

Wagner Wash Underground Storage Facility  
Aquifer Protection Permit No. P-514358  
Place ID 235466, LTF No. 100042  
New Permit

**I. Introduction:**

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an 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. 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 (AWQS) at the Point of Compliance (POC); and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). BADCT's purpose 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.

**II. Permittee**

City of Buckeye

**III. Facility Name & Location:**

Wagner Wash Underground Storage Facility  
West Beardsley Parkway and Desert Oasis Boulevard  
Buckeye, Arizona 85396

**IV. Facility Description:**

The permittee is authorized to operate the Wagner Wash Underground Storage Facility (USF) to recharge up to an annual average daily flow of 4.54 million gallons per day (mgd).

The constructed recharge facility is approximately 16 acres (basin floor area) located within the Wagner Wash area and receives effluent from the Sun City Festival Ranch Water Reclamation Facility (WRF) (APP No. 105441) and water from the Central Arizona Project (CAP) from the nearby canal, if available. The Festival Ranch WRF has an Arizona Pollutant Discharge Elimination System (AZPDES) permit (AZ00025216) for discharges to Wagner Wash. The effluent is treated at the WRF to class A+ standards. The USF consists of three recharge basins which are designed with a recharge capacity of up to 4.54 mgd (5037 acre-ft/year). The basins vary in size from 0.5 to 5 acres. The facility also includes two magnetic flowmeters for the two water sources for accurate accounting of volumes, pipeline distribution system and controls, and associated groundwater compliance monitoring points. With a future expansion of the Festival Ranch WRF's treatment capacity from 1 mgd to 3 mgd comes a higher production of reclaimed water that will need to be recharged or utilized by reclaimed water customers. The construction of the three recharge basins will accommodate this increased production of reclaimed water.

Phase 1 (1.24 mgd), includes two recharge basins (Basin #1 and Basin #2) constructed adjacent to and northwest of Wagner Wash. Basin #1 has an approximate 1.07-acre area with a design volume

of 83,811 cubic ft. The area of Basin #2 is 0.55 acre with a design volume of 42,923 cubic ft. The recharge basins have a physical depth of 5 feet with a recharge depth of 2-feet. The two basins are surrounded by a berm to prevent stormwater from entering the basins. With the construction of Phase 1 recharge basins, the facility will provide a recharge capacity of up to 1.24 mgd.

Phase 2 (4.54 mgd) includes a third recharge basin (Basin #3) with an approximate recharge area of 5.05-acre in size which is located within the Wagner Wash. The recharge capacity for Basin #3 is 3.30 mgd with a maximum water depth of 2 feet. The basin is dammed with a concrete retaining wall/levee which allows stormwater to pass through the facility, and down Wagner Wash. Water levels in the basins will be regulated by the recharge system, and thus the off-channel basins are protected from overflow. The third basin is designed to overflow into the wash. Together with Phase 1 basins, the USF will provide a total recharge capacity of up to 4.54 mgd.

The site includes the following permitted discharging facilities:

Facility	Est. Current Capacity (ac-ft/yr)	Latitude	Longitude
Basin #1	1387 (1.24 mgd)	33° 40' 33.48" N	112° 38' 36.86" W
Basin #2		33° 40' 32.90" N	112° 38' 32.79" W
Basin #3	3650 (3.30 mgd)	33° 40' 28.69" N	112° 38' 34.03" W
<b>Total</b>	<b>5037 (4.54 mgd)</b>		

**V. New Permit Description**

The Wagner USF is a new recharge facility that proposes to construct three recharge basins that would accept up to 3,700 AF/yr in excess reclaimed water from the Sun City Festival Community and available Central Arizona Project (CAP) water from both the City of Buckeye and the Pulte Group.

**VI. Best Available Demonstrated Control Technology (BADCT):**

Not applicable as per A.A.C. R18-9-A201 (C).

**VII. Compliance with Aquifer Water Quality Standards (AWQS):**

**Monitoring Requirements**

The permittee shall monitor the total flow according to Section 4.2, Table 9: ROUTINE FLOW MONITORING: Phase 1 – 1.24 mgd and Table 11: ROUTINE FLOW MONITORING: Phase 2 – 4.54 mgd. The flow is monitored at the flow meters located prior to the point of discharge into the recharge basins. One flow meter (FM-1) measures the WRF effluent flow coming into the basins and the other flow meter (FM-2) measures the CAP flow into the basins, if available. The total influent flow into the recharge basins shall be equal to the total flow (WRF effluent flow + CAP flow) measured using the two flow meters.

Effluent quality monitoring is conducted under the Festival Ranch WRF (APP No. 105441).

**Point of Compliance (POC)**

To ensure that site operations do not result in violation of Aquifer Water Quality Standards at the point of compliance, groundwater monitoring is required under this permit per Section 4.2, Table 10 for major cations, major ions, metals and organic compounds.

The Points of Compliance (POCs) have been established at the following locations:

Table 2: POINT(S) OF COMPLIANCE			
POC #	POC Location	Latitude	Longitude
1	MW-1	33°40'26.74" N	112°38'21.52" W
2 (Conceptual)	MW-2	33°40'26.70" N	112°38'00.24" W

The direction of the groundwater flow is from the north to the south and southwest. The depth to groundwater at the site is 339.61 feet.

Groundwater monitoring is required at the point of compliance well POC #1. POC #2 is a conceptual well, monitoring is not required except as a contingency action. The director may require an amendment of this permit to install a monitoring well if there is cause or concern that groundwater quality may be impacted at the POC. The Director may amend this permit to designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.