



**Miracle Mile**

**Water Quality Assurance Revolving Fund (WQARF) site**

**Community Involvement Plan**



**Flowing Wells Irrigation District Water Treatment System**

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**Disclaimer:** All telephone numbers, email addresses, and contact names are subject to change after the date of this publication.

# **Introduction**

## ***CIP Purpose***

The Arizona Department of Environmental Quality (ADEQ) is committed to involving communities in the Water Quality Assurance Revolving Fund (WQARF) site investigation and cleanup process.

The Miracle Mile WQARF site community involvement plan (CIP) describes how ADEQ will fulfill this commitment. ADEQ will regularly update this plan based on site-specific developments, public comments and community concerns. ADEQ welcomes community input on this CIP.

## ***WQARF Process***

The goal of the WQARF process is to clean up sites with groundwater and/or soil contamination, to protect human health and the environment. Created under the Environmental Quality Act of 1986, WQARF receives funding from legislative appropriations, cost recovery from responsible parties, and special fees.

The WQARF program identifies contaminated sites in significant need of remediation. WQARF Registry sites are assigned an Eligibility and Evaluation (E&E) score based on several factors, such as the nature and extent of contamination and the number of people who may be exposed to the contaminants. The E&E score does not necessarily mean that the site poses a direct risk to human health and/or the environment.

The WQARF process uses a step-by-step approach to thoroughly investigate contaminated sites. ADEQ uses data from the investigation to develop a site-specific cleanup strategy, also called the site's remedy.

The flowchart in Appendix A depicts each phase in the WQARF process. Refer to the glossary for definitions of each WQARF phase.

## ***ADEQ Spokesperson Contact Information***

The ADEQ designated spokesperson will act as liaison between ADEQ and the community. The spokesperson will provide notice of public meetings, plan Community Advisory Board meetings, and ensure that CIP requirements are followed. Contact information for the designated spokesperson for this WQARF site is below:

### **Community Involvement Coordinator ADEQ**

1110 West Washington Street, 6<sup>th</sup> Floor  
Phoenix, AZ 85007  
602-771-8007 or 800-234-5677  
**Email:** [Boschert.Barbara@azdeq.gov](mailto:Boschert.Barbara@azdeq.gov)  
Fax: 602-771-4272

View Community Involvement Contacts Online:  
<http://www.azdeq.gov/WQARF>

## ***Site Information Repository***

The Miracle Mile WQARF site information repository contains site-related documents, such as technical reports, public notices, and this CIP. ADEQ will continue to add site-related documents to the site information repository as they are completed. The site information repository is available online and in person:

### **Online:**

[azdeq.gov/node/1012](http://azdeq.gov/node/1012)

### **In Person**

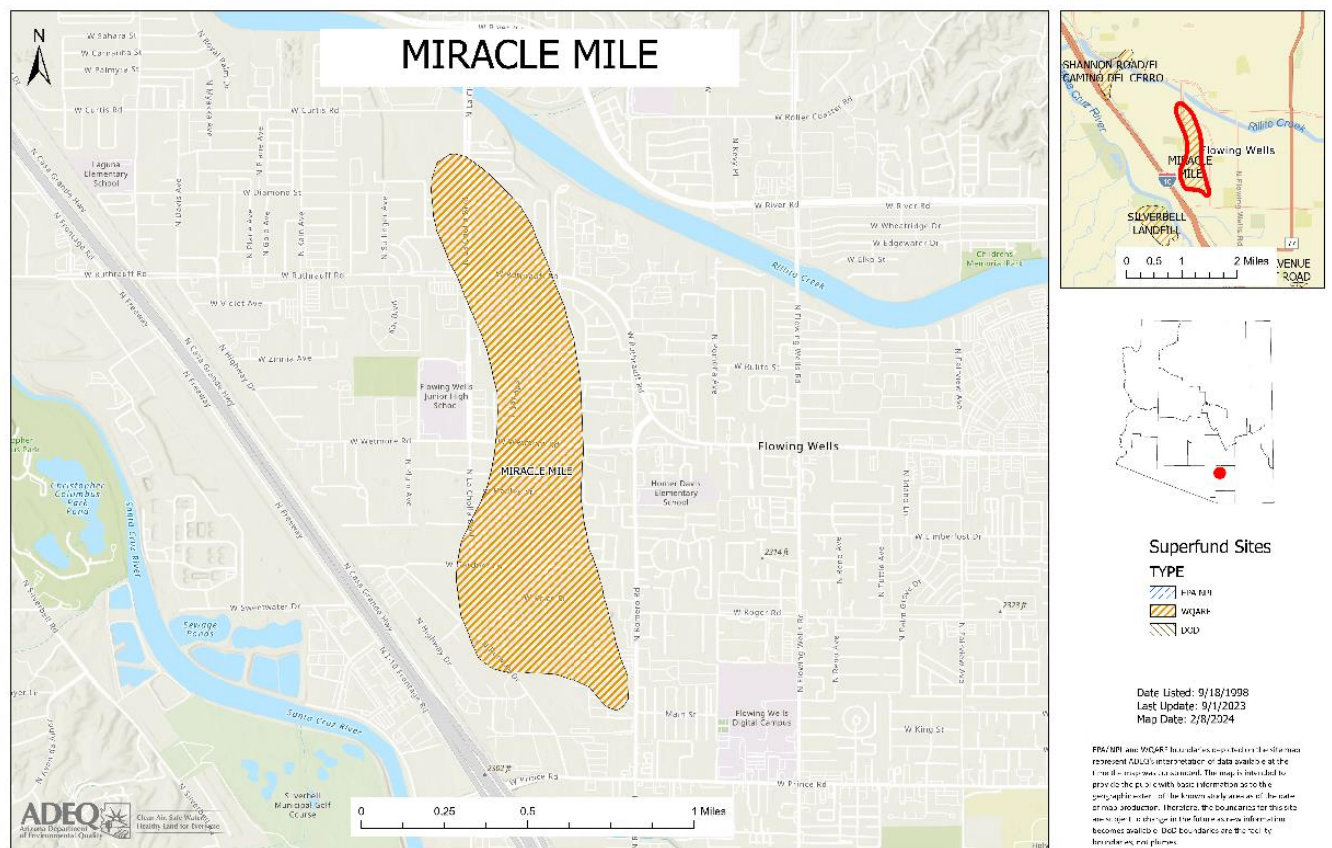
ADEQ Records Center  
1110 West Washington Street  
Phoenix, AZ 85007  
602-771-4380 or 800-234-5677  
(Please call to make an appointment)

To make alternative arrangements to review documents in person at a location nearest you, contact the ADEQ Community Involvement Coordinator.

# Site Overview

The Miracle Mile WQARF Site is located in Tucson, Arizona. The site was placed on the WQARF Registry in September 1998, with an eligibility and evaluation (E&E) score of 62 out of a possible 120. The major factor leading to the score was the presence of volatile organic compounds (VOCs) and chromium in groundwater at levels exceeding Arizona Aquifer Water Quality Standards (AWQS), and hexavalent chromium in soil.

The site investigation area is in Tucson, generally bound by Curtis Road to the north, Prince Road to the south, Pomona Road to the east, and La Cholla Boulevard to the west. The following map shows the plume boundaries based on the most recent groundwater monitoring data



The contaminants of concern at the site are trichloroethene (TCE) and chromium in groundwater, and hexavalent chromium in soil. Other historical contaminants of potential concern were 1,1-dichloroethene (1,1-DCE), *cis*-1,2-dichloroethene (*cis*-1,2-DCE), tetrachloroethene (PCE) and nitrates. These historical contaminants have not consistently been detected above Arizona AWQS.

In June 2013, the Final Miracle Mile RI Report was issued and the Feasibility Study (FS) was initiated. ADEQ began addressing RI data gaps. A local water provider was operating an ADEQ-funded wellhead treatment system as an early response action (ERA) to remove TCE from early 2007 to mid-2018. This system has been placed on bypass as concentrations of TCE have fallen below regulatory levels.

By 2018, all RI data gaps were addressed; additional boreholes and wells were installed to aid in delineating the lateral extent of the TCE groundwater plume; a soil vapor extraction (SVE) pilot test was conducted; the shallow soil-gas plume was defined; and indoor air samples were collected where soil-gas results indicated. In 2019, ADEQ installed a wellhead treatment system on a small water provider's drinking water well and the FS report was finalized. An additional wellhead treatment system was installed on another small water system at the north end of the plume in spring of 2020. The Proposed Remedial Action Plan (PRAP) was issued for a 60-day public comment period on June 2, 2020. In 2023, an additional, larger-scale SVE pilot test was conducted.

A full history of site activities is located in Appendix B.



**Flowing Wells Irrigation District Water Tank**

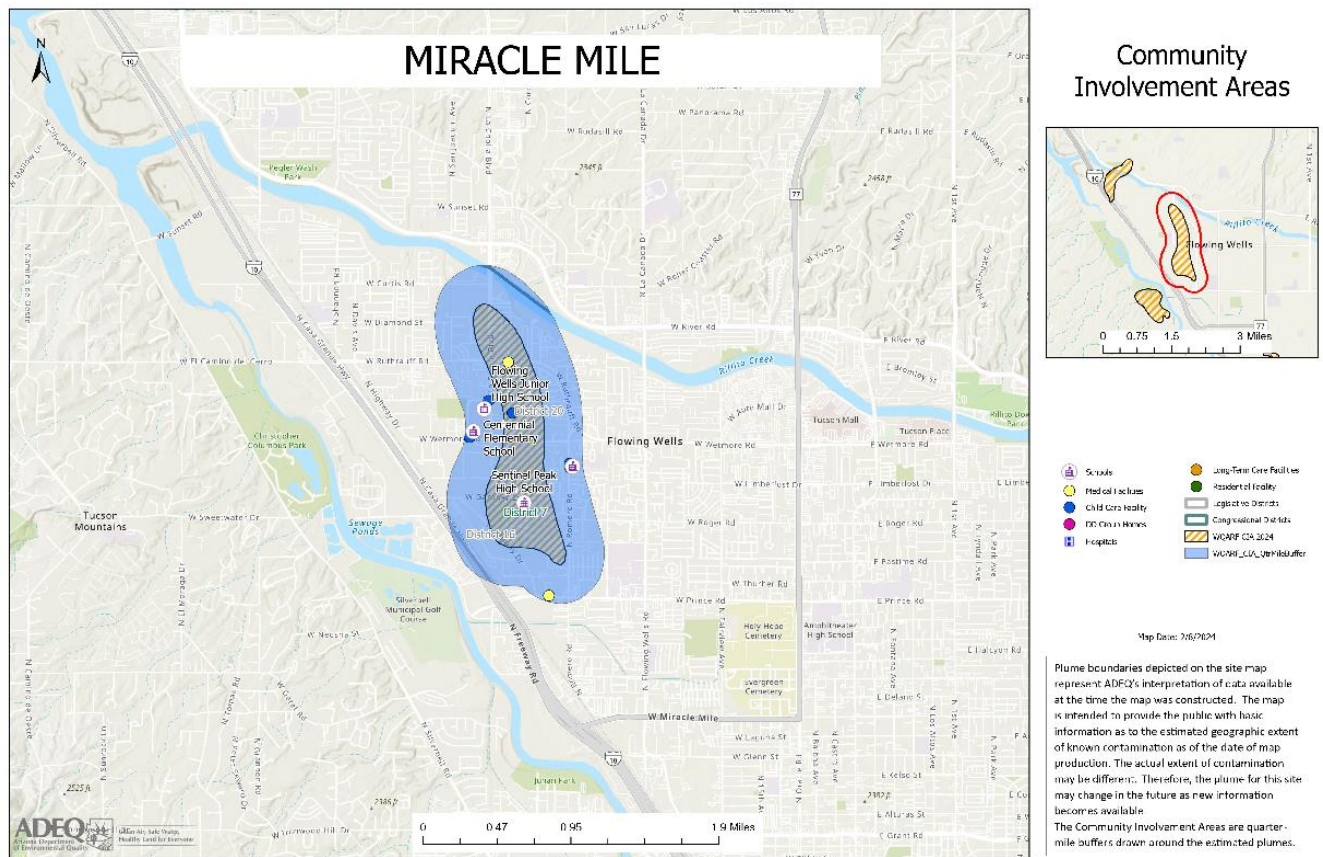


# Community Profile

## **Community Involvement Area (CIA)**

The Miracle Mile WQARF site Community Involvement Area (CIA) designates a geographic area in which ADEQ will send mass mailings and focus its outreach efforts. CIA boundaries are determined based on site-specific characteristics such as the affected media (i.e., soil, surface water, or groundwater), groundwater flow direction, exposure routes, and proximity to residential areas and public facilities. The CIA may change as ADEQ collects more information.

The map below illustrates the CIA for the Miracle Mile WQARF site.



## ***Community Demographics***

Community demographics help ADEQ plan and implement community involvement activities. The following page displays key demographic information for the Miracle Mile WQARF site CIA.

The Tucson, AZ population is approximately 542,629 people (as reported by census.gov for 2020). The CIA boundary for the Miracle Mile WQARF site is mainly located within zip code 85705, with a very small northern portion in zip code 85704, and is estimated to contain approximately 6,010 people in 2,526 households. The Miracle Mile WQARF site is located within the boundaries of Tucson and unincorporated Pima County and consists of a mixture of commercial businesses and residential neighborhoods.

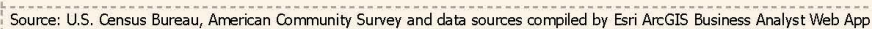
Residents identifying themselves as Hispanic or Latino, and speak Spanish, within the Miracle Mile WQARF site CIA comprise approximately 40% of the population, which is greater than the 30.7% average Hispanic and Latino population for the State of Arizona. ADEQ will provide interpretation and translation services as requested.

ADEQ looks at the community as a whole, with an emphasis on the proportion of residents under age five or above age 65. These populations are considered more vulnerable to the potential health effects associated with exposure to environmental contamination.

For further demographic information regarding the CIA, please refer to the listing of neighborhood associations, community schools, and vulnerable population centers in Appendix C, and local and state elected officials in Appendix D.



Community Involvement Areas are drawn 1/8th to 1/4th of a mile around a WQARF plume boundary depending on the direction that groundwater is moving.



# **Community Issues and Concerns**

To better understand the community and its concerns, ADEQ conducted interviews with community members who live or work near the Miracle Mile WQARF site. ADEQ will use this community feedback to ensure that future outreach addresses community concerns and to determine effective communication methods. The following section summarizes common concerns related to the site and ADEQ outreach activities.

## ***Summary of Community Issues***

### **Community Concerns**

Interviewees had the following questions/concerns about the site:

#### *Site history:*

- Most interviewees were very familiar with the history of the site.

#### *Environmental and community impacts:*

- How will we keep contamination out of the groundwater?
- Will there be impacts to downgradient wells?
- What is the location of the final SVE system, and pump and treat discharge location?
- 1,4-Dioxane and PFAS may be present near the site. Are those contaminants being monitored?

### **Outreach Recommendations**

Interviewees provided the following feedback and suggestions on current and future outreach pertaining to the Miracle Mile WQARF site:

#### *Sharing site information:*

- Most respondents obtain information about the site from emails and the ADEQ website. US Mail and community meetings were slightly less preferable as ways of learning about the site.

## **Community Involvement Action Plan**

The Miracle Mile WQARF site Community Involvement Action Summary table describes the required community involvement activities for each WQARF phase and notes the date of completed activities. This summary is followed by a description of ADEQ communication techniques to share site information and implement required activities.

### ***Community Involvement Action Summary - Required Activities***

The following table describes the required community involvement actions for the Miracle Mile WQARF site and notes which actions have been completed to date.

Community Involvement Action Summary				
WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete
Preliminary Investigation	Provide owners and operators a copy of the Draft WQARF Site Registry Report for a 15-day comment period prior to publishing a notice in a newspaper announcing the availability of the Draft WQARF Site Registry Report for a 30-day public comment period.	A.R.S. § 49-287.01(C) A.R.S. § 49-289.03(A)(1)	Mailing to owners and operators, March 1998  Public notice, <i>Arizona Daily Star</i> , March 1998	✓
WQARF Registry Listing	<p>Following the listing of a site on the WQARF Registry, ADEQ will:</p> <ul style="list-style-type: none"> <li>Establish a preliminary community involvement area (see Chapter 2, Section A) within 90 days of site listing on the WQARF Registry.</li> <li>Provide written notice to the community on hazardous substance contamination in the area, the actual and potential risks and routes of exposure, possible health effects, and the opportunity to join the site mailing list.</li> <li>Identify ADEQ personnel to contact for further information.</li> </ul>	A.R.S. § 49-289.02	Notice to community and development of a Community Involvement Area, December 1998	✓
	Develop a Community Involvement Plan that establishes a Community Advisory Board, designates a spokesperson, provides for newsletters with current information about the status of remedial actions at the site, establishes a public document repository location, and provides for schedules of Community Advisory Board meetings and public meetings. Update the Community Involvement Plan at least every 2 years.	A.R.S. § 49-287.03(D) A.R.S. § 49-289.03(B) A.R.S. § 49-289.03(C) A.A.C. R18-16-404(C)(1)(i) A.A.C. R18-16-404(C)(1)(j) A.A.C. R18-16-404(C)(1)(k) A.A.C. R18-16-404(C)(1)(o)	Original Community Involvement Plan, March 1999  Updated Community Involvement Plan: 2014, 2016, 2019, 2020, 2022, 2024	✓

Community Involvement Action Summary				
WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete
<b>Early Response Action</b>	<p>A work plan shall be prepared for each Early Response Action that will include a description of work to be done, known site conditions, a plan for conducting the work; a description of community involvement activities for the Early Response Action under R18- 16-404; and a schedule.</p> <p>Community involvement activities may include development of a community involvement plan under A.A.C. R18-16-404(C) or community involvement activities appropriate to the scope and schedule of the work performed such as a general public notice to those who may be impacted by field work as indicated in A.A.C. R18-16-404(D)(2).</p> <p>If immediate action is necessary to address a current risk to public health or the environment, to protect a source of water, or to provide a supply of water, the work plan and written rationale may be prepared and the community involvement activities may be conducted after commencement of the Early Response Action.</p>	<p>A.A.C. R18-16-404  A.A.C. R18-16-405(D)(2)  A.A.C. R-18-16-405(E)  A.A.C. R18-16-405(G)</p>	<p>An ERA for wellhead treatment was implemented for FWID from 2007 to 2018</p> <p>An ERA for wellhead treatment at a small water provider was implemented in 2019</p>	
<b>Remedial Investigation</b>	<p>Provide notice to interested parties announcing the availability of the Remedial Investigation Scope of Work or Work Plan, Fact Sheet, and Community Involvement Plan outline for review and a 30-day public comment period. Provide notice indicating that any person by written agreement with ADEQ may develop and implement a work plan for the Remedial Investigation and Feasibility Study and solicit information regarding the current and future land and water uses at the site. These notices shall also provide an opportunity to request a public meeting.</p>	<p>A.R.S. § 49-287.03(B)  A.R.S. § 49-287.03(C)  A.A.C. R18-16-301(C)  A.A.C. R18-16-403(F)  A.A.C. R18-16-403(G)  A.A.C. R18-16-404(C)(1)(a)  A.A.C. R18-16-406(B)  A.A.C. R18-16-406(D)</p>	<p>Combined notice, February 2000</p>	✓

*Note: A potentially responsible party search is conducted concurrently with the Remedial Investigation and Feasibility Study, but does not have mandated community involvement activities.*

Community Involvement Action Summary				
WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete
Remedial Investigation (continued)	<p>Establish a selection committee to choose Community Advisory Board members for the site. The selection committee shall consist of the following number of people from each organization:</p> <ul style="list-style-type: none"> <li>• ADEQ: 1</li> <li>• Potentially Responsible Party: 1</li> <li>• Local Official: 1</li> <li>• Community Member: 2</li> </ul>	A.R.S. § 49-289.03(D)	Selection committee, August 24, 1999	
	<p>Establish a Community Advisory Board of between 5 to 20 members that represent a diversified cross section of the community. Within 90 days of appointment by the Community Advisory Board selection committee, the Community Advisory Board shall elect co-chairpersons and develop a charter defining operating procedures, membership terms and obligations, goals for developing issues, concerns and opportunities related to quick cleanup of the site, and any other anticipated activities for identifying and improving the public's access and understanding of information regarding the remediation process at the site.</p>	<p>A.R.S. § 49-289.03(C)  A.R.S. § 49-289.03 (E)  A.R.S. § 49-289.03(F)</p>	Community Advisory Board established November 10, 1999	
	<p>Publish a combined public notice announcing the availability of the Draft Remedial Investigation Report for review and a minimum 30-day public comment period and the date of a public meeting to solicit Remedial Objectives for the site. The public meeting shall be held not less than 45 calendar days and not more than 90 calendar days after release of the Draft Remedial Investigation report, unless ADEQ sets a different date for good cause.</p> <p>The Draft Remedial Investigation Report should be provided to the Community Advisory Board, interested local government agencies, affected water providers and the Department of Water Resources.</p>	<p>A.A.C. R18-16-301(C)  A.A.C. R18-16-404(C)(1)(b)  A.A.C. R18-16-406(F)  A.A.C. R18-16-406(I)(1)  A.A.C. R18-16-406(I)(2)</p>	<p>Draft Remedial Investigation Report public notice/comment, March 30, 2007</p> <p>Remedial Objectives public meeting, May 16, 2007</p>	✓



Community Involvement Action Summary				
WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete
<b>Remedial Investigation (continued)</b>	<p>Publish a public notice announcing the availability of the Proposed Remedial Objectives Report for a 30-day public comment period.</p> <p>Publish a public notice of the availability of the Final Remedial Investigation Report, which shall contain the results of site characterization and the final Remedial Objectives Report. The final Remedial Investigation report shall be accompanied by responsiveness summaries regarding comments, issues and concerns raised in the community involvement process and, if the report is prepared by a person other than ADEQ, copies of the comments received.</p>	<p>A.A.C. R18-16-301(C)  A.A.C. R18-16-404(C)(1)(c)  A.A.C. R18-16-406(I)(5)  A.A.C. R18-16-406(J)</p>	<p>Proposed Remedial Objectives Report public notice/comment, October 28, 2008</p> <p>Final Remedial Investigation Report, June 13, 2013</p>	✓
<b>Feasibility Study</b>	<p>Provide notice to interested parties announcing the availability of the Feasibility Study Work Plan.</p> <p>Although not mandated, ADEQ will also provide public notice upon completion of the Feasibility Study.</p>	<p>A.A.C. R18-16-404(C)(1)(d)  A.A.C. R18-16-407(B)</p>	<p>Feasibility Study Work Plan public notice, September 29, 2014</p> <p>Final Feasibility Study Report and public notice, October 22, 2019</p>	✓
<b>Proposed Remedial Action Plan</b>	<p>Publish a public notice announcing the availability of the Proposed Remedial Action Plan for a 90-day public comment period. (If not combined, separate public notices will be provided for the Draft Remedial Investigation/comment period and the Remedial Objectives solicitation and public meeting.) Mail the same notice(s) to interested parties. The notice(s) will describe the proposed remedy and its estimated cost, and identify where the Proposed Remedial Action Plan, Remedial Investigation, and Feasibility Study Reports may be inspected.</p>	<p>A.R.S. § 49-287.04(B)  A.R.S. § 49-289.03(A)(2)  A.A.C. R18-16-301(C)  A.A.C. R18-16-404(C)(1)(e)  A.A.C. R18-16-408(A)</p>	<p>Proposed Remedial Action Plan and public notice, June, 2020</p>	✓
<b>Record of Decision</b>	<p>Publish a public notice announcing the availability of the Record of Decision and Responsiveness Summary for review.</p>	<p>A.R.S. § 49-287.04(G)  A.A.C. R18-16-404(C)(1)(f)  A.A.C. R18-16-410</p>		

Community Involvement Action Summary				
WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete
Implementation of Remedy (Remedial Actions)	Publish a public notice announcing a request for ADEQ to approve remedial actions at the site. The notice will provide the opportunity for a 30-day public comment period.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(h) A.A.C. R18-16-413		
	Provide notice to the public and interested parties of a request for ADEQ to waive a regulatory requirement (permit) to complete remedial actions.	A.R.S. § 49-290 A.A.C. R18-16-404(C)(1)(l)		
	Provide notice to the public that fieldwork conducted to remove contaminants of concern may result in noise, light, odor, dust, or other adverse impacts.	A.A.C. R18-16-404(C)(1)(m)	Provided as needed	✓
	Provide notice to the public of a request for ADEQ to determine whether each of the Remedial Objectives for a site have been satisfied and will continue to be satisfied. The notice will provide the opportunity for a 30-day public comment period on the request.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(n) A.A.C. R18-16-4-16(B)		
Operation & Maintenance	Publish a public notice announcing the availability of the Operation & Maintenance Plan for review and a 30-day public comment period. Mail the same notice to interested parties.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(g) A.A.C. R18-16-411(E)	O&M Plan for ERA July 2019	
Removal from WQARF Registry	Although not mandated by Arizona Statute or administrative code, ADEQ may publish a public notice upon the removal of the site from the WQARF Registry.	Not Applicable		
Any Phase	Publish a public notice announcing a request to ADEQ for a prospective purchaser agreement with a 30-day public comment period.	A.R.S. § 49-289.03(A)(3) A.A.C. R18-16-301(C)	Dos Rillitos LLC Public Notice Date: 05/12/21 Effective Date: 07/22/21	✓
	Publish a public notice announcing the intention of ADEQ to enter into a settlement agreement with a responsible party, and will have a 30-day public comment period.	A.R.S. § 49-289.03(A)(4) A.A.C. R18-16-301(C)		

## ***Community Involvement Techniques***

This section describes the specific activities and resources that ADEQ uses to communicate and engage with stakeholders and community members near the Miracle Mile WQARF site.

ADEQ uses the following community involvement techniques:

1. Community Advisory Board (CAB): The CAB has been conducting public meetings about the site with ADEQ's assistance since 2008. CAB members advise ADEQ on appropriate means of delivering site information and provide input regarding content. CAB members also serve as an information resource for their community. CAB meetings are held at a location and date mutually agreed upon by the CAB members and an ADEQ representative. Care is taken to ensure that the location is easily accessible by the public. For a list of current CAB members, see Appendix E.
1. Local Print Media: ADEQ will publish all WQARF milestone public notices in *The Daily Territorial* ([dailyterritorial.com](http://dailyterritorial.com)). The Arizona Newspaper Association maintains a database of all public notices published in major Arizona newspapers ([arizonapublicnotices.com/](http://arizonapublicnotices.com/)). For a list of other media outlets, see Appendix F.
2. U.S. Mail and Email Lists: ADEQ created U.S. Mail and email address lists to share updates on the Miracle Mile WQARF site. Anyone can join the site mailing list by contacting the ADEQ Community Involvement Coordinator or registering on GovDelivery ([arizonapublicnotices.com](http://arizonapublicnotices.com)).
3. ADEQ Website – ADEQ's website provides visitors with three areas of information related to the site and is updated on an ongoing basis:
  - Notices Page: contains WQARF site public notices and announces comment periods ([azdeq.gov/notices](http://azdeq.gov/notices)).
  - Events Page: includes information on WQARF site public meetings, including CAB meetings ([www.azdeq.gov/events](http://www.azdeq.gov/events)).
  - Site Information Page: provides detailed site information and links to the site information repository. ([azdeq.gov/miracle-mile](http://azdeq.gov/miracle-mile)).
4. ADEQ Notice Board: Notices are displayed on boards located in ADEQ's Phoenix and Tucson offices.
5. Public Meetings: In addition to CAB meetings, ADEQ may schedule public meetings or open houses as needed or requested. Examples include meetings with neighborhood/homeowner's associations, schools, or other community groups.
6. Site Tours: The public may request site tours through the ADEQ Community Involvement Coordinator. Tours will be arranged in conjunction with the property owners and in compliance with current regulations.

ADEQ takes reasonable measures to provide access to community involvement activities to individuals with limited English proficiency and/or to those with disabilities. The community can request language interpretation, ASL interpretation, CART captioning services or disability accommodations through the ADEQ Title VI Nondiscrimination Coordinator (602-771-2228 or [drago.leonard@azdeq.gov](mailto:drago.leonard@azdeq.gov)).

The following table of Communication Techniques illustrates how these techniques have and will be used throughout the WQARF process for the Miracle Mile WQARF site.

Communication Techniques							
Communications Deliverable			Communications Recipients/Methods				
Type	Why	When	CAB Members	Interested Parties List	ADEQ Website	Local Print Media	ADEQ Notice Board
Notice	Provide notice of availability of milestone documents, request comments, and solicit input.	Per mandate (See Community Involvement Action Summary table).	✓	✓	(site and calendar pages)	(The Daily Territorial)	✓
CAB or Public Meeting Notice/Agenda	Provide two-way communication about the status of site activities. The notice announces the meeting and provides the agenda.	Variable schedule based on level of site activity as scheduled by CAB and ADEQ, with the exception of the required public meeting for the solicitation of remedial objectives (see Community Involvement Action Summary table).	✓	✓	(site, calendar, and CAB history pages)	Not Applicable	✓
Technical Presentation	Provide current information about site activity or related topics.	At CAB meetings or at specially requested public meetings.	✓	Not Applicable	(information repository or site page)	Not Applicable	Not Applicable
Technical Milestone Document	Provide current technical information about site investigation/remediation activities (e.g., Remedial Investigation, Feasibility Study, etc.)	According to the WQARF Process as documents are developed and become available.	✓	Not Applicable	(online information repository)	Not Applicable	Not Applicable
Site Fact Sheet/Newsletter	Provide current information about the site activity.	Published at the start of the Remedial Investigation and at specific milestones or other times as deemed appropriate by ADEQ and the CAB.	✓	✓	(online information repository)	Not Applicable	Not Applicable

## Communication Techniques

Communications Deliverable			Communications Recipients/Methods				
Type	Why	When	CAB Members	Interested Parties List	ADEQ Website	Local Print Media	ADEQ Notice Board
<b>Public Meeting to solicit Remedial Objectives</b>	Provide a forum to solicit Remedial Objectives. (Note that this meeting may be conducted in conjunction with a CAB meeting.)	After the release of the Draft Remedial Investigation Report.	✓	✓	<i>(site and calendar pages)</i>	<i>(The Daily Territorial)</i>	✓
<b>Public notice announcing a request to ADEQ for a prospective purchaser agreement</b>	Provide notice of availability and request comments.	Per mandate (see Community Involvement Action Summary table).	✓	✓	<i>(online information repository)</i>	Newspaper of general circulation in Pima County	Not Applicable
<b>Public notice announcing the intention of ADEQ to enter into a settlement agreement with a responsible party.</b>	Provide notice of availability and request comments.	Per mandate (see Community Involvement Action Summary table).	✓	✓	<i>(online information repository)</i>	Newspaper of general circulation in Pima County	Not Applicable
<b>Site Tour</b>	Provide walking or driving tours of the site to observe current site conditions and the surrounding community and environment.	If requested, and with cooperation of current property owners.	Contact ADEQ Community Involvement Coordinator.				



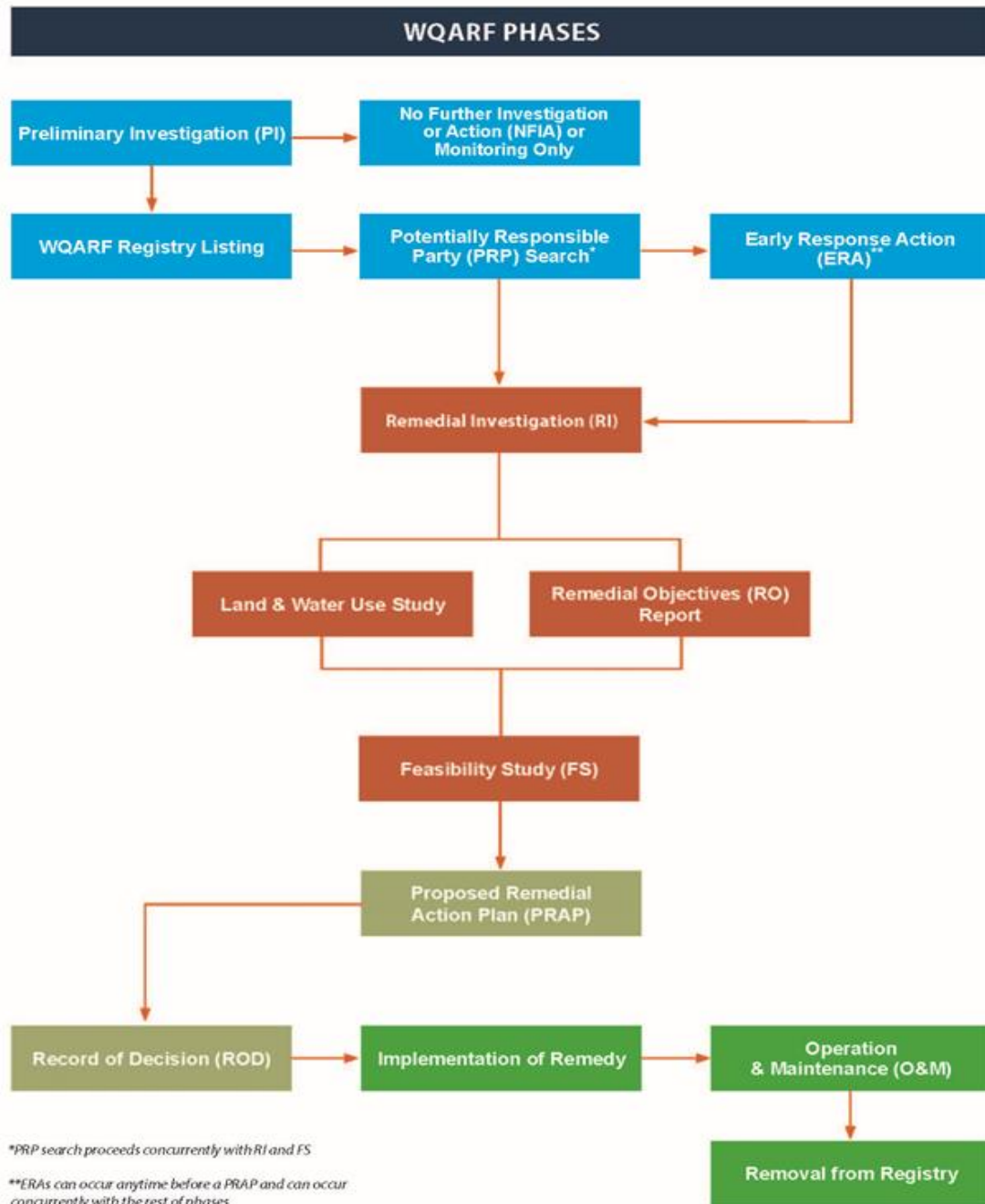
# **APPENDICES**

The following appendices provide additional resources to support community involvement for the Miracle Mile WQARF site:

- Appendix A: WQARF Process Flowchart
- Appendix B: History of major activities by year at the Miracle Mile WQARF site
- Appendix C: Targeted communities in the Miracle Mile WQARF site CIA
- Appendix D: Elected officials representing communities within the CIA
- Appendix E: Miracle Mile WQARF site CAB members
- Appendix F: Local media outlets in the area
- Appendix G: Related state and local agencies
- Appendix H: Current and existing prospective purchaser agreements for property in and around the Miracle Mile WQARF site
- Appendix I: Current and existing consent decree settlements related to the Miracle Mile WQARF site

# Appendix A

## WQARF Process Chart



## ***Appendix B***

### **Site History**

- 1983 In the fall, the drinking water supply well at the Tra-Tel RV Park, located southwest of the current Miracle Mile WQARF site, was found to be contaminated with tetrachloroethene (PCE). ADEQ began investigating the site by researching facilities in the area that may have been the source of contamination. ADEQ also distributed questionnaires concerning the use of hazardous substances to knowledgeable parties.
- 1986 In June, trichloroethene (TCE) contamination was found in an industrial well located northeast of the Tra-Tel RV Park.
- 1988 Soil and groundwater sampling was conducted. ADEQ also performed facility inspections and reissued questionnaires to knowledgeable parties. Research was completed to determine historical land use activities and property ownership.
- 1990-2004 ADEQ installed 32 groundwater monitor wells to investigate groundwater conditions and contamination in the perched and regional aquifers as part of the Remedial Investigation at the site.
- 1998 In September, the Miracle Mile site was placed on the WQARF Registry with an eligibility and evaluation score of 62 out of a possible 120.
- The Flowing Wells Irrigation District (FWID) requested that ADEQ conduct an Interim Remedial Action (IRA) to address the loss of available water from one of its wells due to contamination.
- 2001 In February, FWID and ADEQ signed an agreement under which FWID would implement the IRA requested in 1998 and ADEQ would reimburse the capital costs.
- 2001-2004 Passive soil gas surveys and soil borings were completed to obtain soil gas and soil samples, respectively, to investigate potential soil contamination.
- 2002 ADEQ abandoned an inactive industrial production well to prevent potential cross-contamination between the contaminated perched aquifer and the underlying regional aquifer.



**Monitor Well Installation**

2002-2004	Spring Joint Specialists performed a Phase I site assessment, conducted subsurface soil testing, and removed underground storage tanks and some hexavalent chromium-contaminated soil at its property located within the Miracle Mile WQARF site. The company also installed three perched groundwater monitor wells. Total Chromium was detected in groundwater above AWQS, comingled with the TCE plume.
2007	<p>FWID began operation of a VOC treatment system as an ERA using granular activated carbon (GAC) to treat water supplied by two of its wells prior to distribution to customers. From start-up through 2013, the system treated approximately 1.5 billion gallons of water and removed approximately 7.5 pounds of TCE.</p> <p>The Draft Remedial Investigation (RI) Report summarizing site characterization activities was completed and released for public comment. A public meeting soliciting input on proposed Remedial Objectives (RO) was held.</p>
2008	The GAC in the FWID arsenic and VOC treatment system was changed out in October. The Proposed RO Report was issued for 30 days of public comment.
2009	ADEQ continued work to finalize the RI and RO reports and their associated responsiveness summaries.
2010	In October, the FWID GAC water treatment system was shut down because TCE levels had been below the drinking water standard for an extended period of time. However, subsequent sampling data from one well showed slightly higher TCE concentrations, so the system brought back on line. Sitewide groundwater monitoring was conducted in October and November.
2011	<p>Additional wells were installed to further evaluate the downgradient area of the plume.</p> <p>In the fall of 2011, ADEQ began updating and revising the RI report to include recent site data and information.</p>
2012	In March, ADEQ issued the Final RI Report.
2013-2015	<p>RI data gaps were evaluated and filled, including delineation of the downgradient lateral and vertical extent of the TCE plume, soil gas sampling, and indoor air sampling.</p> <p>An evaluation of nitrate detected in groundwater determined nitrate is not a COC.</p>
2016	GAC was changed out and the GAC vessels were serviced at the FWID VOC treatment system. A Soil Vapor Extraction (SVE) pilot test was conducted for the FS.

- 2019 A new treatment system was installed on a nearby small water provider drinking water well. The FWID VOC treatment system was placed on by-pass due to TCE concentration being below standard.
- ADEQ finalized the FS report in October.
- 2020-22 The Proposed Remedial Action Plan was released in June, 2020. The Record of Decision is in development at the time of publication of this CIP.
- 2020 A wellhead treatment system was installed on another nearby small water provider drinking water well.
- 2023 An additional, larger-scale soil vapor extraction pilot test was conducted at the south end of the TCE plume.

## ***Appendix C***

### **Targeted Communities**

#### **Neighborhood Associations**

The following is the only neighborhood associations within the Miracle Mile WQARF site Community Involvement Area (CIA).

##### **FLOWING WELLS NEIGHBORHOOD ASSOCIATION**

520-661-4603

Kevin Daily; [kevincdaily@yahoo.com](mailto:kevincdaily@yahoo.com)

#### **Schools**

The Miracle Mile WQARF site CIA includes the Flowing Wells Unified School District. The following presents the community schools in the Miracle Mile WQARF site CIA (Flowing Wells High School lies just outside the southeast boundary of the CIA):

##### **CENTENNIAL ELEMENTARY SCHOOL**

2200 West Wetmore Road, Tucson, AZ 85705

520-696-8200

##### **FLOWING WELLS JUNIOR HIGH SCHOOL**

4545 North La Cholla Boulevard, Tucson, AZ 85705

520-696-8550

##### **HOMER DAVIS ELEMENTARY SCHOOL**

4250 North Romero Road, Tucson, AZ 85705

520-696-8250

##### **FLOWING WELLS HIGH SCHOOL**

3725 North Flowing Wells Rd, Tucson, AZ 85705

520-696-8002

#### **Vulnerable Population Centers**

ADEQ considers day cares, senior living homes, and some medical facilities as vulnerable population centers due to the age of clients served. Children under age five and adults above age 65 are considered more vulnerable to the potential health effects associated with exposure to environmental contamination.

##### **COZY CASA DAY CARE AND PRESCHOOL**

4535 North Jay Avenue, Tucson, AZ 85705

520-293-7663

##### **EMILY MESCHTER EARLY LEARNING CENTER**

4605 North La Cholla Boulevard, Tucson, AZ 85705

520-696-8909



**HOMER DAVIS HEAD START**

4258 North Romero Road, Tucson, AZ 85705

520-696-0303

**YOUTH ENRICHMENT SERVICES – CENTENNIAL**

2200 West Wetmore Road, Tucson, AZ 85705

520-887-2600

**YOUTH ENRICHMENT SERVICES – HOMER DAVIS**

4250 North Romero Road, Tucson, AZ 85705

520-696-8250

## ***Appendix D***

### **Elected Officials**

As of the publication of this Community Involvement Plan (CIP), the Community Involvement Area (CIA) for the Miracle Mile WQARF site falls under Tucson Ward 3; Pima County Supervisorial District 3; and Arizona Legislature District 20.

<b>TUCSON CITY Officials</b>	<b>City Hall</b> <b>255 West Alameda</b> <b>10<sup>th</sup> Floor</b> <b>Tucson, AZ 85701</b> <b>520-791-4213</b>	
<b>Mayor</b> <b>City of Tucson</b>  <b>Regina Romero</b> <b>520-791-4201</b> <a href="mailto:Mayor.Romero@tucsonaz.gov">Mayor.Romero@tucsonaz.gov</a>	<b>City Manager</b> <b>City of Tucson</b>  <b>Michael Ortega</b> <b>520-791-4204</b> <a href="mailto:citymanager@tucsonaz.gov">citymanager@tucsonaz.gov</a>	<b>Tucson City Council Member</b> <b>Ward 3</b>  <b>Kevin Dahl</b> <b>520-791-4711</b> <a href="mailto:ward3@tucsonaz.gov">ward3@tucsonaz.gov</a>
<b>PIMA COUNTY Supervisors</b>	<b>Pima County</b> <b>130 West Congress St. 11<sup>th</sup> Floor</b> <b>Tucson, AZ 85701</b> <b>520-724-9999</b>	
<b>County Supervisor</b> <b>District 3</b>  <b>Dr. Sylvia M. Lee</b> <b>520-724-8051</b> <a href="mailto:district3@pima.gov">district3@pima.gov</a>		
<b>ARIZONA LEGISLATURE</b>	<b>Arizona House of Representatives</b> <b>Arizona State Senate</b> <b>Capitol Complex</b> <b>1700 W. Washington St.</b> <b>Phoenix, AZ 85007</b> <b>602-926-4221</b>	
<b>Representative</b> <b>District 20</b>  <b>Alma Hernandez</b> <b>Room #338</b> <b>602-926-3136</b> <a href="mailto:ahernandez@azleg.gov">ahernandez@azleg.gov</a>	<b>Representative</b> <b>District 20</b>  <b>Betty J Villegas</b> <b>Room #326</b> <b>602-926-3027</b> <a href="mailto:cmathis@azleg.gov">cmathis@azleg.gov</a>	<b>Senator</b> <b>District 20</b>  <b>Sally Ann Gonzales</b> <b>Room #314</b> <b>602-926-3278</b> <a href="mailto:sgonzales@azleg.gov">sgonzales@azleg.gov</a>

## ***Appendix E***

### **Community Advisory Board**

The following table presents a list of the Miracle Mile WQARF Registry site Community Advisory Board (CAB) members as of June 2024.

<b>Miracle Mile WQARF Site CAB Co-Chairs</b>		
<b>Fred Bass</b> 520-293-6841 <a href="mailto:BASSCAMP1960@GMAIL.COM">BASSCAMP1960@GMAIL.COM</a>	<b>Vacant</b>	
<b>CAB Members</b>		
<b>Gary Abrams</b> 520-887-1727 <a href="mailto:gary.abrams@abrams.com">gary.abrams@abrams.com</a>	<b>David Crockett</b> 520-887-4192 <a href="mailto:dcrockett@fwid.org">dcrockett@fwid.org</a>	<b>Wally Wilson</b> 520-241-3599 <a href="mailto:wwilson@metrowater.com">wwilson@metrowater.com</a>
<b>Henry Madrid</b> 520-907-2767 <a href="mailto:hmmadrid@aol.com">hmmadrid@aol.com</a>		

## ***Appendix F***

### **Media Outlets**

The community may use any media outlets to share information on the Miracle Mile WQARF site. ADEQ will publish all site-related public notices in *The Daily Territorial*. All future public notices for the Miracle Mile WQARF site can be found by searching [www.publicnoticeads.com/az/](http://www.publicnoticeads.com/az/).

#### **Newspapers and Magazines**

For a current list of Tucson area newspapers and magazines, visit [abyznewslinks.com/uniteaz.htm](http://abyznewslinks.com/uniteaz.htm).

<b>ARIZONA DAILY STAR</b> <a href="http://tucson.com">tucson.com</a>	520-573-4142
<b>ARIZONA DAILY WILDCAT</b> 888 North Euclid Ave, Room 301, Tucson, AZ 85721 <a href="http://wildcat.arizona.edu">wildcat.arizona.edu</a>	520-621-3552
<b>BIZ TUCSON</b> 4729 East Sunrise Drive, Suite 505, Tucson, AZ 85718 <a href="http://biztucson.com">biztucson.com</a>	520-299-1005
<b>THE DAILY TERRITORIAL</b> 2900 E Broadway Blvd, Tucson, AZ 85716 <a href="http://dailyterritorial.com">dailyterritorial.com</a>	520-294-1200
<b>DESERT TIMES</b> 7225 North Mona Lisa Road, Suite 125, Tucson AZ 85741 <a href="http://tucsonlocalmedia.com/deserttimes">tucsonlocalmedia.com/deserttimes</a>	520-797-4384
<b>THE EXPLORER NEWSPAPER and INSIDE TUCSON BUSINESS</b> 7225 North Mona Lisa Road, Suite 125, Tucson AZ 85741 <a href="http://tucsonlocalmedia.com">tucsonlocalmedia.com</a>	520-797-4384
<b>TUCSON CITIZEN<sup>2</sup></b>	No phone number
<b>TUCSON WEEKLY</b> 7225 North Mona Lisa Road, Suite 125, Tucson AZ 85741 <a href="http://tucsonweekly.com">tucsonweekly.com</a>	520-797-4384

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<sup>2</sup> The *Tucson Citizen* ended its print edition in 2009, then became an online compendium for blogs until February 2014. The *Tucson Citizen* website ([www.tucsoncitizen.com](http://www.tucsoncitizen.com)) remains an archive as a community resource.

## **Radio**

The following stations focus on local and national news. For a current list of all Tucson area radio stations, visit [radio-locator.com](http://radio-locator.com).

### **ARIZONA PUBLIC MEDIA**

(KUAT, KUAZ [National Public Radio])  
P.O. Box 210067, Tucson, AZ 85721

520-621-5828

[www.azpm.org](http://www.azpm.org)

### **iHEART MEDIA**

(KMIY, KRQQ, KOHT, KNST, KTZR, KXEW)  
3202 N. Oracle Road, Tucson, AZ 85705

[iheartmedia.com/stations?market=TUCSON-AZ](http://iheartmedia.com/stations?market=TUCSON-AZ)

### **CUMULUS MEDIA**

(KCUB, KHYT, KIIM, KSZR, KTUC)  
575 West Roger Road, Tucson, AZ 85705

520-887-1000

[cumulusmedia.com](http://cumulusmedia.com)

### **FOUNDATIONS FOR CREATIVE BROADCASTING**

(KXCI)  
220 South 4<sup>th</sup> Avenue, Tucson, AZ 85701

520-623-1000

[kxc.org](http://kxc.org)

### **GOOD NEWS RADIO BROADCASTING**

(KCEE, KVOI, KGMS, KLTU)  
3222 South Richey Avenue, Tucson, AZ 85713

520-790-2440

[kvoi.com](http://kvoi.com)

### **BUTSOS MEDIA**

(KTGV)

520-722-5486

[bustosmedia.com](http://bustosmedia.com)

### **LOTUS COMMUNICATIONS**

(KTKT, KLPX, KFMA, KCMT, KMXZ, KFFN)  
3871 North Commerce Drive, Tucson, AZ 85705

520-407-4500

[lotuscorp.com/tucson-arizona](http://lotuscorp.com/tucson-arizona)

## **Television**

The following channels focus on local and national news. For a current list of Prescott area television channels, visit [abyznewslinks.com/uniteazph.htm](http://abyznewslinks.com/uniteazph.htm).

### **KGUN Channel 9 (ABC)**

7280 East Rosewood Street, Tucson, AZ 85710

520-722-5486

[kgun9.com](http://kgun9.com)

### **KHRR Channel 40 (Telemundo)**

5151 East Broadway Boulevard, Tucson, AZ 85711

520-396-2617

### **KMSB Channel 11 (FOX) KOLD Channel 13 (CBS)**

7831 North Business Park Drive, Tucson, AZ 85743

520-744-1313

[www.kold.com](http://www.kold.com)

**KUAS Channel 6/27** (PBS)  
P.O. Box 210067, Tucson, AZ 85721

520-621-5805  
[tv.azpm.org](http://tv.azpm.org)

**KVOA Channel 4** (NBC)  
P.O. Box 5188, Tucson, AZ 85703

520-792-2270  
[kvoa.com](http://kvoa.com)



# ***Appendix G***

## ***Local and State Agencies***

Additional agencies that may be able to address concerns related to the Miracle Mile WQARF site.

### ***State of Arizona***

#### **Department of Agriculture**

1688 West Adams Street  
Phoenix, AZ 85007

602-542-4373

[agriculture.az.gov](http://agriculture.az.gov)

#### **Department of Health Services**

150 North 18th Avenue  
Phoenix, AZ 85007

602-542-1025

[azdhs.gov](http://azdhs.gov)

#### **Department of Water Resources**

Groundwater Permitting and Wells Section  
1110 West Washington St., Ste 310  
Phoenix, AZ 85007

602-771-8527

[new.azwater.gov/permitting-wells](http://new.azwater.gov/permitting-wells)

### ***City of Tucson***

#### **Tucson Water Department**

3100 West Alameda Street  
Tucson, AZ 85701

520-791-3242

[tucsonaz.gov/water](http://tucsonaz.gov/water)

### ***Other***

#### **Agency for Toxic Substances and Disease Registry**

##### **Western Branch – Region 9**

75 Hawthorne Street, Suite 9410, M/S:HHS-1  
San Francisco, CA 94105

800-232-4636

[atsdr.cdc.gov](http://atsdr.cdc.gov)

#### **Real Estate Seller Disclosures**

Arizona Association of Realtors  
255 East Osborn Road #200  
Phoenix, AZ 85012

602-248-7787

[aaronline.com/wp-content/uploads/2017/10/Residential-Sellers-Property-Disclosure- Statement-SPDS\\_REV\\_01Oct2017.pdf](http://aaronline.com/wp-content/uploads/2017/10/Residential-Sellers-Property-Disclosure-Statement-SPDS_REV_01Oct2017.pdf).

## ***Appendix H***

### ***Prospective Purchaser Agreements***

The following is a list of parties that have requested or received prospective purchaser agreements from the Arizona Department of Environmental Quality for properties in or around the Miracle Mile WQARF site.

Purchaser Name: Dos Rillitos, LLC  
Property Location: 3660 N Romero Road  
Tucson, AZ 86705  
Public Notice Date: 05/12/21  
Effective Date: 07/22/21

## ***Appendix I***

### ***Consent Orders and Settlements***

As of the date of this CIP, there are no parties that have entered into consent decree settlements with the ADEQ for properties in or around the Miracle Mile WQARF site.

# **Acronyms and Glossary of Terms**

**Aquifer:** An underground rock formation composed of such materials as sand, soil, or gravel, that can store groundwater and supply it to wells and springs. In aquifers, groundwater occurs in sufficient quantities to be used for drinking water, irrigation, and other purposes.

**Aquifer Water Quality Standards (AWQS):** State of Arizona maximum levels for contaminants which apply to groundwater in aquifers designated for drinking water use. For example, the AWQS for tetrachloroethene is 5 micrograms per liter (µg/L).

**Arizona Administrative Code (A.A.C.):** The publication in which the official rules of the state of Arizona are published. The *Code* is the official compilation of rules that govern state agencies, boards, and commissions.

**Arizona Department of Environmental Quality (ADEQ):** ADEQ is the executive agency of the Arizona State Government mandated to enforce and administer the State's environmental laws and regulations.

**Arizona Revised Statutes (A.R.S.):** State laws adopted by the Arizona State Legislature.

**Cleanup:** Actions taken that deal with a release or threat of a release of hazardous substances that could adversely affect public health and/or the environment. The word "cleanup" is sometimes used interchangeably with the terms remedial action, removal action, response action, remedy, remediation, or corrective action.

**Community Advisory Board (CAB):** A diverse group of community members interested in or affected by the presence of a WQARF site. By statute, ADEQ is required to form a CAB for each WQARF Registry site where ADEQ is initiating a Remedial Investigation. ADEQ seeks the CAB's input in the decision-making process and works with them from the onset of the RI/FS process until the requirements of the record of decision have been fulfilled.

**Community Involvement Area:** The mailing area of residences and businesses used in the notification for public meetings and other written notices regarding a site.

**Community Involvement Coordinator:** The ADEQ employee responsible for ensuring that all statutes and rules related to the involvement of the public and public outreach at WQARF sites are upheld and complied with by ADEQ. Community Involvement Coordinators manage and coordinate the work of CABs for WQARF sites.

**Community Involvement Plan (CIP):** A document that identifies techniques used by ADEQ and EPA to communicate effectively with the public during the Superfund cleanup process at a specific site. This plan describes the site history, nature and history of community involvement, and concerns expressed during community interviews. In addition, the plan outlines methodologies and timing for continued interaction between the Agencies and the public at the site.

**Contaminant:** A harmful or hazardous substance released into the environment that is not naturally occurring, or above background levels.

**Contamination:** Any hazardous or regulated substance released into the environment.

**Early Response Action (ERA):** Refers to a remedial action performed prior to the final remedy, and often prior to the Remedial Investigation. An ERA addresses current risks to public health, welfare, and the environment; protects or provides a supply of water; addresses sources of contamination; or controls or contains contamination where such actions are expected to reduce the scope or cost of the remedy needed at the site. Also referred to as an interim remedial action.

**Eligibility and Evaluation score (E&E):** ADEQ's method to prioritize sites for investigation and cleanup. The score is based on multiple criteria and does not always mean there is a current threat to health.

**Feasibility Study (FS):** A process to identify a reference remedy and alternative remedies that appear to be capable of achieving the Remedial Objectives for the site. It is often done as part of a two-phase investigation in conjunction with a Remedial Investigation (RI/FS).

**Groundwater:** Water beneath the earth's surface in the spaces between soil particles and rock surfaces. In aquifers, groundwater occurs in sufficient quantities to be used for drinking water, irrigation, and other purposes.

**Hazardous Substance:** Any material that, because of its quantity, concentration, physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

**Heavy metals:** Refers to a group of metals including arsenic, chromium, copper, lead, mercury, silver and zinc. Heavy metals often are present at industrial sites where operations have included battery recycling and metal plating.

**Information Repository:** A collection of documents about a specific project. Information on certain WQARF and Superfund sites may be available at ADEQ offices and libraries throughout the state.

**Monitoring Well (Monitor Well):** A well installed for the purpose of collecting samples such as groundwater and soil gas. Analytical results from samples are used to characterize the extent of contamination, the direction of groundwater flow, and the types and quantities of contaminants present in the groundwater.

**Perched Aquifer:** A relatively small, localized aquifer that lies above the regional aquifer and is underlain by a confining layer. Perched aquifers may be formed when the groundwater table drops and water is trapped above a confining layer. They are usually discontinuous and are not usually sources for drinking water.

**Plume:** A well-defined area of contamination in groundwater, soil or the air, often used to describe the dispersion of contamination in soil and/or groundwater.

**Potentially Responsible Party (PRP):** A party (individual or corporation) identified by state or federal authorities as potentially liable for cleanup costs at a contaminated site.

**Preliminary Investigation (PI):** The process of collecting and reviewing available information about a known or suspected hazardous waste site or release.

**Proposed Remedial Action Plan (PRAP):** A document that reviews the cleanup alternatives presented in the site Feasibility Study and identifies ADEQ's preferred alternative. Selection of a preferred alternative is not a closed-end commitment to use that alternative; rather, it is a way for the agency to indicate, based on experience and expertise, which alternative is the most likely course of action. ADEQ must actively solicit public review of and comment on all the alternatives under consideration.

**Public Comment Period:** A period during which the public can formally review and comment on various documents and ADEQ actions.

**Record of Decision (ROD):** A legal document that announces and explains the cleanup methods ADEQ will use at a Superfund/WQARF site. The Record of Decision is based on information and technical analysis generated during the Remedial Investigation and Feasibility Study, and on consideration of comments received during the public comment record for the Proposed Remedial Action Plan.

**Remedial Action (RA):** Any action taken to investigate, monitor, assess and evaluate the release or threat of release of hazardous substances or contaminants to the environment. It may also refer to the actual “cleanup” of the environment by various removal, treatment, monitored remediation, or corrective actions. The term cleanup is sometimes used interchangeably with the terms remedial action, removal action, response action, remedy, remediation, or corrective action.

**Remedial Investigation (RI):** An in-depth study designed to gather the data necessary to determine the nature and extent of contamination at a site and the risk posed by the contamination.

**Remedial Objective (RO):** Established remedial goals for the current and reasonably foreseeable uses of lands and waters of the state that have been or are threatened to be affected by a release of hazardous substance.

**Remediation:** Cleanup or other methods used to remove or contain a toxic spill or hazardous materials.

**Remedy:** Cleanup method chosen for a site.

**Responsible Party:** An individual or company (e.g., an owner, operator, transporter, or generator of hazardous waste) that is responsible for the contamination problems at a Superfund/WQARF site. Whenever possible, responsible parties are required to clean up hazardous waste sites they have contaminated.

**Responsiveness Summary:** A summary of oral and written comments (and ADEQ responses to those comments) received during the public comment period.

**Soil Vapor (Soil Gas):** Gaseous elements and compounds that occur in the small spaces between soil particles. Such gases can move through or leave the soil or rock, depending on changes in pressure.

**Soil Vapor Extraction (SVE):** A commonly used technique for cleaning up contaminated soils. This process physically separates contaminants from soil in a vapor form by exerting a vacuum through the soil formation; removes volatile and semi-volatile organic compounds from the ground surface.

**Superfund:** The federal program operated under the legislative authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) that funds and carries out U.S. Environmental Protection Agency solid waste emergency and long-term removal and remedial activities. These activities include establishing the National Priorities List, investigating sites for inclusion on the list, determining their priority, and conducting and/or supervising cleanup and other remedial actions. It provides for the cleanup of hazardous substances released into the environment, regardless of fault. The term Superfund also is used to refer to cleanup programs designed and conducted under CERCLA and its subsequent amendments.

**Tetrachloroethene or Tetrachloroethylene or Perchloroethene (PCE):** A clear, colorless, liquid with a chloroform or sweet odor and a low boiling point; a solvent used for dry-cleaning; degreasing and drying metals and other solids; dissolving waxes, greases, oils, fats, and gums, and in other industrial applications. PCE is a potential occupational carcinogen. Evaporation of PCE increases as temperature increases.

**Trichloroethene or Trichloroethylene (TCE):** A colorless liquid used as a solvent, metal degreasing agent, and in other industrial applications.

**Vadose Zone:** The area between the ground surface and the groundwater.

**Vapor Intrusion:** The migration of volatile chemicals from the subsurface into overlying buildings. Volatile chemicals in buried wastes and/or contaminated groundwater can emit vapors that may migrate through subsurface solid and into air spaces of overlying buildings.

**Volatile Organic Compounds (VOC):** A large group of carbon-containing compounds that are easily dissolved into water, soil, or the atmosphere and evaporate readily at room temperature. Examples of VOCs include PCE and TCE. These contaminants are typically generated from metal degreasing, printed circuit board cleaning, gasoline, and wood preserving processes.

**Water Quality Assurance Revolving Fund (WQARF):** Also known as the State Superfund, WQARF is the program and funding used to address hazardous substance releases within the state that are not covered by other specific programs.