REMEDIAL OBJECTIVES REPORT

WEST VAN BUREN AREA
WQARF REGISTRY SITE
PHOENIX, ARIZONA

August 8, 2012

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Remedial Projects Unit
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Arizona Department of Environmental Quality
Remedial Projects Unit

August 8, 2012

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APPENDICES

LIST OF ABBREVIATIONS AND ACRONYMS

ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AFY	Acre-Feet per Year
CAB	Community Advisory Board
CIS	cis 1,2-Dichloroethene
COC	Contaminant of Concern
COP	City of Phoenix
COT	City of Tolleson
1,1-DCA	1,1-Dichloroethane
1,1-DCE	1,1-Dichloroethene
ERA	Early Response Action
FS	Feasibility Study
GSF	Groundwater Savings Facility
MCL	Maximum Contaminant Level
PCE	Tetrachloroethane
RI	Remedial Investigation
RID	Roosevelt Irrigation District
RO	Remedial Objective
ROD	Record of Decision
SRP	Salt River Project
SRRD	Salt River Reservoir District
1,1,1-TCA	1,1,1-Trichloroethane
TCE	Trichloroethene
WCP	West Central Phoenix
WQARF	Water Quality Assurance Revolving Fund
WSD `	Water Services Department
WVBA	West Van Buren Area
WVBG	West Van Buren Group

1.0 INTRODUCTION

The Arizona Department of Environmental Quality (ADEQ) has developed the Final Remedial Objectives (ROs) for the West Van Buren Area (WVBA) Water Quality Assurance Revolving Fund (WQARF) Registry Site to meet requirements established under Arizona Administrative Code R18-16-406. This report relies upon the Land and Water Use Report (Use Report) prepared by Terranext (dated March 2012); solicitations and comments received during public comment periods, November 30, 2009 to January 4, 2010 (and subsequently extended to January 26, 2010) and May 16, 2011 to June 30, 2011, respectively; and a revised Land and Water Use Study Questionnaire submitted by Roosevelt Irrigation District (RID) dated January 12, 2010 and received by ADEQ on January 18, 2010.

ROs are established for current and reasonably foreseeable uses of land and waters of the state that have been or are threatened to be affected by a release of a hazardous substance. The rule specifies that the reasonably foreseeable future uses of land are those likely to occur at the site, and the reasonably foreseeable future uses of water are those likely to occur within 100 years unless site-specific information suggests a longer time period is more appropriate [R18-16-406(D)]. Reasonably foreseeable future uses are those likely to occur based on information provided by water providers, well owners, land owners, government agencies, and others. Not every use identified in the Use Report will have a corresponding RO. Uses identified in the Use Report may or may not be addressed based on information gathered during the public involvement process, WQARF limitations, and whether the use is reasonably foreseeable.

ROs chosen for the site will be evaluated in the feasibility study (FS), which will compare remedial measures and strategies required to meet ROs. A remedial strategy is one or a combination of the six general strategies identified in Paragraph B.4 of A.R.S. 49-282.06 (plume remediation, physical containment, controlled migration, source control, monitoring, and no action). A remedial measure is a specific action taken in conjunction with remedial strategies to achieve one or more ROs (for example, well replacement, well modification, water treatment, water supply replacement, and engineering controls).

The FS will propose at least three remedies (a reference remedy and generally two alternative remedies) capable of meeting ROs. A reference remedy is a combination of remedial strategies and measures capable of achieving ROs, and is compared with alternative remedies for purposes of selecting a proposed remedy. An alternative remedy is a combination of remedial strategies and measures different from the reference remedy; alternative remedies are compared with the reference remedy for purposes of selecting a proposed remedy. Proposed remedies will also be generally compatible with future land use specified by land owners.

The Proposed Remedial Objectives Report was prepared with stakeholder input contained in the March 2011 Land and Water Use Report; input gathered during the December 10, 2009, WVBA community advisory board (CAB) meeting and public meeting (Appendix A); as well as written solicitations received during the 45-day public comment period, November 30, 2009 to January 4, 2010 (and subsequently extended to January 26, 2010) (Appendix B); and a revised Land and Water Use Study Questionnaire submitted by RID dated January 12, 2010 and received by ADEQ on January 18, 2010. The Proposed Remedial Objectives Report was issued on May 16, 2011 and

contained a responsiveness summary to the solicitations received for the Proposed Remedial Objectives Report (Appendix C). The Final Remedial Objectives Report contains this information and written comments received during the 45 day comment period May 16, 2011 to June 30, 2011 and during the June 30, 2011, WVBA CAB meeting and public meeting (Appendix D). A responsiveness summary to comments received during the public comment period is included as Appendix E. ADEQ shall issue the final remedial investigation (RI) report which shall contain the final RO report as an appendix.

2.0 REMEDIAL OBJECTIVES FOR LAND USE

The WVBA extends from approximately 7th Avenue west to 75th Avenue and from Buckeye Road north to Interstate 10, just south of and parallel to McDowell Road. The entire WVBA is located within the City of Phoenix (COP). However, the WVBA abuts the City of Tolleson's (COT) easternmost boundary, which is 75th Avenue between Van Buren Street and the RID Main canal.

The COP is comprised of 15 "urban villages". The WVBA is located in the Central City and Estrella urban villages, with the division between them being I-17 north of Durango Street, and 19th Avenue south of Durango Street. There are no village cores (a central focus with a pedestrian-oriented mix of land uses) or special planning districts within the WVBA. Given the vast acreage of agricultural land available to be developed in the future, the Estrella Village is identified as a Phoenix targeted growth area, and is expected to experience significant increases in both employment and residential growth.

The WVBA abuts the COT easternmost boundary, which is 75th Avenue between Van Buren Street and the RID canal. Land use in the eastern COT, adjacent to the WVBA, is primarily agricultural/ vacant and industrial, but is expected to increase in commercial use.

The WVBA is the areal projection of the western portion of a large commingled plume of contaminated groundwater. Contributors to this commingled plume include both industrial facilities within the WVBA, and contaminated groundwater from the east (as regional groundwater flow is generally westward) from the Motorola 52nd Street Superfund Site and possibly from the north from the West Central Phoenix (WCP) WQARF Registry Site. The RI report identifies known sources of commingled contaminants in groundwater.

Based upon review of public comments, ADEQ proposes the following ROs for land use in the WVBA area:

- Protect against possible exposure to hazardous substances in surface and subsurface soils that could occur during development of property based upon applicable zoning regulations.

- Protect against possible leaching of hazardous substances in surface and subsurface soils to the groundwater.

- Protect against the loss or impairment of current and all reasonably foreseeable future uses of land as provided in zoning regulations and the Land and Water Use report as a result of hazardous substances in surface and subsurface soils. Appropriate remedial actions will be implemented as an Early Response Action (ERA) or after the record of decision (ROD) is finalized which ever is warranted and continued until hazardous substances causing the impairment or restriction to the land use are remediated.

3.0 REMEDIAL OBJECTIVES FOR GROUNDWATER USE

The primary contaminants of concern (COCs) comprising the commingled WVBA plume include the following:

- tetrachloroethene (PCE)
- trichloroethene (TCE)
- 1,1,1-trichloroethane (TCA)
- cis 1,2-dichloroethene (cis 1,2-DCE)
- 1,1-dichloroethane (1,1-DCA)
- 1,1-dichloroethene (1,1-DCE)

Chromium is also a COC primarily in the southeast portion of the site. The following groundwater uses within the WVBA have been identified:

- Municipal use (drinking water)
- Agricultural use (irrigation)
- Private use (including commercial, industrial, and domestic)

3.1 Municipal Groundwater Use

The COP Water Services Department's (WSD) 2005 Water Resources Plan (Plan) references the need for additional groundwater within the service area, primarily as a supply to mitigate surface water shortage conditions. This 2005 Plan does not include specific plans for groundwater development within the WVBA though a subsequent "Groundwater Management Plan" developed by WSD includes potential wells within portions of the service area that overlap RID service territory. Since 1985, groundwater use by the COP steadily declined due to the availability of Central Arizona Project water, the development of several Salt River Valley Water Users' Association (SRP)-based surface water supplies, and provisions of the State's Groundwater Code (Code) which mandates groundwater use limitations. In effect, the Code and COP's corresponding policy rely on groundwater as an essential supply to mitigate future water shortages. The COP currently meets over 95 percent of its demand with surface water sources that could be curtailed significantly due to long-term drought in source watersheds. The COP also relies on groundwater to accommodate water system maintenance and as a backup during temporary outages. Projected groundwater use in normal supply years is assumed to be 15,000 acre-feet per year (AFY) in the Plan but it could be substantially greater during shortage conditions.

In 2010, the Arizona Department of Water Resources (ADWR) approved the COP's application for a designation of assured water supply. This designation, a re-validation of the original approval by ADWR in 1998, signifies that the COP has sufficient renewable water supplies to support projected demand levels for the year 2025 and can maintain these supplies through the year 2100. A portion of these water supplies includes groundwater.

The COP has 20 active wells currently in production that can generate up to 28 million gallons of water per day. These wells are located at least one mile from WVBA boundaries. Due to water quality degradation and the establishment of more stringent maximum contaminant levels (MCLs), wells within the WVBA WQARF site were placed on inactive status. The total loss of COP well production for normal use from 1981 to 2010 due to elevated contaminant concentrations exceeds 90,000 AFY from the closure of over 60 wells. This represents more than 60 percent of the total production capacity of COP wells in 1981.

Degraded groundwater constitutes a vast reserve of water for use in meeting the COP's future water needs. The COP maintains several wells within or adjacent to WQARF sites within the COP for emergency use and future use in meeting service area water needs; these wells could be placed back in service with the addition of wellhead treatment systems or approved blending programs. Also, the COP holds "Special Pump Rights" with SRP, which are rights to groundwater well capacity developed by SRP. In order for the COP to maintain and use these rights in the future, it may be necessary to connect SRP wells directly to the COP water distribution system. This may require the addition of wellhead treatment systems.

According to COP's Water Resources Plan, the use of potentially degraded groundwater is likely to be somewhat limited within the next decade, but the COP will depend more heavily on this groundwater to provide for service area water demands later in the 50-year planning horizon. Specifically, new groundwater production capacity is needed starting in the year 2020 at 20,000 AFY, increasing to more than 40,000 AFY in 2035. Assuming average production of two million gallons per day and a 65 percent utilization factor, this equates to 13 new wells will be required beginning in 2020, with an additional 14 wells added by 2035.

According to the COT General Plan (2005), COT uses four production wells. Since COT currently receives most of its water from the COP through an Inter-Governmental Agreement, these four wells are used mainly during summer months for backup supply purposes. If the COP should experience a water shortage, COT may become more reliant on these production wells.

RID indicated in a revised Land and Water Use Study Questionnaire submitted on January 12, 2010 to ADEQ that their current use of groundwater from the RID water supply wells is for irrigation but the future use may be drinking water supply for residential and commercial development within the RID water district. The survey indicated that RID was in discussions with west valley water providers regarding delivery of water for municipal use. On September 23, 2010, the Town of Buckeye submitted a letter to ADEQ indicating that the Town of Buckeye was very interested in the utilization of the treated water from the RID ERA system in the future. On September 24, 2010, the City of Goodyear issued a letter expressing support for the RID remediation effort and indicated that the City of Goodyear was interested in the utilization of treated water from the RID ERA system in the future.

SRP indicated in its Land and Water Use Study Questionnaire submitted on September 21, 2007 to ADEQ that their current use of groundwater from the SRP water supply wells is for irrigation but the future use may be drinking water supply for residential and commercial development.

Based upon review of public comments, ADEQ proposes the following ROs for current and reasonably foreseeable future municipal groundwater use in and near the WVBA:

- To protect, restore, replace or otherwise provide a water supply for municipal use by currently and reasonably foreseeable future municipal well owners within the WVBA WQARF site if the current and reasonably foreseeable future uses are impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the ROD. If there is an imminent risk to human health or the environment, then an ERA may be initiated prior to implementation of the ROD.

- To protect, restore, replace or otherwise provide a water supply for municipal groundwater use by currently and reasonably foreseeable future municipal well owners outside the current plume boundaries of the WVBA WQARF site if the current and reasonably foreseeable future uses are impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the ROD. If there is an imminent risk to human health or the environment, then an ERA may be initiated prior to implementation of the ROD.

3.2 Agricultural Groundwater Use

The RID was formed in 1928 after securing an agreement with SRP to pump and deliver water in 1923. RID provides its members with water for agricultural irrigation. RID production wells typically are pumped from March through September. There are currently two sources of RID water. Approximately 30,000 to 40,000 AFY is currently obtained as effluent from the 23rd Avenue Wastewater Treatment Plant and approximately 135,000 AFY is obtained from groundwater.

RID water is derived from two sources, but is all delivered via a canal system. The Roosevelt Main Canal runs through a portion of the WVBA along its southern and western boundaries. This canal is fed via wells along the southern border and within the WVBA that discharge into laterals that flow south into the canal. A smaller second RID canal, the Salt Canal, flows west along the south side of Van Buren Street beginning at RID well 114 located on the west side of I-17. RID water is currently used to irrigate crops. The RID water users are downgradient of the WVBA; no water in the RID canal is used within the WVBA.

Up to 30,000 AFY of additional reclaimed water from the 23rd Avenue plant could be provided to RID in lieu of groundwater pumpage. RID, in cooperation with the COP, holds a groundwater savings facility (GSF) permit for this additional reclaimed water. The GSF permit will allow the COP to accrue water storage credits for pumpage elsewhere. The COP currently applies the credits to groundwater pumped to supply the planned Rio Salado Habitat Restoration Project along the Salt River from 19th Avenue to 24th Street; which is outside the WVBA. Thus,

implementation of the GSF will result in the reduction of groundwater pumpage within the WVBA.

Groundwater is pumped from the WVBA by RID and transported via a canal system off-site for agricultural purposes. RID has indicated that agricultural use of this water could change in the foreseeable future to drinking water use. SRP has wells near the WVBA which are used to pump groundwater for agricultural purposes but none of these wells are located within WVBA boundaries.

SRP generally uses groundwater to supplement its surface water supply. Thus, annual use of groundwater will fluctuate depending upon the availability of surface water. SRP currently has ten groundwater supply wells near the WVBA. Based on specific well information, the most reliable method of projecting future aquifer use by SRP may be through evaluation of their past aquifer use. The sum total of this historical annual pumpage is 15,820 acre-feet; thus, this may represent the future average annual pumpage by SRP near the WVBA.

Based upon review of public comments, ADEQ proposes the following ROs for current and reasonably foreseeable future agricultural groundwater use in and near the WVBA:

- To protect, restore, replace or otherwise provide for the current and reasonably foreseeable future supply of groundwater for agricultural/irrigation use and for the associated recharge capacity that is threatened by or lost due to contamination associated with the WVBA WQARF site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the ROD. If there is an imminent risk to human health or the environment, then an ERA may be initiated prior to implementation of the ROD.

3.3 Commercial/Industrial/Domestic Groundwater Use

On November 16, 1992, a meeting was hosted by ADEQ and attended by approximately 50 interested parties. The intent of the meeting was to encourage the parties to form a steering committee to address groundwater contamination issues in the WVBA. In post-meeting activities, a letter was sent from ADEQ to attendees requesting their commitment to the steering committee. The letter included a recommended schedule for the development of a consent agreement and a request for the development of an RI and FS. ADEQ would provide oversight to the committee. On January 27, 1993, ADEQ held a meeting with the steering committee to present a draft consent agreement and an outline of activities to be conducted in the study area.

As part of the consent agreement, members of the steering committee agreed to contribute funding for the WVBA site investigation. This meant that ADEQ could recover funds from expenses incurred by the state during investigative activities. Participants of the steering committee then formed the West Van Buren Group (WVBG).

On July 21, 1994, ADEQ offered the WVBG the opportunity to voluntarily participate in a private well survey. ADEQ had planned to conduct a survey of private wells within a portion of

the WVBA. The survey conducted in 1994 supplemented previous ADEQ efforts, and a domestic well survey conducted by Maricopa County Department of Environmental Services.

Commercial/industrial/domestic groundwater use within the WVBA is minimal. In February, 1995 outreach letters were sent to 48 probable domestic well owners. As of March 1995 only 18 responses were received. Of the 18 responses, three reported operational private domestic wells, 12 reported a municipal water supply and three reported private wells not used for consumptive purposes. A further attempt was made to contact well owners by telephone. Successful contact was made with 17 well owners. Private groundwater use within the WVBA includes commercial, industrial, and domestic uses. None of these well owners responded to the solicitation for ROs within the WVBA.

Based upon review of public comments, ADEQ proposes ROs for current and reasonably foreseeable future private groundwater use in and near the WVBA:

- To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by currently impacted commercial, industrial, and domestic well owners within the WVBA WQARF site if the current and reasonably foreseeable future uses are impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the ROD. If there is an imminent risk to human health or the environment, then an ERA may be initiated prior to implementation of the ROD.

- To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by commercial, industrial, and domestic well owners outside the current plume boundaries of the WVBA WQARF site if the current and reasonably foreseeable future uses are impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the ROD. If there is an imminent risk to human health or the environment, then an ERA may be initiated prior to implementation of the ROD.

4.0 REMEDIAL OBJECTIVES FOR CANAL/SURFACE WATER USE

The only canal water present within the WVBA is within RID canals/laterals. The RID Main Canal originates at 19th Avenue south of Interstate 17. Year-round discharge of water into the canal occurs at the COP 23rd Avenue wastewater treatment facility where 30,000 acre-feet per year of treated wastewater is discharged into the canal. Water within the canal is utilized for non-potable agricultural purposes. The canal is also fed by a number of RID production wells located throughout the WVBA as previously described. The wells either discharge directly into the canal, or discharge into both exposed and unexposed lateral canals that feed the main canal.

SRP's Grand Canal trends east-west north of the WVBA. Oriented north-south from the Grand Canal, at approximate 0.5 mile intervals, are open and piped lateral canals that transport water by gravity flow southwards. These lateral canals are located from 19th Avenue westward beyond 83rd Avenue. Water within the lateral canals is utilized for non-potable agricultural purposes.

4.1 RID Canal Water Use

RID currently provides its members with water for agricultural irrigation. RID water is derived from two sources, reclaimed water from the 23rd Avenue water treatment plant and groundwater, all delivered via a canal system. The Roosevelt Main Canal runs through a portion of the WVBA along its southern and western boundaries, and this canal is fed via wells along the southern border and within the WVBA that discharge into laterals that flow south into the canal. A smaller second RID canal, the Salt Canal, flows west along the south side of Van Buren Street beginning at RID well 114 located on the west side of I-17. RID water is currently used for crops. RID water users are downgradient of the WVBA; no water in the RID canal is used within the WVBA.

Based upon review of public comments, ADEQ proposes the following ROs for current and reasonably foreseeable future RID canal water use in and near the WVBA:

- To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by currently impacted RID wells within the WVBA WQARF site if the current and reasonably foreseeable future uses are impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the ROD. If there is an imminent risk to human health or the environment, then an ERA may be initiated prior to implementation of the ROD.

- To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by RID wells outside the current plume boundaries of the WVBA WQARF site if the current and reasonably foreseeable future uses are impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the

ROD. If there is an imminent risk to human health or the environment, then an ERA may be initiated prior to implementation of the ROD.

4.2 SRP Surface Water Use

SRP's Grand Canal trends east-west north of the WVBA. Oriented north-south from the Grand Canal, at approximate 0.5 mile intervals, are open and piped lateral canals that transport water by gravity flow southwards. These lateral canals are located from 19th Avenue westward beyond 83rd Avenue. The lateral canals are also fed by a number of SRP production wells located in areas surrounding the WVBA; no SRP wells are located within the WVBA. Water within the lateral canals is utilized for non-potable agricultural purposes. Excess water is discharged to rivers adjacent to the Salt River Reservoir District (SRRD). SRP anticipates that the wells will be used for drinking water purposes in the reasonably foreseeable future, either by directly connecting the wells to municipal distribution systems within the SRRD or piping to municipal water treatment plants located on the SRP canal system as a drought supply.

Based upon review of public comments and SRP's Land and Water Use Study Questionnaire submitted on September 21, 2007, ADEQ proposes the following ROs for current and reasonably foreseeable future SRP surface water use in and near the WVBA:

- To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by SRP wells outside the current plume boundaries of the WVBA WQARF site if the current and foreseeable future uses are impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the ROD. If there is an imminent risk to human health or the environment, then an ERA may be initiated prior to implementation of the ROD.

APPENDIX A

A COMMENTS RECEIVED FROM ORAL SOLICITATIONS FOR PROPOSED REMEDIAL OBJECTIVES

As per R18-16-406(I), a community advisory board meeting was held at Roosevelt Elementary School on December 10, 2009 during the 45-day public comment period. The purpose of the meeting was to solicit and consider proposed remedial objectives for the WVBA. The meeting gave a public forum for oral comments to be submitted. ADEQ received two proposed remedial objectives as follows:

Mr. Phil Lagas
1) The remedial objectives should maintain current groundwater uses.

Mr. Jerry Worsham
1) The remedial objectives should be cost effective and only treat water in contaminated zones and not over-treat from zones not impacted.

APPENDIX B

B COMMENTS RECEIVED FROM WRITTEN SOLICITATIONS FOR PROPOSED REMEDIAL OBJECTIVES

As per R18-16-406(I), remedial objectives should be developed through the public process. ADEQ established a 45-day comment period from November 30, 2009 to January 26, 2010 to receive and consider written solicitations from the public regarding proposed remedial objectives. ADEQ received proposed remedial objectives in writing from six parties:

- Linden Park Neighborhood Association
- Roosevelt Irrigation District
- SRP
- Head/Penn Racquet Sports
- Mr. Phil Lagas
- City of Phoenix
- Univar USA Inc.

The written comments are attached.

LINDON PARK NEIGHBORHOOD ASSOCIATION

January 4, 2010

Jennifer Edward Thies
Project Manager, Remedial Projects Unit
Waste Program Division
Arizona Department of Environmental Quality
1110 W. Washington St., MC4415B-1
Phoenix, AZ 85007

RE: Public Notice Arizona Department of Environmental Quality
Notice of Solicitation of Remedial Objectives for the West Van Buren Area
Water Quality Assurance Revolving Fund Site

Dear Ms. Thies:

I am submitting this letter on behalf of the Lindon Park Neighborhood Association (LPNA) to propose remedial objectives for the West Van Buren Area (WVBA) Water Quality Assurance Revolving Fund (WQARF) Site in response to the solicitation for remedial objectives issued by the Arizona Department of Environmental Quality (ADEQ) on November 30, 2009.

A Remedial Objective (RO) is a goal to be achieved by a selected remedy, which includes the following elements: protecting against the loss or impairment of identified uses of land and waters of the state; restoring, replacing, or otherwise providing for identified uses of land and waters of the state; time-frames when action is needed to protect against or provide for the impairment or loss of the use; and the projected duration of the action needed to protect or provide for the use.

In response to the solicitation from ADEQ, LPNA proposes the following ROs for the West Van Buren Area site:

1) That all ROs for this site meet the above elements by being integrated with the existing and future Motorola 52nd Street (M52) Superfund Site remedies to include, but not be limited to, the list of hazardous substances that are contaminants of concern (COCs) that are/will be treated at the M52 site, and the M52 treatment/clean-up standards to be met;
2) That any RO protect human health and the environment through the reduction/elimination of exposure to the COCs;
3) That community engagement and public involvement be prioritized and maximized throughout the identification, investigation, proposal and clean-up processes;
4) That any remedy chosen be coordinated with and integrated with the M52 Superfund Site, as it appears that continuation of M52 contamination beyond the current OU3 border is/has been a contributing factor at the WVBA site as documented in the Draft Remedial Investigation Report;
5) That any remedy chosen take into account operation of the M52 Operable Unit 2 (OU2) treatment facility and any future treatment remedy in the M52 Operable Unit 3 (OU3) area; and
6) That community engagement and public involvement activities include discussion of the impact of the M52 Superfund Site contamination and remedies as well as the West Central Phoenix Plume to fully understand the sources of contamination, source control activities, the remedies being employed, the time-frames involved and the projected duration of the actions.

In addition to these ROs, LPNA respectfully requests an extension to the 30-day Public Comment Period for the above referenced Solicitation of Remedial Objectives (ROs) for the West Van Buren Area WQARF Site. At the December 10, 2009 WVBA WQARF Community Advisory Board (CAB) meeting a verbal request for an extension to the comment period was made by the co-chair of the CAB, and declined by ADEQ.

LPNA requests that an extension be granted due to the following:

1) The end of the public notice period does not appear on the ADEQ online calendar – an irregularity that did not seem to occur in other public notices on the calendar
2) Minutes from the December 10, 2009 WVBA WQARF CAB meeting have not been posted on the ADEQ website as of this afternoon
3) The difficulties associated with the effective shortening of the 30-day public comment period due to the holiday season, and
4) The inaccuracy in the description of the ADEQ RI/RO process in the published Public Notice

The Public Notice describes the process as, "After the 30-day public comment period for the proposed ROs has expired, ADEQ will prepare and provide notice of the availability of the Final Remedial Investigation (RI) Report. The Final RI Report will contain data gathered during the RI, the Final RO Report, and any responsiveness summaries compiled to address comments, issues or concerns raised in the community involvement process." A community member reading the Public Notice would reasonably conclude that no additional public input would be accepted on the ROs being solicited.

However in response to a question about that conclusion, Julie Riemenschneider, ADEQ Manager Remedial Projects Unit, in an e-mail dated 12-2-09 states that, "ADEQ will gather the ROs from oral and written comments; make a decision on which ROs would be best for the West Van Buren WQARF site and (in this case) hold a second public CAB meeting. Subsequent meetings are warranted on sites where significant public interest exists." During the December 10, 2009 WVBA WQARF CAB meeting, Ms. Riemenschneider reiterated the point that a public meeting would be held on the proposed ROs. Unfortunately anyone who was not in attendance at the CAB meeting would not be aware of this fact.

LPNA asks that this omission of important and relevant information be corrected in a new Public Notice for the Extension of the Public Comment Period. All members of the public should be in possession of accurate and complete information from the published notice. Members of the public should not be required to do independent research to verify and supplement information provided by ADEQ. If, as in this case, a Public Notice does not contain an accurate description of the process, ADEQ should extend the public comment period, correct the Public Notice, and republish it.

Thank you for your consideration of our comments. Please do not hesitate to contact LPNA if you have any questions regarding this matter.

Respectfully Submitted,

Mary J. Moore

Mary Moore, Vice President
Lindon Park Neighborhood Association
4839 East Brill Street
Phoenix, AZ 85008

cc: Linda Mariner, ADEQ Community Involvement Coordinator
Janet Rosati, EPA Project Manager, Motorola 52nd Street Superfund Site OU3
Andria Benner, EPA Project Manager, Motorola 52nd Street Superfund Site OU2
Leah Butler, EPA Project Manager, Motorola 52nd Street Superfund Site OU1
Leana Rosati, EPA Community Involvement Coordinator

ROOSEVELT IRRIGATION DISTRICT

103 WEST BASELINE ROAD
BUCKEYE, ARIZONA 85326
TELEPHONE (623) 386-2046
FAX (623) 386-4360

December 30, 2009

Jennifer Edward Thies, Project Manager
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
1110 West Washington Street
Phoenix, AZ 85007

Re: PROPOSED REMEDIAL OBJECTIVES FOR WEST VAN BUREN WATER QUALITY ASSURANCE REVOLVING FUND SITE

Dear Ms. Thies:

On behalf of the Roosevelt Irrigation District (RID) and its Board of Directors, I am submitting this letter to propose remedial objectives for the West Van Buren Water Quality Assurance Revolving Fund (WQARF) site (WVBA Site). This letter has been submitted in response to the solicitation for remedial objectives issued by the Arizona Department of Environmental Quality (ADEQ) on November 30, 2009.

RID understands that the remedial objectives pertain to the final groundwater remedy for the WVBA Site, which will be selected by ADEQ after completion of the WQARF remedy selection process[1]. However, RID firmly believes that remedial actions should be initiated immediately to mitigate the deleterious impact of the widespread contamination of our groundwater wells, water supply, and operations, as well as to protect the local community and the environment from potential exposure to the groundwater contamination. To this end, RID voluntarily submitted an Early Response Action Work Plan to ADEQ in accordance with applicable requirements under the WQARF program[2], and respectfully requests ADEQ's prompt approval of this plan. The Early Response Action we have proposed is consistent with the intent of conducting early response actions under the WQARF program[3], and the magnitude of our proposed response action is clearly necessary in light of the extensive groundwater contamination and its widespread impact on our operations. Further, the early response action will initiate achievement of defined WQARF program remedial objectives[4] that require protecting against the loss or impairment of identified uses of waters of the state by restoring, replacing, or otherwise providing for these water uses while the final remedy selection proceeds through the ADEQ administrative process for completion of the Feasibility Study, development of the Proposed Remedial Action Plan, and establishing the final Record of Decision.

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[1] See Arizona Administrative Code (A.A.C.), Article 4, Title 18, R18-16-401 through 416
[2] See A.A.C. R18-16-405
[3] See criteria specified in A.A.C R18-16-405A
[4] See definitions specified in A.A.C. R18-16-401

In response to ADEQ's request, RID proposes the following remedial objectives for the WVBA Site:

1. Protect human health and the environment by reducing and eventually eliminating potential exposure to hazardous substances that are contaminants of concern (COCs) in the groundwater;
2. Restore groundwater to meet all beneficial uses including potable supply;
3. Prevent further degradation of groundwater quality by COCs;
4. Minimize the relocation, transfer, and/or volatilization of COCs from groundwater to the environment;
5. Restore, replace, or otherwise provide alternate water supply for all existing water supply wells that are impacted by COCs in excess of Aquifer Water Quality Standards, equivalent to the legally permitted pumping capacity of the impacted wells;
6. Maintain plume containment to prevent impacts to wells that are not currently impacted by COCs;
7. Provide all water users a water source that meets the maximum anticipated beneficial use as drinking water;
8. Maximize the beneficial use of the treated groundwater to support the goals and objectives of the Arizona Groundwater Management Act; and,
9. Provide long-term management of contaminated groundwater to improve the regional aquifer's suitability for potable use.

These proposed remedial objectives were developed based on the following considerations:

- The need to restore the groundwater quality within the WVBA Site by reducing contaminant concentrations to less than Aquifer Water Quality Standards to allow use of this water for its maximum beneficial use as a source of drinking water;
- RID maintains the legally permitted right to pump over 120,000 gallons per minute from the WVBA Site (see attached Table 1)[4]. Over 50,000 gallons per minute of this permitted capacity are impacted by the groundwater contamination and over 70,000 gallons per minute of this permitted capacity are threatened by the groundwater contamination;
- Containment of contaminated groundwater is necessary to prevent plume movement and to protect down-gradient and peripheral supply wells;
- ADEQ and U.S. Environmental Protection Agency requirements to limit the transfer of volatile organic compounds from contaminated groundwater to air; and,
- The necessity for effective management of groundwater resources in the State of Arizona.

RID appreciates the opportunity to provide input to ADEQ on the remedial objectives for the WVBA Site.

Very truly yours,

Stanley H. Ashby

Stanley H. Ashby

[4] See Arizona Revised Statutes 45-462 and 45-494 1.a and b.

Cc: David P. Kimball, III Esq., Gallager & Kennedy, P.A.
Sheryl Sweeney, Esq., Ryley Carlock & Applewhite
Dennis Shirley, Montgomery & Associates

TABLE 1. SUMMARY OF ADWR WELLS 55 DATABASE REPORTED PUMPING CAPACITY FOR RID WATER SUPPLY WELLS

WELL ID	ADWR REGISTRATION NUMBER	CADASTRAL LOCATION	REPORTED PUMPING CAPACITY (gpm)	TOTAL DEPTH (ft, bls)	LAND SURFACE ALTITUDE (ft, msl)
RID-83	55-607227	A-01-01 11ACB	1,940	790	1,029
RID-84	55-607226	A-01-01 12DBA2	2,419	600	1,033
RID-85	55-607225	A-01-02 07CCC2	3,495	700	1,033
RID-86	55-607224	A-01-02 18ACB	5,286	300	1,030
RID-87	55-607223	A-01-02 17CAA	4,570	500	1,033
RID-88	55-607222	A-01-02 17ADD	3,718	1,800	1,032
RID-89	55-607221	A-01-02 09CBC	3,853	1,800	1,047
RID-90	55-607220	A-01-02 16DBB2	3,494	460	1,035
RID-91	55-607219	A-01-02 15BCC2	5,510	449	1,043
RID-92	55-607218	A-01-02 10CCB	1,971	500	1,052
RID-93	55-607217	A-01-02 15ACC	6,944	540	1,045
RID-94	55-607216	A-01-02 14BBC	6,138	425	1,051
RID-95	55-607215	A-01-02 11CBC2	3,875	1,800	1,062
RID-96	55-607214	A-01-02 14CCB	4,480	800	1,043
RID-97	55-607213	A-01-02 14CDD	5,958	1,800	1,045
RID-98	55-607212	A-01-02 24BBB2	5,286	1,675	1,052
RID-99	55-607211	A-01-02 14AAD	2,778	420	1,055
RID-100	55-607210	A-01-02 12CBC	2,778	302	1,061
RID-101	55-607209	A-01-02 13CDD2	6,720	400	1,052
RID-102	55-607196	A-01-02 13ABD2	5,958	440	1,059
RID-103	55-607208	A-01-02 13DAD	4,614	440	1,054
RID-104	55-607207	A-01-03 18BBC	5,510	410	1,058
RID-105	55-607206	A-01-01 12BBB	2,374	622	1,035
RID-106	55-607205	A-01-02 07BBB	3,000	790	1,044
RID-107	55-607204	A-01-02 08BBB	2,195	414	1,053
RID-108	55-607203	A-01-02 08BAA1	1,711	284	1,056
RID-109	55-607202	A-01-02 09BBB	2,845	500	1,061
RID-110	55-607201	A-01-02 09AAB2	3,069	500	1,060
RID-111	55-607200	A-01-02 10ABA	2,016	454	1,063
RID-112	55-607199	A-01-02 11BAB	3,136	650	1,066
RID-113	55-607198	A-01-02 11AAA	3,136	415	1,070
RID-114	55-607197	A-01-02 12BAA	2,240	395	1,072
VOC-IMPACTED WELLS PUMPING CAPACITY			52,490		
TOTAL PUMPING CAPACITY			*123,017*		

Well ID shown in red has concentrations of volatile organic compounds in excess of aquifer water quality standard

gpm = gallons per minute

ft, bls = feet below land surface

ft, msl = feet above mean sea level

ADEQ

Arizona Department of Environmental Quality

COMMENT FORM

To comment on the proposed Remedial Objectives for the West Van Buren WQARF Site

Please provide the following:

Name: KEVIN WANTTAJA

Organization/Company: SALT RIVER PROJECT

Address: 1521 North Project Drive

City, State, Zip: Tempe, Arizona 85281

Phone: 602-236-2968 E-Mail: kevin.wanttaja@srpnet.com

Please summarize your major comments or concerns below (use back or additional sheet if needed):

PROPOSED REMEDIAL ACTION OBJECTIVES:

1) Prevent infiltration and leaching of contaminants of concern from soil to groundwater that would exceed any respective Aquifer Water Quality Standard.

2) Protect human health and the environment by:

a) Efficiently capturing and controlling the plume of VOC groundwater contamination.

b) Ensuring groundwater meets all applicable end use water quality standards

c) Ensuring conformance with applicable air quality regulations and standards

3) Conforms to applicable federal and state water right laws and conservation requirements.

4) Be reasonable, appropriate, and cost effective

You may also submit a copy of your oral statement and any attachments to:
Jennifer Thies, Project Manager
Remedial Projects Unit
Arizona Department of Environmental Quality
1110 West Washington Street, Mail Code 4415-B
Phoenix, Arizona 85007

Deadline: Comments must be submitted to ADEQ by 5:00 p.m., Monday, January 4, 2010

(Please sign) 01/04/2010 Date

DMWEST #7434682 v1

Comment Form -- Continuation Page:

Name: _____ Organization: _____

You may also submit a copy of your oral statement and any attachments to:
Jennifer Thies, Project Manager
Remedial Projects Unit
Arizona Department of Environmental Quality
1110 West Washington Street, Mail Code 4415-B
Phoenix, Arizona 85007

Deadline: Comments must be submitted to ADEQ by 5:00 p.m., Monday, January 4, 2010

(Please sign) 01/04/2010 Date

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ), 1110 W. Washington St., Phoenix, AZ 85007

GAMMAGE & BURNHAM
A PROFESSIONAL LIMITED LIABILITY COMPANY
ATTORNEYS AT LAW
TWO NORTH CENTRAL AVENUE
EIGHTEENTH FLOOR
PHOENIX, ARIZONA 85004-4470

TELEPHONE (602) 256-0566
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WRITER'S DIRECT LINE

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THOMAS J. McDONALD
KEVIN R. MERRITT
KEVIN J. BLAKLEY
JEFFREY J. MILLER
SUSAN L. WATCHMAN
CHRISTOPHER A. WOMACK
LISA T. HAUSER
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JAMES F. POLESE
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PATRICIA E. NOLAN
GREGORY J. GNEPPER
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CAROLYN V. WILLIAMS

F. WILLIAM SHEPPARD
DIANE K. GEIMER

December 16, 2009

(602) 256-4452
jworsham@gblaw.com
File No. 3836-4

Arizona Department of Environmental Quality
Jennifer Thies, Project Manager
Remedial Projects Unit
1110 West Washington Street
Mail Code 4415-8
Phoenix, AZ 85007

West Van Buren WQARF Site – Remedial Objectives

Dear Jennifer:

On behalf of Head/Penn Racquet Sports located at 306 S. 45th Avenue, Phoenix, AZ 85043, please consider these comments on the proposed Remedial Objectives and include these comments in the official ADEQ record.

Call me with any questions.

Sincerely yours,

GAMMAGE & BURNHAM P.L.C.

By
Jerry D. Worsham II

JDW/clr
Enclosures
cc: Wayne Smith, Head/Penn

COMMENT FORM

To comment on the proposed Remedial Objectives for the West Van Buren WQARF Site

Please provide the following:

Name: Wayne Smith, Engineering Manager

Organization/Company: HEAD/Penn Racquet Sports

Address: 306 South 45th Avenue

City, State, Zip: Phoenix, AZ 85043

Phone: (602)447-2252 E-Mail: wsmith@us.head.com

Please summarize your major comments or concerns below (use back or additional sheet if needed):

The Remedial Objectives should incorporate the following:

(1) Provide the most cost effective solution to remediate the contamination to the appropriate water quality standard for its current use.

(2) Should treat the least amount or volume of water necessary to remediate the plume to the appropriate water quality standard for its current use.

(3) Should not pump water from wells, aquifers, or geologic zones that are not contaminated.

(4) Be reasonable, necessary and cost effective.

You may also submit a copy of your oral statement and any attachments to:
Jennifer Thies, Project Manager
Remedial Projects Unit
Arizona Department of Environmental Quality
1110 West Washington Street, Mail Code 4415-8
Phoenix, Arizona 85007

Deadline: Comments must be submitted to ADEQ by 5:00 p.m., Monday, January 4, 2010.

Wayne Smith 12/15/2009

(Please Sign) date

Comment Form - *Continuation Page:*

Name: Wayne Smith Organization: HEAD/Penn Racquet Sports

(5) Identify and evaluate the appropriate groundwater cleanup standards.

(6) Before adopting the final Remedial Objectives, ADEQ should conduct an engineering evaluation/cost analysis (EE/CA). [Note: The EE/CA is an analysis of remedial alternatives for the WVB WQARF area.]

(a) Publish a notice of availability and brief description of the EE/CA in a major local newspaper of general circulation;

(b) Provide a reasonable opportunity, not less than 30 calendar days, for submission of written and oral comments after completion of the EE/CA. Upon timely request, the ADEQ will extend the public comment period by a minimum of 15 days; and

(c) Prepare a written response to significant comments.

(7) Reject the use of an Early Response Action.

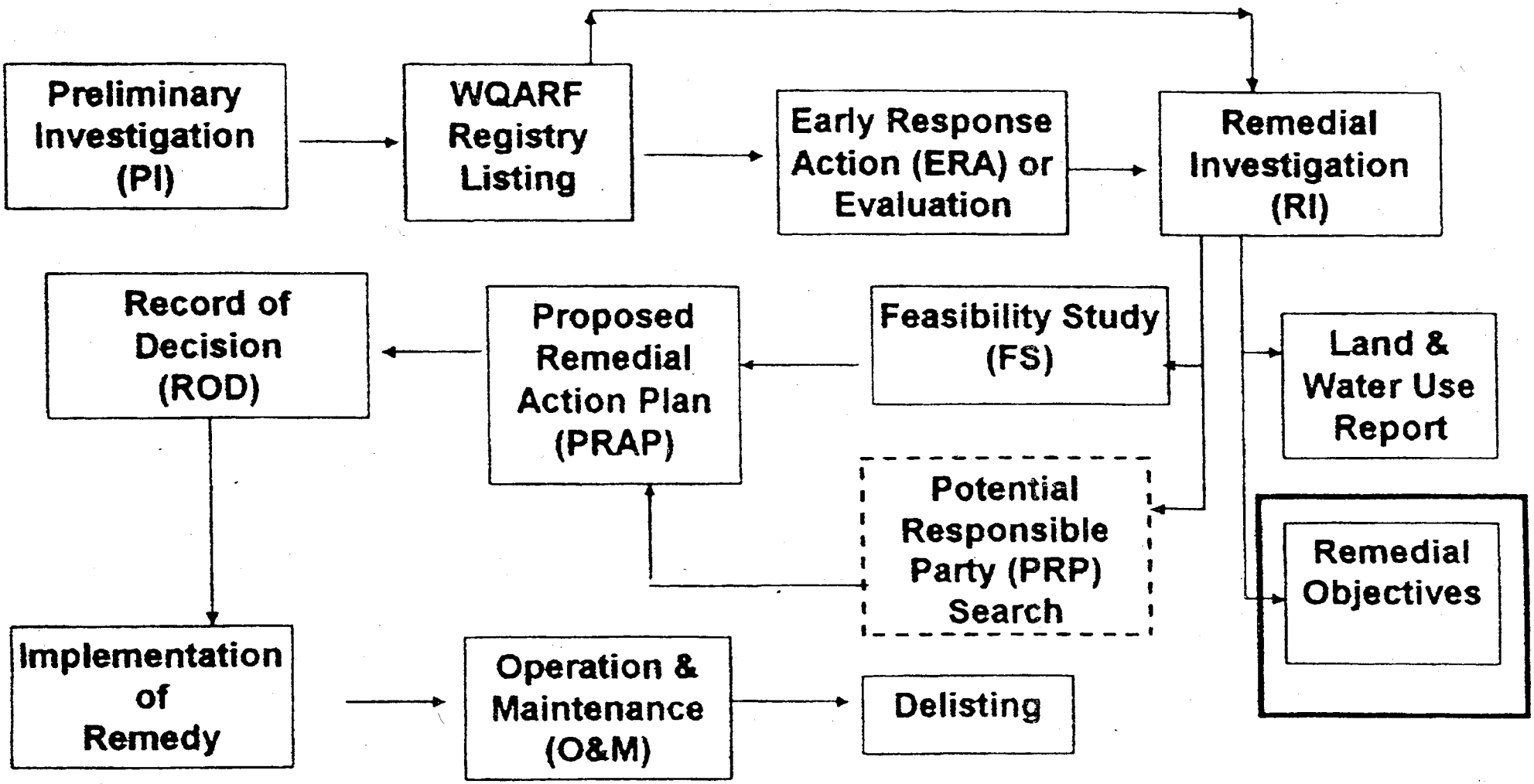
You may also submit a copy of your oral statement and any attachments to:
Jennifer Thies, Project Manager
Remedial Projects Unit
Arizona Department of Environmental Quality
1110 West Washington Street, Mail Code 4415-8
Phoenix, Arizona 85007

Deadline: Comments must be submitted to ADEQ by 5:00 p.m., Monday, January 4, 2010.

Wayne Smith 12/15/2009

(Please Sign) date

WQARF process map



Jennifer Thies

From: Lagas, Phil [PLagas@brwncald.com]
Sent: Monday, January 04, 2010 12:37 PM
To: Jennifer Thies
Cc: Julie Riemenschneider; Kevin C. Snyder; Littell, Jeff; Rakowski, Steve
Subject: Proposed Remedial Objectives for the West Van Buren WQARF Site

Jennifer:

Attached are a few additional remedial objectives for the West Van Buren WQARF site for ADEQ's consideration.

- Protect against the loss or impairment of existing municipal and irrigation uses of the groundwater resource within the West Van Buren WQARF Site. Remedial action under this objective would be required when a current use is demonstrated to be threatened or lost due to contamination caused by the release of a hazardous substance, provided the groundwater resource cannot be replaced or otherwise provided for. Remedial action would be needed for as long as, and to such extent that, the level of contamination threatens or prohibits the use of the groundwater resource.
- Ensure short-term and long-term effectiveness and viability of all remedial actions by implementing cost-effective technologies that address, but do not exceed, the specific requirements of the groundwater uses within the West Van Buren WQARF Site.

I appreciate the opportunity to provide proposed remedial objectives and look forward to reviewing the draft Remedial Objectives Report. Give me a call if you have any questions.

Phil

Philip J. Lagas, R.G.
Vice President
Brown and Caldwell
201 East Washington Street
Suite 500
Phoenix, Arizona 85004
602.567.3851 (office)
602.999.9084 (cell)
plagas@brwncald.com

City of Phoenix
OFFICE OF ENVIRONMENTAL PROGRAMS

January 7, 2010

Ms. Julie Riemenschneider
Remedial Projects Section
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007

Re: Suggested Remedial Objectives for the West Van Buren WQARF Site

Dear Ms. Riemenschneider:

This letter is in response to ADEQ's solicitation of proposed remedial objectives for the West Van Buren WQARF site. As you know, the city of Phoenix Water Services Department supplies potable water to approximately 1.4 million people. The sources for this water are surface water from the Salt, Verde, and Colorado rivers and groundwater from wells. Groundwater, as in the past, will continue to be a vital source to meet our future water demands. Groundwater is used to provide water on a continuous basis to isolated areas within our water service area, and for backup water supplies in the event of surface water supply cutbacks due to drought, water main breaks, or water treatment plant outages. Over the next 20 to 50 years, as service area demands increase with growing population, groundwater will be relied upon more heavily on a continuous basis to provide water supplies in our service area.

One remedial objective should be for the future long-term groundwater use. The city of Phoenix requests that the aquifer be available for drinking water use, and not cause damage or harm to our future wells, and associated recharge projects. Phoenix has plans to develop a new water resource project and recharge facilities in an area within close proximity to the West Van Buren site.

Where groundwater treatment is necessary to protect future long-term groundwater use, the remedy should include measures to provide for the long-term operation and maintenance of reliable and cost-effective water treatment technologies. As an interim measure, water produced from the contaminated area during remediation that is intended for irrigation or non-potable uses should be applied, or if necessary, treated appropriately, to prevent a health risk to the end users or others with an exposure pathway to the water.

As the entity that regulates land use for the area encompassed by this site, Phoenix requests that ADEQ select remedial objectives that are supportive of unrestricted use of the land. The West Van Buren WQARF site includes residential, commercial, and industrial land uses, although the latter two are most prominent. A remedial objective for the site should be to remediate soils that would allow continuation of the current land uses.

For the volatile contaminants of concern, the remediation of groundwater and soil contamination should be to levels adequate to avoid a health risk caused by soil vapor intrusion into occupied structures. The potential for vapor intrusion should be predicted through application of peer-reviewed models and validated with field data.

The city of Phoenix would like to meet with you and your staff to discuss our plans for developing groundwater near the West Van Buren WQARF site before ADEQ finalizes the remedial objectives. Thank you for consideration of these suggestions and we look forward to future discussions.

Sincerely,

Philip McNeely, Manager
Office of Environmental Programs

R:\Personal Files\Phil\2010cor\wvbremedialobj dec 2009.doc

Univar USA Inc.
1804 N. 20th Street
Nampa, ID 83687

T 208 888 1094
F 208 884 1602
www.univarusa.com

UNIVAR

January 26, 2010

VIA EMAIL

Ms. Jennifer Edwards Thies, Project Manager
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, AZ 85007

Re: Proposed Remedial Objectives
West Van Buren WQARF Site
Phoenix, AZ

Dear Ms. Thies:

Univar USA Inc. is providing the following remedial objective comments for the West Van Buren WQARF Site.

1. The remedial objectives should result in remedial actions that are reasonable, necessary and cost effective.
2. The remedial objectives should protect against actual risk to public health and the environment.
3. The remedial objectives should ensure that cost effective remedial technologies and strategies are selected to remediate contaminated groundwater to the applicable water quality standards for its current end use.

Thank you for the opportunity to provide these comments. If you have any questions related to our comments, or wish to discuss any of them in more detail, please contact me at 208/888-1094.

Sincerely,

Michael Gaudette (JD)

Michael Gaudette
Senior Project Manager

cc: James Hooper, Univar, Director, Environmental Affairs (via email)
Benjamin H. Grumbles, ADEQ Director (via email)
Amanda Stone, ADEQ Director, Office of Waste Programs (via email)
Julie Riemenschneider, Manager ADEQ Remedial Project Section (via email)
Gail Clement, G.M. Clement Associates, Inc. (via email)
Joseph A. Drazek, Quarles & Brady (via email)

APPENDIX C

C RESPONSIVENESS SUMMARY TO COMMENTS RECEIVED REGARDING SOLICITED REMEDIAL OBJECTIVES

As per R18-16-406(I)(2), "during the public meeting the Department shall solicit and consider proposed remedial objectives for the site." On December 10, 2009 ADEQ held a public meeting where two oral solicitations were provided by the public for ADEQ's consideration. The solicitation period was held from November 30, 2009 through January 26, 2010. ADEQ requested both oral and written comments, issues and concerns during the solicitation of proposed remedial objectives for the WVBA site. ADEQ received six written solicitations for proposed remedial objectives. This responsiveness summary is being issued in conjunction with the release of the Proposed Remedial Objective Report. The Proposed Remedial Objective Report will also be made available to the public for comment. The Proposed Remedial Objectives Report considered four criteria for the development of ROs: 1) protect against the loss or impairment of the use; 2) restore, replace or otherwise provide for each use; 3) statement of when action is needed to provide for or protect against each use; and 4) how long an action is required to protect or provide for each use.

Please note that the Proposed Remedial Objectives presented in Appendix C were based on solicitations from stakeholders and members of the public received during the RO solicitation comment period. The ROs have been edited based on comments received during the Draft RO Report comment period and may now differ from the final ROs contained in the text of this Final RO Report

Oral Comments on Proposed Remedial Objectives Report

ADEQ received 2 oral comments on the proposed remedial objectives as follows:

Phil Lagas

1) The remedial objectives should maintain current groundwater uses.

Response: **Proposed RO**: To protect the supply of groundwater for municipal use and for the associated recharge capacity that is threatened by contamination emanating from the WVBA WQARF site. To restore, replace or otherwise provide for the groundwater supply lost due to contamination associated with the WVBA WQARF site. This action will be needed for as long as the need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use.

Jerry Worsham

2) The remedial objectives should be cost effective and only treat water in contaminated zones and not over-treat from zones not impacted.

Response: This comment refers to issues to be addressed in the FS process.

Written Comments on the Proposed Remedial Objectives Report

ADEQ established a 45-day comment period to receive and consider written solicitations regarding the proposed remedial objectives report. ADEQ received solicitations in writing from six parties as follows:

Lindon Park Neighborhood Association

1) That all ROs for this site meet the above elements by being integrated with the existing and future Motorola 52nd Street (M52) Superfund site remedies to include, but not be limited to, the list of hazardous substances that are contaminants of concern (COC) that are/will be treated at the M52 site, and the M52 treatment/clean-up standards to be met;

Response: The WVBA WQARF registry site is a separate site under separate jurisdiction from the Motorola 52nd Street CERCLA site and therefore, ROs will be established for the WVBA site. Current remedial actions taking place within the M52 site are located such that ROs for the WVBA are not expected to affect current remedial actions within the M52 site.

2) That any RO protect human health and the environment through the reduction/elimination of exposure to the COCs;

Response: **Proposed RO**: Protect against possible exposure to hazardous substances in surface and subsurface soils that could occur during development of property based upon applicable zoning regulations.

3) That community engagement and public involvement be prioritized and maximized throughout the identification, investigation, proposal and clean-up process;

Response: A Community Advisory Board (CAB) has been established to support community engagement and public involvement.

4) That any remedy chosen be coordinated with and integrated with the M52 Superfund site, as it appears that continuation of M52 contamination beyond the current OU3 border is/has been a contributing factor at the WVBA site as documented in the Draft Remedial Investigation Report;

Response: The WVBA WQARF registry site is a separate site under separate jurisdiction from the Motorola 52nd Street CERCLA site and therefore, ROs will be established for the WVBA site. Current remedial actions taking place within the M52 site are located such that ROs for the WVBA are not expected to affect current remedial actions within the M52 site.

5) That any remedy chosen take into account operation of the M52 Operable Unit 2 (OU2) treatment facility and any future treatment remedy in the M52 Operable Unit 3 (OU3) area; and

Response: The WVBA WQARF registry site is a separate site under separate jurisdiction from the Motorola 52nd Street CERCLA site and therefore, ROs will be established for the

WVBA site. Current remedial actions taking place within the M52 site are located such that ROs for the WVBA are not expected to affect current remedial actions within the M52 site.

6) That community engagement and public involvement activities include discussion of the impact of the M52 superfund site contamination and remedies as well as the West Central Phoenix plume to fully understand the sources of contamination, source control activities, the remedies being employed, the time-frames involved and the projected duration of the actions.

Response: The WVBA WQARF registry site is in itself a separate site under separate jurisdiction from the Motorola 52nd Street CERCLA site and therefore, ROs will be established for the WVBA site. Current remedial actions taking place within the M52 site are located such that ROs within the WVBA site are not expected to affect current remedial actions within the M52 site.

Roosevelt Irrigation District

7) Protect human health and the environment by reducing and eventually eliminating potential exposure to hazardous substances that area contaminants of concern (COCs) in the groundwater;

Response: Data collected to date do not indicate a current risk to human health or the environment by groundwater contamination within the WVBA WQARF site. Data collection has been requested of the RID to confirm historic determinations. As soon as these data are available, ADEQ will reassess the potential for risk.

8) Restore groundwater to meet all beneficial uses including potable supply;

Response: **Proposed RO**: To protect the supply of groundwater for municipal, irrigation, and private use and for the associated recharge capacity that is threatened by contamination emanating from the WVBA WQARF site. To restore, replace or otherwise provide for the groundwater supply lost due to contamination associated with the WVBA WQARF site. This action will be needed for as long as the need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use.

9) Prevent further degradation of groundwater quality by COCs;

Response: **Proposed RO**: Protect against possible leaching of hazardous substances in surface and subsurface soils to the groundwater.

10) Minimize the relocation, transfer, and/or volatilization of COCs from groundwater to the environment;

Response: This comment refers to issues to be addressed in the FS process.

11) Restore, replace, or otherwise provide alternate water supply for all existing water supply wells that are impacted by COCs in excess of Aquifer Water Quality Standards, equivalent to the legally permitted pumping capacity of the impacted wells;

Response: **Proposed RO**: To protect the supply of groundwater for municipal, irrigation, and private use and for the associated recharge capacity that is threatened by contamination emanating from the WVBA WQARF site. To restore, replace or otherwise provide for the groundwater supply lost due to contamination associated with the WVBA WQARF site. This action will be needed for as long as the need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use.

12) Maintain plume containment to prevent impacts to wells that are not currently impacted by COCs;

Response**: Proposed RO**: To protect, restore, replace or otherwise provide a water supply for potable use by private well owners outside the current plume boundaries of the WVBA WQARF site if the current use is impaired or lost due to contamination from the site. This RO is applicable until COP service connections can be confirmed.

13) Provide all water users a water source that meets the maximum anticipated beneficial use as drinking water;

Response: **Proposed RO**: To protect the supply of groundwater for municipal, irrigation, and private use and for the associated recharge capacity that is threatened by contamination emanating from the WVBA WQARF site. To restore, replace or otherwise provide for the groundwater supply lost due to contamination associated with the WVBA WQARF site. This action will be needed for as long as the need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use.

14) Maximize the beneficial use of the treated groundwater to support the goals and objectives of the Arizona Groundwater Management Act; and

Response: **Proposed RO**: To protect the supply of groundwater for municipal, irrigation, and domestic use and for the associated recharge capacity that is threatened by contamination emanating from the WVBA WQARF site. To restore, replace or otherwise provide for the groundwater supply lost due to contamination associated with the WVBA WQARF site. This action will be needed for as long as the need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use.

15) Provide long-term management of contaminated groundwater to improve the regional aquifer's suitability for potable use.

Response: **Proposed RO**: To protect the supply of groundwater for municipal, irrigation, and private use and for the associated recharge capacity that is threatened by contamination emanating from the WVBA WQARF site. To restore, replace or otherwise provide for the groundwater supply lost due to contamination associated with the WVBA WQARF site. This action will be needed for as long as the need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use.

Salt River Project

16) Prevent infiltration and leaching of contaminants of concern from soil to groundwater that would exceed any respective Aquifer Water Quality Standard.

Response: **Proposed RO**: Protect against possible leaching of hazardous substances in surface and subsurface soils to the groundwater.

17) Protect human health and the environment by:
    a. Efficiently capturing and controlling the plume of VOC groundwater contamination.
    b. Ensuring groundwater meets all applicable end use water quality standards

Response: **Proposed RO**: To protect the supply of groundwater for municipal use and for the associated recharge capacity that is threatened by contamination emanating from the WVBA WQARF site. To restore, replace or otherwise provide for the groundwater supply lost due to contamination associated with the WVBA WQARF site. This action will be needed for as long as the need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use.

    c. Ensuring conformance with applicable air quality regulations and standards

Response: This comment refers to issues to be addressed in the FS process.

18) Conforms to applicable federal and state water right laws and conservation requirements.

Response: **Proposed RO**: To protect the supply of groundwater for municipal, irrigation, and private use and for the associated recharge capacity that is threatened by contamination emanating from the WVBA WQARF site. To restore, replace or otherwise provide for the groundwater supply lost due to contamination associated with the WVBA WQARF site. This action will be needed for as long as the need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use.

19) Be reasonable, appropriate, and cost effective

Response: This comment refers to issues to be addressed in the FS process.

HEAD/Penn Racquet Sports

20) Provide the most cost effective solution to remediate the contamination to the appropriate water quality standard for its current use.

Response: This comment refers to issues to be addressed in the FS process.

21) Should treat the least amount or volume of water necessary to remediate the plume to the appropriate water quality standard for its current use.

Response: This comment refers to issues to be addressed in the FS process.

22) Should not pump water from wells, aquifers, or geologic zones that are not contaminated.

Response: This comment refers to issues to be addressed in the FS process.

23) Be reasonable, necessary and cost effective.

Response: This comment refers to issues to be addressed in the FS process.

24) Identify and evaluate the appropriate groundwater cleanup standards.

Response: This comment refers to issues to be addressed in the FS process.

25) Before adopting the final Remedial Objectives, ADEQ should conduct an engineering evaluation/cost analysis (EE/CA). [Note: The EE/CA is an analysis of remedial alternatives for the WVB WQARF area.]
    a. Publish a notice of availability and brief description of the EE/CA in a major local newspaper of general circulation;
    b. Provide a reasonable opportunity, not less than 30 calendar days, for submission of written and oral comments after completion of the EE/CA. Upon timely request, the ADEQ will extend the public comment period by a minimum of 15 days; and
    c. Prepare a written response to significant comments.

Response: This comment refers to issues to be addressed in the FS process.

26) Reject the use of an Early Response Action.

Response: This comment is not appropriate to the development of ROs.

<u>Mr. Phil Lagas</u>

27) Protect against loss or impairment of existing municipal and irrigation uses of the groundwater resource within the West Van Buren WQARF site. Remedial action under this objective would be required when a current use is demonstrated to be threatened or lost due to contamination caused by the release of a hazardous substance, provided the groundwater resource cannot be replaced or otherwise provided for. Remedial action

would be needed for as long as, and to such extent that, the level of contamination threatens or prohibits the use of the groundwater resource.

Response: **Proposed RO**: To protect the supply of groundwater for municipal use and for the associated recharge capacity that is threatened by contamination emanating from the WVBA WQARF site. To restore, replace or otherwise provide for the groundwater supply lost due to contamination associated with the WVBA WQARF site. This action will be needed for as long as the need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use.

28) Ensure short-term and long-term effectiveness and viability of all remedial actions by implementing cost-effective technologies that address, but do not exceed, the specific requirements of the groundwater uses within West Van Buren WQARF site.

Response: This comment refers to issues to be addressed in the FS process.

City of Phoenix

29) One remedial objective should be for the future long-term groundwater use. The City of Phoenix requests that the aquifer be available for drinking water use, and not cause damage or harm to our future wells, and associated recharge projects.

Response: **Proposed RO**: To protect the supply of groundwater for municipal use and for the associated recharge capacity that is threatened by contamination emanating from the WVBA WQARF site. To restore, replace or otherwise provide for the groundwater supply lost due to contamination associated with the WVBA WQARF site. This action will be needed for as long as the need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use.

30) Where groundwater treatment is necessary to provide future long-term groundwater use, the remedy should include measures to provide for the long-term operation and maintenance of reliable and cost-effective water treatment technologies. As an interim measure, water produced from the contaminated area during remediation that is intended for irrigation or non-potable uses should be applied, or if necessary, treated appropriately, to prevent a health risk to the end users or others with an exposure pathway to the water.

Response: This comment refers to issues to be addressed in the FS process.

31) As the entity that regulates land use for the area encompassed by this site, Phoenix requests that ADEQ select remedial objectives that are supportive of unrestricted use of the land. The West Van Buren WQARF site includes residential, commercial, and industrial land uses, although the latter two are most prominent. A remedial objective for the site should be to remediate soils that would allow continuation of the current land uses.

Response: **Proposed RO**: Protect against possible land restrictions because of hazardous substances in surface and subsurface soils based upon applicable zoning regulations.

32) For the volatile contaminants of concern, the remediation of groundwater and soil contamination should be to levels adequate to avoid a health risk caused by soil vapor intrusion into occupied structures. The potential for vapor intrusion should be predicted through application of peer-reviewed models and validated with field data.

Response: ADEQ has no data to suggest that exposure to vapors, through vapor intrusion, poses a threat within WVBA. ADEQ has investigated and remediated source areas and continues to work with facilities where remediation is warranted to address contaminants of concern that could be impacting the environment or threaten the public, in all environmental media.

Univar USA Inc.

33) The remedial objectives should result in remedial actions that are reasonable, necessary and cost effective.

Response: This comment refers to issues to be addressed in the FS process.

34) The remedial objectives should protect against actual risk to public health and the environment.

Response: Data collected to date do not indicate a current risk to human health or the environment by groundwater contamination within the WVBA WQARF site. Data collection has been requested of the RID to confirm historic determinations. As soon as these data are available, ADEQ will reassess the potential for risk.

35) The remedial objectives should ensure that cost effective remedial technologies and strategies are selected to remediate contaminated groundwater to the applicable water quality standards for its current end use.

Response: This comment refers to issues to be addressed in the FS process.

APPENDIX D

D COMMENTS RECEIVED FOR PROPOSED REMEDIAL OBJECTIVES

As per R18-16-406(I), remedial objectives should be developed through the public process. ADEQ established a 45-day comment period from May 16, 2011 to June 30, 2011 to receive and consider written comments from the public regarding the Proposed Remedial Objectives Report dated May 16, 2011. ADEQ received comments in writing from five parties:

- Linden Park Neighborhood Association
- Roosevelt Irrigation District
- SRP
- City of Phoenix
- Karen Gaylord

The written comments are attached.

ADEQ Arizona Department of Environmental Quality

COMMENT FORM

To submit comments for Proposed Remedial Objectives Report for the West Van Buren Water Quality Assurance Revolving Fund (WQARF) Site

Please provide the following:

Name: Mary Moore

Organization/Company: Linden Park Neighborhood Association

Address: 4839 E. Brill Street

City, State, Zip: Phoenix, AZ 85008

Phone: (602) 686-7267 E-Mail: m.i.moore@usa.net

Please summarize your major comments or concerns below (use additional sheet if needed):

If, as stated, on page 1-9 of the RI report, 1120 W. Watkins Street, former Chemresearch Co painting shop is still being used as a homeless shelter, or if the homeless shelter is still within the WVB site boundaries, the ROs should protect the shelter residences to the appropriate standards.

You may also submit a copy of your oral statement and any attachments to:
ADEQ, Attention: Kevin Snyder, Project Manager,
1110 W. Washington Street, 4415B-1, Phoenix, AZ 85007

Deadline: Comments must be received to ADEQ by 8:00 p.m. Thursday, June 30, 2011.

as dictated to Jennifer Thies 6/30/11
(Please Sign) date

ADEQ Arizona Department of Environmental Quality

COMMENT FORM

To submit comments for Proposed Remedial Objectives Report for the West Van Buren Water Quality Assurance Revolving Fund (WQARF) Site

Please provide the following:

Name: Mary Moore

Organization/Company: Linden Park Neighborhood Association

Address: 4839 E. Brill Street

City, State, Zip: Phoenix, AZ 85008

Phone: (602) 686-7267 E-Mail: m.i.moore@cox.net

Please summarize your major comments or concerns below (use additional sheet if needed):

The ROs need to look at the potential for vapor intrusion.

You may also submit a copy of your oral statement and any attachments to:
ADEQ, Attention: Kevin Snyder, Project Manager,
1110 W. Washington Street, 4415B-1, Phoenix, AZ 85007

Deadline: Comments must be received to ADEQ by 8:00 p.m. Thursday, June 30, 2011.

as left in voice mail message to Jennifer Thurs 7:11pm

(Please Sign) date 6/30/11

GALLAGHER & KENNEDY
P.A.
ATTORNEYS AT LAW

DAVID P. KIMBALL, III
DIRECT DIAL: (602) 530-8221
E-MAIL: DPK@GKNET.COM

2575 EAST CAMELBACK ROAD
PHOENIX, ARIZONA 85016-9225
PHONE: (602) 530-8000
FAX: (602) 530-8500
WWW.GKNET.COM

June 30, 2011

Mr. Kevin Snyder
Waste Programs Division
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
1110 West Washington Street
MC4415B-1
Phoenix, AZ 85007

Re: RID COMMENTS ON ADEQ'S PROPOSED REMEDIAL OBJECTIVES REPORT, WEST VAN BUREN AREA WQARF REGISTRY SITE

Dear Mr. Snyder,

On behalf of Roosevelt Irrigation District ("RID") and its Board of Directors, I am submitting the following general comments regarding the *West Van Buren WQARF Registry Site Proposed Remedial Objectives Report* prepared by the Arizona Department of Environmental Quality ("ADEQ"), dated May 16, 2011 ("Proposed RO Report"). Also attached is a summary of RID's general comments as well as additional RID specific comments to the Proposed RO Report.

RID is pleased that ADEQ is proposing remedial objectives to protect and provide for water uses that have been impacted or are threatened by the groundwater contamination existing within the West Van Buren Area ("WVBA") Water Quality Assurance Revolving Fund ("WQARF") Site as required by Arizona law. RID further appreciates the fact that ADEQ has evaluated the water uses of all well owners in the area in order to select appropriate remedial objectives as required in A.A.C. R18-16-406.D.

It is abundantly clear from the Proposed RO Report that RID is the principal water provider impacted and threatened by the WVBA WQARF Site contamination. Whereas, the City of Phoenix (COP), City of Tolleson, and Salt River Project (SRP) have a number of operating wells peripheral to the contaminated plume and outside the WVBA WQARF Site boundary, RID has 21 operating wells known to be impacted by hazardous substances and an additional 11 operating wells deemed threatened, as a matter of law, by the groundwater contamination. *See* A.A.C. R18-16-405.I. Collectively, these wells can produce over 100 million gallons of water per day. The significant impact of the contamination on RID's wells in the WVBA WQARF Site is unparalleled in the State

and dwarfs the impact occurring at other Superfund sites, including Federal mega-sites such as the Indian Bend Wash Superfund Site.

For this reason, ADEQ must fully comply with its responsibilities under the law to protect and restore this critical water supply for RID's and its customers' current and future end uses.

While the current use of RID wells and water conveyed in RID canals is primarily for agricultural irrigation, RID's wells in the WVBA WQARF Site are a vital future drinking water supply. This is due in part to the significantly lower concentration of total dissolved solids in the WVBA groundwater compared to the groundwater in the Goodyear or Buckeye area. As such, RID's WVBA WQARF Site wells represent a vastly more desirable resource for municipal supply that will reduce the costs and environmental impacts otherwise necessary to treat the brackish water resources underlying these municipalities. For this reason, RID has repeatedly informed ADEQ that the reasonably foreseeable end use of the water supply in RID's WVBA WQARF Site wells will continue to transition to a drinking water use and must be protected, restored, or replaced, as a matter of Arizona law, to ensure RID can provide water for its reasonable foreseeable end uses and its maximum beneficial use. *See* A.R.S. 49-282.06.A.2. and 49-282.06.B.4.b.

Unfortunately, the Proposed RO Report, as drafted, is contrary to Arizona law as it pertains to RID's water supply and ADEQ's statutory obligations to protect, restore or replace the contaminated groundwater in the WVBA WQARF Site. ADEQ must revise the Proposed RO Report to ensure compliance with ADEQ's statutory and regulatory obligations in determining the remedial objectives that are applicable to the groundwater, RID and other groundwater users in the WVBA WQARF Site. Specifically, as drafted in the Proposed RO Report, ADEQ's proposed remedial objectives directly violate the statutory obligation in A.R.S. 49-282.06.B.4.b. that mandates:

> the selected remedial action shall address, at a minimum, any well that at the time of selection of the remedial action ... would now or in the reasonably foreseeable future produce water that would not be fit for its current or reasonably foreseeable end uses without treatment due to the release of hazardous substances.

First, by limiting the proposed remedial objectives for "private groundwater use" to only address "if the current use is impaired or lost due to contamination," ADEQ's proposed remedial objectives directly conflict with this statutory requirement to address more than the current end use. Arizona law expressly requires any remedial action (and therefore the remedial objectives for that remedial action) to address all "reasonably foreseeable end uses."

The scope of the proposed remedial objectives for the WVBA WQARF Site is clearly defined under Arizona law:

> The Department shall prepare a report of the proposed remedial objectives for the site that shall list the current and reasonably foreseeable uses of land and the current and reasonable foreseeable beneficial uses of waters of the state.[1] A.A.C. R18-16-406.I.4. (emphasis added)

Not only is the Proposed RO Report required to "list . . .the current and reasonably foreseeable beneficial uses of waters of the state," but Arizona law requires that:

> "The [proposed remedial objectives] report shall state the remedial objective for each [current and reasonably foreseeable] listed use in the following terms:
>
> a. Protecting against the loss or impairment of each listed use that is threatened to be lost or impaired as a result of a release of a hazardous substance.
> b. Restoring, replacing or otherwise providing for each listed use to the extent that it has been or will be lost or impaired as a result of a release of a hazardous substance. A.A.C. R18-16-406.I.4.a and b. (emphasis added)

In short, the Proposed RO Report must be revised to clearly state remedial objectives that will "protect, restore, replace or otherwise provide for" all "reasonably foreseeable beneficial uses" by RID (including future municipal drinking water end uses) of the water supply in RID's WBVA WQARF Site wells. The Proposed RO Report's continued references to "protecting, restoring, replacing or otherwise providing" only for the "current" or "existing" water uses violates Arizona law.

The Proposed RO Report's continued references only to "current" or "existing" water uses also violates other applicable provisions of Arizona law. Arizona law further mandates that "[t]he director shall adopt, by rule, water quality standards for all navigable waters and for all waters in aquifers to preserve and protect the quality of those waters for all present and reasonably foreseeable future uses. A.R.S. 49-221.A. (emphasis added) Consequently, "[i]n setting standards [including remedial objectives] . . . the director shall consider . . . [t]he uses which have been made, are being made or with reasonable probability may be made of these waters." *See* A.R.S. 49-221.C. These state law requirements

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[1] As stated in the Proposed RO Report, reasonably foreseeable uses of waters are those likely to occur within 100 years unless a longer period is shown to be reasonable based on site-specific circumstances. A.A.C. R18-16-406.D.

also are consistent with the statutory mandates in A.R.S. 49-224.B. and A.R.S. 49-282.06.A.2 that "all aquifers in this state . . . shall be classified [and therefore protected] for drinking water protected use" and all "remedial actions [and therefore the remedial objectives for all remedial actions] . . . shall . . .cleanup . . . hazardous substances in order to allow the maximum beneficial use of the waters of the state." All of these laws require the remedial objectives for the WVBA WQARF Site to include protecting, restoring, replacing or otherwise providing for a drinking water quality water supply from the groundwater and RID wells in the WVBA WQARF Site.

Arizona law also requires that "remedial objectives shall be generally consistent with the water management plans of all water providers whose water supplies are or may be impaired by the contamination." A.A.C. R18-16-406.I.3. RID has repeatedly informed ADEQ that a municipal drinking water supply is a reasonably foreseeable end use of the water supply in RID's WVBA WQARF Site wells.[2] In addition, pursuant to the RID Board of Directors' *Statement of Policy Regarding Superfund Sites*, dated March 17, 2010, "any discharges of remediated groundwater into the RID water distribution system must be of a quality that meets the United States Environmental Protection Agency Maximum Contaminant Levels and the Arizona Aquifer Water Quality Standards for the associated contaminants of concern . . . and shall provide for the maximum beneficial use of the water supply." Consistent with applicable state law, ADEQ's Proposed RO Report must be revised to be consistent with RID's water management plan, as referenced in it prior statements to ADEQ and in its Superfund Policy Statement (*i.e.*, to protect, restore, replace or otherwise provide for RID's foreseeable municipal drinking water supply end use).

Additionally, given that the statutory requirement in A.R.S. 49-282.06.B.4.b., discussed above, is the "minimum" for any selected remedial action, ADEQ's "projected duration of the action needed to protect or provide for the use" set forth in the proposed remedial objectives fails to comply with this statutory requirement. In fact, as drafted,[3] the stated duration of ADEQ's proposed remedial objectives fails to address the statutory requirements that all aquifers are "classified for drinking water protected use" under A.R.S. 49-224.B., the selected remedial action shall "address . . . reasonably foreseeable end uses" of any impacted well water under A.R.S. 49-282.06.B.4.b., and all remedial

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[2] *Roosevelt Irrigation District Comments Regarding the "Draft Remedial Investigation Report, West Van Buren Area WQARF Registry Sites"*, dated December 23, 2008; *Proposed Remedial Objectives for West Van Buren Water Quality Assurance Fund Revolving Site*, dated December 30, 2009; *Revised Land and Water Use Study Questionnaire, West Van Buren WQARF Registry Site*, dated January 12, 2010

[3] In the Proposed RO Report, the projected duration for most of the remedial objectives state that "this action will be needed as long as the need for water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use."

actions shall "cleanup" hazardous substances "to allow the maximum beneficial use of the waters of the state" under A.R.S. 49-282.06.A.2. The "projected duration of the action needed to protect or provide for the use," as required by A.A.C. R18-16-406.I.4.d., should be as long as necessary to protect and restore the aquifer to its "drinking water protected use" under A.R.S. 49-224, to provide for the "reasonably foreseeable [drinking water] end use" of RID's wells under A.R.S. 49-282.06-B.4.b., and to cleanup the hazardous substances "to allow the maximum beneficial [drinking water] use of the waters of the state" under A.R.S. 49-282.06.A.2. For all these reasons, ADEQ must revise the Proposed RO Report consistent with these comments to avoid any ambiguity as to the duration of the remedial objectives and to ensure compliance with ADEQ's statutory obligations.

The proposed remedial objectives also fail to state, as required by R18-16-406.I.4.c, the "time-frames when action is needed to protect against or provide for the impairment or loss of the use." Given that RID and the public have already waited 20 years for the WVBA Draft Remedial Investigation Report, ADEQ should provide the public with the required timeframe as to when action is needed to protect, restore or replace the groundwater that has impacted and threatens to impact RID's wells in the WVBA WQARF Site. Consistent with ADEQ's approval of RID's Early Response Action ("ERA") Work Plan on June 24, 2010, ADEQ should note in the final remedial objectives for the WVBA WQARF Site that immediate action is needed to address the groundwater contamination that is impacting and threatening a valuable water supply and all 32 RID wells within the WVBA WQARF Site. Early Response Actions are authorized under Arizona law in order to pursue "early" responses that are "necessary" to meet any one of the criteria referenced in A.A.C. R18-16-405.A. ADEQ's approval of RID's ERA confirms the necessity of the ERA to be implemented quickly. Immediate action also is necessary as ADEQ has acknowledged that the groundwater contamination "has impacted multiple RID water supply wells which may present an imminent and substantial endangerment to public health, welfare or the environment within the West Van Buren WQARF Site." *See Agreement to Conduct Work*, dated October 8, 2009, between ADEQ and RID.

The Proposed RO Report, as drafted, also is unclear and ambiguous. It is unclear why ADEQ decided to depart from its format in the Remedial Objectives Report for the West Central Phoenix North Plume WQARF Site that provided a single set of remedial objectives for all groundwater uses. Instead of a single set of remedial objectives, the Proposed RO Report identifies three separate and different sets of remedial objectives for municipal, agricultural and private groundwater use. More puzzling is the ambiguity as to which set of groundwater use remedial objectives will apply to RID's water supply in its WVBA WQARF Site wells. Given the current agricultural use and foreseeable municipal use of the water supply from RID's WVBA WQARF Site wells, the Proposed RO Report appropriately discusses RID's water supply in those respective sections. However, although RID is not discussed in Section 3.3 and ADEQ clearly states that "private groundwater use within the WVBA is minimal", ADEQ responds to one of

RID's comments in Appendix C with the proposed remedial objectives identified for "private groundwater use." Further confusing is ADEQ's decision to apply the proposed remedial objectives for "private groundwater use" as the proposed remedial objectives in Section 4.1 "for current and future RID canal water use in the WVBA" when ADEQ clearly states that "no water in the RID canal is used within the WVBA." RID believes that given the ambiguities, ADEQ should revise the proposed remedial objectives to clarify what remedial objectives will be applicable to protect, restore, or replace RID's contaminated and threatened water supply consistent with ADEQ's statutory and regulatory obligations referenced above.

RID also is concerned that the Proposed RO Report, as drafted, does not include all of the information that was supplied to ADEQ. For example, ADEQ should include in Section 3.1 the Land and Water Use Study Questionnaire responses of SRP and COP to support RID's position, which is already noted in Section 3.1, that a drinking water use is a reasonably foreseeable end use for the groundwater in the WVBA WQARF Site. Specifically, SRP noted in its response that "currently, the wells provide water for irrigation but SRP anticipates that the wells will transition to [a] drinking water supply as the area develops." Specifically, COP noted in its response that "we intend not to utilize wells ... at this current time. However, as noted above there is the possibility that we may need to install new wells to service future [potable] water demand [due to population growth]."

RID appreciates ADEQ's consideration of the comments provided in this letter and the attached summary and is available to discuss these issues in detail or answer any questions ADEQ may have.

Very truly yours,

GALLAGHER & KENNEDY, P.A.

By: David P. Kimball, III

Enclosure

SUMMARY OF GENERAL AND SPECIFIC RID COMMENTS TO ADEQ'S PROPOSED REMEDIAL OBJECTIVES FOR WVBA WQARF SITE

General Comments:

1. There are limited or no citations to the statutory and regulatory obligations that apply and bind ADEQ's remedial objectives.
2. Likewise, there are little or no references to other ARARs that apply and should influence ADEQ's remedial objectives. (*See* statutory and regulatory references in narrative comments and several of the specific comments below)
3. Given the statutory and regulatory obligations of ADEQ and ADEQ's prior remedial objectives adopted for the WCP WQARF Site, it is unclear why Section 3 is not consolidated into a single set of remedial objectives for all groundwater uses.
4. Draft does not appear to contain all relevant comments provided by stakeholders in regards to the land and water use surveys.
5. There is a lack of consistency between the proposed remedial objectives in the first few sections and how ADEQ uses the proposed remedial objectives to respond to specific comments in Appendix C.

Specific comments:

1. Page 2-1: The document fails to note the contribution of contamination from the north from the West Central Phoenix, West Osborn Complex WQARF Site, which was included in ADEQ's Draft WVBA RI report.
2. Page 2-1: Consistent with ADEQ's and Maricopa County's prohibition of transferring contaminants from one media to another (water-air), which is being implemented as an ARAR at other Superfund Sites in Arizona, ADEQ should add another remedial objective such as: Protect against the transfer of hazardous substances due to the volatization of WVBA WQARF Site -COCs from groundwater to air.
3. Page 3-1: Unlike COP's land and water use survey where COP states that municipal use is a "reasonably foreseeable use" for the groundwater within WVBA, the draft language is unclear and only implies it.
4. Page 3-1: SRP is not mentioned at all in this section even though SRP, like COP, mentioned in its land and water use survey that municipal use is a "reasonably foreseeable use" for the groundwater within the WVBA.
5. Page 3-4: The "private groundwater use" remedial objectives (protect or provide only if current use is impaired or lost) disregard "reasonably foreseeable uses" as required by ADEQ's statutory and regulatory obligations. *See* A.R.S. 49-282.06.B.4.b., A.R.S. 49-221.A and C, and A.A.C. R18-16-406.I.4.
6. Page 3-2, 3-3: The proposed duration of ADEQ's remedial objectives (needed for as along as the need for water exists and contamination prohibits or limits groundwater use) terminates before ADEQ meets its statutory obligations (all aquifers are to be protected for "drinking water protected use", the selected remedy shall address "reasonably foreseeable end uses" of impacted well water and remedial actions shall "cleanup" hazardous substances "to allow the maximum beneficial use of the waters of the state"). *See* A.R.S. 49-224, 49-282.06.B.4.b., and 49-282.06.A.2.

7. ADEQ's proposed remedial objectives fail to address when the proposed actions are necessary (*i.e.*, immediate action) to be implemented as required by ADEQ's regulatory obligations and WVBA WQARF Site determinations. *See* ADEQ's June 24, 2010 approval of RID's ERA and its October 8, 2009, Agreement to Conduct Work with RID.
8. Given that ADEQ has specific statutory obligations, which do not depend on the type of groundwater use, there should be a single set of remedial objectives for all groundwater uses, such as:
    a. To protect any well that supplies water for municipal, domestic, industrial, irrigation or agricultural uses or is part of a public water system that in the reasonably foreseeable future would produce water that would not be fit for its current or reasonably foreseeable end uses without treatment without reducing the supply of water available to the owner of the well. A.R.S. 49-282.06.B.4.b., and A.R.S. 49-221-A and C.
    b. To restore, replace or otherwise provide for any well that supplies water for municipal, domestic, industrial, irrigation or agricultural uses or is part of a public water system that would now produce water that would not be fit for its current or reasonably foreseeable end uses without treatment without reducing the supply of water available to the owner of the well. A.R.S. 49-282.06.B.4.b., and A.R.S. 49-221 A and C.
    c. Action is needed immediately to protect or provide for the current and reasonably foreseeable water uses and to cleanup hazardous substances to allow the maximum beneficial use of the waters of the state. A.R.S. 49-282.06.A.2 and B.4.b., and A.A.C. R18-16-405.A. (rationale for an Early Response Action).
    d. Actions should continue until the aquifer meets its classification for "drinking water protected use," the selected remedy action addresses all "reasonable end uses" of any impacted well water and hazardous substances are "cleaned up" to "allow the maximum beneficial use of the waters of the state". A.R.S. 49-224.B., 49-282.06.B.4.b., and 49-282.06.A.2.
9. Page 4-1: ADEQ's decision to apply the proposed remedial objectives for "private groundwater use" as the proposed remedial objectives in Section 4.1 "for current and future RID canal water use in the WVBA" is confusing given that ADEQ clearly states that "no water in the RID canal is used within the WVBA."
10. Page C-1: Proves the need to revise remedial objectives without separating specific water uses. The comment is about groundwater uses in general, but ADEQ's response speaks only about "municipal groundwater use."
11. Page C-2: Response to Comment 2 should include the new remedial objective proposed about prohibition on transfer of contaminations from one media to another.
12. Page C-3: Response to Comment 6 fails to address WCP WQARF Site which was identified in ADEQ's WVBA Draft RI Report as a contributing source of contamination.
13. Page C-3: Response to Comment 7 should state "Data collected to date do not indicate a current *substantial* risk to human health or the environment ..." or similar qualifying language based on video footage, recent air quality data and ADEQ's finding that the groundwater contamination "has impacted multiple RID water supply wells which may present an imminent and substantial endangerment to public health, welfare or the environment within the West Van Buren WQARF Site." *See Agreement to Conduct Work*, dated October 8, 2009, between ADEQ and RID.

14. Page C-3: Response to Comment 10 should include the new remedial objective proposed about prohibition on transfer of contaminants from one media to another.
15. Page C-4: Response to Comment 12, an RID comment, utilizes the "private groundwater use" remedial objectives even though RID's wells are currently used for irrigation and will be used for municipal use in the reasonably foreseeable future.
16. Page C-4: Response to Comment 15 which contains a single set of remedial objectives for all groundwater sues is not consistent with the differing proposed remedial objectives provided by ADEQ in the Proposed RO Report for municipal, irrigation and private groundwater uses.
17. Page C-6: Response to Comment 26 should also include a brief statement that ADEQ has approved RID's ERA.
18. Page C-7: Response to Comment 30 should include the new remedial objective proposed about prohibition on transfer of contaminations from one media to another.

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(602) 236-5900
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Mail Station: PAB352
Phone: (602) 236-2968
Fax: (602) 236-6690
Email: Kevin.Wanttaja@srpnet.com

June 30, 2011

Attention: Kevin Snyder, Waste Programs Division
Arizona Department of Environmental Quality
1110 West Washington Street
MC4415B-1
Phoenix, Arizona 85007

Re: Arizona Department of Environmental Quality Notice of the Availability of the Proposed Remedial Objectives Report for the West Van Buren WQARF Registry Site in Phoenix, Arizona

Dear Mr. Snyder:

The Salt River Project Agricultural Improvement and Power District (SRP) appreciates the opportunity to comment on the Arizona Department of Environmental Quality (ADEQ) May 16, 2011 Proposed Remedial Objectives Report for the West Van Buren WQARF Registry Site in Phoenix, Arizona (Draft Report). SRP has reviewed the Draft Report and offers the following comments:

Comment #1: SRP supports the Remedial Objective to protect against possible leaching of hazardous substances in surface and subsurface soils to the groundwater.

Comment #2: Although SRP agrees generally with the Remedial Objectives proposed for Municipal and Agricultural Groundwater Use, SRP believes it is important to provide clarification regarding the future use of SRP wells near the West Van Buren WQARF area. In addition, ADEQ's discussion relating to the Roosevelt Irrigation District (RID) appears to be incomplete in certain important respects.

SRP has approximately eight groundwater production wells located near the northern, western and southern boundaries of the West Van Buren WQARF area that historically have been used for agricultural/irrigation purposes. To date, SRP's groundwater use has not been impacted by the alleged contamination. As indicated in SRP's completed Land and Water Use Questionnaire, dated September 21, 2007, given changing land use conditions, SRP

anticipates that these wells will be used for drinking water purposes in the reasonably foreseeable future, either by directly connecting the wells to municipal distribution systems within the Salt River Reservoir District (SRRD) or piping to municipal water treatment plants located on the SRP canal system as a drought supply. SRP projects that average annual pumpage from SRP wells near the West Van Buren area in the future will be in the range of 16,000 acre-feet.

Any groundwater within the SRRD, the geographic region of the Salt River Federal Reclamation Project and the area within which SRP manages surface water and groundwater rights, is reserved for use within the SRRD's boundaries. Absent a continuing agreement with SRP, RID's diversion or withdrawal of water within the SRRD boundaries for use outside those boundaries is prohibited by, among other things, the articles of incorporation and bylaws of the Salt River Valley Water Users' Association, long-established federal Reclamation law, Arizona groundwater law, the Arizona agricultural improvement district statutes, and prior court decrees and judgments that are binding upon RID. RID's only legal basis for its past withdrawal and use of such water has been the existing agreement with SRP, and that agreement terminates no later than 2026.

Groundwater in the West Van Buren Site underlies the SRRD. Therefore, any remedial proposals that involve transporting water off project lands would be prohibited, absent a water exchange agreement with SRP to keep SRP whole in accordance with the body of law prohibiting off-Project water transportation and use. No such agreement exists that extends beyond 2026.

Contractual agreements between SRP and RID allow RID to operate wells within the western SRRD to relieve water logging conditions that were present in the early 1920's and that, at the time, threatened local farming operations. Since approximately the 1960's, land use within the SRRD has been gradually shifting from predominantly agricultural use to urban use. Presently, approximately ten percent of land is under cultivation in the western SRRD. With this changing land use, the incidental recharge from irrigation return flows also has decreased, reducing the water logging conditions that occurred historically. RID has been pumping approximately 108,000 acre-feet annually from the western SRRD since 1928 for irrigation use. Based on SRP's records, the recent (2010) average depth to groundwater in the western SRRD is approximately 136 feet below ground surface.

The term of the agreements between SRP and RID is 99 years, with expiration in 2026. Pursuant to these agreements, RID has been using the pumped groundwater from the western SRRD for irrigation deliveries within its service area outside of the SRRD. Several of the RID wells are located within the West Van Buren WQARF area and have various levels of contamination. RID has proposed to connect its contaminated wells within the WVB area to a treatment system and deliver the treated groundwater to West Valley cities outside of the

SRRD for a new drinking water end use. RID cannot continue pumping at any level beyond 2026 without a water exchange agreement with SRP. SRP has not entered into any such agreement and has no present intention to do so.

Comment #3: SRP finds the proposed Remedial Objectives for Private Wells confusing. SRP therefore suggests making the Remedial Objectives for Private Wells consistent with those for Municipal Groundwater Use and Agricultural Groundwater Use in Sections 3.1 and 3.2 of ADEQ's draft Remedial Objectives. Specifically, SRP believes that the Remedial Objectives should clearly delineate between Private Wells that are threatened and require protection versus those that are impacted and require restoration or replacement. Thus, SRP believes that the Remedial Objectives for Private Wells should be as follows:

- To protect a water supply for potable and non-potable use by those private well owners that are threatened by contamination in the WVB WQARF site. Actions are needed for as long as the wells are used for potable and non-potable purposes and their use is threatened by the contamination from the WVB WQARF site.

- To restore, replace, or otherwise provide a water supply for potable or non-potable use by private well owners if the current use is impaired or lost due to contamination from the site. This action will be needed for as long as the need for the water exists, the resource remains available and the contamination associated with the WVB WQARF site prohibits or limits groundwater use.

Comment #4: As mentioned in Comment #2 above, the RID canal water has been and is currently used for irrigation purposes within RID's service area outside the WVB WQARF area. Based on ADEQ groundwater sampling data, RID's reported pumping rates for the RID wells within the WVB WQARF area, and RID's operational blending practices, it does not appear that RID's groundwater use has been impacted by the contamination. Findings of a screening risk analysis performed by AMEC on behalf of SRP show no apparent unacceptable public health threat due to RID's current operations (SRP, August 2010). RID's future use of groundwater from within the SRRD is limited as described in Comment #2 above.

SRP does not support the proposed Remedial Objectives for Canal and Surface Water Use as drafted. The Remedial Objectives are redundant of the Remedial Objectives proposed for Private Groundwater Use. SRP suggests modifying the Canal and Surface Water Use objectives to more clearly be aligned with the goals related to protecting end uses of the water. This would ensure that potential remedial strategies identified in the Feasibility Study are protective of the existing and any reasonably foreseeable future water uses off the RID canal system. The following is a suggested Remedial Objective for Canals and Surface Water

Use that focuses on protecting against the loss or impairment of identified end uses of canal water:

- To protect existing irrigation water uses off the RID canal. Actions are needed for as long as RID has a continued legal right to pump groundwater from within the SRRD to the extent contamination within the site impairs the existing RID canal water uses based on applicable water quality or health based standards associated with the chemicals of concern.

Because the agreements between SRP and RID expire in 2026, it is questionable whether RID's intention to transport groundwater from the WVB WQARF area for potable use outside this area is reasonably foreseeable. Any action to protect reasonably foreseeable potable water uses in the RID canal would be needed only for as long as RID has a continued legal right to pump groundwater from within the SRRD, and only if and when the RID canal is used for the transport of domestic water sources, and contamination from the site results in exceedances of Safe Drinking Water Act Maximum Contaminant Levels for the chemicals of concern in the canal water immediately upstream of a drinking water treatment plant.

Thank you for your consideration. Please do not hesitate to contact me with any questions.

Sincerely,

Karol Wolf for

Kevin Wanttaja, Manager
Environmental Services

EC 14340.0611

City of Phoenix
OFFICE OF ENVIRONMENTAL PROGRAMS

DC 489

June 30, 2011

Mr. Kevin Snyder
Remedial Projects Unit, Waste Programs Division
Arizona Department of Environmental Quality
1110 West Washington Street, MC4415B-1
Phoenix Arizona 85007

Re: Proposed Remedial Objectives Report for the West Van Buren WQARF Registry Site in Phoenix, Arizona

Dear Mr. Snyder:

The city of Phoenix appreciates the opportunity to comment on the ADEQ Proposed Remedial Objectives Report for the West Van Buren WQARF Registry Site dated May 16, 2011 (Draft Report). As you know, Phoenix is a participant in the West Van Buren WQARF Site Working Group, which intends to prepare a Feasibility Study for the site, consistent with the final Remedial Objectives. Phoenix has signed and joins with the June 30, 2011 letter from the Working Group (Working Group Letter) to ADEQ with consensus group comments on the Draft Report.

I write to elaborate further on the city's concerns regarding the description of current and reasonably foreseeable land and water uses from the city's perspective as the municipal water provider and primary land use regulatory agency for the West Van Buren WQARF site. We have attached a redlined revision of sections 3.1 (Municipal Groundwater Use) and 3.2 (Agricultural Groundwater Use) for your consideration. The revisions primarily relate to updated information and differences between the Phoenix 2000 Water Resources Plan, which ADEQ apparently relied upon, and the Phoenix 2005 Water Resources Plan. Phoenix requests that ADEQ incorporate these suggested revisions into the Draft Report.

We likewise appreciate the fact that ADEQ has acknowledged that a key Remedial Objective is "to protect the supply of groundwater for municipal use and for the associated recharge capacity…". As the municipal water provider, Phoenix joins with the Working Group request that ADEQ not recognize RID's speculative intention to export groundwater from the basin to unnamed municipalities as a reasonably foreseeable use. There are numerous legal, policy, and practical barriers to this proposal, not the least of which is that it may be adverse to Phoenix's service area rights to the groundwater. WQARF was not intended to, and is not able to, recognize or

provide funding in support of unlikely concepts that are not consistent with current law and regulation, such as the RID proposal.

As stated in the Working Group letter, Phoenix believes that the WQARF Remedial Objective process is best used to address uses of land and water rather than current or potential risks. Phoenix seeks to ensure that the local land uses as currently existing or permitted by applicable zoning regulations are maintained without impairment. The Working Group Letter makes the key distinction that the Remedial Objective should be to restore and preserve those permitted land uses. The Feasibility Study is the process by which soil, soil gas and groundwater data is assembled, all current and reasonably foreseeable exposure pathways are evaluated, and a remedy is selected for any risk determined to be associated with those exposure pathways. Where an approved WQARF remedy is necessary to ensure that exposure to hazardous substances does not impair those permitted uses of the land, that remedy must be selected and implemented. We request that ADEQ adopt the following land use remedial objectives:

- Protect against the loss or impairment of current uses of land as a result of releases of hazardous substances.

- Protect against the loss or impairment of all reasonably foreseeable future uses of land, provided for by the regulations and planning documents of local land use authorities, as a result of releases of hazardous substances.

These proposed Remedial Objectives would encompass all legal uses of land that do or could result in exposures to the contaminants of concern in the West Van Buren WQARF site. The narrow specific reference to property "development" that is presented in the Remedial Objectives of the Draft Report is not sufficiently protective and should be replaced.

Thank you for your consideration of the city's comments. Please contact us at 602-256-5669 if you have any questions or comments.

Sincerely,

Donn M. Stoltzfus
Environmental Programs Specialist

c: Phil McNeely

3.1 Municipal Groundwater Use

The COP Water Services Department's 2005 Water Resources Plan references the need for additional groundwater within the service area, primarily as a supply to mitigate surface water shortage conditions. This 2005 Plan does not include specific plans for groundwater development within the WVBA, though a subsequent "Groundwater Management Plan" developed by WSD includes potential wells within portions of the service area that overlap RID service territory. Since 1985, groundwater use by the COP steadily declined due to the availability of Central Arizona Project water, the development of several SRP-based surface water supplies, and provisions of the State's Groundwater Code which mandates groundwater use limitations. In effect the Code and COP's corresponding policy, rely on groundwater as an essential supply to mitigate future water shortages. The COP currently meets over 95 percent of its demand with surface water sources that could be curtailed significantly due to long-term drought in source watersheds. The COP also relies on groundwater to accommodate water system maintenance and as a backup during temporary outages. Projected groundwater use in normal supply years is assumed to be 15,000 acre-feet per year (AFY) in the Plan, but it could be substantially greater during shortage conditions.

In 2010, the Arizona Department of Water Resources (ADWR) approved the COP's application for a designation of assured water supply. This designation, a re-validation of the original approval by the ADWR in 1998, signifies that the COP has sufficient renewable water supplies to support projected demand levels for the year 2025, and can maintain these supplies through the year 2110. A portion of these water supplies includes groundwater.

The COP has 20 active wells currently in production that can generate up to 28 million gallons of water per day. These wells are located at least one mile from WVBA boundaries. Due to water quality degradation and the establishment of more stringent maximum contaminant levels (MCLs), wells within the WVBA WQARF site were placed on inactive status. The total loss of COP well production for normal use from 1981 to 2010 due to elevated contaminant concentrations exceeds 90,000 AFY from the closure of over 60 wells. This represents more than 60 percent of the total production capacity of COP wells in 1981.

Degraded groundwater constitutes a vast reserve of water for use in meeting the COP's future water needs. The COP maintains several wells within or adjacent to WQARF sites within the COP for emergency use and future use in meeting service area water needs; these wells could be placed back in service with the addition of wellhead treatment systems or approved blending programs. Also, the COP holds "Special Pump Rights" with SRP, which are rights to groundwater well capacity developed by SRP. In order for the COP to maintain and use these rights in the future, it may be necessary to connect SRP wells directly to the COP water distribution system. This may require the addition of wellhead treatment systems.

According to COP's Water Resources Plan, the use of potentially degraded groundwater is likely to be somewhat limited within the next decade, but the COP will depend more heavily on this groundwater to provide for service area water demands later in the 50-year planning horizon. Specifically, new groundwater production capacity is needed starting in the year 2020 at 20,000 AFY, increasing to more than 40,000 AFY in 2035. Assuming average production of two million gallons per day and a 65 percent utilization factor, this equates to 13 new wells beginning in 2020, with an additional 14 wells added by 2035.

According to . . . . .

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3.2 Agricultural Groundwater Use

Groundwater is pumped from the WVBA by RID and transported off-site for agricultural purposes. RID has indicated that agricultural use of this water could change in the foreseeable future to drinking water use. SRP has wells near the WVBA which are used to pump groundwater for agricultural purposes but none of these wells are located within WVBA boundaries.

The RID was formed in 1928 after securing an agreement with SRP to pump and deliver water in 1923. RID provides its members with water for agricultural irrigation. RID production wells typically are pumped from March through September. There are currently two sources of RID water. Approximately 30,000 to 40,000 AFY is currently obtained as effluent from the 23rd Avenue Wastewater Treatment Plant and approximately 135,000 AFY is obtained from groundwater.

Up to 30,000 AFY of additional reclaimed water from the 23rd Avenue plant could be provided to RID in lieu of groundwater pumpage. RID, in cooperation with the COP, holds a groundwater savings facility (GSF) permit for this additional reclaimed water. The GSF permit will allow the COP to accrue water storage credits for pumpage elsewhere. The COP currently applies the credits to groundwater pumped to supply the planned Rio Salado Habitat Restoration Project along the Salt River from 19th Avenue to 24th Street; which is outside the WVBA. Thus, implementation of the GSF will result in the reduction of groundwater pumpage within the WVBA.

RID water . . . . . .

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Arizona Public Service Company
City of Phoenix
Components, Incorporated
Cooper Industries, LLC
Dolphin, Inc.
Holsum Bakery, Inc.
Honeywell International Inc.
Laundry & Cleaners Supply, Inc.
Maricopa Land and Cattle Company
Meritor, Inc.
Milum Textile Services Co.
Penn Racquet Sports
Prudential Overall Supply
Schuff Steel
Univar USA, Inc.

June 30, 2011

Mr. Kevin Snyder
Arizona Department of Environmental Quality
Project Manager, Remedial Projects Unit, Waste Programs Division
1110 West Washington Street, MC4415B-1
Phoenix, Arizona 85007

Re: Proposed Remedial Objectives Report for the West Van Buren WQARF Registry Site

Dear Mr. Snyder:

The undersigned parties appreciate the opportunity to comment on ADEQ's Draft Remedial Objectives Report for the West Van Buren WQARF Registry Site, dated May 16, 2011 (Draft Report). As a general matter, we support the Remedial Objectives as drafted. With some minor revisions as discussed within these comments, the Draft Report should serve as a helpful vehicle in moving the West Van Buren site forward in the process.

Although the groundwater use Remedial Objectives as a whole are sound, we suggest modifying the reasonably foreseeable listed uses in three respects. We propose two changes to the proposed Remedial Objectives for groundwater uses, and we propose to re-format the Remedial Objectives for land uses. First, RID's proposed future sale of the area water supply for drinking water use by third parties outside the area is not a reasonably foreseeable use that should be recognized as a Remedial Objective for West Van Buren. We do agree that accommodating future drinking water use in general is an appropriate Remedial Objective. Second, the listed "uses" and associated Remedial Objectives discussed within Section 4.1 are actually risks, not beneficial end uses. All risk pathways must, of course, be identified in the Remedial Investigation and Feasibility Study, and addressed by the selected remedy for the site. But only beneficial uses of water and land should be stated as Remedial Objectives in the WQARF rules. Finally, the proposed land use Remedial Objectives improperly confuse land uses with risks, and include some, but not all, of the risks that should be addressed in the RI/FS.

A. With Only Two Exceptions, ADEQ's Proposed Groundwater Remedial Objectives Properly Reflect Reasonably Foreseeable Uses within the WVB Area.

Overall we agree with the proposed groundwater Remedial Objectives as drafted. The Remedial Objectives associated with the three groundwater uses - municipal, agricultural, and private - recognize and account for the changing uses inherent in Arizona's groundwater environment. We appreciate the agency's recognition that land uses and their associated groundwater uses are transitioning from traditional irrigated lands for agricultural purposes to more urbanized, municipal uses. Although expected to continue within the next 100 years, the rate and timing of land and groundwater changes are unknown. As reflected in the agency's Draft Report and in the City of Phoenix water planning information shared with ADEQ, water providers anticipate this conversion and have attempted to plan for these changes, but the exact timing is of course uncertain. The uncertainty inherent in this prediction and planning effort was recognized even when the remedy selection rules were being developed. In the remedy selection rulemaking package, ADEQ stated "[i]n regard to estimating future population and water uses, the Department agrees that it is difficult to predict well into the future. That is one of the reasons the Department specifies water management plans as a tool in the information collection and Remedial Objective process."[1]

Although only a few years ago most of us would have predicted continued growth and associated changes in water use, today we have all observed and experienced the effects of the unprecedented economic environment and associated dramatic slow down in development. This historic economic environment adds to the already complex water planning and prediction effort.

It is reasonably foreseeable that over the next 100 years, land uses within the WVB area will continue to convert from agricultural to more urbanized uses and an attendant change in groundwater use from irrigation to municipal. It is critical for water providers in the greater Phoenix area to plan for this anticipated transition, and indeed they have. Anticipating an increased need for groundwater supplies, Phoenix has retained its currently inactive groundwater wells with plans to reactivate them along with minor modifications when groundwater needs increase. Phoenix's planning efforts also include maintaining its special pump rights with SRP and further direct connections to SRP wells.[2] These are just some of the examples of water providers anticipating and planning for the changing future needs of the lands they serve. On the other hand, what is not reasonably foreseeable, and what is discussed in more detail below, is exportation of the area's groundwater to other lands outside of the WVB area's boundaries.

B. The Draft Report's Inclusion of Future RID Drinking Water Supply Use is Not Reasonably Foreseeable and Should Be Removed from the Draft Report.

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[1] 8 A.A.R. 1491, 1522 (March 29, 2002).
[2] Terranext, Land and Water Use Report West Van Buren Area WQARF Registry Site, 3-2 (December, 2007).

Only current and reasonably foreseeable uses of land and the current and reasonably foreseeable beneficial uses of waters of the state, supported by information provided during the public meeting and other information received by ADEQ, are to be listed within the Proposed Remedial Objectives Report.[3] Although ADEQ selects Remedial Objectives based upon public input, the agency must evaluate and refine the information to determine what uses are reasonably foreseeable.

As part of the Remedial Objectives development process, the agency solicits a variety of public input, including input from water providers and from members of the public. Inherent in the process is receipt of conflicting information and expressions of competing interests and uses, a phenomenon recognized during development of the remedy selection rules.[4] The agency evaluates all of this input to determine reasonably foreseeable uses. Those uses are then listed as the Remedial Objectives for the Site.[5]

Reasonably foreseeable uses for water are those likely to occur within 100 years (unless a longer time period is shown to be reasonable based on site-specific circumstances).[6] As indicated in the regulatory package associated with the remedy selection rule, reasonably foreseeable end uses are those that are *reasonably probable* to occur in the future, "not one simply within the realm of possibility."[7]

Within the Municipal Groundwater Use discussion of Section 3.1, the Draft Report lists, as a reasonably foreseeable use, RID's future drinking water supply for residential and commercial development within the RID water district. This description is somewhat misleading. RID does not propose to use this water for drinking water purposes directly. Rather, RID proposes to export this water from the West Van Buren Site for drinking water use by third parties. Major hurdles standing in the way of this use prevent export of groundwater by RID from meeting the reasonable foreseeability test.

1. RID's Groundwater Pumping Rights Are In Dispute.

ADEQ must consider whether RID's proposed sale is legally permitted. RID's right to continue its groundwater pumping within the Salt River Reservoir District and to transport that water to another area is a matter of dispute between RID and SRP, the other contractual party to RID's water right. RID's contractual right to pump water ends in or about 2026.[8] After that time, RID will not be legally permitted to transport groundwater out of the District to RID's service area or to others in the West Valley. In its December 4, 2009 comments to RID's ERA Proposal, SRP explained the uncertainty associated with RID's groundwater pumping rights and the legal restrictions on transporting pumped water out of the District.

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[3] A.A.C. § R18-16-406(I)(4).
[4] *See* 8 A.A.R. at 1521-22.
[5] *See* 8 A.A.R. at 1503, 1519, 1521, 1522.
[6] A.A.C. § R18-16-406(D).
[7] 8 A.A.R. at 1519, 1521.
[8] W.R. Powell, SRP Manager, Risk Management and Environmental Services, *Letter to Julie Riemenschneider*, at 2 (December 4, 2009).

2. RID's Brokerage of this Water Is Barred By State Water Law and Policy.

As discussed within these comments, RID's brokerage of this water for use by the West Valley Cities is not reasonably foreseeable due to various practical reasons, but more importantly, for foundational water law and policy reasons. The Arizona Groundwater Management Act (GMA) grandfathered existing agricultural uses of groundwater. But one of the inherent premises of the Act is that upon urbanization of agricultural lands, groundwater that had been previously used for agricultural purposes would be available to municipal providers to serve those urbanized lands.[9] RID's proposal is to export this groundwater away from those lands. The municipal water providers that will serve these lands in the future have a right to expect to access that groundwater, and have a right to object to its loss.

RID's proposed brokerage of water would be inconsistent with Arizona Department of Water Resources (ADWR) policy regarding incentives for use of remediated water. In 1997, the Arizona Legislature passed legislation to provide incentives to encourage the beneficial use of groundwater withdrawn as part of an approved remediation project. ADWR subsequently published a policy statement explaining the factors it would use to determine whether a remediation project is entitled to these incentives.[10] RID's proposal is inconsistent with several of these factors. In particular, ADWR discourages the creation of new permanent end uses for remediated groundwater that would not have existed absent the statutory incentive.[11] RID seeks to create a new long-term end use by constructing a new potable water treatment and transmission system. In addition, ADWR encourages reinjection or recharge within the same aquifer or basin from which remediated water is withdrawn, or the replacement of existing groundwater uses in the basin with remediated groundwater.[12]

After meeting with RID to hear first-hand about RID's proposed future groundwater uses, the ADWR Director sent RID a letter expressing his serious concerns and detailing the numerous statutory restrictions and water policy principles prevent RID from exporting pumped groundwater outside the West Van Buren area for drinking water purposes.

As stated in ADWR's letter, RID's proposed use runs afoul of at least three primary water law policies. First, the plan conflicts with the foundational assumptions of the GMA. The GMA was based upon the basic principle of reducing dependency on groundwater pumping in Active Management Areas. Although some longstanding

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[9] *See, e.g.,* A.R.S. § 45-469 (prohibition on converting irrigation grandfathered rights to Type 1 non-irrigation rights if land is within the exterior boundaries of the service area of a city, town, or private water company).

[10] ADWR, *Substantive Policy Statement: Remediated Groundwater Incentive for Conservation Requirement Accounting for the Second Management Plan* (June 14, 1999).

[11] *Id.*

[12] *Id.*

irrigation providers may withdraw and transport groundwater from outside their service areas for use within their service areas,[13] the GMA envisioned that future deliveries of groundwater for irrigation purposes would decline or be replaced by non-groundwater sources. As traditionally-agricultural lands urbanized, municipal providers who are subject to Assured Water Supply requirements would then provide potable water supplies and groundwater pumping would diminish. RID's proposed future use directly conflicts with these foundational assumptions of the GMA.

Second, uncertainties regarding the duration of RID's contractual groundwater pumping rights prevent use of this water for Assured Water Supply purposes. As previously reflected in SRP's comments to RID's Proposed ERA, there is a dispute between RID and SRP as to the duration of RID's contractual groundwater pumping rights. As pointed out by ADWR, such a dispute would impair the department's ability to issue a determination of assured water supply for this water, greatly reducing the desirability of RID's water supply to any municipal providers, RID's prospective future customers.

Finally, legal questions exist regarding the extent to which RID is legally authorized to supply groundwater for non-irrigation uses. As the regulatory agency in charge of overseeing water use in Arizona, ADWR has questioned RID's legal ability to supply groundwater for non-irrigation uses.

ADWR's recognition that RID's proposal is barred by state law for a variety of reasons demonstrates the improbability and thus unreasonableness associated with RID's proposed sale of this pumped groundwater outside the West Van Buren area for drinking water purposes.

3. RID Lacks Infrastructure and Financing to Broker and Export Groundwater.

Lack of necessary infrastructure and financing makes RID's sale of this water for potable purposes unlikely. Some details regarding RID's thoughts on its future drinking water use are revealed in its Early Response Action (ERA) proposal documents. RID's proposed ERA involves numerous costly repairs, upgrades, and additions to RID's current infrastructure to facilitate RID's entry into the drinking water business. Miles of pipelines and upgrades and improvements to numerous wells are just some of the capital investments required before RID could become a drinking water purveyor. Additionally, as ADEQ is aware, RID has previously asserted that it plans to finance its future drinking water business from third parties through litigation and settlement proceeds. Lack of firm financial resources or even a sound plan to obtain funding for the many infrastructure and other expenses associated with this new business make it improbable.

The proposed potable uses by West Valley Cities would not occur if the groundwater was not impacted by the WQARF contamination. The cost to construct the

[13] *See* A.R.S. § 45-494.

infrastructure needed to export the water would be prohibitive. Of course, RID cannot ask the WQARF program to fund a treatment and transportation system solely for the purpose of providing for a use that would otherwise be technically and financially impracticable.

RID claims that drinking water is a foreseeable end use of groundwater in the area. We agree. Drinking water is a foreseeable end use of groundwater in the West Van Buren Area for entities such as the City of Phoenix or Salt River Project and their customers. But use *by RID* of that groundwater for drinking water is not a foreseeable end use. RID is, and always has been, in the business of supplying irrigation water. As late as November 2007, RID reported that it only used groundwater for non-potable uses and that groundwater would continue to be used for those purposes in the future.[14] Specifically, RID indicated that it foresaw no significant changes in regard to its use of West Van Buren groundwater and that future uses (up to 100 years) for any impacted wells would be the "same as today."[15]

RID now seeks to convert itself into a municipal water broker. It asserts that West Valley Cities will purchase this water for potable use. But in determining whether potable use by West Valley Cities outside the West Van Buren Site is reasonably foreseeable, ADEQ must ask whether RID's project would be feasible if the aquifer were not impacted. RID's proposal involves transportation of treated water to the West Valley at enormous expense. If the project to sell water for drinking water use is actually made feasible only by the WQARF remedy, then the use is not reasonably foreseeable.

4. RID's Speculative Future Uses Are Not Reflected in Municipal Water Documents.

An examination of the publicly available planning documents for Buckeye and Goodyear do not reveal a firm plan to rely upon RID for their future drinking water needs.

As discussed above, RID's system is not currently constructed in a manner that would allow it to begin delivering drinking water. Arizona's WQARF laws and regulations are clear – a WQARF remedy cannot be required to cover the costs that a well owner or water provider would have incurred regardless of the contamination.[16] In other words, a party may not use the WQARF remedy process as a vehicle for improving its position. As explained in the agency's rulemaking package, WQARF remedy selection is intended to address:

> only the impacts of a release or a threatened release of a hazardous substance ...[and] will not cover remedial action costs that would have been incurred if the release had not impacted the property or well. For

[14] Stanley H. Ashby, Land and Waste Use Study Questionnaire, at 1-2 (November 12, 2007).

[15] *Id.* at 4.

[16] A.A.C. § R18-16-402(B).

> example, a well may have high levels of trichloroethylene, arsenic, and total dissolved solids. If only the trichloroethylene was released and the other contaminants were present before the release, the well owner cannot require WQARF to clean up the remainder of the contaminants or replace the well with a more productive well. Likewise, a property owner who owns a landfill cannot require WQARF to remove or completely clean up a landfill so the property can be used for other uses.[17]

RID's desire to convert its existing agricultural use to a drinking water use does not, by itself, establish that the use is reasonably foreseeable. Considering these additional factors – uncertain legal rights to water, inconsistency with Arizona law, ADWR's concerns, lack of infrastructure without adequate funding, and lack of customer commitments – leads to the conclusion that RID's future drinking water use is not reasonably probable and thus not reasonably foreseeable. For these reasons, RID's "drinking water use" should be deleted from the Draft Report.

C. The RID Canal Water Use and Associated ROs Are Duplicative and Should be Deleted from the Draft Report.

The purpose of ADEQ's discussion within Section 4.1 regarding RID Canal Water Use and the associated Remedial Objectives is unclear. First, the Remedial Objectives in Section 4.1 reference private wells and their contribution to RID's canals. Specifically, the first proposed RO is "[t]o protect, restore or otherwise provide a water supply for potable or non-potable use by currently impacted *private well owners* within the WVBA WQARF site..." It is unclear what ADEQ means with this reference to private wells. Of course all reasonably foreseeable uses must be listed as Remedial Objectives, without respect to whether the water is recovered from a private or public well. The Draft Report, however, already addresses uses associated with private groundwater wells within Section 3.3. The reference in Section 4.1 appears to be addressing the well itself. Wells, canals, and other physical infrastructure are not themselves beneficial uses. Wells are addressed separately in the remedy selection rules. Every final remedy must address "any well that either supplies water for ...irrigation or agricultural uses ...if the well would now or in the reasonably foreseeable future produce water that would not be fit for its current or reasonably foreseeable end use without treatment."[18] But the well itself is not a Remedial Objective. This reference to private well owners within the WVBA WQARF site is duplicative and unnecessary and should be removed from Section 4.1.

Second, the RID Canal water use discussion and proposed ROs are inconsistent with ADEQ's information collection effort as reflected in the Land and Water Use Report. In its Surface Water Use section, the Land and Water Use Report discusses RID's water delivery through its canal system and subsequent use outside of the WVBA

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[17] 8 A.A.R at 1499 (emphasis added).

[18] 8 A.A.R. at 1503.

land area for agricultural purposes.[19] Agricultural groundwater uses and their associated ROs, including RID's use, are already discussed in Section 3.2 of the Draft Report. And although, as reflected in the comments above, we disagree with the specific listing of "RID's future drinking water use," municipal groundwater uses and associated ROs are also discussed in Section 3.1. The Draft Report's discussion of RID's canals is duplicative of the groundwater discussion within section 3.0 and the associated ROs.

As reflected in the information collected by the agency during its RI process, RID's canals serve merely as transport mechanisms similar to water pipelines. There are no legally-permitted beneficial end uses that occur within RID's canals. Their sole purpose is to transport groundwater blended with reclaimed water to RID's agricultural end users. Because RID's canals are not considered "waters of the U.S.," RID's canals are not surface waters.[20] There is no need to specifically address "canal use" within the Draft Report.

If the canal use section was intended to identify some risk associated with RID's canals, this is the wrong forum for such identification. Instead, risks are appropriately included within a Remedial Investigation report and considered in the Feasibility Study in developing a remedy.[21] In fact the rules spell out that the Feasibility Study must include both a demonstration that the Remedial Objectives will be met – that the reasonably foreseeable end uses will be protected, replaced, or provided for – and a separate evaluation of risks associated with those current and reasonably foreseeable uses.[22] All exposures associated with transportation of water to its point of use, including vapor inhalation, ingestion, and dermal contact, must be evaluated. The same is true of potential exposures associated with other media within the West Van Buren Site. Those exposures are not Remedial Objectives, themselves. And there is no basis for transforming just one exposure associated with one use into a Remedial Objective for the Site. We respectfully request that ADEQ delete Section 4.1 from the Draft Report.

D. The Land Use Remedial Objectives are in Improper Form.

Finally, we note that some revision of the land use Remedial Objectives in section 2.0 is necessary to bring them into proper form. The Draft Report currently provides:

> Based upon review of public comments, ADEQ proposes the following ROs for land use in the WVBA area:
> - Protect against possible exposure to hazardous substances in surface and subsurface soils that could occur during development of property based upon applicable zoning regulations.

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[19] Land and Water Use Report at 13.
[20] *See* A.A.C. § R18-11-101(41)(defining surface waters); *see also* A.A.C. Title 18, Ch. 11, Appendix B (List of Surface Waters and Designated Uses).
[21] *See* A.A.C. § R18-16-406(F) (requiring the results of a risk evaluation to be included within a draft remedial investigation report).
[22] A.A.C. § R18-16-407(H).

- Protect against possible leaching of hazardous substances in surface and subsurface soils to the groundwater.
- Protect against possible land restrictions required by applicable zoning regulations because of hazardous substances in surface and subsurface soils.

We suggest that the proper land use Remedial Objectives are:

- Protect against the loss or impairment of current uses of land as a result of releases of hazardous substances.
- Protect against the loss or impairment of reasonably foreseeable future uses of land (as provided in zoning regulations and planning documents of local land use authorities) as a result of releases of hazardous substances.

Section 2.0 of the Draft Report seems to set a goal of protecting against exposures during development of property, but ignores other exposures (such as any under current uses). As we have previously stated, we agree that all exposures must be evaluated and addressed in the remedy selection process. Evaluation of all exposure pathways is part of the Remedial Investigation and Feasibility Study process as outlined in the WQARF rules.[23]

In summary, we support the Remedial Objectives as drafted within the report and suggest only three revisions: (1) delete the listed RID future drinking water supply use, (2) delete Section 4.1, "RID Canal Water Use", and (3) revise the proposed land use Remedial Objectives. We appreciate you considering our comments and look forward to your response.

Sincerely,

Karen S. Gaylord for

Arizona Public Service Company
City of Phoenix
Components, Incorporated
Cooper Industries, LLC
Dolphin, Inc.
Holsum Bakery, Inc.
Honeywell International Inc.
Laundry & Cleaners Supply, Inc.
Maricopa Land and Cattle Company
Meritor, Inc.
Milum Textile Services Co.
Penn Racquet Sports
Prudential Overall Supply
Schuff Steel
Univar USA, Inc.

[23] *Id.*

APPENDIX E

E RESPONSIVENESS SUMMARY TO COMMENTS RECEIVED FOR PROPOSED REMEDIAL OBJECTIVES

As per A.A.C. R18-16-406(I)(5), "The Department shall provide notice and accept and consider public comment on the proposed remedial objectives in the remedial objectives report and shall hold at least 1 additional public meeting if significant public interest exists or if significant issues or information have been brought to the attention of the Department which have not been considered previously." A public notice was issued on May 16, 2011 and the comment period extended from May 16 to June 30, 2011. On June 30, 2011, ADEQ held a Community Advisory Board/public meeting. ADEQ requested both oral and written comments, issues and concerns during the solicitation of comments on the proposed remedial objectives for the WVBA site. ADEQ received written comments from five parties on the proposed remedial objectives. This responsiveness summary is being issued in conjunction with the release of the Final Remedial Objectives Report. The Final Remedial Objectives Report considered four criteria for the development of ROs: 1) protect against the loss or impairment of the use; 2) restore, replace or otherwise provide for each use; 3) statement of when action is needed to provide for or protect against each use; and 4) how long an action is required to protect or provide for each use.

Written Comments on the Proposed Remedial Objectives Report

ADEQ established a 46-day comment period to receive and consider written comments regarding the proposed remedial objectives report. ADEQ received comments in writing from five parties as follows:

Lindon Park Neighborhood Association

If, as stated, on page 1-9 of the RI report, 1120 W. Watkins Street former ChemResearch Co. painting shop is still being used as a homeless shelter or if the homeless shelter is still within the WVB site boundaries, the ROs should protect the shelter residents to the appropriate standards.

- **ADEQ Response:** Remedial Objectives (ROs) for soil and groundwater are to be protective of human health and the environment.

The ROs need to look at the potential for vapor intrusion.

- **ADEQ Response:** ADEQ has no data to suggest that exposure to vapors, through vapor intrusion, poses a threat within WVBA. ADEQ has investigated and remediated source areas and continues to work with facilities where remediation is warranted to address contaminants of concern that could be impacting the environment or threaten the public, in all environmental media. ROs for soil and groundwater are to be protective of human health and the environment.

Roosevelt Irrigation District

On behalf of Roosevelt Irrigation District ("RID") and its Board of Directors, I am submitting the following general comments regarding the *West Van Buren WQARF Registry Site Proposed Remedial Objectives Report* prepared by the Arizona Department of Environmental Quality ("ADEQ"), dated May 16, 2011 ("Proposed RO Report"). Also attached is a summary of RID's general comments as well as additional RID specific comments to the Proposed RO Report.

RID is pleased that ADEQ is proposing remedial objectives to protect and provide for water uses that have been impacted or are threatened by the groundwater contamination existing within the West Van Buren Area ("WVBA") Water Quality Assurance Revolving Fund ("WQARF") Site as required by Arizona law. RID further appreciates the fact that ADEQ has evaluated the water uses of all well owners in the area in order to select appropriate remedial objectives as required in A.A.C. R18-16-406.D.

It is abundantly clear from the Proposed RO Report that RID is the principal water provider impacted and threatened by the WVBA WQARF Site contamination. Whereas, the City of Phoenix (COP), City of Tolleson, and Salt River Project (SRP) have a number of operating wells peripheral to the contaminated plume and outside the WVBA WQARF Site boundary, RID has 21 operating wells known to be impacted by hazardous substances and an additional 11 operating wells deemed threatened, as a matter of law, by the groundwater contamination. *See* A.A.C. R18-16-405.I. Collectively, these wells can produce over 100 million gallons of water per day. The significant impact of the contamination on RID's wells in the WVBA WQARF Site is unparalleled in the State and dwarfs the impact occurring at other Superfund sites, including Federal mega-sites such as the Indian Bend Wash Superfund Site.

For this reason, ADEQ must fully comply with its responsibilities under the law to protect and restore this critical water supply for RID's and its customers' current and future end uses.

While the current use of RID wells and water conveyed in RID canals is primarily for agricultural irrigation, RID's wells in the WVBA WQARF Site are a vital future drinking water supply. This is due in part to the significantly lower concentration of total dissolved solids in the WVBA groundwater compared to the groundwater in the Goodyear or Buckeye area. As such, RID's WVBA WQARF Site wells represent a vastly more desirable resource for municipal supply that will reduce the costs and environmental impacts otherwise necessary to treat the brackish water resources underlying these municipalities. For this reason, RID has repeatedly informed ADEQ that the reasonably foreseeable end use of the water supply in RID's WVBA WQARF Site wells will continue to transition to a drinking water use and must be protected, restored, or replaced, as a matter of Arizona law, to ensure RID can provide water for its reasonable foreseeable end uses and its maximum beneficial use. *See* A.R.S. 49-282.06.A.2. and 49-282.06.B.4.b.

Unfortunately, the Proposed RO Report, as drafted, is contrary to Arizona law as it pertains to RID's water supply and ADEQ's statutory obligations to protect, restore or replace the contaminated groundwater in the WVBA WQARF Site. ADEQ must revise the Proposed RO Report to ensure compliance with ADEQ's statutory and regulatory obligations in determining the remedial objectives that are applicable to the groundwater, RID and other groundwater users in the WVBA WQARF Site. Specifically, as drafted in the Proposed RO Report, ADEQ's proposed remedial objectives directly violate the statutory obligation in A.R.S. 49-282.06.B.4.b. that mandates:

> the selected remedial action shall address, at a minimum, any well that at the time of selection of the remedial action ... would now or in the reasonably foreseeable future produce water that would not be fit for its current or reasonably foreseeable end uses without treatment due to the release of hazardous substances.

First, by limiting the proposed remedial objectives for "private groundwater use" to only address "if the current use is impaired or lost due to contamination," ADEQ's proposed remedial objectives directly conflict with this statutory requirement to address more than the current end use. Arizona law expressly requires any remedial action (and therefore the remedial objectives for that remedial action) to address all "reasonably foreseeable end uses."

- **ADEQ Response:** For clarification, ADEQ has identified private wells as commercial/industrial/domestic. ADEQ adjusted the ROs for commercial/industrial/domestic wells to read as follows:
    - To protect, restore or otherwise provide a water supply for potable or non-potable use by currently impacted commercial/industrial/domestic well owners within the WVBA WQARF site if the current or reasonably foreseeable future use is impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the record of decision (ROD).

    - To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by commercial/industrial/domestic well owners outside the current plume boundaries of the WVBA WQARF site if the current or reasonably foreseeable future use is impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the record of decision (ROD).

The scope of the proposed remedial objectives for the WVBA WQARF Site is clearly defined under Arizona law:

> The Department shall prepare a report of the proposed remedial objectives for the site that shall list the current and reasonably foreseeable uses of land and the current and reasonable foreseeable beneficial uses of waters of the state. A.A.C. R18-16-406.I.4. (emphasis added)

Not only is the Proposed RO Report required to "list ... the current and reasonably foreseeable beneficial uses of waters of the state," but Arizona law requires that:

> "The [proposed remedial objectives] report shall state the remedial objective for each [current and reasonably foreseeable] listed use in the following terms:
>
> > a. Protecting against the loss or impairment of each listed use that is threatened to be lost or impaired as a result of a release of a hazardous substance.
> >
> > b. Restoring, replacing or otherwise providing for each listed use to the extent that it has been or will be lost or impaired as a result of a release of a hazardous substance. A.A.C. R18-16-406.I.4.a and b. (emphasis added)

In short, the Proposed RO Report must be revised to clearly state remedial objectives that will "protect, restore, replace or otherwise provide for" all "reasonably foreseeable beneficial uses" by RID (including future municipal drinking water end uses) of the water supply in RID's WBVA WQARF Site wells. The Proposed RO Report's continued references to "protecting, restoring, replacing or otherwise providing" only for the "current" or "existing" water uses violates Arizona law.

- **ADEQ Response:** Comment noted. The phrase “current or reasonably foreseeable future use” has been added to the ROs.

The Proposed RO Report's continued references only to "current" or "existing" water uses also violates other applicable provisions of Arizona law. Arizona law further mandates that "[t]he director shall adopt, by rule, water quality standards for all navigable waters and for all waters in aquifers to preserve and protect the quality of those waters for all present and reasonably foreseeable future uses. A.R.S. 49-221.A (emphasis added) Consequently, "[i]n setting standards [including remedial objectives] ... the director shall consider ... [t]he uses which have been made, are being made or with reasonable probability may be made of these waters." *See* A.R.S. 49-221.C. These state law requirements also are consistent with the statutory mandates in A.R.S. 49-224.B. and A.R.S. 49-282.06.A2 that "all aquifers in this state ... shall be classified [and therefore protected] for drinking water protected use" and all "remedial actions [and therefore the remedial objectives for all remedial actions] ... shall ... cleanup ... hazardous substances in order to allow the maximum beneficial use of the waters of the state." All of these laws require the remedial objectives for the WVBA WQARF Site to include protecting, restoring, replacing or otherwise providing for a drinking water quality water supply from the groundwater and RID wells in the WVBA WQARF Site.

- **ADEQ Response:** Comment noted. The phrase “current or reasonably foreseeable future use” has been added to the ROs.

Arizona law also requires that "remedial objectives shall be generally consistent with the water management plans of all water providers whose water supplies are or may be impaired by the contamination." A.A.C. R18-l6-406.I.3. RID has repeatedly informed ADEQ that a municipal drinking water supply is a reasonably foreseeable end use of the water supply in RID's WVBA WQARF Site wells? In addition, pursuant to the RID Board of Directors' *Statement of Policy Regarding Superfund Sites,* dated March 17, 2010, "any discharges of remediated groundwater into the RID water distribution system must be of a quality that meets the United States Environmental Protection Agency Maximum Contaminant Levels and the Arizona Aquifer Water Quality Standards for the associated contaminants of concern ... and shall provide for the maximum beneficial use of the water supply." Consistent with applicable state law, ADEQ's Proposed RO Report must be revised to be consistent with RID's water management plan, as referenced in it prior statements to ADEQ and in its Superfund Policy Statement *(i. e.,* to protect, restore, replace or otherwise provide for RID's foreseeable municipal drinking water supply end use).

- **ADEQ Response:** Comment noted. The phrase “current or reasonably foreseeable future use” has been added to the ROs.

Additionally, given that the statutory requirement in A.R.S. 49-282.06.B.4.b., discussed above, is the "minimum" for any selected remedial action, ADEQ's "projected duration of the action needed to protect or provide for the use" set forth in the proposed remedial objectives fails to comply with this statutory requirement. In fact, as drafted, the stated duration of ADEQ's proposed remedial objectives fails to address the statutory requirements that all aquifers are "classified for drinking water protected use" under A.R.S. 49-224.B., the selected remedial action shall "address ... reasonably foreseeable end uses" of any impacted well water under A.R.S. 49-282.06.B.4.b., and all remedial actions shall "cleanup" hazardous substances "to allow the maximum beneficial use of the waters of the state" under A.R.S. 49-282.06.A2. The "projected duration of the action needed to protect or provide for the use," as required by A.A.C. R18-16-406.I.4.d., should be as long as necessary to protect and restore the aquifer to its "drinking water protected use" under A.R.S. 49-224, to provide for the "reasonably foreseeable [drinking water] end use" of RID's wells under A.R.S. 49-282.06-B.4.b., and to cleanup the hazardous substances "to allow the maximum beneficial [drinking water] use of the waters of the state" under A.R.S. 49-282.06.A2. For all these reasons, ADEQ must revise the Proposed RO Report consistent with these comments to avoid any ambiguity as to the duration of the remedial objectives and to ensure compliance with ADEQ's statutory obligations.

- **ADEQ Response:** Comment noted. The phrase “current or reasonably foreseeable future use” has been added to the ROs.

The proposed remedial objectives also fail to state, as required by R18-16-406.1.4.c, the "time-frames when action is needed to protect against or provide for the impairment or loss of the use." Given that RID and the public have already waited 20 years for the WVBA Draft Remedial Investigation Report, ADEQ should provide the public with the required timeframe as to when action is needed to protect, restore or replace the groundwater that has impacted and threatens to impact RID's wells in the WVBA WQARF Site. Consistent with ADEQ's approval of RID's Early Response Action ("ERA") Work Plan on June 24, 2010, ADEQ should note in the final remedial objectives for the WVBA WQARF Site that immediate action is needed to address the groundwater contamination that is impacting and threatening a valuable water supply and all 32 RID wells within the WVBA WQARF Site. Early Response Actions are authorized under Arizona law in order to pursue "early" responses that are "necessary" to meet any one of the criteria referenced in A.A.C. R18-16-405.A ADEQ's approval of RID's ERA confirms the necessity of the ERA to be implemented quickly. Immediate action also is necessary as ADEQ has acknowledged that the groundwater contamination "has impacted multiple RID water supply wells which may present an imminent and substantial endangerment to public health, welfare or the environment within the West Van Buren WQARF Site." *See Agreement to Conduct Work,* dated October 8, 2009, between ADEQ and RID.

- **ADEQ Response:** ADEQ states in the above referenced ROs that the remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the record of decision (ROD).

The Proposed RO Report, as drafted, also is unclear and ambiguous. It is unclear why ADEQ decided to depart from its format in the Remedial Objectives Report for the West Central Phoenix North Plume WQARF Site that provided a single set of remedial objectives for all groundwater uses. Instead of a single set of remedial objectives, the Proposed RO Report identifies three separate and different sets of remedial objectives for municipal, agricultural and private groundwater use. More puzzling is the ambiguity as to which set of groundwater use remedial objectives will apply to RID's water supply in its WVBA WQARF Site wells. Given the current agricultural use and foreseeable municipal use of the water supply from RID's WVBA WQARF Site wells, the Proposed RO Report appropriately discusses RID's water supply in those respective sections. However, although RID is not discussed in Section 3.3 and ADEQ clearly states that "private groundwater use within the WVBA is minimal", ADEQ responds to one of RID's comments in Appendix C with the proposed remedial objectives identified for "private groundwater use." Further confusing is ADEQ's decision to apply the proposed remedial objectives for "private groundwater use" as the proposed remedial objectives in Section 4.1 "for current and future RID canal water use in the WVBA" when ADEQ clearly states that "no water in the RID canal is used within the WVBA." RID believes that given the ambiguities, ADEQ should revise the proposed remedial objectives to clarify what remedial objectives will be applicable to protect, restore, or replace RID's contaminated and threatened water supply consistent with ADEQ's statutory and regulatory obligations referenced above.

- **ADEQ Response:** The West Central Phoenix (WCP) North Plume (NP) RO addressed two types of groundwater use. This RO address seven groundwater uses. Therefore, ADEQ felt that these should be addressed separately. The reference to RID's groundwater use as private groundwater use was in error and has been corrected throughout the report. The RO report contains RO's that state that they will protect, restore, or replace RID's water supply.

RID also is concerned that the Proposed RO Report, as drafted, does not include all of the information that was supplied to ADEQ. For example, ADEQ should include in Section 3.1 the Land and Water Use Study Questionnaire responses of SRP and COP to support RID's position, which is already noted in Section 3.1, that a drinking water use is a reasonably foreseeable end use for the groundwater in the WVBA WQARF Site. Specifically, SRP noted in its response that "currently, the wells provide water for irrigation but SRP anticipates that the wells will transition to [a] drinking water supply as the area develops." Specifically, COP noted in its response that "we intend not to utilize wells ... at this current time. However, as noted above there is the possibility that we may need to install new wells to service future [potable] water demand [due to population growth]."

- **ADEQ Response:** SRP and COP's proposed future municipal use for wells near the WVBA WQARF Registry site has been added to the Municipal Groundwater Use Section.

RID appreciates ADEQ's consideration of the comments provided in this letter and the attached summary and is available to discuss these issues in detail or answer any questions ADEQ may have.

SUMMARY OF GENERAL AND SPECIFIC RID COMMENTS TO ADEQ'S PROPOSED REMEDIAL OBJECTIVES FOR WVBA WQARF SITE

General Comments:

1. There are limited or no citations to the statutory and regulatory obligations that apply and bind ADEQ's remedial objectives.

- **ADEQ Response:** ADEQ cites the statues and regulations governing the RO process in the first chapter of the report. ADEQ does not see the need to continually repeat the statues and regulations throughout the report.

2. Likewise, there are little or no references to other ARARs that apply and should influence ADEQ's remedial objectives. (*See* statutory and regulatory references in narrative comments and several of the specific comments below)

- **ADEQ Response:** Comment noted. ARARs are part of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and this site is regulated under the WQARF process.

3. Given the statutory and regulatory obligations of ADEQ and ADEQ's prior remedial objectives adopted for the WCP WQARF Site, it is unclear why Section 3 is not consolidated into a single set of remedial objectives for all groundwater uses.

- **ADEQ Response:** AAC R18-16-406.I.4 states, "The report shall state the remedial objectives for each listed use in the following terms…" Therefore, ADEQ has chosen this format to better insure that all of the groundwater uses cited in Section 3.0 are protected.

4. Draft does not appear to contain all relevant comments provided by stakeholders in regards to the land and water use surveys.

- **ADEQ Response:** As mentioned above, edits have been made to better identify stakeholders' uses.

5. There is a lack of consistency between the proposed remedial objectives in the first few sections and how ADEQ uses the proposed remedial objectives to respond to specific comments in Appendix C.

- **ADEQ Response:** The Final Remedial Objectives Report is based upon the Proposed Remedial Objectives Report and comments received on the Proposed Remedial Objectives Report.

Specific comments:

1. Page 2-1: The document fails to note the contribution of contamination from the north from the West Central Phoenix, West Osborn Complex WQARF Site, which was included in ADEQ's Draft WVBA RI report.

- **ADEQ Response:** The RO report has been edited to indicate that groundwater contamination from the West Central Phoenix (WCP) West Osborn Complex (WOC) may be comingling with the WVBA contaminant plume.

2. Page 2-1: Consistent with ADEQ's and Maricopa County's prohibition of transferring contaminants from one media to another (water-air), which is being implemented as an ARAR at other Superfund Sites in Arizona, ADEQ should add another remedial objective such as: Protect against the transfer of hazardous substances due to the volatization [sic] of WVBA WQARF Site -COCs from groundwater to air.

- **ADEQ Response:** ADEQ's policy is to restrict the transfer of contaminants from one media to another when a remedial system is in operation. Maricopa County

only restricts the transfer when the rate exceeds three pounds of contaminants per day.

3. Page 3-1: Unlike COP's land and water use survey where COP states that municipal use is a "reasonably foreseeable use" for the groundwater within WVBA, the draft language is unclear and only implies it.

- **ADEQ Response:** The sentence immediately before the proposed ROs for Municipal Groundwater Use states that the ROs are for current and future municipal groundwater use in the WVBA. ADEQ adjusted the ROs for municipal groundwater use to read as follows:
    - To protect, restore or otherwise provide a water supply for municipal use by currently or reasonably foreseeable future municipal well owners within the WVBA WQARF site if the current or reasonably foreseeable future use is impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the record of decision (ROD).

    - To protect, restore, replace or otherwise provide a water supply for municipal groundwater use by currently or reasonably foreseeable future municipal well owners outside the current plume boundaries of the WVBA WQARF site if the current or reasonably foreseeable future use is impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the record of decision (ROD).

4. Page 3-1: SRP is not mentioned at all in this section even though SRP, like COP, mentioned in its land and water use survey that municipal use is a "reasonably foreseeable use" for the groundwater within the WVBA.

- **ADEQ Response:** SRP proposed future municipal use for wells near the WVBA WQARF Registry site has been added to the Municipal Groundwater Use Section.

5. Page 3-4: The "private groundwater use" remedial objectives (protect or provide only if current use is impaired or lost) disregard "reasonably foreseeable uses" as required by ADEQ's statutory and regulatory obligations. *See* A.R.S. 49-282.06.B.4.b., A.R.S. 49-22l.A and C, and A.A.C. R18-16-406.1.4.

- **ADEQ Response:** Comment noted. The phrase “current or reasonably foreseeable future use” has been added to the ROs.

6. Page 3-2, 3-3: The proposed duration of ADEQ's remedial objectives (needed for as along as the need for water exists and contamination prohibits or limits groundwater use) terminates before ADEQ meets its statutory obligations (all aquifers are to be protected for "drinking water protected use", the selected remedy shall address "reasonably foreseeable end uses" of impacted well water and remedial actions shall "cleanup" hazardous substances "to allow the maximum beneficial use of the waters of the state"). *See* A.R.S. 49-224, 49-282.06.B.4.b., and 49-282.06.A.2.

- **ADEQ Response:** ADEQ states in the above referenced ROs that the remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. ADEQ believes this clearly meets statutory or regulatory obligation. To better meet statues and regulations, the following statement has been added to the ROs: Remedial actions to meet ROs will be implemented upon issuance of the record of decision (ROD).

7. ADEQ's proposed remedial objectives fail to address when the proposed actions are necessary (*i.e.*, immediate action) to be implemented as required by ADEQ's regulatory obligations and WVBA WQARF Site determinations. *See* ADEQ's June 24, 2010 approval of RID's ERA and its October 8, 2009, Agreement to Conduct Work with RID.

- **ADEQ Response:** Because remedial actions are necessary within the WVBA, ADEQ has initiated the remedial process by the preparation of this RO report. As required by the remedial process, once the ROs are finalized, a feasibility study (FS) will be completed. Following completion of the FS, ADEQ will prepare a proposed remedial action plan (PRAP). Following the completion of the PRAP, ADEQ will prepare a ROD. Once the ROD has been finalized and approved the remedial action plan (RAP) will be initiated.

8. Given that ADEQ has specific statutory obligations, which do not depend on the type of groundwater use, there should be a single set of remedial objectives for all groundwater uses, such as:

a. To protect any well that supplies water for municipal, domestic, industrial, irrigation or agricultural uses or is part of a public water system that in the reasonably foreseeable future would produce water that would not be fit for its current or reasonably foreseeable end uses without treatment without reducing the supply of water available to the owner of the well. A.R.S. 49-282.06.B.4.b., and A.R.S. 49-221-A and C.

b. To restore, replace or otherwise provide for any well that supplies water for municipal, domestic, industrial, irrigation or agricultural uses or is part of a public water system that would now produce water that would not be fit for its current or reasonably foreseeable end uses without treatment without reducing the supply of water available to the owner of the well. A.R.S. 49-282.06.B.4.b., and A.R.S. 49-221 A and C.

c. Action is needed immediately to protect or provide for the current and reasonably foreseeable water uses and to cleanup hazardous substances to allow

the maximum beneficial use of the waters of the state. A.R.S. 49-282.06.A.2 and B.4.b., and A.A.C. R18-16-405.A (rationale for an Early Response Action).
d. Actions should continue until the aquifer meets its classification for "drinking water protected use," the selected remedy action addresses all "reasonable end uses" of any impacted well water and hazardous substances are "cleaned up" to "allow the maximum beneficial use of the waters of the state". A.R.S. 49-224.B., 49-282.06.B.4.b., and 49-282.06.A.2.

- **ADEQ Response:** AAC R18-16-406.I.4 states, "The report shall state the remedial objectives for each listed use in the following terms…" Therefore, ADEQ has chosen this format to better insure that all of the groundwater uses cited in the Land and Water Use Report, solicitations and comments received during public comment periods, and a revised Land and Water Use Study Questionnaire submitted by RID are protected.

9. Page 4-1: ADEQ's decision to apply the proposed remedial objectives for "private groundwater use" as the proposed remedial objectives in Section 4.1 "for current and future RID canal water use in the WVBA" is confusing given that ADEQ clearly states that "no water in the RID canal is used within the WVBA."

- **ADEQ Response:** Private groundwater use has been edited to commercial/industrial/domestic. The ROs for Section 4.1 have been edited to read as follows:
    - To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by currently impacted RID wells within the WVBA WQARF site if the current and reasonably foreseeable future uses are impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the ROD. If there is an imminent risk to human health or the environment, then an ERA may be initiated prior to implementation of the ROD.

    - To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by RID wells outside the current plume boundaries of the WVBA WQARF site if the current and reasonably foreseeable future uses are impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the ROD. If there is an imminent risk to human health or the environment, then an ERA may be initiated prior to implementation of the ROD.

10. Page C-1: Proves the need to revise remedial objectives without separating specific water uses. The comment is about groundwater uses in general, but ADEQ's response speaks only about "municipal groundwater use."

- **ADEQ Response:** The response should not have only addressed municipal groundwater use.

11. Page C-2: Response to Comment 2 should include the new remedial objective proposed about prohibition on transfer of contaminations from one media to another.

- **ADEQ Response:** There is no such remedial objective.

12. Page C-3: Response to Comment 6 fails to address WCP WQARF Site which was identified in ADEQ's WVBA Draft RI Report as a contributing source of contamination.

- **ADEQ Response:** Mention of WCP WQARF registry site has been added to the text of the RO report.

13. Page C-3: Response to Comment 7 should state "Data collected to date do not indicate a current *substantial* risk to human health or the environment ... " or similar qualifying language based on video footage, recent air quality data and ADEQ's finding that the groundwater contamination "has impacted multiple RID water supply wells which may present an imminent and substantial endangerment to public health, welfare or the environment within the West Van Buren WQARF Site." *See Agreement to Conduct Work,* dated October 8, 2009, between ADEQ and RID.

- **ADEQ Response:** Comment noted. Unfortunately, the responsiveness summary contained in Appendix C is a final document and will not be edited.

14. Page C-3: Response to Comment 10 should include the new remedial objective proposed about prohibition on transfer of contaminants from one media to another.

- **ADEQ Response:** Comment noted. Unfortunately, the responsiveness summary contained in Appendix C is a final document and will not be edited.

15. Page C-4: Response to Comment 12, an RID comment, utilizes the "private groundwater use" remedial objectives even though RID's wells are currently used for irrigation and will be used for municipal use in the reasonably foreseeable future.

    - **ADEQ Response:** Comment noted. Unfortunately, the responsiveness summary contained in Appendix C is a final document and will not be edited.

16. Page C-4: Response to Comment 15 which contains a single set of remedial objectives for all groundwater sues [sic] is not consistent with the differing proposed

remedial objectives provided by ADEQ in the Proposed RO Report for municipal, irrigation and private groundwater uses.

- **ADEQ Response:** Comment noted. Unfortunately, the responsiveness summary contained in Appendix C is a final document and will not be edited.

17. Page C-6: Response to Comment 26 should also include a brief statement that ADEQ has approved RID's ERA.

- **ADEQ Response:** Comment noted. Unfortunately, the responsiveness summary contained in Appendix C is a final document and will not be edited.

18. Page C-7: Response to Comment 30 should include the new remedial objective proposed about prohibition on transfer of contaminations from one media to another.

- **ADEQ Response:** Comment noted. Unfortunately, the responsiveness summary contained in Appendix C is a final document and will not be edited.

Salt River Project

The Salt River Project Agricultural Improvement and Power District (SRP) appreciates the opportunity to comment on the Arizona Department of Environmental Quality (ADEQ) May 16, 2011 Proposed Remedial Objectives Report for the West Van Buren WQARF Registry Site in Phoenix, Arizona (Draft Report). SRP has reviewed the Draft Report and offers the following comments:

Comment #1: SRP supports the Remedial Objective to protect against possible leaching of hazardous substances in surface and subsurface soils to the groundwater.

- **ADEQ Response:** ADEQ edited the RO regarding land use to read as follows:
    - Protect against the loss or impairment of current and all reasonably foreseeable future uses of land as provided in zoning regulations and the Land and Water Use Report as a result of hazardous substances in surface and subsurface soils. Appropriate remedial actions will be implemented as an ERA or after the ROD is finalized which ever is warranted and continued until hazardous substances causing the impairment or restriction to the land use are remediated.

Comment #2: Although SRP agrees generally with the Remedial Objectives proposed for Municipal and Agricultural Groundwater Use, SRP believes it is important to provide clarification regarding the future use of SRP wells near the West Van Buren WQARF area. In addition, ADEQ's discussion relating to the Roosevelt Irrigation District (RID) appears to be incomplete in certain important respects.

SRP has approximately eight groundwater production wells located near the northern, western and southern boundaries of the West Van Buren WQARF area that historically have been used for agricultural irrigation purposes. To date, SRP's groundwater use has

not been impacted by the alleged contamination. As indicated in SRP's completed Land and Water Use Questionnaire, dated September 21, 2007, given changing land use conditions, SRP anticipates that these wells will be used for drinking water purposes in the reasonably foreseeable future, either by directly connecting the wells to municipal distribution systems within the Salt River Reservoir District (SRRD) or piping to municipal water treatment plants located on the SRP canal system as a drought supply. SRP projects that average annual pumpage from SRP wells near the West Van Buren area in the future will be in the range of 16,000 acre-feet.

- **ADEQ Response:** ADEQ edited the section regarding Surface Water Use to include drinking water as a foreseeable use and added the following RO:
    - To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by SRP wells outside the current plume boundaries of the WVBA WQARF site if the current or foreseeable future uses are impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the record of decision (ROD).

Comment #3: SRP finds the proposed Remedial Objectives for Private Wells confusing. SRP therefore suggests making the Remedial Objectives for Private Wells consistent with those for Municipal Groundwater Use and Agricultural Groundwater Use in Sections 3.1 and 3.2 of ADEQ's draft Remedial Objectives. Specifically, SRP believes that the Remedial Objectives should clearly delineate between Private Wells that are threatened and require protection versus those that are impacted and require restoration or replacement. Thus, SRP believes that the Remedial Objectives for Private Wells should be as follows:

- To protect a water supply for potable and non-potable use by those private well owners that are threatened by contamination in the WVB WQARF site. Actions are needed for as long as the wells are used for potable and non-potable purposes and their use is threatened by the contamination from the WVB WQARF site.

- To restore, replace, or otherwise provide a water supply for potable or non-potable use by private well owners if the current use is impaired or lost due to contamination from the site. This action will be needed for as long as the need for the water exists, the resource remains available and the contamination associated with the WVB WQARF site prohibits or limits groundwater use.

- **ADEQ Response:** For clarification, ADEQ has identified private wells as commercial/industrial/domestic wells. ADEQ adjusted the ROs for commercial/industrial/domestic wells to read as follows:
    - To protect, restore or otherwise provide a water supply for potable or non-potable use by impacted commercial/industrial/domestic well owners

within the WVBA WQARF site if the current or reasonable foreseeable future use is impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the record of decision (ROD).

- To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by commercial/industrial/domestic well owners outside the current plume boundaries of the WVBA WQARF site if the current or reasonable foreseeable future use is impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the record of decision (ROD).

Comment #4: As mentioned in Comment #2 above, the RID canal water has been and is currently used for irrigation purposes within RID's service area outside the WVB WQARF area. Based on ADEQ groundwater sampling data, RID's reported pumping rates for the RID wells within the WVB WQARF area, and RID's operational blending practices, it does not appear that RID's groundwater use has been impacted by the contamination. Findings of a screening risk analysis performed by AMEC on behalf of SRP show no apparent unacceptable public health threat due to RID's current operations (SRP, August 2010). RID's future use of groundwater from within the SRRD is limited as described in Comment #2 above.

SRP does not support the proposed Remedial Objectives for Canal and Surface Water Use as drafted. The Remedial Objectives are redundant of the Remedial Objectives proposed for Private Groundwater Use. SRP suggests modifying the Canal and Surface Water Use objectives to more clearly be aligned with the goals related to protecting end uses of the water. This would ensure that potential remedial strategies identified in the Feasibility Study are protective of the existing and any reasonably foreseeable future water uses off the RID canal system. The following is a suggested Remedial Objective for Canals and Surface Water Use that focuses on protecting against the loss or impairment of identified end uses of canal water:

- To protect existing irrigation water uses off (sic) the RID canal. Actions are needed for as long as RID has a continued legal right to pump groundwater from within the SRRD to the extent contamination within the site impairs the existing RID canal water uses based on applicable water quality or health based standards associated with the chemicals of concern.

- **ADEQ Response:** Because of the difference in designation of the RID canal water and the SRP surface water, ADEQ has prepared separate ROs for each. The ROs for canal water have been edited to read as follows:
    - To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by currently impacted RID wells within the WVBA WQARF site if the current and reasonably foreseeable future uses are impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the ROD. If there is an imminent risk to human health or the environment, then an ERA may be initiated prior to implementation of the ROD.

    - To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by RID wells outside the current plume boundaries of the WVBA WQARF site if the current and reasonably foreseeable future uses are impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the ROD. If there is an imminent risk to human health or the environment, then an ERA may be initiated prior to implementation of the ROD.

- The ROs for surface water have been edited to read as follows:
    - To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by SRP wells outside the current plume boundaries of the WVBA WQARF site if the current and foreseeable future uses are impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the ROD. If there is an imminent risk to human health or the environment, then an ERA may be initiated prior to implementation of the ROD.

City of Phoenix

The City of Phoenix appreciates the opportunity to comment on the ADEQ Proposed Remedial Objectives Report for the West Van Buren WQARF Registry Site dated May 16, 2011 (Draft Report). As you know, Phoenix is a participant in the West Van Buren WQARF Site Working Group, which intends to prepare a Feasibility Study for the site, consistent with the final Remedial Objectives. Phoenix has signed and joins with the June 30, 2011 letter from the Working Group (Working Group Letter) to ADEQ with consensus group comments on the Draft Report.

I write to elaborate further on the city's concerns regarding the description of current and reasonably foreseeable land and water uses from the city's perspective as the municipal water provider and primary land use regulatory agency for the West Van Buren WQARF site. We have attached a redlined revision of sections 3.1 (Municipal Groundwater Use) and 3.2 (Agricultural Groundwater Use) for your consideration. The revisions primarily relate to updated information and differences between the Phoenix 2000 Water Resources Plan, which ADEQ apparently relied upon, and the Phoenix 2005 Water Resources Plan. Phoenix requests that ADEQ incorporate these suggested revisions into the Draft Report.

- **ADEQ Response:** Comment noted. The 2005 Water Response Plan information will be incorporated into the report.

As stated in the Working Group letter, Phoenix believes that the WQARF Remedial Objective process is best used to address uses of land and water rather than current or potential risks. Phoenix seeks to ensure that the local land uses as currently existing or permitted by applicable zoning regulations are maintained without impairment. The Working Group Letter makes the key distinction that the Remedial Objective should be to restore and preserve those permitted land uses. The Feasibility Study is the process by which soil, soil gas and groundwater data is assembled, all current and reasonably foreseeable exposure pathways are evaluated, and a remedy is selected for any risk determined to be associated with those exposure pathways. Where an approved WQARF remedy is necessary to ensure that exposure to hazardous substances does not impair those permitted uses of the land, that remedy must be selected and implemented. We request that ADEQ adopt the following land use remedial objectives:

- Protect against the loss or impairment of current uses of land as a result of releases of hazardous substances.

- Protect against the loss or impairment of all reasonably foreseeable future uses of land, provided for by the regulations and planning documents of local land use authorities, as a result of releases of hazardous substances.

- **ADEQ Response:** ADEQ has adjusted the third RO for Land Use to read as follows:
    - Protect against the loss or impairment of current and all reasonably foreseeable future uses of land as provided in zoning regulations and the Land and Water Use report as a result of hazardous substances in surface and subsurface soils. Appropriate remedial actions will be implemented as an Early Response Action (ERA) or after the record of decision (ROD) is finalized which ever is warranted and continued until hazardous substances causing the impairment or restriction to the land use are remediated.

These proposed Remedial Objectives would encompass all legal uses of land that do or could result in exposures to the contaminants of concern in the West Van Buren WQARF site. The narrow specific reference to property "development" that is presented in the

Remedial Objectives of the Draft Report is not sufficiently protective and should be replaced.

- **ADEQ Response:** Appropriate remedial actions will be implemented and continued until hazardous substances causing an impairment or restriction are remediated.

3.1 Municipal Groundwater Use

The COP Water Services Department's 2005 Water Resources Plan references the need for additional groundwater within the service area, primarily as a supply to mitigate surface water shortage conditions. This 2005 Plan does not include specific plans for groundwater development within the WVBA, though a subsequent "Groundwater Management Plan" developed by WSD includes potential wells within portions of the service area that overlap RID service territory. Since 1985, groundwater use by the COP steadily declined due to the availability of Central Arizona Project water, the development of several SRP-based surface water supplies, and provisions of the State's Groundwater Code which mandates groundwater use limitations. In effect the Code and COP's corresponding policy, rely on groundwater as an essential supply to mitigate future water shortages. The COP currently meets over 95 percent of its demand with surface water sources that could be curtailed significantly due to long-term drought in source watersheds. The COP also relies on groundwater to accommodate water system maintenance and as a backup during temporary outages. Projected groundwater use in normal supply years is assumed to be 15,000 acre-feet per year (AFY) in the Plan, but it could be substantially greater during shortage conditions.

In 2010, the Arizona Department of Water Resources (ADWR) approved the COP's application for a designation of assured water supply. This designation, a re-validation of the original approval by ADWR in 1998, signifies that the COP has sufficient renewable water supplies to support projected demand levels for the year 2025, and can maintain these supplies through the year 2110. A portion of these water supplies includes groundwater.

The COP has 20 active wells currently in production that can generate up to 28 million gallons of water per day. These wells are located at least one mile from WVBA boundaries. Due to water quality degradation and the establishment of more stringent maximum contaminant levels (MCLs), other wells were placed on inactive status. The total loss of COP well production for normal use from 1981 to 2010 due to elevated contaminant concentrations exceeds 90,000 AFY from the closure of over 60 wells. This represents more than 60 percent of the total production capacity of COP wells in 1981.

Degraded groundwater constitutes a vast reserve of water for use in meeting the COP's future water needs. The COP maintains several wells within or adjacent to WQARF sites within the COP for emergency use and future use in meeting service area water needs; these wells could be placed back in service with the addition of wellhead treatment

systems or approved blending programs. Also, the COP holds "Special Pump Rights" with SRP, which are rights to groundwater well capacity developed by SRP. In order for the COP to maintain and use these rights in the future, it may be necessary to connect SRP wells directly to the COP water distribution system. This may require the addition of wellhead treatment systems.

According to COPs Water Resources Plan, the use of potentially degraded groundwater is likely to be somewhat limited within the next decade, but the COP will depend more heavily on this groundwater to provide for service area water demands later in the 50-year planning horizon. Specifically, new groundwater production capacity is needed starting in the year 2020 at 20,000 AFY, increasing to more than 40,000 AFY in 2035. Assuming average production of two million gallons per day and a 65 percent utilization factor, this equates to 13 new wells will be required beginning in 2020, with an additional 14 wells added by 2035.

According to…..

- **ADEQ Response:** The text has been edited to reflect this information.

3.2 Agricultural Groundwater Use

Groundwater is pumped from the WVBA by RID and transported off-site for agricultural purposes. RID has indicated that agricultural use of this water could change in the foreseeable future to drinking water use. SRP has wells near the WVBA which are used to pump groundwater for agricultural purposes but none of these wells are located within WVBA boundaries.

The RID was formed in 1928 after securing an agreement with SRP to pump and deliver water in 1923. RID provides its members with water for agricultural irrigation. RID production wells typically are pumped from March through September. There are currently two sources of RID water. Approximately 30,000 to 40,000 AFY is currently obtained as effluent from the 23rd Avenue Wastewater Treatment Plant and approximately 135,000 AFY is obtained from groundwater.

Up to 30,000 AFY of additional reclaimed water from the 23rd Avenue plant could be provided to RID in lieu of groundwater pumpage. RID, in cooperation with the COP, holds a groundwater savings facility (GSF) permit for this additional reclaimed water. The GSF permit will allow the COP to accrue water storage credits for pumpage elsewhere. The COP currently applies the credits to groundwater pumped to supply the planned Rio Salado Habitat Restoration Project along the Salt River from 19th Avenue to 24th Street; which is outside the WVBA. Thus, implementation of the GSF will result in the reduction of groundwater pumpage within the WVBA.

RID water……

- **ADEQ Response:** The text has been edited to reflect this information.

Ms. Karen Gaylord for:

Arizona Public Service Company
City of Phoenix
Components, Incorporated
Cooper Industries, LLC
Dolphin, Inc.
Holsum Bakery, Inc.
Honeywell International Inc.
Laundry & Cleaners Supply, Inc.
Maricopa Land and Cattle Company
Meritor, Inc.
Milum Textile Services Co.
Penn Racquet Sports
Prudential Overall Supply
Schuff Steel
Univar USA, Inc.

The undersigned parties appreciate the opportunity to comment on ADEQ's Draft Remedial Objectives Report for the West Van Buren WQARF Registry Site, dated May 16, 2011 (Draft Report). As a general matter, we support the Remedial Objectives as drafted. With some minor revisions as discussed within these comments, the Draft Report should serve as a helpful vehicle in moving the West Van Buren site forward in the process.

Although the groundwater use Remedial Objectives as a whole are sound, we suggest modifying the reasonably foreseeable listed uses in three respects. We propose two changes to the proposed Remedial Objectives for groundwater uses, and we propose to re-format the Remedial Objectives for land uses. First, RID's proposed future sale of the area water supply for drinking water use by third parties outside the area is not a reasonably foreseeable use that should be recognized as a Remedial Objective for West Van Buren. We do agree that accommodating future drinking water use in general is an appropriate Remedial Objective. Second, the listed "uses" and associated Remedial Objectives discussed within Section 4.1 are actually risks, not beneficial end uses. All risk pathways must, of course, be identified in the Remedial Investigation and Feasibility Study, and addressed by the selected remedy for the site. But only beneficial uses of water and land should be stated as Remedial Objectives in the WQARF rules. Finally, the proposed land use Remedial Objectives improperly confuse land uses with risks, and include some, but not all, of the risks that should be addressed in the RI/FS.

- **ADEQ Response:** The RO report is based on all land and water uses presented in the Land and Water Use Report, solicitations and comments received during public comment periods, and a revised Land and Water Use Study Questionnaire submitted by RID. All land and water uses presented in these documents are current and reasonably foreseeable uses. Therefore, ADEQ has presented ROs for each of these uses.

A. With Only Two Exceptions, ADEQ's Proposed Groundwater Remedial Objectives Properly Reflect Reasonably Foreseeable Uses within the WVB Area.

Overall we agree with the proposed groundwater Remedial Objectives as drafted. The Remedial Objectives associated with the three groundwater uses - municipal, agricultural, and private - recognize and account for the changing uses inherent in Arizona's groundwater environment. We appreciate the agency's recognition that land uses and their associated groundwater uses are transitioning from traditional irrigated lands for agricultural purposes to more urbanized, municipal uses. Although expected to continue within the next 100 years, the rate and timing of

land and groundwater changes are unknown. As reflected in the agency's Draft Report and in the City of Phoenix water planning information shared with ADEQ, water providers anticipate this conversion and have attempted to plan for these changes, but the exact timing is of course uncertain. The uncertainty inherent in this prediction and planning effort was recognized even when the remedy selection rules were being developed. In the remedy selection rulemaking package, ADEQ stated "[i]n regard to estimating future population and water uses, the Department agrees that it is difficult to predict well into the future. That is one of the reasons the Department specifies water management plans as a tool in the information collection and Remedial Objective process."

Although only a few years ago most of us would have predicted continued growth and associated changes in water use, today we have all observed and experienced the effects of the unprecedented economic environment and associated dramatic slow down in development. This historic economic environment adds to the already complex water planning and prediction effort.

It is reasonably foreseeable that over the next 100 years, land uses within the WVB area will continue to convert from agricultural to more urbanized uses and an attendant change in groundwater use from irrigation to municipal. It is critical for water providers in the greater Phoenix area to plan for this anticipated transition, and indeed they have. Anticipating an increased need for groundwater supplies, Phoenix has retained its currently inactive groundwater wells with plans to reactivate them along with minor modifications when groundwater needs increase. Phoenix's planning efforts also include maintaining its special pump rights with SRP and further direct connections to SRP wells. These are just some of the examples of water providers anticipating and planning for the changing future needs of the lands they serve. On the other hand, what is not reasonably foreseeable, and what is discussed in more detail below, is exportation of the area's groundwater to other lands outside of the WVB area's boundaries.

- **ADEQ Response:** AAC R18-16-406.I.4 states, “The Department shall prepare a report of the proposed remedial objectives for the site that shall list the current and reasonably foreseeable uses of land and the current and reasonably foreseeable beneficial uses of waters of the state. These uses shall be identified based upon information provided during the public meeting and any other information received.” Therefore, ADEQ has included all of the groundwater uses cited in the Land and Water Use Report, solicitations and comments received during public comment periods, and a revised Land and Water Use Study Questionnaire submitted by RID as current and reasonably foreseeable. Any unresolved dispute regarding current and reasonably foreseeable uses can not be taken in to consideration by ADEQ at this time.

B. The Draft Report's Inclusion of Future RID Drinking Water Supply Use is Not Reasonably Foreseeable and Should Be Removed from the Draft Report.

Only current and reasonably foreseeable uses of land and the current and reasonably foreseeable beneficial uses of waters of the state, supported by information provided during the public meeting and other information received by ADEQ, are to be listed within the Proposed Remedial Objectives Report. Although ADEQ selects Remedial Objectives based upon public input, the

agency must evaluate and refine the information to determine what uses are reasonably foreseeable.

As part of the Remedial Objectives development process, the agency solicits a variety of public input, including input from water providers and from members of the public. Inherent in the process is receipt of conflicting information and expressions of competing interests and uses, a phenomenon recognized during development of the remedy selection rules. The agency evaluates all of this input to determine reasonably foreseeable uses. Those uses are then listed as the Remedial Objectives for the Site.

Reasonably foreseeable uses for water are those likely to occur within 100 years (unless a longer time period is shown to be reasonable based on site-specific circumstances). As indicated in the regulatory package associated with the remedy selection rule, reasonably foreseeable end uses are those that are *reasonably probable* to occur in the future, "not one simply within the realm of possibility."

Within the Municipal Groundwater Use discussion of Section 3.1, the Draft Report lists, as a reasonably foreseeable use, RID's future drinking water supply for residential and commercial development within the RID water district. This description is somewhat misleading. RID does not propose to use this water for drinking water purposes directly. Rather, RID proposes to export this water from the West Van Buren Site for drinking water use by third parties. Major hurdles standing in the way of this use prevent export of groundwater by RID from meeting the reasonably forseeability test.

> **ADEQ Response:** AAC R18-16-406.I.4 states, "The Department shall prepare a report of the proposed remedial objectives for the site that shall list the current and reasonably foreseeable uses of land and the current and reasonably foreseeable beneficial uses of waters of the state. These uses shall be identified based upon information provided during the public meeting and any other information received." Therefore, ADEQ has included all of the groundwater uses cited in the Land and Water Use Report, solicitations and comments received during public comment periods, and a revised Land and Water Use Study Questionnaire submitted by RID as current and reasonably foreseeable. Any unresolved dispute regarding current and reasonably foreseeable uses can not be taken in to consideration by ADEQ at this time.

1. *RID's Groundwater Pumping Rights Are In Dispute.*

ADEQ must consider whether RID's proposed sale is legally permitted. RID's right to continue its groundwater pumping within the Salt River Reservoir District and to transport that water to another area is a matter of dispute between RID and SRP, the other contractual party to RID's water right. RID's contractual right to pump water ends in or about 2026. After that time, RID will not be legally permitted to transport groundwater out of the District to RID's service area or to others in the West Valley. In its December 4, 2009 comments to RID's ERA Proposal, SRP explained the uncertainty associated with RID's groundwater pumping rights and the legal restrictions on transporting pumped water out of the District.

- **ADEQ Response:** AAC R18-16-406.I.4 states, "The Department shall prepare a report of the proposed remedial objectives for the site that shall list the current and reasonably foreseeable uses of land and the current and reasonably foreseeable beneficial uses of waters of the state. These uses shall be identified based upon information provided during the public meeting and any other information received." Therefore, ADEQ has included all of the groundwater uses cited in the Land and Water Use Report, solicitations and comments received during public comment periods, and a revised Land and Water Use Study Questionnaire submitted by RID as current and reasonably foreseeable. Any unresolved dispute regarding current and reasonably foreseeable uses can not be taken in to consideration by ADEQ at this time.

2. *RID's Brokerage of this Water Is Barred By State Water Law and Policy.*

As discussed within these comments, RID's brokerage of this water for use by the West Valley Cities is not reasonably foreseeable due to various practical reasons, but more importantly, for foundational water law and policy reasons. The Arizona Groundwater Management Act (GMA) grandfathered existing agricultural uses of groundwater. But one of the inherent premises of the Act is that upon urbanization of agricultural lands, groundwater that had been previously used for agricultural purposes would be available to municipal providers to serve those urbanized lands. RID's proposal is to export this groundwater away from those lands. The municipal water providers that will serve these lands in the future have a right to expect to access that groundwater, and have a right to object to its loss.

RID's proposed brokerage of water would be inconsistent with Arizona Department of Water Resources (ADWR) policy regarding incentives for use of remediated water. In 1997, the Arizona Legislature passed legislation to provide incentives to encourage the beneficial use of groundwater withdrawn as part of an approved remediation project. ADWR subsequently published a policy statement explaining the factors it would use to determine whether a remediation project is entitled to these incentives. RID's proposal is inconsistent with several of these factors. In particular, ADWR discourages the creation of new permanent end uses for remediated groundwater that would not have existed absent the statutory incentive. RID seeks to create a new long-term end use by constructing a new potable water treatment and transmission system. In addition, ADWR encourages reinjection or recharge within the same aquifer or basin from which remediated water is withdrawn, or the replacement of existing groundwater uses in the basin with remediated groundwater.

After meeting with RID to hear first-hand about RID's proposed future groundwater uses, the ADWR Director sent RID a letter expressing his serious concerns and detailing the numerous statutory restrictions and water policy principles prevent RID from exporting pumped groundwater outside the West Van Buren area for drinking water purposes.

As stated in ADWR's letter, RID's proposed use runs afoul of at least three primary water law policies. First, the plan conflicts with the foundational assumptions of the GMA. The GMA was based upon the basic principle of reducing dependency on groundwater pumping in Active Management Areas. Although some longstanding irrigation providers may withdraw and transport groundwater from outside their service areas for use within their service areas, the

GMA envisioned that future deliveries of groundwater for irrigation purposes would decline or be replaced by non-groundwater sources. As traditionally-agricultural lands urbanized, municipal providers who are subject to Assured Water Supply requirements would then provide potable water supplies and groundwater pumping would diminish. RID's proposed future use directly conflicts with these foundational assumptions of the GMA.

Second, uncertainties regarding the duration of RID's contractual groundwater pumping rights prevent use of this water for Assured Water Supply purposes. As previously reflected in SRP's comments to RID's Proposed ERA, there is a dispute between RID and SRP as to the duration of RID's contractual groundwater pumping rights. As pointed out by ADWR, such a dispute would impair the department's ability to issue a determination of assured water supply for this water, greatly reducing the desirability of RID's water supply to any municipal providers, RID's prospective future customers.

Finally, legal questions exist regarding the extent to which RID is legally authorized to supply groundwater for non-irrigation uses. As the regulatory agency in charge of overseeing water use in Arizona, ADWR has questioned RID's legal ability to supply groundwater for non-irrigation uses.

ADWR's recognition that RID's proposal is barred by state law for a variety of reasons demonstrates the improbability and thus unreasonableness associated with RID's proposed sale of this pumped groundwater outside the West Van Buren area for drinking water purposes.

- **ADEQ Response:** AAC R18-16-406.I.4 states, "The Department shall prepare a report of the proposed remedial objectives for the site that shall list the current and reasonably foreseeable uses of land and the current and reasonably foreseeable beneficial uses of waters of the state. These uses shall be identified based upon information provided during the public meeting and any other information received." Therefore, ADEQ has included all of the groundwater uses cited in the Land and Water Use Report, solicitations and comments received during public comment periods, and a revised Land and Water Use Study Questionnaire submitted by RID as current and reasonably foreseeable. Any unresolved dispute regarding current and reasonably foreseeable uses can not be taken in to consideration by ADEQ at this time.

3. RID Lacks Infrastructure and Financing to Broker and Export Groundwater.

Lack of necessary infrastructure and financing makes RID's sale of this water for potable purposes unlikely. Some details regarding RID's thoughts on its future drinking water use are revealed in its Early Response Action (ERA) proposal documents. RID's proposed ERA involves numerous costly repairs, upgrades, and additions to RID's current infrastructure to facilitate RID's entry into the drinking water business. Miles of pipelines and upgrades and improvements to numerous wells are just some of the capital investments required before RID could become a drinking water purveyor. Additionally, as ADEQ is aware, RID has previously asserted that it plans to finance its future drinking water business from third parties through litigation and settlement proceeds. Lack of firm financial resources or even a sound plan to obtain funding for

the many infrastructure and other expenses associated with this new business make it improbable.

The proposed potable uses by West Valley Cities would not occur if the groundwater was not impacted by the WQARF contamination. The cost to construct the infrastructure needed to export the water would be prohibitive. Of course, RID cannot ask the WQARF program to fund a treatment and transportation system solely for the purpose of providing for a use that would otherwise be technically and financially impracticable.

RID claims that drinking water is a foreseeable end use of groundwater in the area. We agree. Drinking water is a foreseeable end use of groundwater in the West Van Buren Area for entities such as the City of Phoenix or Salt River Project and their customers. But use *by RID* of that groundwater for drinking water is not a foreseeable end use. RID is, and always has been, in the business of supplying irrigation water. As late as November 2007, RID reported that it only used groundwater for non-potable uses and that groundwater would continue to be used for those purposes in the future. Specifically, RID indicated that it foresaw no significant changes in regard to its use of West Van Buren groundwater and that future uses (up to 100 years) for any impacted wells would be the "same as today."

RID now seeks to convert itself into a municipal water broker. It asserts that West Valley Cities will purchase this water for potable use. But in determining whether potable use by West Valley Cities outside the West Van Buren Site is reasonably foreseeable, ADEQ must ask whether RID's project would be feasible if the aquifer were not impacted. RID's proposal involves transportation of treated water to the West Valley at enormous expense. If the project to sell water for drinking water use is actually made feasible only by the WQARF remedy, then the use is not reasonably foreseeable.

- **ADEQ Response:** AAC R18-16-406.I.4 states, "The Department shall prepare a report of the proposed remedial objectives for the site that shall list the current and reasonably foreseeable uses of land and the current and reasonably foreseeable beneficial uses of waters of the state. These uses shall be identified based upon information provided during the public meeting and any other information received." Therefore, ADEQ has included all of the groundwater uses cited in the Land and Water Use Report, solicitations and comments received during public comment periods, and a revised Land and Water Use Study Questionnaire submitted by RID as current and reasonably foreseeable. Any unresolved dispute regarding current and reasonably foreseeable uses can not be taken in to consideration by ADEQ at this time.

4. RID's Speculative Future Uses Are Not Reflected in Municipal Water Documents.

An examination of the publicly available planning documents for Buckeye and Goodyear do not reveal a firm plan to rely upon RID for their future drinking water needs.

As discussed above, RID's system is not currently constructed in a manner that would allow it to begin delivering drinking water. Arizona's WQARF laws and regulations are clear - a WQARF remedy cannot be required to cover the costs that a well owner or water provider would have

incurred regardless of the contamination. In other words, a party may not use the WQARF remedy process as a vehicle for improving its position. As explained in the agency's rulemaking package, WQARF remedy selection is intended to address:

> only the impacts of a release or a threatened release of a hazardous substance ... [and] will not cover remedial action costs that would have been incurred if the release had not impacted the property or well. For example, a well may have high levels of trichloroethylene, arsenic, and total dissolved solids. If only the trichloroethylene was released and the other contaminants were present before the release, the well owner cannot require WQARF to clean up the remainder of the contaminants or replace the well with a more productive well. Likewise, a property owner who owns a landfill cannot require WQARF to remove or completely clean up a landfill so the property can be used for other uses.

RID's desire to convert its existing agricultural use to a drinking water use does not, by itself, establish that the use is reasonably foreseeable. Considering these additional factors - uncertain legal rights to water, inconsistency with Arizona law, ADWR's concerns, lack of infrastructure without adequate funding, and lack of customer commitments -leads to the conclusion that RID's future drinking water use is not reasonably probable and thus not reasonably foreseeable. For these reasons, RID's "drinking water use" should be deleted from the Draft Report.

- **ADEQ Response:** AAC R18-16-406.I.4 states, “The Department shall prepare a report of the proposed remedial objectives for the site that shall list the current and reasonably foreseeable uses of land and the current and reasonably foreseeable beneficial uses of waters of the state. These uses shall be identified based upon information provided during the public meeting and any other information received.” Therefore, ADEQ has included all of the groundwater uses cited in the Land and Water Use Report, solicitations and comments received during public comment periods, and a revised Land and Water Use Study Questionnaire submitted by RID as current and reasonably foreseeable. Any unresolved dispute regarding current and reasonably foreseeable uses can not be taken in to consideration by ADEQ at this time.

C. The RID Canal Water Use and Associated ROs Are Duplicative and Should be Deleted from the Draft Report.

The purpose of ADEQ's discussion within Section 4.1 regarding RID Canal Water Use and the associated Remedial Objectives is unclear. First, the Remedial Objectives in Section 4.1 reference private wells and their contribution to RID's canals. Specifically, the first proposed RO is "[t]o protect, restore or otherwise provide a water supply for potable or non-potable use by currently impacted *private well owners* within the WVBA WQARF site ... " It is unclear what ADEQ means with this reference to private wells. Of course all reasonably foreseeable uses must be listed as Remedial Objectives, without respect to whether the water is recovered from a private or public well. The Draft Report, however, already addresses uses associated with private groundwater wells within Section 3.3. The reference in Section 4.1 appears to be addressing the well itself. Wells, canals, and other physical infrastructure are not themselves beneficial uses. Wells are addressed separately in the remedy selection rules. Every final remedy must address

“any well that either supplies water for ... irrigation or agricultural uses ... if the well would now or in the reasonably foreseeable future produce water that would not be fit for its current or reasonably foreseeable end use without treatment.” But the well itself is not a Remedial Objective. This reference to private well owners within the WVBA WQARF site is duplicative and unnecessary and should be removed from Section 4.1.

- **ADEQ Response:** ADEQ edited the RO regarding RID use to read as follows:
    - To protect, restore or otherwise provide a water supply for potable and non-potable use by impacted RID wells within the WVBA WQARF site if the current or reasonable foreseeable future use is impaired, or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the record of decision (ROD).

    - To protect, restore, replace or otherwise provide a water supply for potable or non-potable use by RID wells outside the current plume boundaries of the WVBA WQARF site if the current or reasonable foreseeable future use is impaired or lost due to contamination from the site. Remedial actions will be in place for as long as need for the water exists, the resource remains available and the contamination associated with the WVBA WQARF site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the record of decision (ROD).

Second, the RID Canal water use discussion and proposed ROs are inconsistent with ADEQ's information collection effort as reflected in the Land and Water Use Report. In its Surface Water Use section, the Land and Water Use Report discusses RID's water delivery through its canal system and subsequent use outside of the WVBA land area for agricultural purposes. Agricultural groundwater uses and their associated ROs, including RID's use, are already discussed in Section 3.2 of the Draft Report. And although, as reflected in the comments above, we disagree with the specific listing of "RID's future drinking water use," municipal groundwater uses and associated ROs are also discussed in Section 3.1. The Draft Report's discussion of RID's canals is duplicative of the groundwater discussion within section 3.0 and the associated ROs.

As reflected in the information collected by the agency during its RI process, RID's canals serve merely as transport mechanisms similar to water pipelines. There are no legally-permitted beneficial end uses that occur within RID's canals. Their sole purpose is to transport groundwater blended with reclaimed water to RID's agricultural end users. Because RID's canals are not considered "waters of the U.S.," RID's canals are not surface waters. There is no need to specifically address "canal use" within the Draft Report.

If the canal use section was intended to identify some risk associated with RID's canals, this is the wrong forum for such identification. Instead, risks are appropriately included within a Remedial Investigation report and considered in the Feasibility Study in developing a remedy. In fact the rules spell out that the Feasibility Study must include both a demonstration that the Remedial Objectives will be met - that the reasonably foreseeable end uses will be protected,

replaced, or provided for - and a separate evaluation of risks associated with those current and reasonably foreseeable uses. All exposures associated with transportation of water to its point of use, including vapor inhalation, ingestion, and dermal contact, must be evaluated. The same is true of potential exposures associated with other media within the West Van Buren Site. Those exposures are not Remedial Objectives, themselves. And there is no basis for transforming just one exposure associated with one use into a Remedial Objective for the Site. We respectfully request that ADEQ delete Section 4.1 from the Draft Report.

- **ADEQ Response:** AAC R18-16-406.I.4 states, "The Department shall prepare a report of the proposed remedial objectives for the site that shall list the current and reasonably foreseeable uses of land and the current and reasonably foreseeable beneficial uses of waters of the state. These uses shall be identified based upon information provided during the public meeting and any other information received." Therefore, ADEQ has included all of the groundwater uses cited in the Land and Water Use Report, solicitations and comments received during public comment periods, and a revised Land and Water Use Study Questionnaire submitted by RID as current and reasonably foreseeable. Any unresolved dispute regarding current and reasonably foreseeable uses can not be taken in to consideration by ADEQ at this time.

D The Land Use Remedial Objectives are in Improper Form.

Finally, we note that some revision of the land use Remedial Objectives in section 2.0 is necessary to bring them into proper form. The Draft Report currently provides:

> Based upon review of public comments, ADEQ proposes the following ROs for land use in the WVBA area:
> - Protect against possible exposure to hazardous substances in surface and subsurface soils that could occur during development of property based upon applicable zoning regulations.
> - Protect against possible leaching of hazardous substances in surface and subsurface soils to the groundwater.
>
> - Protect against possible land restrictions required by applicable zoning regulations because of hazardous substances in surface and subsurface soils.

We suggest that the proper land use Remedial Objectives are:

- Protect against the loss or impairment of current uses of land as a result of releases of hazardous substances.
- Protect against the loss or impairment of reasonably foreseeable future uses of land (as provided in zoning regulations and planning documents of local land use authorities) as a result of releases of hazardous substances.

- **ADEQ Response:** ADEQ will adjust the third RO for Land Use to read as follows:
  - Protect against the loss or impairment of current and all reasonably foreseeable future uses of land as provided in zoning regulations and the Land and Water Use

- questionnaire as a result of hazardous substances in surface and subsurface soils. Appropriate remedial actions will be implemented as an ERA or after the ROD is finalized which ever is warranted and continued until hazardous substances causing the impairment or restriction to the land use are remediated.

Section 2.0 of the Draft Report seems to set a goal of protecting against exposures during development of property, but ignores other exposures (such as any under current uses). As we have previously stated, we agree that all exposures must be evaluated and addressed in the remedy selection process. Evaluation of all exposure pathways is part of the Remedial Investigation and Feasibility Study process as outlined in the WQARF rules.

- **ADEQ Response:** AAC R18-16-406.I.4 states, "The Department shall prepare a report of the proposed remedial objectives for the site that shall list the current and reasonably foreseeable uses of land and the current and reasonably foreseeable beneficial uses of waters of the state. These uses shall be identified based upon information provided during the public meeting and any other information received." Therefore, ADEQ has included all of the groundwater uses cited in the Land and Water Use Report, solicitations and comments received during public comment periods, and a revised Land and Water Use Study Questionnaire submitted by RID as current and reasonably foreseeable. Any unresolved dispute regarding current and reasonably foreseeable uses can not be taken in to consideration by ADEQ at this time.

In summary, we support the Remedial Objectives as drafted within the report and suggest only three revisions: (1) delete the listed RID future drinking water supply use, (2) delete Section 4.1, "RID Canal Water Use", and (3) revise the proposed land use Remedial Objectives. We appreciate you considering our comments and look forward to your response.