



Janice K. Brewer  
Governor

# ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Benjamin H. Grumbles  
Director

June 24, 2010

Mr. Stanley H. Ashby  
Superintendent  
Roosevelt Irrigation District  
103 W. Baseline Road  
Buckeye, AZ 85326

Re: Conditional Approval of a Water Quality Assurance Revolving Fund (WQARF) Early Response Action (ERA) Work Plan for the West Van Buren Registry Site

Dear Mr. Ashby:

The Arizona Department of Environmental Quality (ADEQ) has reviewed the Roosevelt Irrigation District (RID) ERA Work Plan for the West Van Buren WQARF Registry Site (the Site) dated February 3, 2010. The Work Plan summarizes technical information regarding the Site, provides justification for an ERA, and describes an ERA remedy designed to remediate contaminated groundwater within the Site. In addition to the ERA Work Plan, ADEQ has also carefully analyzed technical and legal documents and correspondence contained in the Site file, including submittals by RID and other interested parties since September 2009, and comments received through the public participation process.

Based on our analysis of all available information, ADEQ conditionally approves, the February 3, 2010 ERA Work Plan. The attached matrix identifies specific conditions, tasks and outcomes that must be achieved to maintain the conditional approval. RID has a unique opportunity to increase the removal of contamination from the aquifer via its wells by analyzing and potentially modifying existing well screen intervals and pumping rates. Without treatment, these contaminants will continue to degrade the quality of the aquifer within the Site. The conditions ADEQ is placing on this approval will ensure that the ERA maximizes the benefit of pumping and treating contaminated groundwater within the Site, which is intended to result in aquifer restoration and reduce the cost of the final remedy.

ADEQ reserves the right to identify additional conditions as new information becomes available throughout ERA implementation. In addition, RID shall submit all information and take all action required by A.A.C. R18-16-405(H), 404, 411, 412, 413 and A.R.S. § 49-282.06(A). The information and actions required by these provisions include, but are not limited to, community involvement, the submittal of design and engineering plans for the ERA, and addressing unknown or changed conditions during implementation of the ERA.

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ADEQ analyzed the ERA Work Plan to determine compliance with applicable State statutes and rules. ADEQ has not reviewed whether the ERA Work Plan is consistent with any federal laws or regulations. In addition, ADEQ's review and conditional approval of the ERA is limited only to those activities expressly described within the ERA related to the extraction and treatment of contaminated groundwater within the Site. ADEQ's conditional approval does not include an analysis or approval of the transport or final disposition and use of the treated water.

Until information about a final remedy is developed, ADEQ cannot estimate the cost of the final remedy and each responsible party's proportionate share of liability. As a result, ADEQ will not provide any covenants not to sue or contribution protection for WQARF liability in a settlement, until we have enough information about the final remedy to determine the impact of the settlement on funding of the final remedy.

We look forward to working with you and other interested parties as you begin to implement the ERA. Please contact Amanda Stone, Director of the Waste Programs Division at (602) 771-4567 if you wish to discuss the technical aspects of this conditional approval.

Sincerely,

A handwritten signature in black ink, appearing to read "B. H. Grumbles", written in a cursive style.

Benjamin H. Grumbles  
Director

Attachment (1)

cc: Herb Guenther, Arizona Department of Water Resources

Approval of the proposed RID ERA is made with the following conditions that must be met within the time periods identified below, or within another time period approved by ADEQ. All work plans required by this conditional approval must be submitted to ADEQ for approval prior to implementation, and must include a schedule for performing all tasks identified in the work plan. Once a work plan is approved by ADEQ, all tasks within the work plan must be completed in accordance with the schedule in the approved work plan, unless a deviation is agreed upon by ADEQ in writing. RID shall begin implementation of task 1 and 2 concurrently, and 2, 3 and 4 sequentially. Conditional approval is based on the assumption that each of these areas of concern will be investigated appropriately and the results of the investigations will demonstrate that the ERA continues to meet minimum applicable statutory and rule requirements. Days are calendar days, unless specifically noted otherwise.

Task No.	Description	Completion/Submittal Date
1. Public Health Threat	<p>The RID work plan states there is a current risk to the public health from exposure to VOCs (from both air and water) within the West Van Buren Area (WVBA), however, specific documentation about the risks and how the risks will be mitigated during the ERA implementation has not yet been provided.</p>	<p>Within 30 days of ERA approval, RID shall submit a risk analysis work plan to ADEQ documenting the risks and demonstrating to ADEQ how and when the ERA will mitigate the risks.</p>
2. RID Wells Investigation	<p>Due to the proposed increased pumping rate at RID wells to be used for remediation, 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. Water levels must be maintained at or near current levels taking into account natural variations. The investigation must determine how ERA workplan implementation will affect both the aquifer and wells in the area of the plume.</p>	<p>Within 45 days of ERA approval, RID shall submit a well investigation work plan for the investigation of RID wells within the plume boundary. This investigation shall include at a minimum, water levels, screen intervals, spinner log testing, depth specific analytical testing, and video logging.</p> <p>Within 60 days of completion of the work required by the well investigation work plan, RID shall submit a well investigation report to ADEQ.</p>

Task No.	Description	Completion/Submittal Date
3. Groundwater Modeling	<p>A groundwater model must be constructed to estimate the effects of the changed RID well pumping rates. RID has indicated that the overall pumping rate will stay the same; however, the wells that will be pumped will change. This change must be modeled.</p> <p>The groundwater model must also evaluate how the diverted pumpage of RID wells will affect other contaminant groundwater plumes, such as those created at Leaking Underground Storage Tank (LUST) sites and neighboring WQARF and Superfund sites.</p> <p>The model must also consider differing pumping rates and locations. One of the goals of the ERA is to remediate groundwater. RID must maximize, to the extent practical, the removal of contaminants from the subsurface when the ERA is implemented. Currently the RID treatment system plan is based on treating the entire volume of groundwater that the RID wells are capable of pumping. However, this may be excessive if the wells can be pumped at a lower rate from the contaminant zone and still maintain the desired effects of groundwater recovery. Therefore, the model shall also consider impacts of other pumping rates on drawdown and capture zones.</p>	<p>Within 60 days of ADEQ's written approval of the well investigation report, RID shall submit a groundwater model work plan. At a minimum, the groundwater model shall estimate the effects of changed pumping rates and locations on the aquifer, including but not limited to water levels and all contaminant plumes within the WVBA and neighboring WQARF and CERCLA sites.</p> <p>Within 60 days of completion of the work required by the groundwater model work plan, RID shall submit a groundwater model report to ADEQ for approval.</p>

Task No.	Description	Completion/Submittal Date
4. Pump and Treat System	<p>RID must complete an engineering design study which describes all technical requirements for a pump and treat remediation system, including a description of the influent and effluent contaminant levels.</p> <p>All applicable permits must be in place, prior to construction and/or operation of the pump and treat system, as required under the relevant statutes and rules.</p> <p>RID must also submit a construction, operation and maintenance work plan for the pump and treat system. The work plan must contain a plan for monitoring groundwater quality and groundwater elevations, including what wells will be sampled and monitored, the frequency that they will be sampled and monitored, and the parameters that will be analyzed. As part of the work plan, RID must also submit proposed sampling frequency, locations, and analytical methods, at the pump and treat system.</p>	<p>Within 60 days of ADEQ's written approval of the groundwater model report, RID shall submit an engineering design study for the pump and treat remediation system sealed by an Arizona Registered Professional Engineer. At a minimum the engineering design study shall include all of the technical design requirements of the pump and treat remediation system, including a description of the influent and effluent contamination levels. In addition, the engineering design study must include a list of all permits that must be obtained prior to construction and operation.</p> <p>Within 60 days of ADEQ's written approval of the engineering design study, RID shall submit a remediation system construction, operation, and maintenance work plan. At a minimum the work plan shall include, an Operation and Maintenance (O&amp;M) plan for the remediation system, a description of the sampling of RID canals and wells (both for groundwater elevation and quality) during operation of the remediation system, and a description of sampling of remediation system influent and effluent water.</p>