

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an amendment to the Aquifer Protection Permit (APP) for the subject facility that covers the life of the facility, including operational, closure, and post closure periods unless suspended or revoked pursuant to Arizona Administrative Code (A.A.C.) R18-9-A213. This document gives pertinent information concerning the issuance of the permit. The requirements contained in this permit will allow the permittee to comply with the two key requirements of the Aquifer Protection Program: 1) meet Aquifer Water Quality Standards at the Point of Compliance (POC); and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). The purpose of BADCT is to employ engineering controls, processes, operating methods or other alternatives, including site-specific characteristics (i.e., the local subsurface geology); to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer; or to prevent pollutants from reaching the aquifer.

## I. FACILITY INFORMATION

### Name and Location

Name of Permittee:	Bensch Ranch Utilities, LLC
Mailing Address:	7581 E. Academy Blvd., #229 Denver, Colorado 80230
Facility Name and Location:	Bensch Ranch Wastewater Treatment Plant (WWTP) 1200 E. Highway 69, Mayer, Arizona

### Amendment Description

ADEQ has reviewed and approved the following changes under this amendment: the addition of two new percolation ponds for effluent disposal, reduction of the flow from 175,950 gallons per day to 3,350 gallons per day in phases, and addition of a new point of compliance well.

The permit is amended to include standard language for annual fees, financial capability, and groundwater monitoring. A compliance schedule is included to facilitate the transition from the current discharge to Big Bug Creek to disposal in the new percolation ponds, and to install and begin monitoring at a new point of compliance well.

### Regulatory Status

Listed in the table below are various licenses issued by ADEQ to the permittee pertaining to the facility:

Type of license	License identifier	Effective date
Aquifer Protection Permit	P-105001, LTF 22901	8/15/2002
Arizona Pollutant Discharge Elimination System Permit	AZ0024813, LTF 43322	9/13/2007
Arizona Pollutant Discharge Elimination System Permit	AZ0024813, LTF 56013	7/23/2014

An application for this significant permit amendment was submitted on March 19, 2015, as a requirement of a consent order which cited the unauthorized discharge of effluent to surface trenches. In order to address the unauthorized discharge, the facility applied to reduce the design flow to 5,000 gallons per day, construct three new percolation ponds, make operational changes to the biological treatment process, discontinue the discharge to Big Bug Creek under the AZPDES permit and close the unpermitted surface trenches. Upon review, the flow has been reduced to 3,350 gallons per day based on construction of two percolation basins. The third percolation basin was not approved because clean closure of the unpermitted surface trenches was not demonstrated.

## Facility Description

The permittee is authorized to operate the Bensch Ranch WWTP, with a maximum average monthly flow of 3,350 gallons per day (gpd). The flow is limited to 1,670 gpd in Phase I and 3,350 gpd in Phase II. The treatment process consists of three aeration and anoxic reactors for nitrification-denitrification, a reactor for reaeration, a clarifier, a chlorine contact chamber, tablet de-chlorination, an effluent pump station and a sludge holding tank. Sludge is hauled to a landfill for disposal in accordance with state and federal regulations. The effluent will be discharged to Big Bug Creek as authorized under Arizona Pollutant Discharge Elimination System (AZPDES) permit AZ0024813 or through two percolation ponds, each with a capacity of approximately 1,670 gallons, which will be constructed in two phases. The existing surface trench location will not be used as a site to construct a percolation pond prior to obtaining clean-closure for that area.

## II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY

The WWTP was designed and constructed to meet the treatment performance criteria for new facilities.

## III. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

### Monitoring and Reporting Requirements

To ensure that site operations do not result in violation of Aquifer Water Quality Standards at the point of compliance, representative samples of the effluent shall be collected from the downstream end of the effluent pump station. The permittee shall monitor the effluent daily for fecal coliform, monthly for total nitrogen, quarterly for metals, and semi-annually for VOCs (see Section 4.2, Table IA Phase I and II in the permit).

Facility inspection and operational monitoring shall be performed on a routine basis (see Section 4.2, Table III in the permit).

### Point of Compliance

The POC locations are based on the delineation of the pollutant management area (surficial area on which wastewater is treated and contained) at the WWTP. The direction of groundwater flow is toward the south. Therefore, the POCs for this facility have been designated downgradient of the discharge to Big Bug Creek and at the downgradient (south) boundary of the new percolation ponds.

The POC for this facility is designated at the following location:

POC#	POC Location	Latitude	Longitude
1	Approximately 1000' downgradient (southeast) of the discharge to Big Bug Creek	34° 22' 13" N	112° 11' 03" W

2	Downgradient (south) of the new percolation ponds	34° 22' 16.42" N	112° 11' 19.34" W
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Groundwater monitoring is required at the point of compliance wells. The Director may amend this permit to designate additional POCs if information on groundwater gradients or groundwater usage indicates the need.

## V. HYDROGEOLOGIC SETTING

The Bensch Ranch Wastewater Treatment Plant (P-105001) is located near Mayer, Arizona in the Aqua Fria basin. Groundwater generally moves southward in the direction of surface water drainage within the basin. In the Mayer subarea in the northern part of the basin, groundwater occurs in the basin-fill, sedimentary, and basement rock units. The major aquifer in the area is located along Big Bug Creek and the general movement of groundwater is parallel to and about the same gradient as Big Bug Creek. Depth to groundwater ranges from approximately 15 feet to 100 feet below ground surface.

## V. SURFACE WATER CONSIDERATIONS

The WWTP is not located within a 100-year floodplain.

## VI. COMPLIANCE SCHEDULE

The compliance schedule items include submittal of as-built drawings upon completion of construction of the new effluent percolation ponds, installation and monitoring of a new point of compliance well, and an updated financial assurance demonstration every two (2) years and updated closure and post-closure costs every six (6) years. The compliance schedule requires an evaluation of the water quality at POC #1 to determine whether monitoring can be eliminated once the impacts of the discharge to Big Bug Creek cease.

## VII. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT

### Technical Capability

Bensch Ranch Utilities, LLC has demonstrated the technical competence necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A202(B).

ADEQ requires that appropriate documents be sealed by an Arizona-registered Geologist or Professional Engineer. This requirement is a part of an ongoing demonstration of technical capability. The permittee is expected to maintain technical capability throughout the life of the facility.

### Financial Capability

Bensch Ranch Utilities, LLC has demonstrated the financial responsibility necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The permittee is expected to maintain financial capability throughout the life of the facility. The closure cost has been estimated at \$11,365. The financial assurance mechanism has been demonstrated through a financial test for self-assurance pursuant to A.A.C. R18-9-A203(C)(1).

### Zoning Requirements

The Bensch Ranch WWTP has been properly zoned for the permitted use and the permittee has complied with applicable zoning ordinances in accordance with A.R.S. § 49-243(O) and A.A.C. R18-9-A201(B)(3).

## VIII. ADMINISTRATIVE INFORMATION

### Public Comment Period (A.A.C. R18-9-109(A))

The aquifer protection program rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. After the closing of the public comment period, ADEQ is required to respond to all significant comments.

### Public Hearing (A.A.C. R18-9-109(B))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

## IX. ADDITIONAL INFORMATION

Additional information relating to this proposed permit may be obtained from:  
Arizona Department of Environmental Quality  
Water Quality Division, Groundwater Section  
Attn: Maribeth Greenslade  
1110 W. Washington St., Mail Code: 5415B-3  
Phoenix, Arizona 85007  
Phone: (602) 771- 4578