DRAFT EXECUTIVE SUMMARY

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Sweetwater Recharge Facilities
Aquifer Protection Permit No. P-103370
Place ID 1701, LTF No. 78448
Significant Amendment

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 & Facility Location:

The facility is at 2621 W. Sweetwater Drive, in Tucson, Arizona in Pima County.

III. Facility Description:

The permittee is authorized to operate a constructed wetlands and an underground storage and recovery (USR) project. This combined facility, which shall be called the Sweetwater Recharge Facilities (SRF), shall consist of the Sweetwater Wetlands and Recharge Facility and the Sweetwater Underground Storage and Recovery Facility. The SRF is permitted to recharge up to 13,000 acre-feet of reclaimed water a year.

Constructed Wetlands: The constructed wetlands, occupying approximately 17 acres, consist of two settling basins and two polishing ponds. Both the settling basins and polishing basins receives tertiary effluent from the Pima County Agua Nueva Water Reclamation Facility (WRF), APP #100655. The wetlands function to treat filter backwash water from the Tucson Water Reclamation Plant, APP #100147 to secondary effluent standards. Filter backwash water from the Tucson Water Reclamation Plant is discharged only into the settling basins of the wetlands component of this facility. The polishing basins discharge secondary quality effluent into two of the recharge basins. The settling basins and polishing basins were constructed with re-compacted soil liners, as shown on the design plans approved by and on file with the Pima County Department of Environmental Quality.

Recharge Basins: The USR component of the SRF consists of a total of eleven recharge basins, four on the west side of the Santa Cruz River, seven on the east side of the river and three new basins located north of the east side basins. The west and east side of eight recharge basins occupy approximately 28 acres in area. The three additional basins were constructed in 2014 which are located on north of the current basins providing an additional 12 acres of recharge capacity.

IV. Amendment Description:

The purpose of this amendment is to authorize the facility to make the following changes:

- Replacement of the Point of Compliance (POC) well WR-398A with the Pima County Regional Wastewater Reclamation Department (PCRWRD) owned POC well SC-01R
  - Well WR-398A was located within the footprint of the former unlined Camino del Cerro Sludge Pond, (Pond) where sewage was stored for several decades. Due to potential impacts to the vadose zone and aquifer from the former Pond, it is likely that WR-398A was not truly representative of the discharging activities from the Sweetwater Recharge Facility. It was determined that monitoring SC-01R instead of WR-398A would provide groundwater quality data that is more representative of the discharging activities at Sweetwater.
  - The PCRWRD will share the monitoring data for POC well SC-01R with Tucson Water (TW) as discussed in the signed agreement: 'Memorandum of Understanding Regarding Data Sharing for Aquifer Protection Permit Monitoring', dated September 24, 2019.
- Removal of monitoring of indicator parameters/major cations and anions from Tables I and IIA to conform to the current permit framework
- Removed the sampling requirement for Class A reclaimed water from Tucson Water Reclamation Plant at Point 509 as the Sweetwater Recharge Facility does not receive effluent directly from Tucson Water Reclamation Plant.

ADEQ reviewed and approved the above requested changes. Pursuant to A.A.C. R18-9-A211(B)(4) and (5), the permit category for this amendment was determined to be a 'Significant Amendment'.

V. Regulatory Status

- The last inspection was conducted on October 23, 2018, indicated potential deficiencies for exceeding the Aquifer Quality Limit in permit for Total Nitrogen and Nitrate-Nitrite as N at POC well WR-398A.

VI. Best Available Demonstrated Control Technology (BADCT):

- The wetlands have been designed, constructed, operated, and maintained to meet the treatment performance criteria for facilities as specified in Arizona Administrative Code (A.A.C) R18-9-B205.

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

- 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 collected at the sampling points for reclaimed water and will be monitored for total nitrogen, *E. coli*, metals and organic compounds (see Section 4.2, Table IA, in the permit).

- Groundwater monitoring is required under this permit per Section 4.2, Table IIA and IIB for *E. coli*, nitrogen species, metals and organic compounds.
- Facility inspection and operational monitoring will be performed on a routine basis (see Section 4.2, Table III, in the permit).
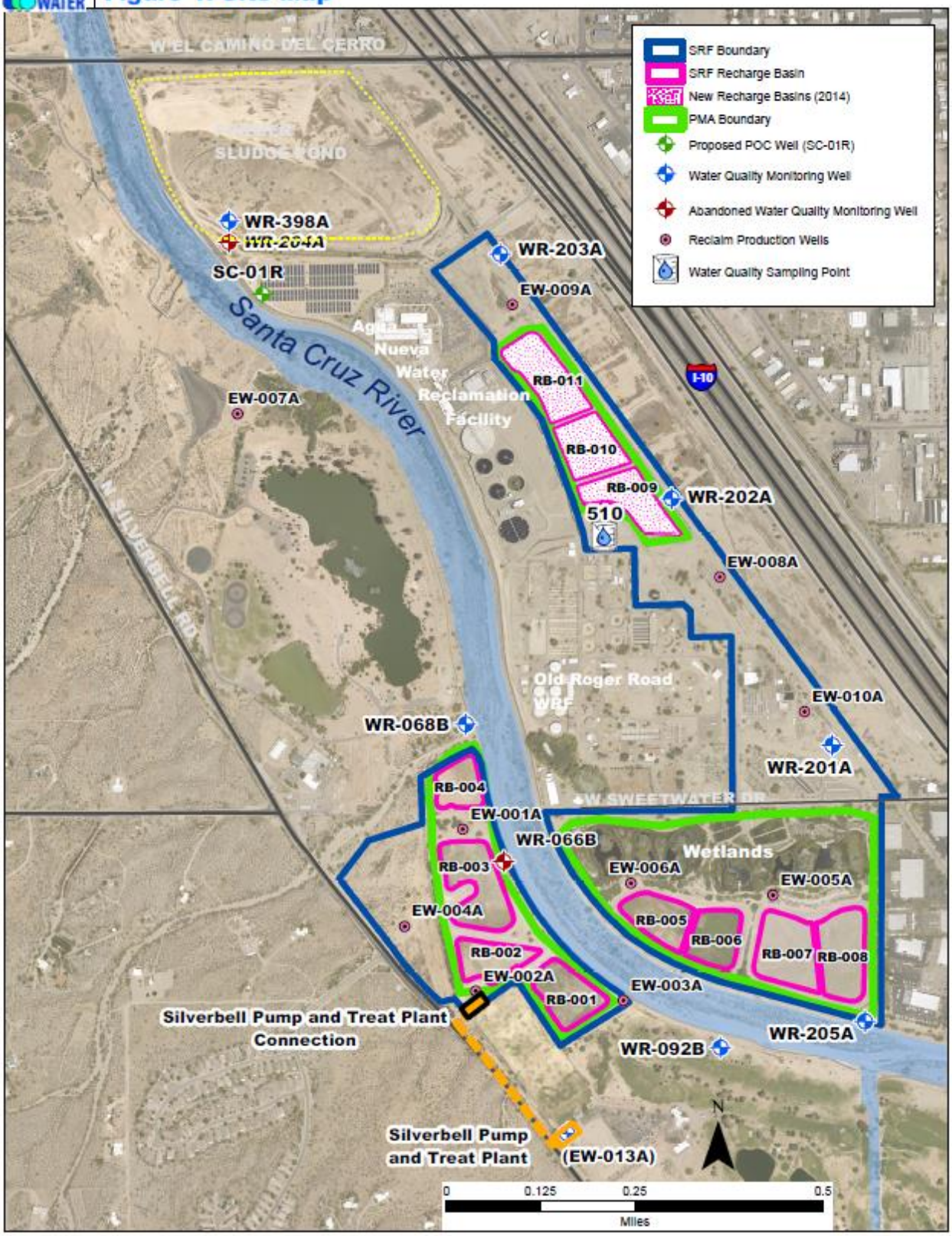
Figure 1. Site Map