

Aquifer Protection Permit #102749  
 Place ID #2019, LTF #62820  
 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:	Corrections Corporation of America, LLC
Mailing Address:	10 Burton Hills Blvd. Nashville, TN 37215
Facility Name and Location:	Eloy Detention Center Water Reclamation Facility 1705 E. Hanna Road Eloy, Arizona 85231

### Amendment Description

ADEQ has reviewed and approved the following changes under this amendment:

The treatment capacity of the WRF will increase to 0.900 million gallons per day (900,000 gallons per day) by constructing an additional activated sludge tank with internal clarification and digestion tank, expanding effluent filtration, expanding the chlorination and de-chlorination systems, and adding Recharge Basin 3.

The permit is amended to include standard language for annual fees, financial capability, and groundwater monitoring.

**Regulatory Status**

Listed in the table below are wastewater licenses issued for the facility by ADEQ:

Type of Permit	Permit Number	Issue Date
Approval to Construct - Santec 0.0975 mgd extended aeration package treatment facility	930582	3/11/1994
Temporary Aquifer Protection Permit (APP)	P-102749T	5/5/1994
Original APP - 0.1 million gallons per day (mgd)	P-102749	5/31/1995
Approval to Construct - Santec 0.225 mgd treatment facility	950746	4/15/1996
Approval of Construction - Santec 0.225 mgd treatment facility	950746	5/23/1997
APP Modification to increase flow limit from 0.1 mgd to 0.225 mgd	P-102749	10/13/1998
APP Significant Amendment for a new 0.613 mgd treatment facility	P-102749	10/1/2008
APP Significant Amendment to close two percolation ponds and the sludge drying basin, to install two new recharge basins, to delete the water softener reject water component of the influent, to add reject water from an arsenic treatment facility to the influent, to add two points of compliance (POCs), to add groundwater monitoring requirements.	P-102749	8/6/2010
APP Significant Amendment to repurpose POC #1, add 2 POCs, remove water softener reject water, add arsenic treatment reject water to the influent, add groundwater level monitoring.	P-102749	10/23/2012

An application for this significant permit amendment was received by ADEQ on September 30, 2015, to amend the permit as described in the amendment description section.

**Facility Description**

Corrections Corporation of America (CCA), LLC is authorized to operate the Eloy Detention Center Water Reclamation Facility (WRF) with a treatment capacity of 0.900 million gallons per day (mgd). The facility treats sewage from the Eloy Detention Center and the La Palma Detention Center (two of the four correctional facilities at the Eloy Correctional Facilities Compound), with an added component of reject water from the arsenic treatment facility at the La Palma Water Campus. The treatment process consists of an influent lift station, headworks (with grinder, screen, and auger), an aerobic/anoxic basin with an in-built clarifier, filters, chlorination, de-chlorination, stand-by chemical feed, and an aerobic digester. Sludge shall be discharged to the nearby Red Rock Correctional Facility (APP #105663) owned by CCA, LLC, where it will be processed and dried. Effluent shall be discharged to three recharge basins located to the north of the WRF (having a total build-out recharge capacity of 0.9356 mgd), and/or used for beneficial purposes under a valid reclaimed water permit (A.A.C. R18-9, Article 7).

## II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY (BADCT)

The WRF shall be designed, constructed, operated, and maintained to meet the treatment performance criteria for new facilities as specified in A.A.C. R18-9-B204, and shall meet the performance requirement for industrial pre-treatment as per A.A.C. R18-9-B204(B)(6)(b).

This facility employs an influent lift station, headworks (with grinder, screen, and auger), an aerobic/anoxic basin with an in-built clarifier, filters, chlorination, de-chlorination, and an aerobic digester. Sludge shall be discharged to the nearby Red Rock Correctional Facility (APP #105663) owned by CCA, LLC, where it will be processed and dried.

The setback requirements remain unchanged from the previous permit; the facility does not have noise and odor control and therefore must maintain a 750-foot setback from the nearest property line of an adjacent dwelling, workplace, or private property (A.A.C. R18-9-B201(I)).

## III. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

### Monitoring and Reporting Requirements

To ensure that site operations do not violate Aquifer Water Quality Standards at the point of compliance, representative samples of the effluent shall be collected from the point of discharge from the de-chlorination unit. The permittee shall monitor the effluent daily for *E. coli*, monthly for total nitrogen, quarterly for metals (except for arsenic, which is monthly), and semi-annually for volatile and semi-volatile organic compounds (VOCs and SVOCs) (see Section 4.2, Table IA in the permit).

To ensure that discharge of effluent from the recharge basins does not violate Aquifer Water Quality Standards at the applicable point(s) of compliance, the groundwater shall be monitored at Point of Compliance Wells POC 1 (Monitoring Well #3b) and POC 3 (Monitoring Well 3) quarterly for groundwater elevation, total nitrogen, total coliform, and metals, and semi-annually for VOCs and SVOCs.

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

**Point of Compliance**

Points of Compliance are established at the following locations:

<b>POC #</b>	<b>POC Location</b>	<b>Latitude</b>	<b>Longitude</b>
1 (MW-3b)	Downgradient of Recharge Basin 3	32° 49' 05.5" N	111° 31' 24.1" W
2 (conceptual)	Western (downgradient) boundary of the WRF	32° 49' 04.6" N	111° 31' 26.8" W
3 (MW-3) ADWR #55-218482	Approximately 500 feet west (downgradient) of closed Percolation Pond South 2	32° 49' 04" N	111° 31' 56" W

Additional monitoring shall be conducted at the following locations:

<b>Monitor Well #</b>	<b>Well Location</b>	<b>Latitude</b>	<b>Longitude</b>
MW-2 ADWR #55-218483	Approximately 1750 feet northeast (upgradient) of the Percolation Ponds	32° 49' 15" N	111° 31' 07" W
MW-3a ADWR #55-621869	Approximately 500 north-northwest (crossgradient) of Recharge Basin North	32° 49' 19" N	111° 31' 24" W

**IV. HYDROGEOLOGIC SETTING**

Hydrogeologic information was provided by CCA from data derived from the hydrogeologic study provided in the original APP application for the Red Rock CC WWTP and prepared by URS Corporation and dated June 2006.

The Eloy Detention Center WRF is located in the Basin and Range Physiographic Province, which is defined by uplifted mountain ranges with intervening alluvial basins created by extensional faulting. The basins and mountains are typically elongated and trend northwest-southeast and typically parallel one another. The WRF is located in the central portion of the Eloy sub-basin, one of five groundwater sub-basins in the Pinal Active Management Area (AMA). The Eloy sub-basin is located in the Middle Gila Watershed. The mountains which surround the southern portion of the Eloy sub-basin include the Picacho Mountains on the east, the Sacaton, Casa Grande, and Sawtooth Mountains on the west, and the Silver Bell Mountains to the south. The mountains are primarily composed of granitic, metamorphic, and volcanic rocks.

The sediments in the Eloy sub-basin consist primarily of sediments that accumulated under restricted or closed drainage conditions. Sands, silts, clays, and evaporates were deposited in playas and/or ephemeral lakes in topographically low areas. Sediments deposited near the mountains consist primarily of sands, gravels, silts and clays. Groundwater was measured from an on-site production well in April 2005 at 221 feet below ground surface (ft bgs). Based upon groundwater data collected from area wells, groundwater levels have steadily increased from 1985 to the present, with increases ranging from 102 to 116 feet.

The groundwater flow direction is generally to the southwest. There are four currently-used wells located within ½ mile radius from the WRF. Two of the wells are classified as irrigation and two of the wells are classified as domestic. Both of the domestic wells are owned by CCA and provide drinking water to the correctional facilities located on the property. The Eloy Detention Center has an on-site drinking water well that is in the process of rehabilitation located approximately 600 feet to the west of State Route 87 at the southeast corner of the site. The drinking water well is located approximately 2,300 feet cross-gradient of the WRF and outside of the pollutant management area (PMA).

## V. SURFACE WATER CONSIDERATIONS

Stormwater/surface water considerations included whether the facility was located within the 100-year flood plain and whether the discharge had the potential to impact surface water drainages located down-stream of the WRF and the recharge basins.

The WRF is located in the Lower Santa Cruz River watershed. The Gila River is located approximately 30 miles northwest of the WRF. The Santa Cruz River is located approximately 7.5 miles south of the WRF. Located approximately five miles south-southeast is McClellan Wash.

There are several manmade surface water bodies within five miles of the WRF, including Picacho Reservoir, located approximately three miles northeast of the WRF and a system of canals and laterals, including the Casa Grande Canal, owned and operated by the Maricopa-Stanfield Irrigation and Drainage District (MSIDD). The MSIDD provides a mixture of Central Arizona Project (CAP) water and groundwater.

Based upon the Pinal County, Arizona Earth Fissure Planning Map (Shipman, June 2007), there are known fissures located within three miles of the WRF. However, there are no known fissures located at the project property.

The Flood Insurance Rate Map (FIRM) for this area prepared by the Federal Emergency Management Agency (FEMA) indicates the WRF and related recharge basins are not within a 100-year floodplain and should not be affected by flooding.

## VI. COMPLIANCE SCHEDULE

The compliance schedule in Section 3.0 of the permit requires the following:

- submittal of an Engineer's Certificate of Completion for Recharge Basin 3 and the expanded components of the WRF;
- submittal of an annual Closure Monitoring and Groundwater Level Report;
- submittal of periodic financial assurance and cost estimate updates;
- submittal of a permit amendment application for construction of a lined pond in the case of three discharge limit exceedances for arsenic in any 12-month period.

## VII. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT

### Technical Capability

CCA, 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).

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

CCA, 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(C)(1). The permittee is expected to maintain financial capability throughout the life of the facility.

### Zoning Requirements

The Eloy Detention Center 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(A)(2)(c).

## 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 permit may be obtained from:

Arizona Department of Environmental Quality  
Water Quality Division Groundwater Section  
Attn: Maribeth Greenslade  
1110 W. Washington Street, Mail Code 5415B-3  
Phoenix, Arizona 85007  
Phone: (602) 771-4578