

STATEMENT OF BASIS FOR MODIFICATION
OF AZPDES PERMIT NO. AZ0022357

Pursuant to A.C.C. R18-9-B906, on December 12, 2018, ADEQ received an application from the City of Goodyear (City of Goodyear WRF) to modify AZPDES Permit No. AZ0022357 which became effective on May 2, 2016. The request would increase the design flow from 4.0 MGD to 6.0 MGD.

The City of Goodyear WRF is a Publically Owned Treatment Works (POTW). The receiving water for the City of Goodyear for Outfall 001 and 003 at the confluence of the Salt River and the Gillespie Dam, a tributary to the Gila River in the Middle Gila River Basin. The receiving water for Outfall 002 is the Buckeye Irrigation District (BID) Canal which terminates at the Hassayampa River.

The City of Goodyear WRF currently has three outfalls; Outfall 001, 002, and 003 and uses tertiary treatment. The WRF process consists of an influent pump station, mechanical and manual screens, a grit chamber, three (3) aeration basins with anoxic zones, five (5) clarifiers, three (3) cloth media disc filters, a disinfection system using chlorination, a dechlorination system, an effluent pump station, an emergency effluent storage basin, and a reuse booster pump station. Sludge is digested in two (2) aerobic digesters, thickened using a gravity thickener, and dewatered using three (3) centrifuges and hauled by a licensed contractor to landfill.

The applicable Designated Uses for the Gila River (Outfalls 001 and 003) and the Buckeye Irrigation District Canal (Outfall 002) are below:

Gila River (Outfalls 001 and 003):

Aquatic and Wildlife effluent dependent water (A&Wedw)
Partial Body Contact (PBC)
Fish Consumption (FC)
Agricultural Irrigation (AgI)
Agricultural Livestock watering (AgL)

Buckeye Irrigation District Canal (Outfall 002):

Agricultural Irrigation (AgI)
Agricultural Livestock watering (AgL)

The City of Goodyear WRF expansion to 6.0 MGD (total combined design flow rate) is proposed to attain operational level and begin discharging upon issuance. The installed operational plant will have the capacity of 6.0 MGD and this is the design capacity that will apply during the current permit term which expires on May 1, 2021.

ADEQ has reviewed the request and proposes to modify the permit as follows:

Due to the change in design flow rate (from 4.0 MGD to 6.0 MGD), mass limits for the WWTP have been revised in the draft permit as shown in Part I.A Table 1. Reasonable potential was determined with available data for Outfall 001, 002 and 003.

1. For Part I.A, Table 1, limits for Outfalls 001, 002 and 003 are as follows:

TABLE 1: Effluent Limitations and Monitoring Requirements

Parameter	Maximum Allowable Discharge Limitations					
	Mass Limits (Previous Permit)			Mass Limits (Modified Permit)		
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum
Discharge Flow (MGD)	REPORT (4)	---	REPORT	REPORT (4)	---	REPORT
Biochemical Oxygen Demand (BOD) (5-day)	450 kg/day	680 kg/day	---	680 kg/day	1000 kg/day	---
BOD (6)	---	---	---	---	---	---
Total Suspended Solids (TSS)	450 kg/day	680 kg/day	---	680 kg/day	1000 kg/day	---
TSS (6)	---	---	---	---	---	---
<i>E. coli</i>	---	---	---	---	---	---
Chlorine, Total Residual (TRC) (8) (9)	0.14 kg/day	---	0.27 kg/day	0.2 kg/day	---	0.41 kg/day
Oil & Grease	150 kg/day	---	230 kg/day	227 kg/day	---	340 kg/day
Boron (14)	15.1 kg/day	---	22.0 kg/day	23 kg/day	---	33 kg/day
Chromium VI (11)(12)	0.12 kg/day	---	0.24 kg/day	0.18 kg/day	---	0.36 kg/day
Copper (11) (13)	0.363 kg/day	---	0.728 kg/day	0.545 kg/day	---	1.09 kg/day
Cyanide (11)	0.12 kg/day	---	0.24 kg/day	0.18 kg/day	---	0.36 kg/day
Selenium (11)	0.03 kg/day	---	0.05 kg/day	0.04 kg/day	---	0.07 kg/day
Selenium (10)(14)	0.07 kg/day	---	0.17 kg/day	0.1 kg/day	---	0.25 kg/day
Hardness (CaCO ₃) (11)(13)	Report	---	Report	Report	---	Report
pH (9)	Not less than 6.5 standard units (S.U.) nor greater than 9.0 S.U.			Not less than 6.5 standard units (S.U.) nor greater than 9.0 S.U.		
Whole Effluent Toxicity-Chronic (two (2) species)	See Table 3 for limits			See Table 3 for limits		

Footnotes:

- (1) Mass values are to be calculated and reported using the following formulas: 1) Mass in kilograms per day = 3.785 x flow in MGD x concentration in mg/L, and 2) mass in grams per day = 3.785 x flow in MGD x concentration in µg/L.
- (2) Testing must coincide with the Whole Effluent Toxicity Test (WET) samples, if any, taken during that monitoring period as per Part I.C, Table 3 of the permit. See Part IV of the permit.
- (3) If discharge is infrequent, see Part I.D for minimum effluent characterization monitoring requirements.
- (4) Monitoring and reporting required. No limit set at this time. In addition to the average and maximum flows reported on the Discharge Monitoring forms, daily discharge flow shall be recorded on the **Discharge Flow Record** provided in Appendix B. See Part II.B for reporting requirements.
- (5) For the purposes of this permit, a "24-hour composite" sample has been defined as a flow-proportioned mixture of not less than three discrete samples (aliquots) obtained at equal time intervals during a 24-hour period. The volume of each aliquot shall be directly proportional to the discharge flow rate at the time of sampling.
- (6) Both the influent and the effluent shall be monitored.
- (7) cfu = colony forming units; "most probable number" (mpn) is considered equivalent for reporting purposes. The monthly average for *E. coli* is calculated as a geometric mean. A minimum of 4 samples are required in order to report a geometric mean. See the definition for "Monthly or Weekly Average Concentration Limit" in Appendix A".

- (8) Sample when chlorine or bromine compounds are used for disinfection. See Part II.A.6 for specific monitoring requirements for chlorine.
 - (9) pH and TRC must be measured at the time of sampling and do not require use of a certified laboratory. Measurements must be obtained in accordance with the applicable method and must meet all method quality assurance/quality control requirements to be considered valid data.
 - (10) These monitoring requirements and limits are applicable to outfall 002 only.
 - (11) These monitoring requirements and limits are applicable to outfalls 001 and 003 only.
 - (12) All metals effluent limits are for total recoverable metals, except for Chromium VI, for which the limit levels listed are dissolved.
 - (13) Limits listed are based on the maximum allowed hardness of 400 mg/L as CaCO₃. The effluent and receiving water, if any, must be tested for hardness at the same time that these metal samples are taken. Please see the hardness definition in Appendix A. Part B.
 - (14) The limits are consistent with the waste load allocations (WLA) as described in the December, 2015 TMDL for Outfall 002
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208 Consistency:

In accordance with A.A.C. R18-9-A903(6), a permit cannot be issued for any discharge inconsistent with a plan or plan amendment approved under section 208(b) of the Clean Water Act.

Due to the increase in design capacity, a 208 Plan Consistency Review was required; the facility was determined to be consistent with the Regional Water Quality Management Plan on September 19, 2018.

Anti-Backsliding Considerations:

This permit modification is not removing limitations from the permit, but establishing new mass limits based on a new design flow rate.

Public Notice (A.A.C. R18-9-A907) / Public Comment Period:

These changes are considered a major modification. This proposed modification will be public noticed for a 30-day comment period prior to issuance of the final permit decision.

EPA Review (A.A.C. R18-9-A908(C)):

A copy of this draft permit modification any revisions made to this draft as a result of public comments received will be sent to EPA Region 9 for review. If EPA objects to a provision of the draft, ADEQ will not issue the permit until the objection is resolved.

Antidegradation:

Antidegradation rules have been established under A.A.C. R18-11-107 to ensure that existing surface water quality is maintained and protected. The discharge from the City of Goodyear 157th Ave WRF from Outfalls 001 and 003 will be to an effluent-dependent water. Except for flows resulting from rain events, the only water in the river will be the effluent. Therefore, the discharge and the receiving water will normally be one and the same. The discharge from the City of Goodyear 157th Ave WRF from Outfall 002 will be to a canal which is subject to Tier 1 antidegradation protection. Effluent quality limitations and monitoring requirements have been established under the proposed permit to ensure that the discharge will meet the applicable water quality standards. As long as the permittee maintains consistent compliance with these provisions, the designated uses of the receiving water will be presumed protected, and the increase of design flow from 4 MGD to 6 MGD from the facility will be deemed to meet the current applicable antidegradation requirements under A.A.C. R18-11-107.

These changes are considered a major modification. This proposed modification will be public noticed for a 30-day comment period prior to issuance of the final permit decision.