

Chandler Ocotillo Water Reclamation Facility
Aquifer Protection Permit No. 100140
Place ID No. 686, LTF No. 61563
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

Permittee:	City of Chandler
Mailing Address:	P.O. Box 4008, Mail Stop 397 Chandler, Arizona 85244-4008
Facility Name and Location:	Chandler Ocotillo Water Reclamation Facility 3333 South Old Price Road Chandler, Arizona (Maricopa County)

Regulatory Status

This is a Significant Amendment to the permit previously issued on August 18, 2003. The application for this Significant Amendment was received by ADEQ on October 19, 2015.

Facility Description

The permittee is authorized to operate the Chandler Ocotillo Water Reclamation Facility (Ocotillo WRF) which will have the capacity to collect and treat 15.5 million gallons per day (mgd) (as a monthly average of daily flow values) upon construction of the new treatment train. The existing treatment train (Existing Facility) is rated at 10 mgd and new treatment train (New Facility) is rated at 5.5 mgd.

The existing influent pump station will be upgraded with new pumps. The existing influent pump station serves two facilities: the Ocotillo WRF under this permit (APP No. 100140), and the City of Chandler Airport WRF under APP No. 103170. The facility has the capability to divert the influent to either of the WRFs. The Ocotillo WRF will use the combined headworks for the New Facility and the Existing Facility. The Ocotillo WRF consists of an existing influent pump station with new pumps and a new headworks with three coarse screens and three fine screens. The influent wastewater will be diverted to either the Existing Facility or the New Facility treatment train.

Existing Facility: The Existing Facility has the capacity to collect and treat 10 mgd (as a monthly average of daily flow values). The Existing Facility consists of anoxic basins, aerobic basins, flow splitter box, clarifiers, tertiary sand filters, and chlorine contact basins. After chlorination, the effluent may be combined with effluent from the New Facility. The facility also utilizes two existing clay-lined effluent storage basins.

New Facility: The New Facility will have the capacity to collect and treat 5.5 mgd (as a monthly average of daily flow values). The New Facility will use a membrane bioreactor (MBR) system. The facility will consist of two bioreactors with anoxic zones and aeration zones, a membrane filtration system, and a chlorine contact basin.

Sludge from both the Existing Facility and the New Facility will be sent to new sludge handling facilities which will include two sludge holding tanks and three belt presses for dewatering the sludge. All sludge, including screenings, and scum, will be hauled off-site to a landfill in accordance with state and federal regulations.

The effluent from the Existing Facility and the New Facility will be combined after chlorination. The combined effluent will flow to a new reclaimed water pump station. The effluent may be used for beneficial purposes under a valid reclaimed water permit, recharged, or stored in emergency storage basins. The effluent may be recharged at the City of Chandler Ocotillo Recharge and Recovery Facility under APP No. 105338 and/or the Chandler Regional Park Recharge Facility under APP No. 103145.

In addition to the APP conditions pertaining to treatment and disposal of sewage sludge, the permittee must also comply with the requirements for any sewage sludge disposal in 40 Code of Federal Regulations (CFR) Part 503 and 18 A.A.C. Ch. 9, Art. 10.

Amendment Description

ADEQ has reviewed and approved the following changes under this amendment: the addition of a new treatment train and the increase in the flow capacity from 10 mgd to 15.5 mgd (as a monthly average of daily flow values).

II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY

The treatment facility has been designed to meet the treatment performance criteria for new facilities as specified in A.A.C. R18-9-B204. The facility shall meet the performance requirement for industrial pre-treatment as per A.A.C. R18-9-B204(B)(6)(b). The treatment facility shall not exceed a maximum seepage rate of 550 gallons per day per acre for all containment structures within the treatment works.

III. HYDROGEOLOGIC SETTING

The facility is located in the Phoenix Active Management Area, East Salt River Sub-basin. It is underlain by three principal regional alluvial aquifer units: the Upper Alluvial Unit (UAU) to a depth of about 240 feet, the Middle Alluvial Unit (MAU) at a depth of about 240 feet to about 830 feet, and the Lower Alluvial Unit (LAU) starting at a depth of about 830 feet, with an undetermined total depth at the site.

The depth to water beneath the facility fluctuates depending upon recharge and agricultural pumping, but averaged about 80 feet below ground surface in 2014. The City of Chandler operates injection well recharge activities at two APP regulated facilities adjacent to the facility. The shallowest predicted groundwater level anticipated over a projected 20 years of operation of the adjacent facilities is 20 feet below ground surface. Groundwater flow direction beneath the facility is to the north.

IV. STORM WATER/SURFACE WATER CONSIDERATIONS

There are no major nearby surface water bodies.

V. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

Pollutant Management Area (PMA)

A new conceptual POC location has been selected based upon the proposed expansion of the facility. The new PMA will circumscribe the existing and new plant buildings. Disposal of effluent is performed at locations permitted under other APPs, or for beneficial use under valid reclaimed water permits.

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 will be analyzed daily for fecal coliform, monthly for total nitrogen, quarterly for metals, and semi-annually for organic compounds.

Inspection of the treatment plant components, pumps, and the effluent storage basin berm integrity and freeboard will be performed at least weekly.

Point of Compliance (POC)

The hazardous/non-hazardous POC for this facility is designated at the following location:

POC No.	Location	Latitude	Longitude
1 (conceptual)	Directly north of the northwestern-most facility planned for the Phase I expansion.	33° 15' 34.89" N	111° 53' 26.87" W

Groundwater monitoring is not required at the time of permit issuance. The Director may amend this permit to require installation of a monitor well and commencement of groundwater monitoring at the POC or to designate additional POCs if information on groundwater gradients or groundwater usage indicates the need.

VI. COMPLIANCE SCHEDULE

A compliance schedule is included in the permit in Section 3.0 for the submittal of an Engineer’s Certificate of Completion for components of the new treatment train, for submittal of a TTHM report after 12 months of sampling, and for notification to ADEQ of commencement of the operation of the New Facility treatment train.

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. The estimated dollar amount for facility closure is \$5,683,000. The permittee is expected to maintain financial capability throughout the life of the facility.

Zoning Requirements

The Chandler Ocotillo WRF 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 before a significant permit amendment is made. 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 2
Attn: Marcy Mullins
1110 W. Washington Street, Mail Code 5415B-3
Phoenix, Arizona 85007
Phone: (602) 771-4464

DRAFT