

ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES)

This document gives pertinent information concerning the reissuance of the AZPDES permit listed below. This facility is a potable water pumping station with a design capacity of 1.25 MGD, and is considered to be an industrial minor facility under the NPDES program. The effluent limitations contained in this permit will maintain the Water Quality Standards listed in Arizona Administrative Code (A.A.C.) R18-11-101 et seq. This permit is proposed to be issued for a period of 5 years.

I. PERMITTEE INFORMATION	
Permittee's Name:	United States Department of interior – National Park Services
Permittee's Mailing Address:	P. O. Box 129 Grand Canyon, Arizona 86023-0129
Facility Name:	Indian Gardens Potable Water Pump Station
Facility Address or Location:	Located approximately 2.5 miles north of Grand Canyon south Rim Village
County:	Coconino County
Contact Person(s): Phone/e-mail address	Ms. Adrienne Ouellette, Environmental Protection Specialist & Operator (928) 638-7898 / Adrienne_Ouellette@nps.gov
AZPDES Permit Number:	AZ0023621
Inventory Number:	102469
LTF Number:	85926

II. STATUS OF PERMIT(s)	
AZPDES permit applied for:	Renewal
Date application received:	September 16, 2020
Date application was determined administratively complete:	November 3, 2020
Previous permit number (if different):	N/A
Previous permit expiration date:	April 20, 2021

208 Consistency:

208 Plan consistency is not required for industrial facilities.

III. GENERAL FACILITY INFORMATION

Type of Facility:	Potable water pumping station
Facility Location Description:	The Indian Garden Potable Water Pumping Station is located north of the Grand Canyon South Rim village and south of the Colorado River. Indian Garden is approximately 4.5 miles from the Grand Canyon South Rim Village by foot trail; the direct distance is approximately 2.5 miles.
Discharge Flow:	Approximately 1.25 Million gallons per day (mgd)
Applicable Treatment Processes :	Chlorinated groundwater from Roaring Springs is pumped via the Transcanyon pipeline to settling tank for sedimentation and distribution to Grand Canyon South Rim Village. Overflow of unused potable water from the settling tank is de-chlorinated using sodium sulfite.
Nature of facility discharge:	Treated groundwater for water supply
Average flow per discharge:	The applicant indicates that the average daily flow through outfall 001 is 0.6 MGD.
Continuous or intermittent discharge:	Continuous discharge
Discharge pattern summary:	Flow varies depending upon whether potable water pumps are on or not.

The applicant operates a Potable Water Pumping Station that provides drinking water to the Grand Canyon South Rim Village and Grand Canyon Desert View. The potable water station is part of a water distribution system that receives water from Roaring Springs on the north side of the Colorado River, approximately 3500 feet below the North Rim, in Bright Angel Canyon.

The potable water is chlorinated at the Roaring Springs Pumphouse, with the overflow being dechlorinated at the Indian Garden Pumping Station. There is no sludge generated.

The source of potable water for Grand Canyon National Park is Roaring Springs Cave, which is located on the north side of the Colorado River, approximately 3,500 feet below the North Rim, in Bright Angel Canyon. Roaring Springs Cave is classified as a groundwater source. The water flows by gravity from the Roaring Springs Cave located at an elevation of approximately 5,200 feet to the Roaring Springs Pumphouse through an 8" aluminum line. As the water enters the pumphouse, it travels through a sand degriiter and is then chlorinated as it flows into the Transcanyon Pipeline, an aluminum line that travels by gravity 17 miles from Roaring Springs to Indian Garden. As the chlorinated potable water travels through the Transcanyon Pipeline water is withdrawn at various locations. Potable water is provided along the pipeline to the Roaring Spring residence, Cottonwood Campground and Ranger Station, into all of the facilities at Phantom Ranch. When the potable water arrives at Indian Garden, it enters into a small settling tank. Water is withdrawn from the tank and is pumped to the South Rim via a directional borehole. A greater quantity of

water flows through the Transcanyon Pipeline than can be pumped by the pumping station, which leads to a continual discharge of potable water even when the pumps are operating. When the settling tank is full, the water enters into a standpipe and is discharged as overflow. If the pumps are not running, the total flow coming through the pipeline is discharged through the standpipe. When the pumps are operating, the overflow discharge drops due to the pumping capacity of the pumps. As the potable water flows into the tank standpipe, it is dechlorinated before being discharged into the environment.

Currently, at the pumping station, there is a continuous discharge of overflow water and pump seal water into a discharge channel for about 700 feet before the confluence with Garden Creek, which flows to Pipe Creek, an eventual tributary to the Colorado River. The proposed AZPDES permit will authorize discharge to Garden Creek, tributary to Pipe Creek, tributary to the Colorado River.

IV. RECEIVING WATER

The State of Arizona has adopted water quality standards to protect the designated uses of its surface waters. Streams have been divided into segments and designated uses assigned to these segments. The water quality standards vary by designated use depending on the level of protection required to maintain that use.

Receiving Water :	Garden Creek, tributary to Pipe Creek, eventual tributary to the Colorado River
River Basin:	Upper Colorado River Basin
Outfall Location(s):	Outfall 001: Township 31 N, Range 02 E, Section 13 Latitude 36° 04' 30" N, Longitude 112° 07' 04" W

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.

Designated uses for the receiving water listed above:	Aquatic and Wildlife warm water (A&Ww) Full Body Contact (FBC) Fish Consumption (FC)
Is the receiving water on the 303(d) list?	No, and there are no TMDL issues associated.

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. In developing AZPDES permits, the standards for all applicable designated uses are compared and limits that will protect for all applicable designated uses are developed based on the standards.

In addition to the above, the Colorado River has a salinity standard. Per A.A.C. R18-11-110, the flow-weighted average annual concentration of total dissolved solids shall not exceed 723 milligrams per liter (mg/L) in the river below Hoover Dam and above Parker Dam. In order to meet this standard, discharges must meet the plan of implementation requirements developed by the Colorado River Basin Salinity Control Forum.

According to Forum Policy - Policy for Implementation of Colorado River Salinity Standards through the NPDES Permit Program "Benchmark concentrations" has been developed to have different end-of -pipe TDS concentration. Bench mark concentrations are intended to aid for establishment of effluent limits for implementing the waiver for "fresh

water discharges”. The allowance of 650 mg/L (for facilities located below Hoover dam) for fresh water discharges is intended to preserve flows form discharges in the Basin, which do not cause significant degradation of existing ambient quality with respect to salinity. As this facility discharges are qualified for the freshwater wavier, this facility is not subjected to any further limitations on salt loading under this policy.

V. DESCRIPTION OF DISCHARGE		
Because the facility is in operation and discharges have occurred, effluent monitoring data are available. The following is the measured effluent quality reported in the application.		
Parameters	Units	Maximum Daily Discharge Concentration
Biochemical Oxygen Demand (BOD)	mg/L	< 15
Total Suspended Solids (TSS)	mg/L	748
Phosphorus	mg/L	< 0.05
The applicant also submitted data for nutrients, pH, temperature, and ammonia. In addition, data for metals were obtained from Discharge Monitoring Reports (DMRs) and laboratory sheets. One WET test was also reviewed with no finding of toxicity.		

VI. STATUS OF COMPLIANCE WITH THE EXISTING AZPDES PERMIT	
Date of most recent inspection:	April 18, 2016; no potential violations were noted as a result of this inspection.
DMR files reviewed:	May 2016 through November 2020
Lab reports reviewed:	May 2016 through November 2020
DMR Exceedances:	pH (December 2019, and February 2020)
NOVs issued:	None
NOVs closed:	N/A
Compliance orders:	None

VII. PROPOSED PERMIT CHANGES			
The following table lists the major changes from the previous permit in this draft permit.			
Parameter	Existing Permit	Proposed permit	Reason for change
Total dissolved solids (TDS) (Outfall 001)	Assessment Level	Limited	TDS limit is based on the Colorado River Salinity Forum (CRSF) requirements. Data submitted shows exceedance of 650 mg/L allowance .

Iron	No monitoring required	Monitoring required and an assessment level set.	New standard in 2009.
Copper	Effluent characterization	Assessment level	All data points submitted are non detect and indicated reasonable potential (RP) for an exceedance of a standard.
Chromium (total &VI)	Monitoring for Discharge characterization	Monitoring with Assessment Levels	All data points submitted are non detect and indicated reasonable potential (RP) for an exceedance of a standard.
Table 4.a. – General Chemistry and Microbiology	Once / Year in years 2 & 4 of permit term	1x 6 months	Appropriate monitoring requirements for facilities of this size and to have enough data that can be used in developing discharge limitations.
Table 4.b. – Selected metals and Trace substances	Once / Year in years 2 & 4 of permit term	1x 6 months	Appropriate monitoring requirements for facilities of this size and to have enough data that can be used in developing discharge limitations.

Anti-backsliding considerations – “Anti-backsliding” refers to statutory (Section 402(o) of the Clean Water Act) and regulatory (40 CFR 122.44(l)) requirements that prohibit the renewal, reissuance, or modification of an existing NPDES permit that contains effluent limits, permit conditions, or standards that are less stringent than those established in the previous permit. The rules and statutes do identify exceptions to these circumstances where backsliding is acceptable. This permit has been reviewed and drafted with consideration of anti-backsliding concerns.

No limits have been removed from the permit. Limits are retained in the draft permit for parameters where reasonable potential (RP) for an exceedance of a standard continues to exist or is indeterminate. In these cases, limits will be recalculated using the most current Arizona Water Quality Standards (WQS). If less stringent limits result due to a change in the WQS then backsliding is allowed in accordance with 303(d)(4) if the new limits are consistent with antidegradation requirements and the receiving water is in attainment of the new standard; see Section XII for information regarding antidegradation requirements.

VIII. DETERMINATION OF EFFLUENT LIMITATIONS and ASSESSMENT LEVELS

When determining what parameters need monitoring and/or limits included in the draft permit, both technology-based and water quality-based criteria were compared and the more stringent criteria applied.

Technology-based Limitations: As outlined in 40 CFR Part 133:

There are no applicable technology-based limitations for this type of discharge.

Numeric Water Quality Standards: As outlined in A.A.C. R18-11-109 and Appendix A:

Per 40 CFR 122.44(d)(1)(ii), (iii) and (iv), discharge limits must be included in the permit for parameters with “reasonable potential” (RP), that is, those known to be or expected to be present in the effluent at a level that could potentially cause any applicable numeric water quality standard to be exceeded. RP refers to the possibility, based on the statistical calculations using the data submitted, or consideration of other factors to determine whether the discharge may exceed the Water Quality Standards. The procedures used to determine RP are outlined in the *Technical Support Document for Water Quality-based Toxics Control (TSD)* (EPA/505/2-90-001). In most cases, the highest reported value for a parameter is multiplied by a factor (determined from the variability of the data and number of samples) to determine a “highest estimated value”. This value is then compared to the lowest applicable Water Quality Standard for the receiving water. If the value is greater than the standard, RP exists and a water quality-based effluent limitation (WQBEL) is required in the permit for that parameter. RP may also be determined from BPJ based on knowledge of the treatment facilities and other factors. The basis for the RP determination for each parameter with a WQBEL is shown in the table below.

It is assumed that RP exists for exceedance of water quality criteria for the pollutants, if chlorine or bromine is used in the treatment process, total residual chlorine (TRC). These parameters have been shown through extensive monitoring of WWTPs to fluctuate greatly and thus are not conducive to exclusion from limitation due to a lack of RP. Therefore, the draft permit contains WQBELs for TRC.

The proposed permit limits were established using a methodology developed by EPA. Long Term Averages (LTA) were calculated for each designated use and the lowest LTA was used to calculate the average monthly limit (AML) and maximum daily limit (MDL) necessary to protect all uses. This methodology takes into account criteria, effluent variability, and the number of observations taken to determine compliance with the limit and is described in Chapter 5 of the TSD. Limits based on A&W criteria were developed using the “two-value steady state wasteload allocation” described on page 99 of the TSD. When the limit is based on human health criteria, the monthly average was set at the level of the applicable standard and a daily maximum limit was determined as specified in Section 5.4.4 of the TSD.

Mixing Zone

The limits in this permit were determined without the use of a mixing zone. Arizona state water quality rules require that water quality standards be achieved without mixing zones unless the permittee applies for and is approved for a mixing zone. Since a mixing zone was not applied for or granted, all water quality criteria are applied at end-of-pipe.

Assessment Levels (ALs)

ALs are listed in Part I.B of the permit. An AL differs from a discharge limit in that an exceedance of an AL is not a permit violation. Instead, ALs serve as triggers, alerting the permitting authority when there is cause for re-evaluation of RP for exceeding a water quality standard, which may result in new permit limitations. The AL numeric values also serve to advise the permittee of the analytical sensitivity needed for meaningful data collection. Trace substance monitoring is required when there is uncertain RP (based on non-detect values or limited datasets) or a need to collect additional data or monitor treatment efficacy on some minimal basis. A reopener clause is included in the draft permit should future monitoring data indicate water quality standards are being exceeded.

The requirement to monitor for these parameters is included in the draft permit according to A.A.C. R18-11-104(C) and Appendix A. ALs listed for each parameter were calculated in the same manner that a limit would have been calculated (see Numeric Water Quality Standards Section above).

Hardness

The permittee is required to sample hardness as CaCO_3 at the same time the trace metals are sampled because the water quality standards for some metals are calculated using the water hardness values. The hardness value of 161 mg/L (the average hardness of the effluent as supplied in the DMRs and laboratory reports) was used to calculate the applicable water quality standards and any assessment levels or limits for the hardness dependent metals (cadmium, chromium III, copper, lead, nickel, silver and zinc).

Whole Effluent Toxicity (WET)

WET testing is required in the draft permit (Parts I.C and III) to evaluate the discharge according to the narrative toxic standard in A.A.C. R18-11-108(A)(5), as well as whether the discharge has RP for WET per 40 CFR 122.44(d)(iv).

WET testing for chronic toxicity shall be conducted using the following three surrogate species:

- *Ceriodaphnia dubia* (water flea) – for evaluating toxicity to invertebrates
- *Pimephales promelas* (fathead minnow) – for evaluating toxicity to vertebrates
- *Pseudokirchneriella subcapitata* (formerly known as *Selenastrum capricornutum* or *Raphidocelis subcapitata*) (a green alga) – for evaluating toxicity to plant life

ADEQ does not have a numeric standard for Whole Effluent Toxicity. However, ADEQ adopted the EPA recommended chronic toxicity benchmark of 1.0 TUC for a four day exposure period. Using this benchmark, the limitations and/or action levels for WET included in the draft permit were calculated in accordance with the methods specified in the TSD. The species chosen for WET testing are as recommended in the TSD and in *Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs*.

An exceedance of an action level will trigger follow-up testing to determine if effluent toxicity is persistent. If toxicity above a limit or action level is found in a follow-up test, the permittee will be required to conduct a Toxicity Reduction Evaluation (TRE) and possibly a Toxicity Identification Evaluation (TIE) to identify the source of toxicity and reduce toxicity. These conditions are required to ensure that toxicants are not discharged in amounts that are toxic to organisms [A.A.C. R18-11-108(A)(5)]. A reopener clause is included in accordance with 40 CFR Parts 122 and 124 and AAC R18-9-B906.

The draft permit requires discrete samples be collected for WET testing. A discrete sample type was chosen in order to have consistency with the type of sample required for other parameters requiring monitoring in this permit. WET sampling must coincide with testing for all the parameters in Tables 1 and 2 of the draft permit to aid in the determination of the cause of toxicity if toxicity is detected. Additional procedural requirements for the WET test are included in the proposed permit.

The required WET monitoring frequency for this facility is consistent with the WET testing frequency required for facilities with a similar design flow. The draft permit requires WET test results to be reported on discharge monitoring reports and submittal of the full WET lab report to ADEQ.

Discharge Characterization (DC)

In addition to monitoring for parameters assigned either a limit or an AL, sampling is required to assess the presence of pollutants in the discharge at certain minimum frequencies for additional suites of parameters, whether the facility is discharging or not. This monitoring is specified in Tables 4.a. through 4.b., *Effluent Characterization Testing*, as follows:

- Table 4.a. – General Chemistry and Microbiology: ammonia, BOD-5, total residual chlorine (TRC), dissolved oxygen, total Kjeldahl nitrogen (TKN), nitrate/nitrite, pH, phosphorus, temperature, and total dissolved solids (TDS)
- Table 4.b. – Selected Metals, Hardness, and Cyanide

NOTE: Some parameters listed in Tables 4.a. and 4.b. are also listed in Tables 1 or 2. In this case, the data from monitoring under Tables 1 or 2 may be used to satisfy the requirements of Tables 4.a. and / or 4.b., provided the specified sample types are the same. In the event the facility does not discharge to a water of the U.S. during the life of the permit, EC monitoring of representative samples of the effluent is still required.

The purpose of DC monitoring is to characterize the discharge and determine if the parameters of concern are present in the discharge and at what levels. This monitoring will be used to assess RP per 40 CFR 122.44(d)(1)(iii). EC monitoring is required in accordance with 40 CFR 122.43(a), 40 CFR 122.44(i), and 40 CFR 122.48(b) as well as A.R.S. §49-203(A)(7). If pollutants are noted at levels of concern during the permit term, this permit may also be reopened to add related limits or conditions.

Permit Limitations and Monitoring Requirements

The table that follows summarizes the parameters that are limited in the permit and the rationale for that decision. Also included are the parameters that require monitoring without any limitations or that have not been included in the permit at all and the basis for those decisions. The corresponding monitoring requirements are shown for each parameter. In general, the regulatory basis for monitoring requirements is per 40 CFR §122.44(i) *Monitoring requirements*, and 40 CFR §122.48(b), *Required monitoring*; all of which have been adopted by reference in A.A.C. R18-9-A905, *AZPDES Program Standards*.

Parameter	Lowest Standard / Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/ Rationale (1)
Flow	---	---	---	---	---	Discharge flow is to be monitored on a continual basis using a flow meter.
Chlorine, Total Residual (TRC)	11 µg/L/ A&Ww chronic	< 15 µg/L	52	N/A	RP always expected when chlorine or bromine is used for disinfection.	TRC is to be monitored as a discrete sample and a WQBEL remains in the permit. 40 CFR Part 136 specifies that discrete samples must be collected for chlorine. At least one sample per month must coincide with WET testing to aid in the determination of the cause of toxicity, if toxicity is detected.
pH	Minimum: 6.5 Maximum: 9.0 A&Ww and FBC A.A.C. R18-11-109(B)	Min: 6.17 s.u. Max: 8.65 s.u	52	N/A	Limit in A.A.C.R 18-11-109(B).	pH is to be monitored using a discrete sample of the effluent and a WQBEL is set. 40 CFR Part 136 specifies that grab samples must be collected for pH. At least one sample must coincide with WET testing to aid in the determination of the cause of toxicity if toxicity is detected. pH sampling must also coincide with ammonia sampling when required.
Temperature	R18-11-109C the discharge shall not cause an increase in the ambient water temperature. A&Ww: no more than 3.0°C	16.5 °C to 21.3 °C	52	N/A	N/A	Effluent temperature is to be monitored for effluent characterization by discrete sample. 40 CFR Part 136 specifies that discrete samples must be collected for temperature. Temperature sampling must also coincide with ammonia sampling when required.
Total Dissolved Solids (TDS)	Colorado River Salinity Forum requirements	748 mg/L	7	N/A	N/A	Monitoring required to determine compliance with Colorado River Basin Salinity Control Forum requirements (fresh water waiver).
Ammonia	Standard varies with temperature and pH	< 1 mg/L	2	N/A	No RP	Ammonia is to be monitored for effluent characterization by discrete sample. One sample must coincide with WET sampling to aid in the determination of the cause of toxicity, if toxicity is detected.
Nutrients (Total Nitrogen and Total Phosphorus)	No applicable standards	N: 0.238 mg/L P: < 0.05 mg/L	N: 2 P: 2	N/A	N/A	Monitoring required for effluent characterization.
Antimony	30 µg/L / A&Ww chronic	< 0.5 µg/L	4	N/A	No RP	Monitoring required for effluent characterization.

Parameter	Lowest Standard / Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/ Rationale (1)
Arsenic	30 µg/L / FBC	< 1 µg/L	4	N/A	No RP	Monitoring required for effluent characterization.
Beryllium	5.3 µg/L / A&Ww chronic	< 2 µg/L	4	N/A	No RP	Monitoring required for effluent characterization.
Cadmium (2)	4.73 µg/L / A&Ww chronic	< 0.1 µg/L	4	N/A	No RP	Monitoring required for effluent characterization.
Chromium (Total)	No applicable standard	< 5 µg/L	4	N/A	No RP	Monitoring required as an indicator parameter for Chromium VI.
Chromium VI	11 µg/L / A&Ww chronic	< 15 µg/L	4	N/A	RP Indeterminate (high LOQ)	Monitoring required and an assessment level is set.
Copper (2)	13.5 µg/L / A&Ww chronic	< 10 µg/L	4	N/A	RP Indeterminate (Limited Data)	Monitoring required and an assessment level is set.
Cyanide	9.7 µg/L / A&Ww chronic	< 10 µg/L	6	N/A	RP Indeterminate (high LOQ)	Monitoring required and an assessment level remains in the permit.
Hardness	No applicable standard. Hardness is used to determine standards for specific metal parameters.	170 mg/L	4	N/A	N/A	A&W standards for cadmium, chromium III, copper, lead, nickel, silver and zinc used for RP determinations were based on the average effluent hardness value of 161 mg/L. Monitoring for hardness is required whenever monitoring for hardness dependent metals is required.
Hydrogen Sulfide	2 µg/L / A&Ww chronic	< 500	6	N/A	RP Indeterminate (High LOQ)	Monitoring is required for sulfides as an indicator parameter for hydrogen sulfide. If sulfides are detected, monitoring for hydrogen sulfide is required for the remainder of the permit term.
Iron	1,000 ug/L / A&Ww chronic	No Data	N/A	N/A	RP Indeterminate (No data)	Monitoring is required and an assessment level is set.

Parameter	Lowest Standard / Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/ Rationale (1)	
Lead (2)	4.21 µg/L / A&Ww chronic	< 1 µg/L	4	N/A	No RP	Monitoring is required for effluent characterization..	
Mercury	0.01 µg/L/ A&Ww chronic	< 0.2 µg/L	7	N/A	RP Indeterminate (High LOQ)	Monitoring required and an assessment level remains in the permit.	
Nickel (2)	77.8 µg/L/ A&Ww chronic	< 20 µg/L	4	N/A	No RP	Monitoring required for effluent characterization.	
Selenium	2 µg/L / A&Ww chronic	< 2 µg/L	7	N/A	RP Indeterminate (High LOQ)	Monitoring required and an assessment level remains in the permit.	
Silver (2)	7.30 µg/L / A&Ww acute	< 0.1 µg/L	4	N/A	No RP	Monitoring required for effluent characterization.	
Sulfides	No applicable standard	< 250 µg/L	6	N/A	N/A	Indicator parameter for hydrogen sulfide. Monitoring required. If sulfides are detected, monitoring for hydrogen sulfide is required for the remainder of the permit term.	
Thallium	7.2 µg/L / FC	< 0.5 µg/L	4	N/A	No RP	Monitoring required for effluent characterization.	
Zinc (2)	175 µg/L/ A&Wedw acute and chronic	< 20 µg/L	4	N/A	No RP	Monitoring required for effluent characterization.	
Whole Effluent Toxicity (WET)	No toxicity (A.A.C. R18-11-108(A)(6))	<i>Pseudo-kirchneriella subcapitata</i> (3)	1.0 TUc	1	N/A	RP Indeterminate (4)	Monitoring required and an action level is set.
		<i>Pimephales promelas</i>	1.0 TUc	1	N/A	RP Indeterminate (4)	Monitoring required and an action level is set.
		<i>Ceriodaphnia dubia</i>	1.0 TUc	1	N/A	RP Indeterminate (4)	Monitoring required and an action level is set.

Footnotes:

- (1) The monitoring frequencies are as specified in the permit.
- (2) Hardness-dependent metal - the standard is for this parameter is based on the average effluent hardness value of 161 mg/L as indicated above.
- (3) Formerly known as *Selenastrum capricornutum* or *Raphidocelis subcapitata*.
- (4) Monitoring with ALs or Action Levels always required for WWTPs for these parameters unless RP exists and limits are set.

VIII. NARRATIVE WATER QUALITY STANDARDS

All narrative limitations in A.A.C. R18-11-108 that are applicable to the receiving water are included in Part I, Section E of the draft permit.

IX. MONITORING AND REPORTING REQUIREMENTS (Part II of Permit)

Section 308 of the Clean Water Act and 40 CFR Part 122.44(i) require that monitoring be included in permits to determine compliance with effluent limitations. Additionally, monitoring may be required to gather data for future effluent limitations or to monitor effluent impacts on receiving water quality.

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Monitoring frequencies for some parameters may be reduced in subsequent permits if all monitoring requirements have been met and the limits or ALs for those parameters have not been exceeded during the first permit term.

Discrete (i.e., grab) samples are specified in the permit since the discharge is treated groundwater that is not expected to have significant daily variations in quality.

Monitoring locations are specified in the permit (Part II.A .1) in order to ensure that representative samples of the influent and effluent are consistently obtained.

The requirements in the permit pertaining to Part II, Monitoring and Reporting, are included to ensure that the monitoring data submitted under this permit is accurate in accordance with 40 CFR 122.41(e). The permittee has the responsibility to determine that all data collected for purposes of this permit meet the requirements specified in this permit and is collected, analyzed, and properly reported to ADEQ.

The permit (Part II.A.3) requires the permittee to keep a Quality Assurance (QA) manual at the facility, describing sample collection and analysis processes; the required elements of the QA manual are outlined.

Reporting requirements for monitoring results are detailed in Part II, Section B of the permit, including completion and submittal of Discharge Monitoring Reports (DMRs), Ammonia Data Logs, and AZPDES Flow Record forms. The permittee is responsible for conducting all required monitoring and reporting the results to ADEQ on DMRs or as otherwise specified in the permit.

Electronic reporting

The US EPA has published a final regulation that requires electronic reporting and sharing of Clean Water Act National Pollutant Discharge Elimination System (NPDES) program information instead of the current paper-based reporting (Federal Register, Vol. 80, No. 204, October 22, 2015). Beginning December 21, 2016 (one year after the effective date of the regulation), the Federal rule required permittees to make electronic submittals of any monitoring reports and forms called for in their permits. ADEQ has created an online portal called myDEQ that allows users to submit their discharge monitoring reports and other applicable reports required in the permit.

The permit also requires annual submittal of an Ammonia Data Log that records the results for temperature, pH, and ammonia samples and date of sampling (Part II.B.2). This requirement is included because the normal method of reporting sampling results (on DMRs) is not sufficient for determining what standard applies. The ammonia standards in Appendix A are contingent upon the pH and temperature at the time of sampling for ammonia; but the format for reporting on DMRs does not link a sample to its particular date of sampling. The requirement to submit an ammonia data log is included to allow evaluation of treatment plant performance and the potential for toxicity in the discharge based on ammonia.

Requirements for retention of monitoring records are detailed in Part II.C.3 of the permit.

X. BIOSOLIDS REQUIREMENTS (Part III in Permit)

Not Applicable

XI. SPECIAL CONDITIONS (Part V in Permit)

Permit Reopener

This permit may be modified based on newly available information; to add conditions or limits to address demonstrated effluent toxicity; to implement any EPA-approved new Arizona water quality standard; or to re-evaluate reasonable potential (RP), if assessment levels in this permit are exceeded [A.A.C. R18-9-B906 and 40 CFR Part 122.62 (a) and (b)].

XII. 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 Indian Gardens Water Pumping Station will be to a perennial water with Tier 2 antidegradation protection. This a renewal a renewal permit for an existing facility with no new or expanded discharge, and the existing uses have been maintained. Therefore, an antidegradation review is not required at this time. 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 facility will be deemed to meet currently applicable antidegradation requirements under A.A.C. R18-11-107.

XIII. STANDARD CONDITIONS

Conditions applicable to all NPDES permits in accordance with 40 CFR, Part 122 are attached as an appendix to this permit.

XIV. ADMINISTRATIVE INFORMATION

Public Notice (A.A.C. R18-9-A907)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft AZPDES permit or other significant action with respect to an AZPDES permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit. This permit will be public noticed in a local newspaper after a pre-notice review by the applicant and other affected agencies.

Public Comment Period (A.A.C. R18-9-A908)

Rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. After the closing of the public comment period, ADEQ 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.

Public Hearing (A.A.C R18-9-A908(B))

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 the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

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

A copy of this draft permit and 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.

XV. ADDITIONAL INFORMATION

Additional information relating to this proposed permit may be obtained from:

Arizona Department of Environmental Quality
Water Quality Division – Surface Water Permits Unit
Attn: Swathi Kasanneni
1110 West Washington Street
Phoenix, Arizona 85007

Or by contacting Swathi Kasanneni at (602) 771 – 4577 or by e-mail at kasanneni.swathi@azdeq.gov.

XVI. INFORMATION SOURCES

While developing effluent limitations, monitoring requirements, and special conditions for the draft permit, the following information sources were used:

1. AZPDES Permit Applications Form 1and Form 2A / 2S, received September 16, 2020, along with supporting data, facility diagram, and maps submitted by the applicant with the application forms.
2. ADEQ Geographic Information System (GIS) Web site.
3. Arizona Administrative Code (AAC) Title 18, Chapter 11, Article 1, *Water Quality Standards for Surface Waters*, adopted December 31, 2016.
4. A.A.C. Title 18, Chapter 9, Article 9. *Arizona Pollutant Discharge Elimination System* rules.
5. Code of Federal Regulations (CFR) Title 40:
Part 122, *EPA Administered Permit Programs: The National Pollutant Discharge Elimination System*.
Part 124, *Procedures for Decision Making*.
6. EPA Technical Support Document for Water Quality-based Toxics Control dated March 1991.

7. *Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs*, US EPA, May 31, 1996.
8. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA /821-R-02-013).
9. U.S. EPA NPDES Permit Writers' Manual, September 2010.

DRAFT