

This Proposed Plan describes the evaluation of six cleanup alternatives specifically for the groundwater contamination north of Los Reales Road. The Plan also identifies EPA's preferred alternative, Alternative 3, which was determined by applying specific Superfund criteria in the evaluation process (See Figure 2).

## The Alternatives

- **Alternative 1**—No Further Action (Required alternative in Superfund evaluation process)
- **Alternative 2**—Monitored Natural Attenuation and Institutional Controls
- **Alternative 3 (EPA's Preferred Alternative)**—Existing Pump-and-Treat System with Ultraviolet (UV)-Peroxide Plus **Monitored Natural Attenuation and Institutional Controls** (See Page 3 for details)
- **Alternative 4**—Optimized Pump-and-Treat with UV-Peroxide and Partial Management of Water by ReInjection to the Regional Aquifer Plus Monitored Natural Attenuation and Institutional Controls
  - ▶ This alternative includes operation of the existing pump-and-treat system with potential optimization of the existing well fields. Additionally, this alternative allows for reinjection of the groundwater back into the subsurface to help control off-site migration of the groundwater plume.
- **Alternative 5**— Existing Pump-and-Treat with UV-Peroxide Plus In-Situ Bioremediation and Monitored Natural Attenuation and Institutional Controls
  - ▶ This alternative includes operation of the existing pump-and-treat system along with the installation of in-situ bioremediation injection wells within the groundwater plume. In-situ bioremediation wells would introduce microbes which would break down the contaminants in the subsurface.
- **Alternative 6**— Existing Pump-and-Treat with UV-Peroxide Plus In-Situ Chemical Oxidation and Monitored Natural Attenuation and Institutional Controls
  - ▶ This alternative includes operation of the existing pump- and-treat system along with the installation of in-situ chemical oxidation injection wells. The in-situ chemical oxidation injection wells would introduce chemical oxidants to the subsurface to break down the contaminants in groundwater.



Figure 3: Photo of Current TARP System

## Evaluation Criteria

- 1 Overall Protection of Human Health and the Environment**  
How the risks are eliminated, reduced, or controlled through treatment, engineering, or institutional controls
- 2 Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)**  
Federal and state environmental statutes met or grounds for waiver provided
- 3 Long-term Effectiveness**  
Maintain reliable protection of human health and the environment over time, once cleanup goals are met
- 4 Reduction of Toxicity, Mobility, or Volume (TMV) Through Treatment**  
Ability of a remedy to reduce the toxicity, mobility, and volume of the hazardous contaminants present at the site
- 5 Short-term Effectiveness**  
Protection of human health and the environment during construction and implementation period
- 6 Implementability**  
Technical and administrative feasibility of a remedy, including the availability of materials and services needed to carry it out
- 7 Cost**  
Estimated capital, operation, and maintenance costs of each alternative
- 8 State Acceptance**  
State concurs with, opposes, or has no comment on the preferred alternative
- 9 Community Acceptance**  
Community concerns addressed; community preferences considered

Figure 2: Evaluation Criteria

## EPA's Preferred Alternative

EPA evaluated six alternatives and selected **Alternative 3** – Existing Pump-and-Treat System with UV-Peroxide Plus Monitored Natural Attenuation and Institutional Controls – as the Preferred Alternative in the Proposed Plan. This alternative involves continued operation of the current treatment systems, i.e., the Tucson Area Remediation Project (TARP) extraction wells in combination with the existing ultra-violet light peroxide advanced oxidation process (UV-AOP) treatment system (See Figure 3). **Institutional Controls** are legal and administrative measures that would be put in place to restrict access, assist in implementing administrative policies, and provide compliance and enforcement mechanisms. **Monitored natural attenuation** is the physical or biological process which reduces the concentration, toxicity, or mobility of chemical contaminants without deliberate human intervention. Monitored natural attenuation would be used to monitor reductions in contaminant concentrations within the groundwater plume. Additionally, the packed column aeration treatment implemented following the 1988 Record of Decision at the TARP would no longer be used since the current UV-AOP water treatment facility is achieving groundwater treatment goals, therefore making the packed column aeration treatment unnecessary (See Figure 4 for the UV-AOP system schematic).

Based on currently available information, EPA believes the Preferred Alternative provides the best balance of tradeoffs among other alternatives. EPA expects the Preferred Alternative to be protective of human health and the environment, comply with Applicable or Relevant and Appropriate Requirements (ARARs), be cost effective, and use permanent solutions and alternative treatment technologies to the maximum extent practicable. The Arizona Department of Environmental Quality concurs with the Preferred Alternative.

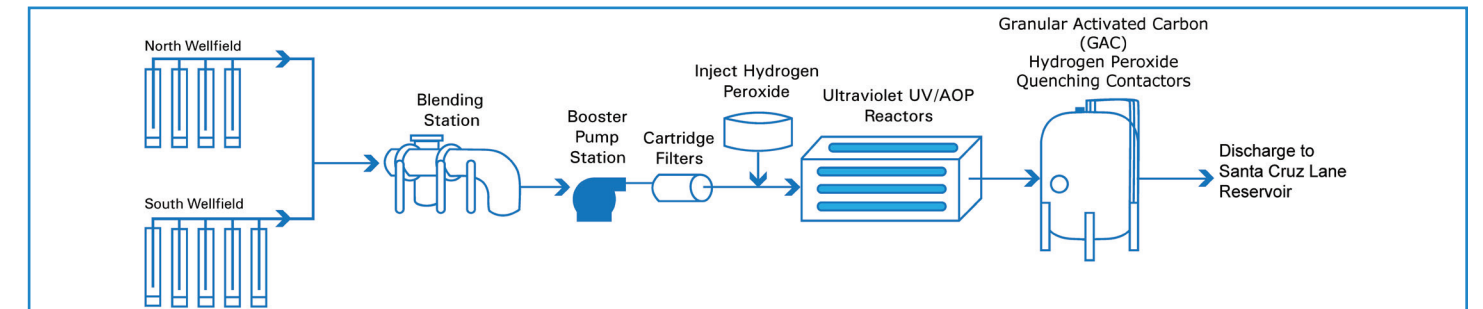


Figure 4: Proposed TARP Treatment System Schematic

## Information Repository

TIAA Site-related documents are available at the EPA Record Centers below.

### Valencia Public Library

202 W. Valencia Road  
Tucson, AZ 85706  
Phone: 520-594-5390

**Hours:** Monday – Thursday 10 am – 8 pm, Friday 10 am – 5 pm, Saturday 9 am – 5 pm, Sunday 1 pm – 5 pm

### EPA Region 9 Records Center

95 Hawthorne Street  
San Francisco, CA 94105  
Phone: 415-536-2000

**Hours:** Monday – Friday, 8 am – 5 pm



## Community Involvement and Participation

Consideration of public input is an important part of EPA's remedy selection process. EPA considers all comments and encourages all community members and other interested stakeholders to review the Proposed Plan and provide input to EPA.

EPA may modify the Preferred Alternative or select another response action based on new information or public comments. EPA will review and consider all comments received before it makes a final selection of alternatives. EPA will provide responses to the comments received on the Proposed Plan, which will be documented in a Responsiveness Summary. EPA will document the selected groundwater cleanup remedy to be implemented at the Site in an Amendment to EPA's 1988 Record of Decision (referred to as a Record of Decision Amendment). The Responsiveness Summary and Record of Decision Amendment are generally available after the end of the public comment period.

United States Environmental Protection Agency  
Region 9  
75 Hawthorne Street (SFD-6-3)  
San Francisco, CA 94105  
Attn: Sarah Cafasso (TIAA 03/17)

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## EPA Announces Availability of Proposed Plan for TIAA Superfund Site Area A, North of Los Reales Road

— Public comment period March 22 – April 21, 2017 —

### For More Information

You may download a copy of the Proposed Plan at: [www.epa.gov/superfund/tucsonairport](http://www.epa.gov/superfund/tucsonairport)

The Proposed Plan Public Meeting will be on March 30, 2017 at the El Pueblo Activity Center, 101 W. Irvington Road, Tucson, AZ. The poster session will start at 5:00 pm with the public meeting to follow.

If you are interested in following other aspects of the project, the TIAA Unified Community Advisory Board (UCAB) meets quarterly on the 3rd Wednesday of January, April, July and October at the El Pueblo Senior Center at 5:45 pm. The next meeting is on April 19th, 2017. All interested community members are welcome to attend.

If you have any questions about the TIAA Superfund Site or how to obtain the Proposed Plan, please contact:

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**U.S. EPA Region 9**  
75 Hawthorne Street  
San Francisco, CA 94105

Or you may leave a message on EPA's Toll-free line at **1.800.231.3075**



## Tucson International Airport Area Superfund Site Area A

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • March 2017

## EPA Announces Proposed Plan for Tucson International Airport Area Superfund Site Area A, North of Los Reales Road

The U.S. Environmental Protection Agency (EPA) announces the availability of EPA's Proposed Plan to address contaminants in the groundwater north of Los Reales Road at the Tucson International Airport Area (TIAA) Superfund Site Area A (Site) in Tucson, Arizona.

### Introduction

Historical industrial and defense-related activities caused widespread groundwater contamination north of Los Reales Road at the Site. EPA's Proposed Plan for addressing groundwater contamination gives a Site overview, explains alternatives considered for cleaning up primary contaminants of concern (trichloroethylene and 1,4-dioxane), and identifies and explains EPA's reasons for selecting the Preferred Alternative.

Trichloroethylene (commonly known as TCE) and 1,4-dioxane are clear liquids typically used as solvents or part of solvent mixtures. Historically, solvents were used in conjunction with nearby industrial and defense-related activities where they were inadvertently released to the groundwater.

Goals for the proposed cleanup action aim to contain the current groundwater plume (See **Figure 1** included with this Fact Sheet), remediate groundwater to the appropriate cleanup level, minimize exposure to contaminants of concern above cleanup levels, and conduct groundwater restoration in accordance with state and federal standards without interfering with local water use.

### Mark Your Calendar

*EPA Invites You to a Poster Session and Public Meeting*

**March 30, 2017**

**El Pueblo Activity Center  
101 W. Irvington Road, Tucson, AZ**

**EPA Poster Session  
5:00 – 5:30 pm**

The EPA poster session will provide an opportunity for the community to ask EPA staff questions and learn more about the Site, the groundwater contamination in Area A, and EPA's Proposed Plan.

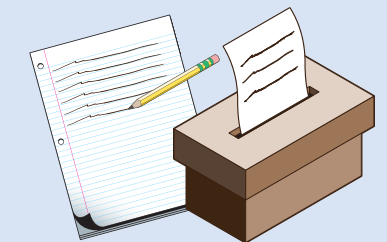
**Public Meeting and  
Comment Period  
5:30 – 7:30 pm**

EPA will hold a public meeting to explain the Proposed Plan and the remedial alternatives considered. Oral and written comments will be accepted at the meeting.

### 30-day Public Comment Period

EPA will accept written comments on this Proposed Plan during a 30-day public comment period from **March 22 – April 21, 2017**. Written comments can be provided by letter or email (see EPA contact information below). Letters must be received at EPA by April 24, 2017.

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The Proposed Plan summarizes detailed information presented in the *Focused Remedial Investigation/Feasibility Study (RI/FS)* and other documents contained in the TIAA Superfund Site Administrative Record file. EPA encourages the public to review these Site documents to gain a more comprehensive understanding of the TIAA Site.