyzing the probable effect of the proposed ERA on the aquifer, existing wells, and the ultimate remedial action goals.

Based on a review of the Work Plan, it is clear that it will not provide an adequate basis for understanding the impact of the ERA on water levels and water quality in the West Van Buren Area. The Work Plan contains numerous technical omissions, unsupported assumptions and does not address the very specifically-stated requirements for conditional approval of the ERA. Moreover, RID does not explain how the data that is proposed to be collected through implementation of the Work Plan will be used to address the requirements for conditional approval. Many of these technical concerns are stated in the letter dated September 6, 2010 from Robert Frank of CH2MHill to you, and the city joins in those comments. The city urges ADEQ not to approve the Work Plan without substantial modification and improvement, including an explanation of how the Work Plan activities will be sufficient to reach technically sound conclusions regarding the requirements for conditional approval.

Specific Comments on the Work Plan

Section 3.1 Hydrogeologic Conditions: This section is extremely brief and provides no discussion of aquifer characteristics relative to the potential effectiveness of the proposed ERA and/or a future groundwater modeling effort to support an evaluation of such effectiveness, or lack thereof. Aquifer testing at RID production wells is necessary to gain an understanding of aquifer characteristics and should be included as an initial step of this work plan to support interpretation of how the proposed ERA will affect the aquifer.

Section 3.2 Groundwater Conditions, 3rd paragraph: There is no evidence offered to support the statement that "a downward vertical hydraulic gradients exists" between upper and deeper aquifer zones. Current water quality data in the Lower Alluvial Unit indicate the opposite.

Section 4.0 Well Investigation: The Work Plan does not address ADEQ's request regarding "the changes in pumping will not adversely affect groundwater quality and water levels within the WVBA beyond what would be expected with the current pumping conditions." In particular, there is a lack of methodology that addresses the seasonal variations of RID's operations, determines the area of impact of the remediation well field, and evaluates the effects of long-term pumping on horizontal and vertical hydraulics in the UAU1, UAU2, and MAU. It is particularly important that the Work Plan explore the impacts of long-term pumping in the context of future regional pumping demands from others.

Section 4.4.2 Testing Operations, Item 3 Depth-Specific Water Sampling: The described approach to collect depth-specific samples may not be adequate, because these wells were constructed without annular seals, allowing water to short-circuit between upper and lower units of the aquifer. In addition, the Work Plan also does not address solutions to collect depth-specific samples if the well screen is plugged.

Thank you for consideration of these comments. The city believes that ADEQ's stated expectations for the Work Plan were appropriate. Unfortunately, the Work Plan submitted by RID falls far short of meeting those reasonable technical expectations. It will not provide sufficient information to evaluate the probable success and cost-effectiveness of the remedy. Therefore, the city requests that ADEQ disapprove this Work Plan.

Sincerely,



Philip McNeely
Environmental Programs Manager

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