

Chandler Heights Recharge Facility

Aquifer Protection Permit #105482

Place ID #15419, LTF #58952

SIGNIFICANT AMENDMENT

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:	City of Chandler
Mailing Address:	P O Box 4008, Mail Stop 396 Chandler, Arizona 85224-4008
Facility Name and Location:	Chandler Heights Recharge Facility NE intersection of Lindsey Rd. and Chandler Heights Rd. Chandler, Arizona

Regulatory Status

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

Type of license	License identifier	Effective date
Aquifer Protection Permit	P-105482 (#23931)	9/30/2004

Type of license	License identifier	Effective date
Other Amendment (to provide more time to monitor the ambient nitrogen levels and fecal coliform levels to provide accurate Aquifer Quality Limits, and to establish an up-gradient monitoring well to establish ambient condition)	P-105482 (#48880)	10/16/2009
Other Amendment (to submit the ambient monitoring report required in the Compliance Schedule, and to set the ground water monitoring level for nitrogen in the POC wells)	P-105482 (#56428)	2/19/2013

The application for this Significant Amendment was received on July 13, 2015.

Facility Description

The permittee is authorized to operate an underground storage project for the recharge of up to 6.0 million gallons per day (mgd) annual average flow of treated domestic wastewater at the Chandler Heights Recharge Facility. The facility recharges effluent from the Chandler Airport Reclamation Facility (APP No. 103170), the City of Chandler Ocotillo Water Reclamation Facility (APP No. 100140), and the City of Chandler Ocotillo Brine Reduction Facility (APP No. 102865). The recharge occurs in five (5) recharge basins.

Depth to groundwater at the site is approximately 40 feet below ground surface (bgs) and the direction of groundwater flow is to the northwest.

Amendment Description

ADEQ has reviewed and approved the following changes under this amendment: increased the discharge limit for recharge to the five (5) on-site recharge basins from two (2) million gallons per day (mgd) to six (6) mgd, and added two additional sources of effluent for recharge - the City of Chandler Ocotillo Water Reclamation Facility (APP No. 100140), and the City of Chandler Ocotillo Brine Reduction Facility (APP No. 102865).

II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY

Not applicable as this is a recharge site.

III. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

Monitoring and Reporting Requirements

The permittee shall monitor the groundwater at two monitoring wells (POC #1 and POC #2) monthly for groundwater level, total nitrogen, nitrate-nitrite as N, nitrate as N, Total Kjeldahl

Nitrogen (TKN) and total coliform, quarterly for metals, and semi-annually for volatile and semi-volatile organic compounds (VOCs and SVOCs) (see Section 4.2, Table 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).

IV. HYDROGEOLOGIC SETTING

The site is located within the basin and range physiographic province. The site is located in the east Salt River sub-basin of the Phoenix Active Management (AMA). The sub-basin includes three major units; the upper alluvial unit (UAU), the middle alluvial unit (MAU) and the lower alluvial unit (LAU). Directly beneath the Site is the UAU and the MAU which extend several hundred feet below the ground surface. Based on drill logs collected near the vicinity of the site, the top of the MAU beneath the recharge facility ranges from 210 to 320 feet bgs.

In the vicinity of the site, there are three major aquifer units: the upper alluvial unit (UAU), the middle alluvial unit (MAU) and the lower alluvial unit (LAU). The depth to groundwater in the vicinity of the site varies. Groundwater at the facility is approximately 40 feet bgs and flows generally to the northwest. The regional depth to water ranges between 120 and 280 feet bgs. The regional direction of groundwater flow in the area is north to northwest.

Point of Compliance

The Points of Compliance (POCs) are designated at the following locations:

POC #	POC Location	Latitude	Longitude
1	MW# 3; located in the northwest corner of the western-most site boundary	33° 14' 13" N	111° 46' 18.5" W
2	MW# 4; located at the northwest corner of the northern most basin.	33° 14' 27" N	111° 46' 04" W

Groundwater monitoring requirements are included in the permit under Section 4.0, Table II.

The Director may amend this permit to designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

V. SURFACE WATER CONSIDERATIONS

The recharge facility is outside the 100 year flood zone.

VI. COMPLIANCE SCHEDULE

Not applicable.

VII. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT

Technical Capability

The City of Chandler 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).

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

Financial Capability

The City of Chandler 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(B)(1) and (2). The estimated dollar amount demonstrated for financial capability is \$106,885. The permittee is expected to maintain financial capability throughout the life of the facility.

Zoning Requirements

The Chandler Heights Recharge Facility 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 Notice (A.A.C. R18-9-108(A))

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft permit or other significant action with respect to a permit or application. 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. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit.

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

The Department shall accept written comments from the public prior to granting the significant amendment. The written public comment period begins on the publication date of the public notice and extends for 30 calendar days. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

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 permit may be obtained from:

Arizona Department of Environmental Quality
Water Quality Division - APP Unit
Attn: Marcy Mullins
1110 W. Washington Street, Mail Code 5415B-3
Phoenix, Arizona 85007
Phone: (602) 771-4464