

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
FACT SHEET
SEPTEMBER 2016

Permittee Name: City of Phoenix 91st Avenue Wastewater Treatment Plant

Mailing Address: 2474 South 22nd Avenue – Building 31
Phoenix, AZ 85009

Facility Location: 5615 South 91st Avenue
Tolleson, AZ 85353

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NPDES Permit No.: AZ0020524

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I. STATUS OF PERMIT

The City of Phoenix (“COP” or the “permittee”) applied for the renewal of its National Pollutant Discharge Elimination System (“NPDES”) permit to allow the discharge of treated effluent from COP 91st Avenue Wastewater Treatment Plant (“WWTP”), and associated Tres Rios Wetlands, in Tolleson, Arizona to the Salt River, located in Maricopa County, Arizona. The permit was last issued on May 24, 2010 and expired on June 30, 2015. EPA had agreed to issue the permit which was issued on May 24, 2010 due to uncertainty over the land ownership status of the facility’s discharge point and whether Arizona Department of Environmental Quality (“ADEQ”) could issue the permit in light of the exclusion of Indian country from the State’s program.

Anticipating that the questions regarding the status of the facility’s discharge point would be resolved during the term of the previous permit and since ADEQ is authorized to administer the NPDES program throughout the State the COP submitted a complete and timely renewal application to ADEQ on December 12, 2014. Following discussions between EPA, COP and the Gila River Indian Community (“GRIC”) concerning the still unsettled jurisdictional issues related to the discharge point EPA determined that it will again issue the renewed permit for the facility. Accordingly ADEQ transferred the application to EPA on or about April 8, 2015. EPA has developed this permit and fact sheet pursuant to Section 402 of the Clean Water Act, which establishes the program by which point source dischargers may obtain an NPDES permit authorizing the discharge of pollutants to waters of the United States.

The permittee is currently discharging under NPDES permit AZ0020524 issued on May 24, 2010. Pursuant to 40 CFR 122.21, the terms of the existing permit were administratively extended by EPA on June 29, 2015 until the issuance of a renewed permit.

The permittee is classified as a Major discharger.

II. GENERAL DESCRIPTION OF FACILITY

The COP 91st Avenue WWTP is located on the north bank of the Salt River, at 5615 South 91st Avenue, in Tolleson, Arizona, in Township 1 N, Range 1 E, and Section 27 S ½, and Section 34 N ½. The associated Tres Rios Wetlands are located west of the existing facility as indicated on the map which shows the location of the facility and adjacent properties (Appendix A).

The facility provides wastewater treatment services for the Sub-Regional Operating Group (SROG) member cities of Glendale, Mesa, Phoenix, Scottsdale, and Tempe, in Maricopa County, Arizona. The facility is a municipal wastewater treatment facility that employs a nitrification/denitrification process to treat municipal and industrial wastewater generated in the metropolitan Phoenix area by the SROG communities, serving a population of about 2.5 million. The COP 91st Ave WWTP is authorized to operate at a design flow capacity of 230 million gallons per day (MGD) and is the basis for the permit. The present facility consists of seven individual activated sludge WWTPs operated in parallel that merge before dechlorination and discharge. Each plant includes the following unit processes: screening, grit removal, flow

measurement/flow distribution, primary sedimentation (with enhanced sedimentation possible), activated sludge biological treatment, secondary clarification, chlorine disinfection, centrifuge thickening of primary sludge and waste activated sludge, anaerobic sludge digestion, sludge drying beds, and centrifuge dewatering of digested sludge. A portion of the effluent, about 70 MGD on average, is discharged to constructed wetlands where further treatment occurs (as described below). The expansion of the plant during the previous permit term was for the full expansion and unification of the plant processes under UP01 and UP05. This includes additions of: new headworks, new grit and screenings handling facility, 7 mechanical bar screens, one manual bar screen, 2 primary sedimentation basins, 2 aeration basins, 2 secondary sedimentation basins and chlorine building and mixing structures.

Currently, the plant processes an average of about 140 MGD of influent from its collection system. A portion of the treated effluent is sent to the Palo Verde Nuclear Generating Station ("PVNGS") for reuse. The rest of the effluent flows to the Salt River from the Tres Rios Flow Regulating Wetland ("FRW"). The permittee has also indicated that it would like to continue to retain the option of discharging directly into the Salt River for emergency situations. The 2010 permit included discharge locations 002, 004 and HDW-1 related to the then existing Hayfield Demonstration Wetland ("HDW"). Since COP no longer operates the Hayfield Demonstration Wetland Outfalls 002, 004 and HDW-1 have been eliminated from the renewed permit. The renewed permit therefore is for the potential discharge of wastewater either through Outfall 005 for wastewater which will flow through the Tres Rios Flow Regulating Wetland before discharge or via Outfall 001 directly to the Salt River. Monitoring stations have also been established in the permit at the influent to the FRW wetlands at FRW-1, FRW-2 and FRW-3. The exact location of each is given below and also indicated on the FRW flow diagram attached as Appendix B.

Data submitted by COP with the permit renewal application indicate that discharge rates through Outfall 005 to the Salt River have ranged between 40 and 130 MGD. The application also states that as of December 2012 Outfall 001 is no longer used to discharge effluent to the Salt River. However, COP is requesting that Outfall 001 be retained as an emergency discharge location. In addition to these outfalls, the WWTP delivers, via pipeline, on average, about 70 MGD of treated effluent to the Palo Verde Nuclear Generating Station in Tonopah, AZ, for reuse as cooling water for the power plant. COP also reuses a very small volume of about 0.02 million gallons per month of treated effluent for flood and drip irrigation for landscaping at the facility.

Solids handling facilities (sludge) are designed to achieve reduction in volatile solids, pathogens, and moisture content in solids removed by primary and secondary sedimentation (i.e., primary and waste activated sludge). Residual sludge from various WWTPs in the cities of Gilbert, Glendale, Mesa, Phoenix, Scottsdale and Tempe is received by the COP 91st Avenue WWTP. The Mesa Northwest Water Reclamation Plant has anaerobic sludge digestion, but may, on occasion, divert undigested sludge to the 91st Ave WWTP. The sludge from these other facilities is discharged by the individual facilities into the wastewater interceptors system through which it flows to the 91st Avenue WWTP commingled with the influent wastewater. Specific processes for sludge treatment at the 91st Avenue WWTP include primary sedimentation (with enhanced sedimentation possible), activated sludge treatment, centrifuge thickening of both primary and waste activated sludge, anaerobic digestion, sludge drying beds, and centrifuge dewatering of digested sludge. The digested sludge, also known as biosolids, are stabilized and dewatered, and

then are removed by a contract hauler to local farms for agricultural land application. COP plans to continue this method of solids management through this permit term.

This facility currently accepts waste from a total of 70 Significant Industrial Users (SIUs), including 36 non-categorical SIUs and 34 categorical SIUs.

In addition to wastewater the plant receives groundwater and stormwater discharges. The City pumps groundwater from on-site dewatering wells to prevent floating below-ground facilities. Additional wells are also used during construction of phase 1 of the Unified Plant. Most groundwater is sent to the plant and either discharged through Outfall 005 or is sent to the Palo Verde Nuclear Generating Station.

On-site storm water is collected in retention basins and secondary retention structures. The applicant indicates there is no run-on of stormwater to the site. For small rainfall events the water evaporates in the basin. After larger rainfall events the stormwater is pumped to the headworks or Plant 3 reuse channel. (The Plant 3 reuse channel provides treated wastewater for on-site washwater/irrigation and does not discharge to the River.) Some stormwater may also enter the plant through engineered holes in the primary tank walls at grade level.

III. DESCRIPTION OF RECEIVING WATER

The receiving water is the Salt River. Currently the GRIC does not have federally adopted water quality standards, and since the receiving water eventually flows into portions of the Salt River that are undisputedly in Arizona state waters, the EPA will use the EPA approved Arizona Surface Water Quality Standards (A.A.C. R18-11) to develop the limits in this permit. However, EPA under its best professional judgment (BPJ) authority under the Clean Water Act (CWA) may also use Federal criteria, if it deems them more protective. Reissuance of the permit is important as the State of Arizona, has adopted new water quality standards to protect the designated uses of its surface waters. This permit will reflect these new standards.

The receiving water for the COP 91st Avenue WWTP is the Salt River, in the segment between the 23rd Avenue WWTP and the confluence with the Gila River, in the Salt River Basin.

Outfall 001 is located at:

Township 1 N Range 1 E Section 34
Latitude 33° 23' 21" N, Longitude 112° 15' 15" W

Outfall 005 is located at:

Township 1 N Range 1 E Section 33
Latitude 33° 23' 18" N, Longitude 112° 15' 53" W

FRW-1 is located at:

Latitude 33° 23' 50" N, Longitude 112° 15' 26" W

FRW-2 is located at:

Latitude 33° 23' 48.37" N, Longitude 112° 15' 42.71" W

FRW-3 is located at:

Latitude 33° 23' 44.74" N, Longitude 112° 15' 54.52" W

The receiving segment of the Salt River was on the ADEQ 303(d) list of impaired waters for DDT metabolites, toxaphene and chlordane in fish tissue as of 2004. However since then, this segment has been de-listed by ADEQ in 2014 and this de-listing was approved by EPA in 2015. Consequently the Surface Water Quality Standards for these parameters are now only monitoring requirements and no longer incorporated into this permit as limits.

The outfall discharges to, or the discharge may reach, a surface water listed in Appendix B of A.A.C. Title 18, Chapter 11, Article 1.

The receiving water has the following designated uses:
 Aquatic and Wildlife effluent dependent water (A&Wedw)
 Partial Body Contact (PBC)
 Fish Consumption (FC)
 Agricultural Irrigation (AgI)
 Agricultural Livestock watering (AgL)

Given the uses stated above, the applicable narrative water quality standards are described in A.A.C. R18-11-108 and the applicable numeric water quality standards are listed in A.A.C. R18-11-109, and in Appendix A thereof. There are two standards for the Aquatic and Wildlife uses, acute and chronic. The standards for all applicable designated uses are compared and the limits are developed to protect for all applicable designated uses.

IV. DESCRIPTION OF DISCHARGE

A. Recent DMR Data

The City of Phoenix has been monitoring the effluent at outfall 001 and 005 under the previous NPDES permits issued by EPA. Data has been submitted with the application and during the application process for multiple parameters. The following is the effluent quality based on the treatment processes designed, as reported by the applicant during the application process.

Effluent Data from Outfall 001 (2010-2012)

| Parameters | Units | Effluent Limit | Effluent Max |
|-------------------------|-------|-----------------------------|-------------------------|
| BOD | mg/L | Not required | Not required |
| CBOD | mg/L | 25monthly/40weekly average | 8 daily |
| Total Residual Chlorine | ug/L | 11monthly/18.1daily average | <19.1 (detection limit) |
| TSS | mg/L | 30monthly/45weekly average | 13.5 daily |
| TKN | mg/L | Monitoring only | 2.9 daily |

| | | | |
|-------------------------------|------------|--|------------|
| E. Coli | # / 100 mL | 12monthly/575daily Average | 51.2 daily |
| Ammonia (as N) | mg/L | Varies based on month | 2.2 daily |
| Dissolved Oxygen | mg/L | 3/1 single sample minimum day/night | 4.04 |
| Nitrate plus Nitrite Nitrogen | mg/L | Monitoring only | 5.2 |
| Phosphorus (Total) | mg/L | Monitoring only | 4.4 |
| Total Dissolved Solids | mg/L | Monitoring only | 1120 |

Effluent Data from Outfall 005 (2013-2015)

| Parameters | Units | Effluent Limit | Effluent Max |
|-------------------------------|------------|--|--------------------------|
| BOD | mg/L | Not required | Not required |
| CBOD | mg/L | 25monthly/40weekly average | 14 daily |
| Total Residual Chlorine | ug/L | 11monthly/18.1daily average | < 24.5 (detection limit) |
| TSS | mg/L | 30monthly/45weekly average | 57.4 |
| TKN | mg/L | Monitoring only | 3.2 daily |
| E. Coli | # / 100 mL | Monitoring only | 2419.6 daily |
| Ammonia (as N) | mg/L | Varies based on month | 2.2 daily |
| Dissolved Oxygen | mg/L | 3/1 single sample minimum day/night | 4.16 |
| Nitrate plus Nitrite Nitrogen | mg/L | Monitoring only | 4.1 |
| Phosphorus (Total) | mg/L | Monitoring only | 4.2 |
| Total Dissolved Solids | mg/L | Monitoring only | 1110 |

Effluent Data from Internal Outfall FRW-1 (2013-2015)

| Parameters | Units | Effluent Limit | Effluent Max |
|-------------------------|-------|-------------------------------|--------------|
| BOD | mg/L | Not required | Not required |
| CBOD | mg/L | 25monthly/40weekly average | 13 daily |
| Total Residual Chlorine | mg/L | Monitoring only | 2.3 |
| TSS | mg/L | 30monthly/45weekly average | 18.2 |
| TKN | mg/L | Monitoring only | 4.2 daily |

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|-------------------------------|------------|--|-------------|
| E. Coli | # / 100 mL | 126monthly/575daily Average | 146.7 daily |
| Ammonia (as N) | mg/L | Varies based on month | 2.7 daily |
| Dissolved Oxygen | mg/L | 3/1 single sample minimum day/night | 4.34 |
| Nitrate plus Nitrite Nitrogen | mg/L | Monitoring only | 4.5 |
| Oil and Grease | mg/L | Monitoring only | 5.1 |
| Phosphorus (Total) | mg/L | Monitoring only | 4.3 |
| Total Dissolved Solids | mg/L | Monitoring only | 1120 |

In addition to this, the application also included data for metals, organics (VOCs and SVOCs), pesticides, oil & grease, pH, temperature, hardness, cyanide, and whole effluent toxicity (WET) testing for outfalls 001 and 005, as well as internal monitoring locations FRW-1, FRW-2, FRW-3, and HDW-1. Over the period of the previous permit cycle, COP stopped discharging from outfall 001 at the end of 2012. COP also stopped inflow into the Hayfield Demonstration Wetlands at the end of 2012 and so the data from outfall 001 and the HDW-1 monitoring location ceased being collected at that time.

The COP has been in compliance with the permit limits except for a few exceedances of the selenium limit at Outfall 005. Exceedances of cyanide levels at FRW-1, a monitoring station, have also been reported. The COP has conducted investigations to understand and mitigate these exceedances and has demonstrated to the satisfaction of EPA that these were probably caused by one-off events unrelated to the underlying water quality of the effluent.

At the beginning of the previous permit term in July 2010 the Flow Regulating Wetland (FRW) began start-up operations, with the first discharge at monitoring location Outfall 005 occurring on August 3, 2010. As required in the previous permit, the COP submitted a Wetland Treatment Assessment a year after the beginning of operations in September 2011. The Assessment concluded that the Wetland was operating as designed, and after an initial period of maturation where there were exceedances of pH, limited denitrification, and increased cBOD, etc., it has been effective in polishing the effluent that enters the wetland at FRW-1 and removes total residual chlorine (TRC) as intended with removal efficiencies of 98.8% 99.3% and 99.4% at FRW-2, FRW-3 and Outfall 005.

As a biological system, the FRW, as expected, does increase the concentrations of certain parameters in the actual discharge to the Salt River at Outfall 005, as compared to the levels in the treated effluent that enters the FRW as measured at FRW-1. Such parameters include *E. coli* and Total Suspended Solids (TSS). EPA continues to support monitoring for compliance for these parameters at FRW-1.

When EPA issued the 2010 permit there was much uncertainty about the impacts of the wetlands system on effluent quality. Over the term of the 2010 permit the uncertainty has been reduced significantly as detailed data about the actual performance of the wetland have been gathered.

EPA however still believes that an adaptive management approach is warranted. EPA intends to consider the various factors related to the functioning of a living treatment system, such as the FRW and exercise appropriate discretion if exceedances to permit conditions occur as a result of the natural processes within the FRW. EPA recognizes the many benefits of a constructed wetland, including the ability to polish secondary treated effluent, while ensuring downstream beneficial uses remain protected.

V. SIGNIFICANT CHANGES TO PREVIOUS PERMIT

| Permit Condition | Previous Permit (2010 – 2015 + admin extended) | Re-issued Permit 2016 -2021) | Reason for change |
|---|--|---|--|
| Permitted Outfalls and Internal Monitoring locations removed. | Outfalls 001, 002, 004, and 005. Internal monitoring points HDW-1 and FRW-1, FRW-2, and FRW-3. | Outfalls 001, and 005. Internal monitoring points FRW-1, FRW-2, and FRW-3. | The discharger discontinued using the Hayfield demonstration wetland and established the Tres Rios Flow Regulating Wetland. (FRW) |
| In-stream monitoring removed. | Permittee required to conduct in-stream water quality monitoring at two points in the Salt River. Annual Report to be submitted to EPA and ADEQ. | No in-stream monitoring required. | The original requirement for in-stream monitoring was to assess the impact on in-stream water quality from discharge from the FRW. FRW has had a positive impact on in-stream water quality. Additionally the upstream monitoring location no longer has surface flow, as the Hayfield site has been discontinued. |
| Whole Effluent Toxicity limit for <i>C. dubia</i> removed. Monitoring frequency reduced to match that of <i>P. promelas</i> and <i>S. capricornutum</i> . | Effluent limit of 1.0 TUC monthly average and 1.6 TUC daily maximum for <i>C. dubia</i> with monthly monitoring and same Action levels for | Action levels of 1.6 TUC daily maximum with quarterly monitoring for <i>C. dubia</i> , <i>P. promelas</i> , and <i>S. capricornutum</i> | During the previous permit cycle there were no WET exceedances at compliance Outfalls. Therefore WET limits have been removed. |

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| | <i>P.promelas</i> and <i>S.capricornutum</i> with quarterly monitoring. | | It is EPA policy to require WET monitoring for Major dischargers. As 91 st Ave. is a Major discharger, monitoring has been continued. |
| WET monitoring at Internal monitoring point FRW-1 removed. | WET monitoring was required at FRW-1 with the same action levels for all three species at the same frequency as required for the compliance Outfalls (See above). | No WET monitoring is required at FRW-1. | WET monitoring routinely indicated elevated toxicity at FRW-1. TIE/TRE studies confirmed that the elevated toxicity was due to high total residual chlorine (TRC) levels at the inflow into the FRW. By the time the flow reached FRW-2 and FRW-3 monitoring data indicated that TRC levels are reduced by 98%. As no whole effluent toxicity was detected at the compliance Outfalls, WET monitoring is no longer required at FRW-1. |
| Ammonia effluent limit changed | Ammonia Limits were monthly and based on the historic average temperature and pH found in the receiving water. The permittee reported effluent values on the DMRs. | Compliance with the ammonia limit will be determined using a ratio, called the ammonia impact ratio (“AIR”). The permit limit is set to a value of 1.0 The permittee also must continue to monitor and report effluent values in addition to the AIR value. | AIR provides more flexibility than a specific, fixed effluent concentration and is easier than a floating limit to determine and report compliance. |

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| Ammonia limit compliance location changed | Ammonia compliance was measured at Outfall 005 | Ammonia compliance is measured at FRW-1 | Ammonia monitoring data collected over the previous permit cycle indicate that in the vast majority of cases Ammonia levels are reduced from FRW-1 to Outfall 005. In a very small number of cases Ammonia may be increased due to natural processes in the wetland which the City cannot control. The City is willing to forego the Ammonia “polishing” abilities of the wetland to meet Ammonia limits at FRW-1 which it can control in the WWTP. |
| New limit for Boron. | Monitoring. | Limit of 1000 ug/L as in A.C.C. R18-11-109 for AgI designated use with monthly monitoring. | Data indicate potential exceedance of Boron. Also the receiving water has TMDL for Boron and 91 st Ave. was allocated a WLA and prescribed a permit limit. |
| New limit for Heptachlor | Monitoring. | Limit of .00008 ug/L As in A.C.C. R18-11-109 for FC designated use with monthly monitoring | Data indicate exceedance of Heptachlor. |
| New limit for Hexachlorocyclohexane alpha | Monitoring only. | Limit of .005 ug/L as in A.C.C R18-11-109 for FC designated use with monthly monitoring. | Data indicate exceedance of Alpha-BHC and RP exists. A limit is included only for the Alpha-BHC the other congeners are to be monitored but no limits included |
| New monitoring required for | No monitoring | Semi-annual or 1X/6 mos. Monitoring. | The A.A.C R18-11-109 has established |

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| <p>Chlorpyrifos, Guthion, Hydrogen Sulfide, Malathion, Mirex, Paraquat, Parathion, Permethrin, Tributyltin, and Uranium</p> | | | <p>water quality standards for these pollutants. The COP 23rd Ave. Permit issued by ADEQ has monitoring for these pollutants and including them in this permit is consistent.</p> |
| <p>Monitoring frequency for parameters in Table 1. (Outfall 001, 005 and FRW-1) changed as follows:</p> | <p>Temp. 1X/mo. Oil & Grease 2X/mo. VOCs Quarterly Base-neut. Quarterly Chlordane Quarterly DDT/E/D Quarterly Heptachlor Quarterly alpha-BHC Quarterly Expd. Req. Quarterly</p> | <p>Temp. 1X/week Oil & Grease 1X/mo. VOCs 1X/6 mos. Base-neut. 1X/6 mos. Chlordane 1X/6 mos. DDT/E/D 1X/6 mos. Heptachlor 1X/mo. alpha-BHC 1X/mo. Expd. Req. 1X/6 mos.</p> | <p>Temp. monitoring has been increased to match ammonia monitoring. Oil & Grease monitoring has been increased for consistency. Data from the previous permit cycle indicate no violations for pollutants whose monitoring frequency has been reduced. Data from the previous permit cycle indicate exceedances or RP for pollutants whose monitoring frequency has been increased.</p> |
| <p>Monitoring frequency for parameters in Table 2. (FRW-2 and FRW-3)</p> | <p>Flow none Temp. weekly pH weekly TRC weekly Ammonia weekly TSS weekly All metals Quarterly Cyanide Quarterly tot. phenols Quarterly</p> | <p>Flow 1X/mo. Temp. 1X/mo. pH 1X/mo. TRC 1X/mo. Ammonia 1X/mo. TSS 1X/mo. All metals Annually Cyanide Annually tot. phenols Annually</p> | <p>Flow monitoring now required. Temp. pH, TSS and TRC monitoring reduced from weekly to monthly and made consistent. Data from previous permit cycle indicate no exceedances and therefore monitoring frequency for All metals Cyanide and Total Phenols reduced from Quarterly to Annual.</p> |

| | | | |
|--|---|--|--|
| <p>Special Condition regarding Sanitary Sewer Overflows (SSOs)</p> | <p>Required extensive monitoring and reporting to EPA of any SSO events.</p> | <p>Coverage under the CMOM and EPA copied on reporting to State.</p> | <p>Since the issuance of the previous permit the COP 91st Ave. facility has obtained and maintains coverage under a State-issued general permit for CMOM. This is substantially equivalent to the requirements under the SSO special condition and therefore the detailed requirements for SSOs are no longer required. However, 24 hour and 5 day reporting is required.</p> |
| <p>Reporting of DMRs</p> | <p>DMRs. To be submitted in hardcopy with wet signature</p> | <p>DMRs to be submitted electronically to the NetDMR system.</p> | <p>Pursuant to recently adopted regulations at 40 CFR 122 and 127. DMRs and other reports including special reports must be submitted electronically to NetDMR system.</p> |
| <p>BMP and SWPPP Requirements</p> | <p>Part V. of the permit outlined in detail the BMPs and SWPPP requirements for controlling stormwater discharges</p> | <p>This section is no longer included in the permit.</p> | <p>During the drafting of the previous permit there was uncertainty about the potential for discharge of Stormwater from the facility and Part V. was included. In the permit renewal application and during the comment period the City has categorically stated that it does not directly discharge stormwater. Therefore this Section is not required.</p> |

VI. DETERMINATION OF NUMERICAL EFFLUENT LIMITATIONS

EPA has developed effluent limitations and monitoring requirements in the permit based on an evaluation of the technology used to treat the pollutant (e.g., “technology-based effluent limits”) and the water quality standards applicable to the receiving water (e.g., “water quality-based effluent limits”). EPA has established the most stringent of applicable technology based or water quality based standards in the proposed permit, as described below.

A. Applicable Technology-based Effluent Limitations

Publicly Owned Wastewater Treatment Systems (POTWs)

EPA developed technology-based treatment standards for municipal wastewater treatment plants in accordance with Section 301(b)(1)(B) of the Clean Water Act. The minimum levels of effluent quality attainable by secondary treatment for Carbonaceous Biochemical Oxygen Demand (CBOD₅) and Total Suspended Solids (TSS), as defined in 40 CFR 133.102, are listed below and are incorporated into the permit. CBOD will be monitored and reported in lieu of BOD due to concerns over complete denitrification in effluent.

| Concentration Based Effluent Limits | | | |
|-------------------------------------|----------------|---------------|--------------------|
| | 30-day Average | 7-day Average | Removal Efficiency |
| CBOD ₅ | 25 mg/l | 40 mg/l | 85 % minimum |
| TSS | 30 mg/l | 45 mg/l | 85 % minimum |

Additionally, technology based treatment requirements may be imposed on a case-by-case basis under Section 402(a)(1) of the Act, to the extent that EPA promulgated effluent limitations are inapplicable (i.e., the regulation allows the permit writer to consider the appropriate technology for the category or class of point sources and any unique factors relating to the applicant). (40 CFR Part 125.3(c)(2))

Therefore, effluent limits for CBOD₅ and TSS are established in the permit as stated above.

B. Water Quality-Based Effluent Limitations ("WQBELs")

Water quality-based effluent limitations, or WQBELs, are required in NPDES permits when the permitting authority determines that a discharge causes, has the reasonable potential to cause, or contributes to an excursion above any water quality standard (40 CFR 122.44(d)(1)).

When determining whether an effluent discharge causes, has the reasonable potential to cause, or contributes to an excursion above narrative or numeric criteria, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to

toxicity testing (when evaluating whole effluent toxicity) and where appropriate, the dilution of the effluent in the receiving water. (40 CFR 122.44 (d) (1) (ii)).

EPA evaluated the reasonable potential to discharge toxic pollutants according to guidance provided in the *Technical Support Document for Water Quality-Based Toxics Control* (TSD) (Office of Water Enforcement and Permits, U.S. EPA, March 1991) and the *U.S. EPA NPDES Permit Writers Manual* (Office of Water, U.S. EPA, December 1996). These factors include:

1. Applicable standards, designated uses and impairments of receiving water
2. Dilution in the receiving water
3. Type of industry
4. History of compliance problems and toxic impacts
5. Existing data on toxic pollutants - Reasonable Potential analysis

1. Applicable standards, designated uses and impairments of receiving water

Jurisdiction over the receiving water is currently in dispute between GRIC and Arizona. Because GRIC does not have EPA-approved water quality standards, EPA is applying Arizona's approved water quality criteria.

The Arizona Administrative Code (Water Quality Standards) establishes water quality criteria for the following beneficial uses for the Salt River between the 23rd Ave WWTP to the Salt River's confluence with the Gila River:

- Aquatic and Wildlife, effluent dependent waters (A&Wedw)
- Partial Body Contact (PBC).
- Fish Consumption (FC).
- Agricultural Irrigation (AgI).
- Agricultural Livestock Watering (AgL).

Applicable water quality standards establish water quality criteria for the protection of aquatic wildlife from acute and chronic exposure to certain metals that are hardness dependent, with a "cap" of 400 mg/l. Based on available hardness data for the discharge, the permit establishes water quality standards for these metals based on a hardness value of 279 mg/L.

2. Dilution in the receiving water

During certain times of the year, discharges from one or more of the outfalls might occur when there is no natural flow. Therefore, no dilution of the effluent has been considered in the development of water quality based effluent limits applicable to the discharge.

3. Type of industry or discharger

Typical pollutants of concern in untreated and treated domestic wastewater include ammonia, nitrate, oxygen demand, pathogens, temperature, pH, oil and grease, and solids. Chlorine and turbidity may also be of concern due to treatment plant operations.

C. Rationale for Effluent Limits

1. Secondary Treatment Standards and other common Wastewater Treatment Plant limits

Ammonia.

The Arizona Administrative Code, Title 18, Chapter 11 contains acute and chronic ammonia standards that are contingent upon temperature and pH values. The chronic criteria are more stringent than the acute ammonia criteria, so the effluent ammonia shall be compared to the chronic ammonia standards. Ammonia limits have been incorporated into this permit. Additionally ammonia monitoring is required to be concurrent with pH and temperature measurements so that the permittee not only reports the actual ammonia concentration in mg/L but also calculates the Ammonia Impact Ratio (AIR) calculated as the ratio of the ammonia value in the effluent and the applicable ammonia standard in the Arizona Water Quality Standards. The AIR is the ammonia effluent limit and must be reported in the DMRs in addition to the ammonia, pH, and temperature value.

Data gathered over six years during the previous permit term indicate that Ammonia levels are generally reduced by natural processes in the constructed wetlands. However, on rare occasions the naturally occurring nitrification process in the wetland could result in an increase in the Ammonia level. Therefore the City has requested and the permit allows that compliance with the Ammonia effluent limit be achieved at FRW-1 after disinfection of the treated effluent but prior to the potential introduction of Ammonia from natural processes. Monitoring for Ammonia shall occur at 005 on a monthly basis.

CBOD₅ and TSS.

Limits for CBOD₅ and TSS are established for POTWs as described above and are incorporated into the permit. Under 40 CFR 133.102, mass limits are also required for CBOD₅ and TSS. Based on the design flow, the mass based limits are based on the following calculations:

Average Monthly Mass Limits:

| Design Flow (daily average) | Average Monthly Concentration Limit | Conversion factor | Monthly Average Mass Limit |
|--------------------------------|--|----------------------|-------------------------------|
| 230 MGD | 25 mg/L | 8.345 | 48,000 lbs/day |
| 230 MGD | 30 mg/L | 8.345 | 57,600 lbs/day |

Average Weekly Mass Limits:

| Design Flow (daily maximum) | Average Weekly Concentration Limit | Conversion factor | Weekly Average Mass Limit |
|--------------------------------|------------------------------------|-------------------|---------------------------|
| 230 MGD | 40 mg/L | 8.345 | 76,800 lbs/day |
| 230 MGD | 45 mg/l | 8.345 | 86,400 lbs/day |

The Wetland Treatment Assessment, required in the previous permit was designed to characterize the effect of the wetland on TSS concentration. It is observed that natural processes in the constructed wetlands introduces additional suspended solids into the waters. Therefore the permit allows that compliance with the TSS effluent limit be achieved at FRW-1 after disinfection of the treated effluent but prior to the introduction of TSS from natural sources. Monitoring for TSS shall occur at 005 on a monthly basis.

Chlordane, Toxaphene and DDT Metabolites

The Salt River is no longer listed as impaired for chlordane, toxaphene and DDT metabolites. Therefore permit limits have been removed for all three parameters. However, monitoring and reporting for all three parameters has been retained.

Dissolved Oxygen.

The criteria for dissolved oxygen set forth in A.A.C.R 18-11-109(E) for A&Wedw requires the DO level to be a minimum of 3.0 mg/L starting three hours after sunrise to sunset and a minimum of 1.0 mg/L from sunset to three hours after sunrise. Effluent limitations for DO are established in this permit accordingly.

E.coli.

The criteria for *E.coli* set forth in A.A.C.R 18-11-109(A) for PBC describe a geometric mean of 126 cfu/100ml and single sample maximum of 575 cfu/100ml. Effluent limitations for *E.coli* are established in this permit accordingly.

The Wetland Treatment Assessment, required in the previous permit was designed to characterize the effect of the wetland on *E.coli* concentration. It is observed that natural sources, primarily avian and mammalian wildlife that extensively use these wetlands, introduce additional bacteria into the waters. Therefore the permit allows compliance with *E.coli* effluent limit be achieved at FRW-1 after disinfection of the treated effluent but prior to introduction of *E.coli* from natural sources. Monitoring for *E.coli* shall occur at outfall 005 on a monthly basis.

Flow.

No limits established for flow, but flow rates must be monitored and reported at the frequencies indicated in Table 1. and Table 2. in the permit.

pH.

As described in A.A.C.R 18-11-109(B), the criteria for PBC, A&W, and AgL require pH to not exceed a water quality standard of 9.0 and not subcede an SWQS of 6.5 standard units. Effluent limitations for pH are established in this permit accordingly.

2. Summary of Reasonable Potential Analysis for other parameters with Permit Limits

| Parameter | Maximum Observed Concentration | RP Multiplier | Projected Maximum Effluent Concentration | Most Stringent Water Quality Criterion | Statistical Reasonable Potential? |
|------------------------------|--------------------------------|---------------|--|--|--|
| Bis (2-ethylhexyl) phthalate | 5.1 | 3.2 | 16.3 | 7.4 ug/L FC | RP exists. Data has exceeded the standard. |
| Boron | 442 | 2.6 | 1150 | 1000ug/L | RP exists. Data has exceeded the standard. |
| Cadmium | 1.0 | 2.0 | 2.0 | 1.14 ug/L/ A&Wedw chronic | RP Exists. Data has exceeded the standard. |
| Cyanide ⁽²⁾ | 61 | 2.0 | 122 | 9.7 ug/L/ A&Wedw | Indeterminate. Limit will be retained to be protective of receiving water beneficial uses. |
| Endosulfan (Total) | 0.029 | 2.6 | 0.075 | 0.06 ug/L / A&Wedw | RP Exists. Data has exceeded the standard. |
| Endrin | 0.035 | 2.9 | 0.10 | 0.004 ug/L /AgI | RP Exists. Data has exceeded the standard. |
| Heptachlor | 0.094 | 3.2 | 0.30 | 0.00008 ug/L FC | RP Exists. Data has exceeded the standard. |
| Hexachlorocyclohexane alpha | 0.062 | 3.2 | 0.20 | 0.005 ug/L /FC | RP Exists. Data has exceeded the standard. |
| Lead | 8.0 | 2.6 | 20.6 | 9.53 ⁽¹⁾ ug/L / A&Wedw chronic. | RP Exists. Data has exceeded the standard. |
| Mercury | .0021 ug/L | 3.5 | .007 | 0.012 ⁽¹⁾ ug/L/ A&W edw chronic | Indeterminate. Limit will be retained to be protective of receiving water beneficial uses. |
| Selenium ⁽²⁾ | 10.7 | 3.5 | 37.45 | 2.0 ug/L/ A&Wedw chronic | Indeterminate. Limit will be retained to be protective of receiving water beneficial uses. |

| | | | | | |
|-------------------------|----|-----|----|-------------------------------|--|
| Total Residual Chlorine | ND | N/A | ND | 11 ug/L/ A&Wedw chronic | RP Exists. RP for TRC is assumed when chlorine is used for disinfection. |
|-------------------------|----|-----|----|-------------------------------|--|

⁽¹⁾Arizona SWQS for lead and mercury are expressed in terms of dissolved metals. In order to convert to total recoverable, a conversion factor of .791 and .85 were applied for lead and mercury, respectively, as described in EPA 823-B-96-007.

⁽²⁾Maximum Observed Concentrations noted were attributed to interference during sample analysis from Chlorine in case of Cyanide and from Bromide in case of Selenium. Thus despite exceedance RP is considered Indeterminate. If after a year of data collection and analysis at 2X/month no exceedances are observed, the permittee may petition to reduce monitoring to once per quarter.

D. Anti-Backsliding

Section 402(o) of the CWA prohibits the renewal or reissuance of an NPDES permit which contains effluent limits less stringent than those established in the previous permit, except as provided in the statute.

The permit establishes less stringent effluent limitations for total residual chlorine, copper, silver, and zinc. 40 CFR 122.44(l) allows for backsliding when new information becomes available which was not available at the time of the previous permit issuance. For total residual chlorine, EPA-approved revisions to Arizona’s surface WQS allow for less stringent permit limitations. For copper, silver, and zinc, new discharge information submitted by the permittee demonstrated no reasonable potential to exceed the most stringent Arizona surface WQS and are the basis for removal of the limits; however monitoring for these parameters was retained.

E. Antidegradation Policy

EPA's antidegradation policy at 40 CFR 131.12 and Arizona’s regulations at A.A.C.R 18-11-107 require that existing water uses and the level of water quality necessary to protect the existing uses be maintained.

The capacity of the 91st Avenue WWTP is the same as in the previous permit, i.e. 230 MGD. As described in this document, the permit establishes effluent limits and monitoring requirements to ensure that all applicable water quality standards are met. The permit does not include a mixing zone, therefore all limits apply at the end of pipe without consideration of dilution in the receiving water. A priority pollutant scan has been conducted of the effluent, demonstrating that most pollutants will be discharged below detection levels. During the previous permit cycle the receiving waterbody was delisted for dioxin under section 303(d) of the CWA by ADEQ and this delisting was approved by USEPA. Furthermore, the receiving waterbody is not listed as an impaired waterbody for any other pollutants. Additionally, the Reasonable Potential Analysis outlined in section VI.C.2. above establishes limits for any pollutant which has exceeded or has the potential to exceed established water quality standards for that pollutant.

The receiving Salt River is an effluent dependant waterbody which, at the 91st Avenue WWTP, is almost entirely dependant and indicative of the flow from the permittee. Therefore, the quality of the

water in the receiving body is a direct result of the quality of the effluent from the permittee. As the flow has not increased from the last permit cycle and because several facility renovations and improvements have occurred, and because the Tres Rios constructed wetland was established and has reached maturation over the last five years, the 91st Avenue WWTP is able to treat its effluent to a higher and more consistent level, it is expected that the quality of the effluent will match or exceed the current effluent quality.

As discussed in Section IX.A., Impact to Threatened and Endangered Species, below, the effluent is not only unlikely to adversely affect threatened and endangered species, but also provides habitat for fauna and flora, protecting species in the area. The Tres Rios Wetlands are designed to provide supplemental wetland habitat as well as stabilize the flow in the Salt River to increase the river's viability while further "polishing" the discharge for improved quality.

The discharge also meets Arizona's B+ reclaimed water quality standard, and furthers water quality due to an absence of putrescible solids, floating solids or oils, objectionable odor or color, or any other nuisance-causing or toxic compounds.

Therefore, due to the low levels of toxic pollutants present in the effluent, high level of treatment being obtained, a net environmental improvement to the surrounding area, and the permit's water quality based effluent limitations, it is expected that the discharge will not adversely affect receiving water bodies or result in any degradation of water quality.

VII. NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS

As the receiving water eventually flows into waters regulated by Arizona, the permit incorporates the requirement that the discharge not cause conditions prohibited by Arizona's narrative water quality standards, A.A.C.R. 18-11-108.

VIII. MONITORING AND REPORTING REQUIREMENTS

The permit requires the permittee to conduct monitoring for all pollutants or parameters where effluent limits have been established, at the frequency specified. Additionally, where effluent concentrations of toxic parameters are unknown or where the reasonable potential for pollutant levels to exceed standard is indeterminate, monitoring is required for pollutants or parameters where effluent limits have not been established.

A. Effluent Monitoring and Reporting

The permittee shall conduct effluent monitoring to evaluate compliance with the proposed permit conditions. The permittee shall perform all monitoring, sampling and analyses in accordance with the methods described in the most recent edition of 40 CFR § 136, unless otherwise specified in the proposed permit. All monitoring data shall be reported on monthly DMR forms and submitted as specified in the proposed permit. All DMRs are to be submitted electronically to EPA using NetDMR or ADEQ's eDMR program.

B. Whole Effluent Toxicity Testing

The permit establishes monitoring and action levels but no permit limits for Chronic Toxicity.

Chronic toxicity testing evaluates reduced growth/reproduction at 100 percent effluent. Chronic toxicity is to be reported based on the No Observed Effect Concentration (NOEC). The permittee shall conduct short-term tests with the water flea, *Ceriodaphnia dubia* (survival and reproduction test), the fathead minnow, *Pimephales promelas* (larval survival and growth test), and green algae, *Selenastrum capricornutum* (growth test). The presence of chronic toxicity shall be estimated as specified by the methods in 40 CFR Part 136 as amended on November 19, 2002.

If a WET permit action level is exceeded follow-up testing as described in the permit shall be conducted. Please see Section III B. 7 of the permit for details about the accelerated toxicity testing and TIE/TRE process.

IX. SPECIAL CONDITIONS

A. Biosolids

Standard requirements for the monitoring, reporting, recordkeeping, and handling of biosolids in accordance with 40 CFR Part 503 are incorporated into the permit.

B. Pretreatment

Standard requirements for implementing and enforcing an approved pretreatment plan are included in the permit. The requirements apply to all cities that send effluent to the 91st Avenue WWTP. These cities include Phoenix, Glendale, Mesa, Scottsdale, and Tempe.

C. Sanitary Sewer Overflows

The permittee shall follow Standard requirements for implementing and enforcing sanitary sewer overflow reporting according to the State-issued General Permit for CMOM. 24-Hour reporting and 5- Day reporting to EPA is included in the permit.

D. Capacity Attainment and Planning

The permit requires that a written report be filed with EPA and ADEQ within ninety (90) days if the average dry-weather wastewater treatment flow for any month exceeds 90 percent of the annual dry weather design capacity of the waste treatment and/or disposal facilities.

X. OTHER CONSIDERATIONS UNDER FEDERAL LAW

A. Threatened and Endangered Species and Critical Habitat

Section 7 of the Endangered Species Act of 1973 (16 U.S.C. § 1536) requires federal agencies to ensure that any action authorized, funded, or carried out by the federal agency does not jeopardize the continued existence of a listed or candidate species, or result in the destruction or adverse modification of its habitat. The scope of the action authorized by the EPA pursuant to this proposed NPDES permit renewal is to allow flow of secondary treated wastewater from the facility. The treated wastewater enters the Tres Rios Flow Regulating Wetland (“FRW”) and is further polished prior to discharge into the Salt River which is the receiving water. No other action by the discharger or other parties is within the scope of this review.

EPA requested an official list of Threatened and Endangered Species from the U.S. Fish & Wildlife Service (“USFWS” or “the Service”) and received the following list of species listed as threatened or endangered in Maricopa County via an electronically generated letter on June 13, 2016:

Plants:

- Acuna cactus (*Echinomastus erectocentrus var. ancunensis*)
- Arizona cliffrose (*Purshia subintegra*)
- Arizona Hedgehog cactus (*Echinocereus triglochidiatus var. arizonicus*)
- Nichol’s Turk’s Head cactus (*Echinocactus horizonthalonius var. nicholii*)

Birds:

- California least tern (*Sterna antillarum browni*)
- Mexican spotted owl (*Strix occidentalis lucida*)
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
- Yellow-billed cuckoo (*Coccyzuz americanus*)
- Yuma Ridgway’s rail (*Rallus obsoletus yumanensis*)

Fish:

- Desert pupfish (*Cyprinodon macularius*)
- Gila topminnow (*Poeciliopsis occidentalis occidentalis*)
- Razorback sucker (*Xyrauchen texanus*)
- Roundtail chub (*Gila robusta*)
- Spikedace (*Meda fulgida*)
- Woundfin (*Plagopeterus argentissimus*)

Mammals:

- Lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*)
- Ocelot (*Leopardus pardalis*)
- Sonoran pronghorn (*Antilocapra americana sonoriensis*)

Prior to the construction and treatment of effluent via the FRW which began start-up operations in July 2010, none of the species listed had a potential nexus with the effluent, beyond speculative incidental contact. Upon construction of the Wetland, 4 bird species (The Yuma Clapper (or Ridgway's) rail, Southwestern willow flycatcher, California least tern, and the Yellow-billed cuckoo) have a potential nexus with the effluent, beyond speculative incidental contact. Two other bird species (the Bald eagle, and the California brown pelican) were previously listed as threatened and endangered but are no longer listed in Maricopa County.

The specific impact of the Tres Rios Project Area and the construction of the FRW on federally listed species was collectively considered by the United States Army Corps of Engineers ("USACE") and the USFWS in the USACE's Biological Assessment and the USFWS' concurrence letter which stated the Service's conclusion that "...the Tres Rios Restoration Project including initial construction and O&M, may affect but is not likely to adversely affect Yuma clapper rail, Southwestern flycatcher, Cactus ferruginous-owl, and Bald eagle"

Subsequently in 2014, the COP and the USFWS entered into a Safe Harbor Agreement ("SHA") for City-owned lands along the Salt and Gila Rivers, and the Tres Rios area of southwest Phoenix. EPA reviewed this document. COP is in the process of amending the original SHA to add the western yellow-billed cuckoo, reflect a name change for Yuma Clapper Rail to Yuma Ridgway's rail, and to slightly modify the included lands.

Additionally, as required in the previous permit, COP conducted an assessment study to characterize the treatment of the FRW. The COP presented its findings in September 2011 to EPA in a document titled Wetland Treatment Assessment which was reviewed by EPA in preparation for proposing this permit renewal.

Also, in preparation for proposing this permit renewal EPA reviewed the annual bird surveys that the COP conducts in the Tres Rios Wetlands area.

EPA also reviewed the 2015 Baseline Determinations and Biological Monitoring Report prepared by the Arizona Game and Fish Department ("AGFD") completed in June 2016. This document was prepared to revise baseline habitat acreages for City and AGFD lands. Additionally, the City and AGFD are in the process of finalizing a Certificate of Inclusion document to allow coverage for AGFD lands under the City's SHA for a period of 10 years.

EPA also considered the following factors in the determination of potential effect on local federally listed threatened and endangered species from EPA's proposed action:

- The permit has been written such that all downstream uses of the water into which discharge is permitted are protected. EPA applied Arizona Surface Water Quality Standards (SWQS) to the discharge and all such standards must be met before effluent flows to any waters of the U.S. Arizona SWQS are written to protect designated uses of the receiving water including aquatic & wildlife usage in effluent dependent water.

- The Lower Salt River at the 91st Avenue WWTP discharge location is an effluent dependent water. Without the discharge from the current facility, nominal or no flow would exist in the river bed providing poor habitat for all local wildlife, including threatened and endangered species. The Tres Rios Wetland and adjoining Overbank Wetlands provide a large surface area of water, wetland, and riparian habitat for many species of plants, birds and animals including some federally listed threatened and endangered species.
- Prior to the construction and operation of the Tres Rios Wetland, the flow in the river from the 91st Avenue WWTP was based on a diurnal pattern of effluent generation and was not conducive to substantive fish and wildlife habitat. The flow regulating nature of the Tres Rios Wetland has thus made the flow consistent and thus conducive to fish and wildlife habitat while increasing the viability of downstream in-stream and riparian habitat.
- Prior to the construction and operation of the FRW, the 91st Ave. WWTP discharged secondary treated effluent directly into the Salt River. The Tres Rios Wetland “polishes” the effluent and naturally balances inorganic and organic compounds, as well as biological content, prior to discharge into the Salt River making the water more suitable for fish and wildlife habitat.
- The Tres Rios Wetland is a net environmental improvement which provides supplemental wetland habitat for a wide variety of species including federally listed threatened and endangered species.

Considering the above factors, EPA has determined that the discharge from the COP’s 91st Avenue WWTP via the Tres Rios Wetland may affect, but is not likely to adversely affect any listed threatened and endangered species. EPA has forwarded a copy of this factsheet and draft permit to the USFWS for review and comment on conclusions concerning the effects of the proposed permit on listed species.

B. Impact to Coastal Zones

The Coastal Zone Management Act (“CZMA”) requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state Coastal Management Plan (CZMA Sections 307(c)(1) through (3)). Section 307(c) of the CZMA and implementing regulations at 40 CFR 930 prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State (or Territory) Coastal Zone Management program, and the State (or Territory) or its designated agency concurs with the certification.

The proposed permit does not affect land or water use in the coastal zone.

C. Impact to Essential Fish Habitat

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act ("MSA") set forth a number of new mandates for the National Marine Fisheries Service, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish species and habitat. The MSA requires Federal agencies to make a determination on Federal actions that may adversely impact Essential Fish Habitat ("EFH").

The proposed permit contains technology-based effluent limits and numerical and narrative water quality-based effluent limits as necessary for the protection of applicable aquatic life uses. The proposed permit does not directly discharge to important marine and/or anadromous fish habitat or impact such species. Therefore, EPA has determined that the proposed permit will not adversely impact any EFH.

D. Impact to National Historic Properties

Section 106 of the National Historic Preservation Act ("NHPA") requires federal agencies to consider the effect of their undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places.

This permit does not authorize any new construction or disturbance of new areas. Pursuant to the NHPA and 36 CFR § 800.3(a)(1), EPA is making a determination that issuing this proposed NPDES permit does not have the potential to affect any historic properties or cultural properties. As a result, Section 106 does not require EPA to undertake additional consulting on this permit.

E. Consideration of Environmental Justice ("EJ") Impact

EPA conducted a screening level evaluation of the potential impacts of renewing the NPDES permit for this facility within the immediate area using EPA's EJSCREEN tool. Specifically, EPA used EJSCREEN to identify facilities near the City of Phoenix 91st Avenue Facility that could pose risk to local residents through discharge of environmental contaminants. EPA also evaluated whether demographic characteristics of the population living in the vicinity of the 91st Avenue Facility indicate that the local population might be particularly susceptible to such environmental risks. The results show that, at the time of this analysis conducted in September 2016, the area in which the Facility is located was above the 90th percentile for proximity to wastewater and hazardous waste facilities as well as to facilities with risk management plans. This is due to the fact that this area is an semi-urbanized industrial area on the outskirts of Phoenix. The demographic characteristics that showed potentially sensitive scores were a high proportion of minority and children under age 5, as well as significant proportion of linguistically isolated and population with less than high school education.

EPA considered all these factors, and specifically initiated government-to-government consultation with the Gila River Indian Community ("GRIC") concerning the renewal of the City of Phoenix 91st Avenue WWTP's NPDES permit. EPA developed a Consultation Plan and coordinated closely with the GRIC during the process of developing this permit renewal. Following discussions between EPA, COP and GRIC concerning the still unsettled jurisdictional

issues related to the discharge point EPA determined that it will issue permit renewal for the 91st Avenue Facility. GRIC was consulted during the permit development process and a representative of the GRIC accompanied EPA and ADEQ regulators on a pre-permit public notice visit to the 91st Avenue Facility in May 2016.

Furthermore EPA believes that by implementing and requiring compliance with the provisions of the Clean Water Act, which are designed to ensure full protection of human health, the permit is sufficient to ensure that the Facility's discharges do not cause or contribute to human health risk in the vicinity of the wastewater treatment plant. Based on the factors outlined above, as well as the outreach to the GRIC, EPA concludes that the renewal of the NPDES permit is unlikely to contribute to any EJ issues

XI. STANDARD CONDITIONS

A. Reopener Provision

In accordance with 40 CFR 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.

B. Standard Provisions

The permit requires the permittee to comply with EPA Region IX Standard Federal NPDES Permit Conditions, dated March 29, 2016.

XII. ADMINISTRATIVE INFORMATION

A. Public Notice (40 CFR§124.10)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application.

B. Public Comment Period (40 CFR§ 124.10)

Notice of the draft permit will be placed in a daily or weekly newspaper within the area affected by the facility or activity, with a minimum of 30 days provided for interested parties to respond in writing to EPA. After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

C. Public Hearing (40 CFR§ 124.12(c))

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 EPA determines there is a significant amount of interest expressed during the 30-day public comment period or when it is necessary to clarify the issues involved in the permit decision.

D. Water Quality Certification Requirements (40 CFR§ 124.53 and § 124.54)

For States, Territories, or Tribes with EPA approved water quality standards, EPA requests certification from the affected State, Territory, or Tribe that the proposed permit will meet all applicable water quality standards. Because jurisdiction is in dispute for this permit, certification under section 401(h) will not be sought.

XIII. CONTACT INFORMATION

Comments submittals and additional information relating to this proposal may be directed to:

Gary Sheth
NPDES Permits Office WTR-2-3
EPA Region 9
75 Hawthorne Street
San Francisco, California 94105
(415) 972-3516
sheth.gary@epa.gov

XIV. REFERENCES

Arizona Administrative Code (AAC) Title 18, Chapter 11, Article 1, *Water Quality Standards for Surface Waters*, adopted January 31, 2009.

USEPA. 1991. *Technical Support Document for Water Quality-based Toxics Control*. Prepared by EPA, Office of Water Enforcement and Permits, in March 1991. EPA/505/2-90-001.

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US Fish & Wildlife Service. July 2009. *Safe Harbor Agreement with the City of Phoenix for Voluntary Enhancement/Restoration Activities Benefiting the Yuma Clapper Rail, Southwestern Willow Flycatcher, Bald Eagle, Brown Pelican, Gila Topminnow, and Desert Pupfish at the Tres Rios Project Area, Maricopa County, Arizona*.

Arizona Game and Fish Department. June 10, 2016. *Tres Rios Safe Harbor Agreement 2015 Baseline Determinations and Biological Monitoring for Arizona Game and Fish Department Certificate of Inclusion*.

City of Phoenix. September 2011. *Wetland Treatment Assessment Tres Rios Flow Regulating Wetland*.

XV. APPENDIX A: SITE MAPS

Outfalls and Monitoring Stations for the 91st Ave WWTP NPDES Permit



001- Outfall a monitoring station to the Salt River from the 91st Ave Plant, not used and no flow out.
005- Outfall(effluent) to the Salt River from the Tres Rios Flow Regulating Wetlands (FRW)

FRW 1- Influent into the Tres Rios FRW, a monitoring station
FRW 2- Cell inside the Tres Rios FRW, a monitoring station
FRW 3- Cell inside the Tres Rios FRW, a monitoring station

XVI. APPENDIX B: FLOW DIAGRAM

