

Lake Havasu City North Regional Wastewater Treatment Plant  
 Aquifer Protection Permit No. P-105478  
 Place ID 21739, LTF No. 81873  
 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:**

Name of Permittee:	Lake Havasu City
Mailing Address:	1150 McCulloch Boulevard North Lake Havasu City, Arizona 86403
Facility Name and Location	North Regional Wastewater Treatment Plant 7001 Whelan Drive Lake Havasu City, Arizona 86406

**III. Facility Description:**

The permittee is authorized to operate the North Regional Wastewater Treatment Plant (WWTP) with a design flow of 3.5 million gallons per day (mgd). The WWTP process consists of a headworks with influent screens, an equalization basin, aeration basins, membrane filtration basins, an ultraviolet (UV) disinfection system, and a sludge holding tank. The facility provides chemical feed treatment, when necessary, to meet the turbidity standards for Class A+ reclaimed water for beneficial purposes according to the Lake Havasu City Class A+ Reclaimed Water Agent Permit (Permit # R-101612) in accordance with A.A.C. R18-11-3.

Effluent from North Regional WWTP may be beneficially reused under a valid reclaimed water permit, or recharged to groundwater at one or more recharge facilities connected through the Lake Havasu City Recharge System. Permitted recharge facilities served by the Lake Havasu City Recharge System are located at the Mulberry WWTP (recharge wells permitted in APP No. P-101612), the Island WWTP (recharge basins permitted in APP No. P-101611), the North Regional WWTP (recharge wells permitted in APP No. P-105478) and the South Well Field Recharge Site (APP No. P-105653). All of the WWTPs connected to the Lake Havasu City Recharge System meet the Best Available Demonstrated Control Technology (BADCT) requirements for new facilities. All sludge, including screenings, grit and scum, shall be hauled off-site for disposal in accordance with State and Federal regulations.

Regardless of the source, recharge in the vadose zone wells at the North Regional WWTP is restricted to 3.5 mgd of effluent. Recharge through the vadose zone wells at the North Regional WWTP may also be restricted by a contingency action as per Section 2.6.1.2.

Recharge at the North Regional WWTP site is typically carried out from October 1 to April 30, but is not restricted to this time period. During the months of May through September, groundwater may be pumped from this area to provide water for Lake Havasu City, primarily for irrigation.

Depth to groundwater at North Regional WWTP varies from approximately 333 to 450 feet below ground surface (bgs), and the direction of groundwater flow is toward the west-southwest.

All industrial hookups and other non-residential hookups to the treatment system shall be authorized according to the applicable federal, state or local regulations.

#### **IV. Amendment Description:**

The purpose of this amendment is to:

1. Change Total Coliform to E.Coli (MPN units) in the Groundwater Monitoring Tables.
2. Set AQLs to Not Established for Fluoride in the Groundwater Monitoring Tables due to no record of exceedances of Fluoride in the Discharge Monitoring and because of a history of elevated naturally occurring Fluoride levels in groundwater for the life of the Facility.
3. Reduce the frequency from Semi-Annual to Annual of sampling for Hexachlorobenzene and Hexachlorocyclopentadiene in the Groundwater Monitoring Tables. Additionally, reduce the sampling frequency of VOC's and SVOC's from Semi-Annual to Annual in the Groundwater Monitoring Tables. Lake Havasu City North Regional WWTP has not had any record of exceedances in their groundwater monitoring for VOC's and SVOC's and will continue to monitor VOC's and SVOC's in their Discharge Monitoring at a semi-annual frequency.

This was determined to be a significant amendment because "the permittee requests and the Department agrees to less stringent monitoring that reduces the frequency in monitoring or reporting or reduces the number of pollutants monitored, and the permittee demonstrates that the changes will not affect the permittee's ability to remain in compliance with Articles 1 and 2 of this Chapter" as described in A.A.C. R18-9-A211(B)(4).

#### **V. Regulatory Status**

The facility was last inspected on January 3, 2019, and was found to be in compliance with the APP and Arizona Rules and Statutes.

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

The treatment facility 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. The facility shall meet the performance requirement for industrial pre-treatment as per A.A.C. R18-9-B204(B)(6)(b).

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

Compliance with AWQS are required at the POCs. The Points of Compliance (POCs) have been established at the following locations:

Table 1: POINT(S) OF COMPLIANCE						
POC No.	Well Name	POC Location	ADWR Registration No.	Latitude	Longitude	Well Purpose
1	NP-1	Approximately 1,016 feet northwest of Vadose Zone Injection Well VW-2	55-597190	34° 33' 32.4" N	114° 20' 30.2" N	Hazardous/Non-Hazardous POC
2	NP-2a	Approximately 1,066 feet west-southwest of Vadose Zone Injection Well VW-4	55-221262	34° 33' 21.1" N	114° 20' 37.2" N	Hazardous/Non-Hazardous POC
3	NP-3	Approximately 601 feet northwest of Vadose Zone Injection Well VW-2	55-904049	34° 33' 27.9" N	114° 20' 9.7" N	Hazardous/Non-Hazardous POC
4	NP-12	Approximately 814 feet south-southeast of POC Well NP-2	55-913900	34° 33' 13.9" N	114° 20' 32.6" N	Non-Hazardous POC
5	NP-13	Approximately 955 feet southwest of POC Well NP-2	55-913901	34° 33' 13.7" N	114° 20' 43.6" N	Non-Hazardous POC

Groundwater monitoring is required at the POC wells as per Section 4.2, Table 11: Groundwater Monitoring.