CAG 208 Water Quality Management Plan Amendment Application

City of Globe

July 2019

Prepared for:

City of Globe 150 North Pine Street Globe, AZ 85501 Phone: (928) 425-8346



Engineering Firm: EPS Group, Inc. Engineer: Brandon Squire, P.E. 125 South Avondale Blvd., Suite 115 Avondale, Arizona 85323 Phone: (623) 547-4661

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1 Executive Summary

The City of Globe is committed to provide the necessary planning and management of its wastewater disposal needs to ensure existing and future developments within the City's Planning area meet the goals outlined in the Clean Water Act (CWA). The Central Arizona Governments (CAG) is the Designated Planning Agency (DPA) with the authority, required by Section 208 (a)(2)(B) of the Clean Water Act, to amend the Regional Water Quality Plan for the Gila County Planning Area. The City of Globe is requesting approval of an amendment to CAG Section 208 Area Wide Water Quality Management Plan for the Service Area shown on Figure 2. The proposed Service Area is for the existing Pinal Creek Wastewater Treatment Facility (PCWWTF) located on Pinal Creek Road in the S1/2, SW1/4 of Section 14 and N1/2, NW1/4 of Section 23, Township 1 North, Range 15 East, of the Gila and Salt River Base line and Meridian. See Figure 1, Appendix A, for PCWWTF and City of Globe location.

The City of Globe is currently a Designated Management Agency (DMA) for its planning area and currently manages the existing PCWWTF under Aquifer Protection Permit (APP) No. P-100692 and Arizona Pollutant Discharge Elimination System (AZPDES) permit No. AZ0020249. A portion of its service area uses the Town of Miami treatment facility for wastewater disposal (Miami Gardens Area) as part of the approved CAAG 2008 Water Quality Management Plan Amendment for the Town of Miami Wastewater Reclamation Facility. See Figure 2, Appendix A, for City of Globe Service Area served by the Town of Miami.

The City of Globe has prepared this 2008 Plan Amendment to officially document its current Service Area and to update the CAG Section 2008 Water Quality Management Plan. The size of the City's DMA Service Area is approximately 21.3 square miles and it's based on City Limits and areas adjacent to the current DMA. Projected population was obtained from City of Globe 2035 General Plan. No wastewater flow projection was estimated for this amendment as no major population growth is expected in the planning area for the next 20 years. The existing facility has a current flow of 0.55 Million Gallons per Day (MGD) with a capacity of 1.2 MGD. No new construction or expansion to the existing treatment facility is expected during the completion of this amendment application. As demonstrated during the PCWWTF permitting process, the City of Globe has the financial capacity to administer, operate, close and ensure proper post-closure activities of the wastewater facility. The Facility will continue to implement its Operation & Maintenance (O&M) and monitoring requirements as outlined on the approved A.P.P. permit.

The CWA Section 208 Checklist on the preceding pages provides a summary of the amendment application requirements for the proposed Service Area.

2 Authority

The City of Globe (City) self-certifies that it has the authorities required by section 208(c)(2) of the Clean Water Act to implement the plan for its proposed amended planning and Service Areas.

3 20-Year Needs

3.1 Description of Existing Wastewater Treatment Facility (WWTF)

Currently, there is an existing WWTF in operation within the Gila County portion of the City of Globe Planning Area. This facility is the Pinal Creek Wastewater Treatment Facility (PCWWTF) located on the northwest part of the City. The facility serves residential and commercial areas from the City of Globe. The facility sits at an approximate elevation of 3385 ft above sea level located an approximate Latitude and longitude of 33°25'22"N & 110°48'08"W, respectively. The PCWWTF consists of a head works with mechanical screens, grit chamber, aeration oxidation ditch with clarifiers, belt press, gas chlorination and de-chlorination. All the units of the PCWWTF were constructed from monolithic reinforcement concrete tanks. The facility has unlined sludge drying beds (underlay by clay material) for emergency use only. The facility also processes septic tank sludge from areas of the City without sewer mains. Currently, the permit for the facility allows it to produce Class B effluent with future plans to update to Class A+. The effluent is both reuse and discharged into the Pinal Creek/Salt River Basin as per Environmental Protection Agency and Arizona Department of Environmental Quality standards. The facility has a current capacity of 0.55 MGD with a full buildout capacity of 1.2 MGD.

Most of the contributing wastewater flow to PCWWTF is generated from areas southwest and southeast of the facility. Wastewater flow is collected and conveyed to the existing facility via gravity sewer collection lines as shown on Figure 4. The existing collection and conveyance system consist of pipes, manholes and a pump station.

A portion of the City's Service Area is served by the Town of Miami WWTF as part of the approved CAAG 2008 Water Quality Management Plan Amendment for the Town of Miami Wastewater Reclamation Facility, dated 01/25/2010, CAAG 208 ID#2010-1. This area, currently served by the Town of Miami, is within the Globe DMA. The City of Globe and the Town of Miami have entered an Intergovernmental Agreement (IGA) to allow the Town of Miami to serve this portion of Globe DMA. The Town of Miami WWTF does not have a physical address but is located within Freeport-McMoRan Miami Inc (FMMI) property boundary at an approximate elevation of 3339 ft above sea level and an approximate Latitude and Longitude of 33°25'23"N & 110°50'07" W, respectively. The Town of Miami WWTF replaced the aerobic lagoon treatment system previously used by the Town. See Figure 1 for existing facilities location. Primarily, the facility serves the Town of Miami, unincorporated areas between the City of Globe-Town of Miami and small area within the City of Globe DMA Service Area, specifically the Miami Gardens Area. See Figure 2 for City of Globe DMA Service Area served by the Town of Miami and Figure 3 for Town of Miami DMA approved Service Area. The Miami WWTF has a designed capacity of 640,000 gpd and consists of headworks, anoxic and aeration chambers, clarifiers, sludge holding tank, filtration and disinfection units.

3.2 Existing Site Location and Property Ownership

The existing Pinal Creek Wastewater Treatment Facility physical address is 2005 Pinal Creek Road, Globe, AZ 85501. The facility is in the S1/2, SW1/4 of Section 14 and N1/2, NW1/4 of Section 23, Township 1 North, Range 15 East, of the Gila and Salt River Base line and Meridian (See Figure 1). The size of the City's DMA Service Area is approximately 21.3 square miles and it is based on the City limits and areas adjacent to the current DMA. The land usage within the Service Area varies from residential, single family and multifamily housing with varies density, to non-residential areas such as office and retail usage located mainly along collector or arterial streets. The Service Area also contains open space including parks and recreational areas. A large area of open public lands surrounds the City including the Tonto National Forest, Pinal Mountains and the San Carlos Apache Reservation.

Currently, the PCWTF property is owned and managed by the City of Globe. Effluent reuse areas are owned Freeport-McMoran (FMMI). The effluent is discharged into Pinal Creek, is state land.

3.3 Topographic Conditions

The existing wastewater treatment plan sits adjacent to Pinal Creek road with Copper Hills bordering the east property line and Pinal Creek to the west. The existing site topography slopes to the northwest at an approximate slope of 2%. The depth of groundwater at the existing site is approximately 40 feet below existing grade flowing in the same directions as Pinal Creek, northwest. The site sits at an approximate elevation of 3385 ft above sea level.

The service area consists of hill areas on each side of the US60. Generally, the City of Globe slopes down toward the US-60 Hwy and downtown areas. The downtown and east areas of the City, along US-60, consist of mild grades sloping in a northwest direction to the existing PCWWTF.

3.4 Population Estimates

According to City of Globe 2035 General Plan, the population of Globe is expected to have a slight increase over the next two decades. Globe's population in the 2010 census was 7,532 and is expected to reach 8,092 by year 2040. It is anticipated that the existing PCWWTF will accommodate the population increase. See Table 1 for City of Globe projected population growth rate for the next 20 years.

Year	Population	Population Growth Rate
1990	7,568	-
2000	7,486	-1.08%
2010	7,532	0.61%
2020	7,578	0.61%
2030	7,977	5.27%
2040	8,092	1.44%

 Table 1- City of Globe Population Projections

Information obtained from City of Globe 2035 General Plan

For the 20-Year needs, projected population for year 2018 and 2038 was calculated by

interpolating population projection shown on Table 1. See Table 2 for year 2038 projected population.

Table 2- City of Globe 20-Year needsPopulation Projection.

Year	Population
2018	7,569
2038	8,069

The City of Globe has an ongoing relationship with the mining industry, specifically copper mining. Its economy is heavily depended on mining activities. The population projections shown on Tables 1 & 2 can vary with any significant mining activity fluctuation within Globe and nearby areas. Significant increase or decrease in mining interests shall be monitored.

3.5 Estimated Wastewater Flow

The existing City of Globe PCWWTF has the capacity to collect and treat a maximum average monthly flow of 1,200,000 gal/day (1.2 MGD). The current facility inflow compositions are 80% Domestic, 19% Industrial and 1% Agriculture. The 20-Years wastewater flow projection has been calculated using the 20-Year Needs Projected Population (Year 2038, Table 2), current inflow compositions and Table 1 of Arizona Administrative Code (A.A.C., R18-9, 80 gal/day Dry + 20 gal/day Inflow). The 2038 projected flows are summarized in Table 3.

Source	Percent flow composition	Flow (gal/day)	
Domestic	80%	806,900	
Industrial	19%	191,639	
Agriculture	1%	10,086	
	Total:	1,008,625	

Table 3- 2038 Wastewater Flow Projections

See Appendix E for detail flow calculation and backup information. The total projected flow for the 20-Year needs is less than City of Globe PCWWTF monthly capacity.

3.6 Effluent Disposal and Quality Requirements

The effluent generated by the facility are both reuse and discharged. The reuse effluent is regulated under its current Reuse Permit. The permit allows Class B effluent and is utilized for any Class B usage under a valid reclaimed water reuse permit. The facility has been authorized to discharge its domestic wastewater to the Pinal Creek, a tributary to Salt River in the Salt River Basin, in compliances with provisions of Arizona Revised Statue (A.R.S) Title 49, Chapter 2, Article 3.1; the Federal Water Pollution Control Act, ((33 ISC & 1251 et. Seq., as amended), and Arizona Administrative Code (AAC) Tile 18, Chapter 9, Article 9 and 10. The discharged effluent is regulated under its current Arizona Pollutant Discharge Elimination System (AZPDES) permit. The effluent discharged under AZPDES is dechlorinated prior to disposal. The permit allows the full 1.2 MGD capacity of the facility to be discharge. The City of Globe entered into any agreement with Freeport-McMoran (FMMI) in which the City of Globe delivers 500 Acre Feet per year of effluent to FMMI. FMMI reuses this effluent in the mining operation. A copy of the City of Globe-FMMI agreement is located in Appendix D.

The plant has an average monthly discharge limit of 1.2 MGD with an alert level of 1.1 MGD. No daily flow discharge limitation nor Alert level has been stablished for the facility. For a complete Alert Levels and Discharge limits summary to PCWWTF refer to Section 4, Table 1 of the A.P.P. permit, in Appendix C. Other effluent discharge limitations and monitoring requirements for City of Globe PCWWTF are under AZPDES issued Permit AZ0020249. See Appendix B for AZPDES permit.

3.7 Storm water Discharge

Storm water discharges associated with the PCWWTF are not anticipated. The facility retains onsite storm water runoff generated by storms up to and including the 100-year, 2-hour storm.

3.8 Sanitary Districts and Private Utilities

There are areas to the west of the City's DMA that falls under Tri-City Regional Sanitary District (TRSD). The majority of TRSD residents remain on individual disposal systems (Cesspools and Septic tanks) from early years of development, going back to the early 1900's. TRSD does not provide sewage service nor operate or maintain any wastewater infrastructure but instead manages sewage treatment within its area as cesspools and septic tanks are the primary means of treatment and disposal. Business and home owners with individual disposals continue to maintain their own onsite facilities.

TRDS has not been granted DMA status after the merger between Cobre Valley Sanitary District (CVSD) and Pinal Sanitary District (PSD) back in 1968. Prior to the merger, both CVSD and PSD were identified as DMA status. TRDS is in the process of preparing a 208 Water Quality Management Plan amendment to the 2016 CAG Areawide Water Quality Management Plan requesting approval to be the DMA for the areas previously assigned to CVSD and PSD districts. See Figure, Appendix A, for areas of the City of Globe currently under TRDS district.

3.9 Summary of Alternatives

No other alternative for treatment of wastewater and disposal of reclaimed wastewater is examined for this amendment. The existing treatment facility will continue to process and discharge its wastewater flow as outlined in the AZPDES & A.P.P. permits.

3.10 Permitting Requirements

All the required permits for the design, construction and operation of the existing PCWWTF were obtained by the City in the name of City of Globe. Appendix B includes the Arizona Pollutant Discharge Elimination System (AZPDES) permit No. AZ0020249 dated February 10, 2011 and Appendix C includes the Aquifer Protection Permit No. P-100692, Significant Amendment, dated September 09, 2005. A previous A.P.P. was issued and signed January 29, 2003. All other required permits were obtained during construction and permitting process but not included in this amendment application.

3.11 Pretreatment Requirements

All existing commercial, Industrial and other non-residential hookups discharging to the

existing sanitary sewer system are authorized to discharge according to applicable federal, state and local regulation as specified on A.P.P. No. P-100692. The facility provides oversight of all industrial users who discharge regulated wastewater to the facility. All users meet the requirements for pretreatment as per A.P.P. No. P-100692 per AAC R18-9-B204(A)(6)(b)(iii). The City will assess any future industrial users and their respective manufacturing processes on an individual basis. Each prospective industrial user will be required to be in compliance with all pretreatment requirements dictated by the City of Globe and all federal pretreatment requirements as provided in 40 CFR Part 403 and enforced by Arizona Department of Environmental Quality. The ability for prospective industrial users to comply with both federal and local regulations will be evaluated on a case-by case basis.

3.12 Sludge Management

The on-site sewage sludge disposal was approved by ADEQ under the current A.P.P. permit. The sludge generated by the facility is dried and hauled to dedicated disposal areas, drying beds, within the PCWWTF property. The disposal site was designed (bermed and graded) such that it will not get flooded during onsite stormwater events. The sludge drying beds are underlined with clay material with permeability less than 550 gallon per day (gpd)/acre. For Biosolids/Sewage sludge requirements including storage, surface water protection, monitoring, sampling and testing see AZPDES issued permit AZ0020249 in Appendix B.

4 Construction, Operation, and Maintenance

4.1 Construction Responsibility

No new construction or expansion to the existing treatment facility is expected during the completion of this amendment or the near future.

4.2 Operation and Maintenance Responsibility

The City of Globe has owned and oversee the operation and maintenance of the facility since it was constructed. The facility maintains a copy of the most up to date Operation & Maintenance (O&M) on-site at all times. As part of its O&M, all pollution control structures are routinely inspected as specified in the A.P.P. permit. The Facility will continue to implement its O&M and monitoring requirements as outlined on the approved A.P.P. permit.

5 Financing

5.1 Financing Plan

The City of Globe, under the issued Aquifer Protection Permit No. P-100692 and following A.R.S. 49-243(N) and A.A.C. R18-9-A203, has demonstrated financial capability and is expected to maintain financial capability throughout the life of the facility to administer, operate & maintain (O&M), close and ensure proper post-closure activities of the facility. If future expansion of the PCWWTF are required, it will be financed by the City of Globe in association with other developers.

5.2 Financing Capacity to Operate

The operation and maintenance of the PCWWTF is funded and overseen by the City of Globe. User fees are collected by the City of Globe to fund operation and maintenance and is expected to keep doing so for the life of the treatment facility.

6 Impacts and Implementation

6.1 Implementation Plan

This application identifies the amended Service Area for the Pinal Creek Wastewater Treatment Plan. The service area includes all City Limits as well as areas adjacent to the City. The facility is currently receiving wastewater flow from the proposed Service Area shown on Figure 2.

6.2 Impacts of the Proposed Plan

The implementation of the City of Globe DMA Service Area Plan is not anticipated to have any impact on adjacent municipalities, existing service areas, sanitary districts, communities, or businesses. The discharge, reuse, or recharge is not anticipated to increase a noticeable insect population or odor.

7 Public Participation

CAG is responsible, with the cooperation with the City of Globe, for ensuring that the required public participation requirements are followed as outlined in 40 CFR 25. The following are minimum requirements:

- Submittal of a mailing list used to notify the public of the public hearing of the amended Service Areas.
- Listing of locations where documents are available for review at least 30 days prior to the public hearing.
- Publication of public notice of the public hearing with information on time, date, subject, and location of public hearing at least 45 days prior to the public hearing.
- Submittal of an affidavit of publication for official newspaper publication.
- Submittal of a responsiveness summary for public hearing.

LETTERS OF SUPPORT

CAG 208 AREAWIDE WATER QUALITY MANAGEMENT PLAN



ADMINISTRATION

Joseph Heatherly Town Manager Karen Norris Town Clerk

TOWN COUNCIL

Darryl Dalley, Mayor Sammy Gonzales, Vice-Mayor Michael Black Patricia Bringhurst Jose "Angel" Medina Dan Moat Don Reiman

TOWN OF MIAMI "Copper Center of the World"

> 500 W. Sullivan St. Miami, AZ 85539 928-473-4403 www.miamiaz.gov

October 19, 2019

Central Arizona Governments Attention: Alan Urban 2540 W Apache Trail #108 Apache Junction, AZ 85120

Re: Letter of Support for proposed Central Arizona Governments (CAG) 208 Water Quality Management Plan Amendment by the City of Globe and Tri City Regional Sanitary District

Mr. Urban:

The Town of Miami supports the proposed CAG 208 Plan Amendment for both the City of Globe and the Tri City Regional Sanitary District which modifies each of their Designated Management Agency (DMA) boundary in Gila County. This is being done in junction with the proposed modified DMA boundary for the Town of Miami.

The proposed changes to each of the three DMA's are a positive move for the Southern Gila County region and will benefit the entire regional community.

If there are any further questions or you require additional information of this matter please contact me at your convenience.

Sincerely,

listhin enl

Joseph Heatherly Town Manager Town of Miami

TRI-CITY REGIONAL SANITARY DISTRICT

Malissa Buzan President 5515 S. Apache Ave STE 200 Globe, AZ 85501-4430 www.TRSD.org

PO Box 2198 Claypool AZ 85532-2198 www.TRSDwastewater.org

Mary Anne Moreno, Secretary John Chism Stephen Palmer Bill Tower

October 31, 2019

Central Arizona Association of Governments

Attn: Alan Urban, Community Development Manager

RE: Proposed 208 Amendment

Representatives from The TRSD Regional Sanitary District attended the Stakeholders Meeting on September 18th, 2019 along with Representatives from Globe and Miami.

TRSD agrees with the Proposed changes to the Designation Management Agency (DMA) area plan and is in full support of Globe's and Miami's changes to the current plan.

Please feel free to contact me via email or by phone if you have any questions regarding this matter.

Malissa Buzan, Tri-City Regional Sanitary District Board President

Phone: 928-961-6439

Email: maliss39@hotmail.com

Appendix A

Figures

EPS Group, Inc.



AG 208 AMENDMENT PROJECT





PROJEC⁻ **NDMENT** ΔEΣ 4 208 U



PROJEC⁻ **NDMENT** MEP 4 208 U

4



PROJECT AMENDMENT 208 U 4



LEGEND

GLOBE CITY LIMITS

PARCEL LINES

CITY OF GLOBE DMA SERVICE AREA







UNUSUAL New MINING VERSION STATISTICAL STATES SU 1/22/2010 4:06/02 PM. Duil



PROJECT AMENDMENT 208 U

Appendix B

AZPDES Issued Permit AZ0020249

EPS Group, Inc.

ADEQ Inventory No. 100692 LTF No. 51846

AUTHORIZATION TO DISCHARGE UNDER THE ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Article 3.1; the Federal Water Pollution Control Act, (33 USC §1251 et. seq., as amended), and Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 9 and 10, and amendments thereto,

> City of Globe Pinal Creek Wastewater Treatment Facility 150 N. Pine Street Globe, Arizona 85501

is authorized to discharge treated domestic wastewater from the wastewater treatment facility located at North Pinal Creek Road, serving the city of Globe in Gila County, Arizona to Pinal Creek, tributary to the Salt River in the Salt River Basin at:

Outfail No.	Latitude	Longitude	Legal
001	33° 25' 43" N	110° 48' 28" W	Township 1 N, Range 15 E, Section 14

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein, and in the attached "Standard AZPDES Permit Conditions."

This permit shall become effective on _______ for any 10 ______, 2011.

This permit and the authorization to discharge shall expire at midnight, <u>Februry</u> 9, 2016

day of <u>Februan</u> _____, 2011. Signed this

Michael A. Fulton, Director Water Quality Division Department of Environmental Quality

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STANDARD CONDITIONS

PART I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Effluent Limitations and Monitoring Requirements

The permittee shall limit and monitor discharges from Outfall 001 as specified in Table 1 which follows. These requirements are based on a design capacity of 4542 m^3/day (1.2 MGD).

		Maximum	Monitoring Regultement						
Parameter	Mase Limits			Соп	Concentration Limits			(4) (8)	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Dally Maximum	Monitoring Frequency	Sample Type	
Discharge Flow (MGD)	REPORT (1)		REPORT				Continuous	Metered	
Biochemical Oxygen Demand (BOD) (5-day)	136 kg/day	204 kg/day		30 mg/L	45 mg/L		2x /month	24-hour Composite (5)	
BOD (2)				85% REMOVAL MINIMUM			2x /month	24-hour Composite	
Total Suspended Solids (TSS)	136 kg/day	204 kg/day		30 mg/L	45 mg/L		2x /month	24-hour Composite	
TSS (2)				85% REMOVAL MINIMUM			2x /month	24-hour Composite	
E. coli (3)				126 cfu/100 mL (3)		576 cfu/100 mL(3)	4X /month	Discrete	
Chromium VI	0.036 kg/day		0.073 kg/day	8.0 ug/L		16 ug/L	1x /quarter	Discrete	
Copper (10) (11)	0.045 kg/day		0.076 kg/day	10 ug/L		17 ug/L	1x /quarter	24-hour Composite	
Cyanide	0.036 kg/day		0.072 kg/day	7.9 ug/L		16 ug/L	1x /quarter	Discrete	
Lead (10) (11)	0.014 kg/day	.	0.021 kg/day	3.10 ug/L		4.65 ug/L	1x /quarter	24-hour Composite	
Mercury	0.00004 kg/day	•	0.00009 kg/day	0.01 ug/L		0.02 ug/L	1x /quarter	24-hour Composite	
Selenium	0.009 kg/day		0.014 kg/day	2 ug/L		3 ug/L	1x /quarter	24-hour Composite	
Zinc (10) (11)	0.51 kg/day		0.68 kg/day	113 ug/L		149 ug/L	1x /quarter	24-hour Composite	
2,4-dinitrophenol	0.03 kg/day		0.07 kg/day	7.5 ug/L		15 ug/L	2x /year	24-hour Composite	
2,4,6-trichloro- Phenol	0.09 kg/day		0.2 kg/day	20 ug/L		41 ug/L	2x /year	24-hour Composite	
Chlorine, Total Residual (7)	0.041 kg/day		0.082 kg/day	9 ug/L		18 ug/L	1x /week	Discrete	
pH (6)	Not less that	n 6.5 standard u	units (S.U.) nor gr	reater than 9.0 S	s.U.	<u>,</u>	1x /week	Discrete	
Hardness (10)			Report i	n mg/L			1x /quarter	24-hour Composite	

TABLE 1: Effluent Limitations and Monitoring Requirements

Footnotes:

- Monitoring and reporting required. No limit set at this time. In addition to the average and maximum flows reported on the Discharge (1) Monitoring forms, daily discharge flow shall be recorded on the Discharge Flow Record provided in Appendix B. See Part II.B for reporting requirements.
- (2)Both the influent and the effluent shall be monitored.
- cfu = colony forming units. The monthly average for E. coli is calculated as a geometric mean. A minimum of 4 samples are required in order (3) to report a geometric mean. See the definition for "Monthly or Weekly Average Concentration Limit" in Appendix A
- At a minimum, one sample 1x /quarter must coincide with one of the Whole Effluent Toxicity Test (WET) samples taken once every six (4) months. See Part IV of the permit.
- For the purposes of this permit, a "24-hour composite" sample has been defined as a flow-proportioned mixture of not less than three discrete (5) samples (aliquots) obtained at equal time intervals. The volume of each aliquot shall be directly proportional to the discharge flow rate at the time of sampling.
- pH must be measured at the time of sampling and does not require use of a certified laboratory. (6)
- (7)Sample when chlorine or bromine compounds are used for disinfection. See Part II.A.6 for specific monitoring requirements for chlorine. If discharge is infrequent see Part I.D for minimum effluent characterization monitoring requirements.
- (8) All metals effluent Limits are for total recoverable metals, except for Chromium VI, for which the limits listed are dissolved. (9)
- Limits listed are based on a hardness of 133 mg/L as CaCO3. The effluent water must be tested for hardness at the same time that these (10) metal samples are taken. Please see the hardness definition in Appendix A. Part B.
- Due to the treatment plant processes improvements in 2009, limits are generated based on only 2009-2010 data. (11)

B. **Trace Substance Monitoring**

The permittee shall monitor discharges from Outfall 001 as specified in Table 2. Data results above the Assessment Levels (ALs) listed below do not constitute a permit violation, but may trigger evaluation of Reasonable Potential (RP) by ADEQ. The permittee shall use an approved analytical method with a Limit of Quantitation (LOQ) lower than the AL values.

Parameter	Assessm Conce	ent Levels 1) ntration	Monitoring Requirements (2) (3)		
	Monthly Average	Dally Maximum	Monitoring Frequency	Sample Type	
Ammonia	(4)	(4)	2x /month	Discrete	
Oil & Grease	10 mg/L	15 mg/L	1x /quarter	Discrete	
Temperature	Report (4)	Report (4)	2x /month	Discrete	
Hydrogen sulfide (5)	2 ug/L	3 ug/L	1x /quarter	Discrete	
Sulfides (5)	Report	Report	1x /quarter	Discrete	
pH	Report (4)	Report (4)	2x /month	Discrete	

TABLE 2: Trace Substance Monitoring Requirements

Footnotes:

(1) Concentration values are calculated based on Arizona Water Quality Standards. Monitoring and reporting required.

(2) At a minimum, one sample must coincide with one of the WET samples taken 1x /quarter. See Part IV of the permit.

(3) If discharge is infrequent see Part I.D for minimum effluent characterization monitoring requirements.

(4) The ammonia assessment level is dependent on pH and Temperature. In addition to reporting the ammonia values on the DMRs the ammonia data log shall also be completed including values of pH and temperature at the time the ammonia sample is taken. See Part ILB of the permit.

(5) With a detection limit no higher than 100 ug/L, any detection of sulfides shall trigger quarterly monitoring for hydrogen sulfide for the reminder of the permit term. Monitoring for hydrogen sulfide is only required if sulfide is detected.

C. Whole Effluent Toxicity Monitoring

1. The permittee shall monitor discharges from Outfall 001 for Whole Effluent Toxicity (WET) as specified in Table 3 which follows. If toxicity is detected above a limit specified as follows, the permittee must perform follow-up testing and, as applicable, follow the TIE/TRE processes in Part IV.E of the permit.

	Effluer	nt Límits	Monitoring Requirements		
Effluent Characteristic (1)	Daily Maximum (2) (3)	Monthly Median (3)	Monitoring Frequency (4)	Sample Type	
Chronic Toxicity Selenestrum capricornutum (Green algae) (5)	1.6 TUc	1.0 TUc	1x /6 months	24-hr Composite	
Chronic Toxicity Pimephales promeles (Fathead minnow)	1.6 TUc	1.0 TUc	1x /6 months	24-hr Composite	
Chronic Toxicity Ceriodaphnia dubie (Water flea)	1.6 TUc	1.0 TÜ¢	1x /6 months	24-hr Composite	

TABLE 3: WET Testing

Footnotes:

(1) See Part IV for additional requirements for testing and reporting Whole Effluent Toxicity (WET).

(2) Since completion of one chronic WET test takes more than 24 hours, the daily maximum is considered to be the highest allowable test result.

(3) Any exceedance of these values requires the permittee to conduct follow-up testing. See Part IV.E of the permit for details.

(4) If discharge is infrequent see Part I.D for minimum effluent characterization monitoring requirements.

(5) Also known as Raphidocelis subcapitata.

D. Effluent Characterization Testing

The permittee shall monitor to characterize the facility's effluent for the parameters listed in Tables 4.a - f, whether discharging or not. When the facility discharges, monitoring is to be conducted at the frequency indicated in Tables 1 through 3. No limits or ALs are established, but the LOQ must be low enough to allow comparison of the results to the applicable surface water quality standards (SWQS). If a LOQ below the SWQS cannot be achieved, then the permittee shall use the method expected to achieve the lowest LOQ, as defined in Appendix A of this permit. Samples are to be representative of any seasonal variation in the discharge:

TABLE 4.a: Effluen	t Characterization	Testing (General C	Chemistry an	d Microbiology)
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Parameter	Reporting	Monitoring Requirements		
	Units	Monitoring Frequency (1)	Sample Type	
Ammonia (as N) (2)	mg/L	Quarterly	Discrete	
Biochemical Oxygen Demand (BOD-5)	mg/L	Quarterly	24-hour Composite	
Chlorine, Total Residual (TRC)	ug/L	Quarterly	Discrete	
Dissolved Oxygen (3)	mg/L	Once /year in years 2,3,4 of permit term	Discrete	
E. coli	Cfu/100 mL	Quarterly	Discrete	
Nitrate/Nitrite (as N)	mg/L	Quarterly	24-hour Composite	
Nitrogen, Total Kjeldahl (TKN)	mg/L	Quarterly	24-hour Composite	
Oil and Grease	mg/L	Quarterly	Discrete	
рН (3)	\$.Ų.	Quarterly	Discrete	
Phosphorus	mg/L	Quarterly	24-hour Composite	

Temperature (3)	°Celsius	Quarterly	Discrete
Total Dissolved Solids (TDS)	mg/L	Once /year in years 2,3,4 of permit term	24-hour Composite
Total Suspended Solids (TSS)	mg/L	Quarterly	24-hour Composite

Footnotes:

(1) If more frequent monitoring of any of these parameters is required by another part of this permit, those sampling results may be used to satisfy Table 4.a. requirements.

(2) When sampling for ammonia, temperature and pH must be determined concurrently and the results recorded on the Ammonia Data Log provided in Appendix C. See Part II.B for reporting requirements.

(3) Temperature, pH, TRC and dissolved oxygen must be measured at the time of sampling and do not require use of a certified laboratory. See Part II.A.6 for methods of analyses for chlorine.

TABLE 4.b: Effluent Characterization Testing - (Selected Metals, Trace Substances and WET)

	Reporting Units	Monitoring Requirements		
		Monitoring Frequency (2)	Sample Type	
Antimony	ug/L	1x /6 months	24-hour Composite	
Arsenic	ug/L	1x /6 months	24-hour Composite	
Beryllium	ug/L	1x /6 months	24-hour Composite	
Cadmium	ug/L	1x /6 months	24-hour Composite	
Chromium	ug/L	1x /6 months	24-hour Composite	
Chromium VI	ug/L	1x /6 months	Discrete	
Copper	ug/L	1x /6 months	24-hour Composite	
Lead	ug/L	1x /6 months	24-hour Composite	
Mercury	ug/L	1x /6 months	24-hour Composite	
Nickel	ug/L	1x /6 months	24-hour Composite	
Selenium	ug/L	1x /6 months	24-hour Composite	
Silver	ug/L	1x /6 months	24-hour Composite	
Thallium	ug/L	1x /6 months	24-hour Composite	
Zinc	ug/L	1x /6 months	24-hour Composite	
Hardness	mg/L	1x /6 months	24-hour Composite	
Cyanide	ug/L	1x /6 months	Discrete	
Whole Effluent Toxicity-chronic (all 3 species) (3)	TUc	1x /6 months	24-hour Composite	

Footnotes:

(1) All metals analyses shall be for total recoverable metals, except Chromium VI, which is dissolved.

(2) If more frequent monitoring of any of these parameters is required by another part of this permit, those sampling results may be used to satisfy Table 4.b. requirements.

(3) If chronic toxicity is detected above the Action Levels specified in Table 4, the permittee must perform follow-up testing and, as applicable, follow the TIE/TRE processes in Part IV.E of the permit, whether discharging or not. See Part IV for additionel information on requirements for testing and reporting Whole Effluent Toxicity (WET).

TABLE 4.c: Effluent Characterization Testing - Selected Volatile Organic Compounds

Parameter	Reporting Units	Monitoring Requ	irements
		Monitoring Frequency	Sample Type (1)
Acrolein	ug/L	1x /quarter 4 th year	24-hour Composite
Acrylonitrile	ug/L	1x /quarter 4 th year	24-hour Composite
Benzene	ug/L	1x /quarter 4 th year	24-hour Composite
Bromoform	ug/L	1x /quarter 4 th year	24-hour Composite
Carbon tetrachloride	ug/L	1x /quarter 4 th year	24-hour Composite
Chlorobenzene	ug/L	1x /quarter 4 th year	24-hour Composite
Chlorodibromomethane	ug/L	1x /quarter 4 th year	24-hour Composite
Chloroethane	ug/L	1 x /quarter 4 th year	24-hour Composite
2-chloroethylvinyl ether	ug/L	1x /quarter 4 th year	24-hour Composite
Chloroform	ug/L	1x /quarter 4 th year	24-hour Composite
Dichlorobromomethane	ug/L	1x /quarter 4 th year	24-hour Composite
1,1-dichloroethane	ug/L	1x /quarter 4 th year	24-hour Composite
1,2-dichloroethane	ug/L	1x /quarter 4th year	24-hour Composite
Trans-1,2-dichloroethylene	ug/L	1x /quarter 4 ⁰ year	24-hour Composite
1,1-dichloroethylene	ug/L	1x /quarter 4 th year	24-hour Composite
1,2-dichloropropane	ug/L	1x /quarter 4 th year	24-hour Composite
1,3-dichloropropylene	ug/L	1x /quarter 4 th year	24-hour Composite
Ethylbenzene	ug/L	1x /quarter 4 th year	24-hour Composite
Methyl bromide	ug/L	1x /quarter 4 th year	24-hour Composite
Methyl chloride	ug/L	1x /quarter 4 th year	24-hour Composite
Methylene chloride	ug/L	1x /quarter 4 th year	24-hour Composite
1,1,2,2-letrachloroethane	ug/L	1x /quarter 4 th year	24-hour Composite
Tetrachloroethylene	ug/L	1x /quarter 4 th year	24-hour Composite
Toluene	ug/L	1x /quarter 4 th year	24-hour Composite
1,1,1-trichloroethane	ug/L	1x /quarter 4 th year	24-hour Composite
1,1,2-trichloroethane	ug/L	1x /quarter 4 th year	24-hour Composite
Trichloroethylene	ug/L	1x /quarter 4 th year	24-hour Composite
Viny! chloride	ug/L	1x /quarter 4 [®] year	24-hour Composite

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<u>Footnotes:</u>

 Samples for Volatile Organic Compounds must be collected as four (4) discrete samples and composited per approved methods by the laboratory running the analyses.

	Recording Links	Monitoring Regu	lirements
		Monitoring Frequency	Sample Type
P-chioro-m-cresoi	ug/L	1x /quarter 4 th year	24-hour Composite
2-chlorophenol	ug/L	1x /quarter 4 th year	24-hour Composite
2,4-dichlorophenol	ug/L	1x /quarter 4 th year	24-hour Composite
2,4-dimethylphenol	ug/L	1x /quarter 4 th year	24-hour Composite
4,6-dinitro-o-cresol	ug/L	1x /quarter 4 th year	24-hour Composite
2,4-dinitrophenol	ug/L	1x /quarter 4 th year	24-hour Composite
2-nitrophenol	ug/L	1x /quarter 4 th year	24-hour Composite
4-nitrophenol	ug/L	1x /quarter 4 th year	24-hour Composite
Pentachlorophenol	ug/L	1x /quarter 4 th year	24-hour Composite
Phenol	ug/L	1x /quarter 4 th year	24-hour Composite
2,4,6- trichlorophenol	ug/L	1x /quarter 4 th year	24-hour Composite

TABLE 4.d: Effluent Characterization Testing - Selected Acid-extractable Compounds

TABLE 4.e: Effluent Characterization Testing - Selected Base-neutral Compounds

	Reporting Units	Monitoring Regulrements		
		Monitoring Frequency	Sample Type	
Acenaphthene	ug/L	1x /quarter 4 th year	24-hour Composite	
Acenaphthylene	ug/L	1x /quarter 4 th year	24-hour Composite	
Anthracene	ug/L	1x /quarter 4 th year	24-hour Composite	
Benzidine	ug/L	1x /quarter 4 th year	24-hour Composite	
Benzo(a)anthracene	ug/L	1x /quarter 4 th year	24-hour Composite	
Benzo(a)pyrene	ug/L	1x /quarter 4 th year	24-hour Composite	
3,4 benzofluoranthene	ug/L	1x /quarter 4 th year	24-hour Composite	
Benzo(ghi)perylene	ug/L	1x /quarter 4 th year	24-hour Composite	
Benzo(k)fluoranthene	ug/L	1x /quarter 4 th year	24-hour Composite	
Bis (2-chloroethoxy) methane	ug/L	1x /quarter 4 ⁱⁿ year	24-hour Composite	
Bis (2-chloroethyl) ether	ug/L	1x /quarter 4 th year	24-hour Composite	
Bis(2-chloroisopropyl) ether	ug/L	1x /quarter 4 th year	24-hour Composite	
Bis (2-ethylhexyl) phthalate	ug/L	1x /quarter 4 th year	24-hour Composite	
4-bromophenyl phenyl ether	ug/L	1x /quarter 4 th year	24-hour Composite	
Butyf benzyl phthalate	ug/L	1x /quarter 4 th year	24-hour Composite	

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2-chloronaphthalene	ug/L	1x /quarter 4 th year	24-hour Composite
4-chlorophenyl phenyl ether	ug/∟	1x /quarter 4 th year	24-hour Composite
Chrysene	ug/L	1x /quarter 4 th year	24-hour Composite
Di-n-butyl phthalate	ug/L	1x /quarter 4 th year	24-hour Composite
Di-n-octyl phthalate	ug/L	1x /quarter 4 th year	24-hour Composite
Dibenzo(a,h)anthracene	ug/L	1x /quarter 4 th year	24-hour Composite
1,2-dichlorobenzene	ug/L	1x /quarter 4 th year	24-hour Composite
1,3-dichlorobenzene	ug/L	1x /quarter 4 th year	24-hour Composite
1,4-dichlorobenzene	ug/L	1x /quarter 4 th year	24-hour Composite
3,3-dichlorobenzidine	ug/L	1x /quarter 4 th year	24-hour Composite
Diethyl phthalate	ug/L	1x /quarter 4 th year	24-hour Composite
Dimethyl phthalate	ug/L	1x /quarter 4 th year	24-hour Composite
2,4-dinitrotoluene	ug/L	1x /quarter 4 th year	24-hour Composite
2,6-dinitrotoluene	ug/L	1x /quarter 4 th year	24-hour Composite
1,2-diphenylhydrazine	ug/L	1x /quarter 4 th year	24-hour Composite
Fluoranthene	ug/L	1x /quarter 4 ⁱⁿ year	24-hour Composite
Fluorene	ug/L	1x /quarter 4 th year	24-hour Composite
Hexachlorobenzene	ug/L	1x /quarter 4 th year	24-hour Composite
Hexachlorobutadiene	ug/L	1x /quarter 4 th year	24-hour Composite
Hexachlorocyclopentadiene	ug/L	1x /quarter 4 th year	24-hour Composite
Hexachloroethane	ug/L	1x /quarter 4 th year	24-hour Composite
Indeno(1,2,3-cd)pyrene	ug/L	1x /quarter 4 th year	24-hour Composite
Isophorone	ug/L	1x /quarter 4 th year	24-hour Composite
Naphthalene	ug/L	1x /quarter 4 th year	24-hour Composite
Nitrobenzene	ug/L	1x /quarter 4 th year	24-hour Composite
N-nitrosodi-n-propylamine	ug/L	1x /quarter 4 th year	24-hour Composite
N-nitrosodimethylamine	ug/L	1x /quarter 4 th year	24-hour Composite
N-nitrosodiphenylamine	ug/L	1x /quarter 4 th year	24-hour Composite
Phenanthrene	ug/L	1x /quarter 4 th year	24-hour Composite
Pyrene	ug/L	1x /quarter 4 th year	24-hour Composite
1,2,4-trichlorobenzene	ug/L	1x /quarter 4 [®] year	24-hour Composite

TABLE 4.f: Effluent Characteristic Testing Based on Designated Uses

Additional Parameters from the Arizona Surface Water Quality Standards, Appendix A: Tables 1 & 2

Doratedori	Reporting	Monitoring Reguli	ements
Crighter and a second se	Units	Monitoring Frequency	Sample Type
Alachlor (1)	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Aldrin	ug/L	1x /quarter 4 th year	24-hour Composite
Asbestos	ug/L	1 x /quarter 4 th year	24-hour Composite
Atrazine (1)	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Banum	ug/L	1x /quarter 4 th year	24-hour Composite
Boron	ug/L	1x /quarter 4 th year	24-hour Composite
Carbofuran (Furadan) (1)	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Chiordane	ug/L	1x /quarter 4 th year	24-hour Composite
1,2-cis-Dichloroethylene	ug/L	1x /quarter 4 th year	24-hour Composite
Chlorpyrifos	ug/L	1x /guarter 4 th year	24-hour Composite
Dalapon (1)	µg/L	once /year in years 2,3,4 of permit term	24-hour Composite
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1x /quarter 4 th year	24-hour Composite
1,2-Dibromoethane (EDB) Ethylene dibromide	ug/L	1x /quarter 4 th year	24-hour Composite
4,4-DDD (p,p,- Dichlorodiphenyldicholoroethane)	ug/L	1x /quarter 4 th year	24-hour Composite
4,4-DDE (p,p- Dichlorodiphenyldichloroethylene)	ug/L	1x /quarter 4 th year	24-hour Composite
4,4-DDT ((p,p- Dichlorodiphenyltrichloroethane)	ug/L	1x /quarter 4 th year	24-hour Composite
2,4-Dichlorophenoxyacetic acid (2,4-D) (1)	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Dieldrin	ug/L	1x /quarter 4 th year	24-hour Composite
Di (2-ethylhexyl) adipate	ug/L	1x /quarter 4 th year	24-hour Composite
Dinoseb (1)	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Diquat (1)	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Endosulfan sulfate	ug/L	1x /quarter 4 th year	24-hour Composite
Endosulfan (Total)	ug/L	1x /quarter 4 th year	24-hour Composite
Endothall (1)	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Endrin	ug/L	1x /quarter 4 th year	24-hour Composite
Endrin aldehyde	ug/L	1x /quarter 4 th vear	24-hour Composite
Fluoride	ug/L	1x /quarter 4 th vear	24-hour Composite
Giyphosate (1)	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Guthion	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Heptachlor	ug/L	1x /quarter 4 th year	24-hour Composite
Heptachlor epoxide	ug/L	1x /quarter 4 th year	24-hour Composite

Hexachlorocyclohexane alpha (Alpha-BHC)	ug/L	1x /quarter 4 th year	24-hour Composite
Hexachlorocyclohexane beta	ug/L	1x /quarter 4 th year	24-hour Composite
Hexachlorocyclohexane delta	ug/L	1x /quarter 4 th year	24-hour Composite
Hexachlorocyclohexane gamma (lindane)	ug/L	1x /quarter 4 th year	24-hour Composite
Hydrogen Sulfide (2)	ug/L	once /year in years 2,3,4 of permit term	Discrete
Malathion	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Manganese	ug/L	1x /quarter 4 th year	24-hour Composite
Methoxychlor (1)	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Mirex	ug/L	1x /quarter 4 th year	24-hour Composite
Oxamyi (1)	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Parathion	ug/L	1x /quarter 4 th year	24-hour Composite
Paraqual	ug/L	1x /quarter 4 th year	24-hour Composite
Permethrin	µg/L	1x /quarter 4 th year	24-hour Composite
Pichloram (1)	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Polychlorinated biphenyls (PCBs)	ug/L	1x /quarter 4 th year	24-hour Composite
Simazine (1)	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Styrene	ug/L	1x /quarter 4 th year	24-hour Composite
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ug/L	1x /quarter 4 ^{ih} year	24-hour Composite
Toxaphene	ug/L	1x /quarter 4 th year	24-hour Composite
2-(2,4,5,-Trichlorophenoxy) Proprionic Acid (1)	ug/L	once /year in years 2,3,4 of permit term	24-hour Composite
Total Trihalomethanes	ug/L	1x /quarter 4 th year	24-hour Composite
Tribulyitin	ug/L	1x /quarter 4 th year	24-hour Composite
Uranium	ug/L	1x /quarter 4 th year	24-hour Composite
Xylenes +	ug/L	1x /quarter 4 th year	24-hour Composite

Footnotes:

(1) There may be no approved wastewater methods for analyses of these parameters in 40 CFR 136. As such 500 series drinking water Methods may be used; in this case, a 10X sample dilution is acceptable for these parameters. Appropriate data qualifiers are to be used.

(2) The permittee may initially monitor for sulfide instead of hydrogen sulfide. The limit of quantification shall be no higher than 100 ug/L, and any detection of sulfides shall trigger monitoring for hydrogen sulfide for the reminder of the permit term.

- E. The discharge shall be free from pollutants in amounts or combinations that:
 - 1. Settle to form bottom deposits that inhibit or prohibit the habitation, growth or propagation of aquatic life;
 - 2. Cause objectionable odor in the area in which the surface water is located;
 - 3. Cause off-flavor in aquatic organisms;
 - 4. Are toxic to humans, animals, plants or other organisms;

- 5. Cause the growth of algae or aquatic plants that inhibit or prohibit the habitation, growth or propagation of other aquatic life or that impair recreational uses;
- F. The discharge shall be free from oil, grease and other pollutants that float as debris, foam, or scum; or that cause a film or iridescent appearance on the surface of the water; or that cause a deposit on a shoreline, bank or aquatic vegetation.
- **G.** The discharge shall not cause an increase in the ambient water temperature of more than 3.0 degrees Celsius.
- **H.** The discharge shall not cause the dissolved oxygen concentration in the receiving water to fall below 3 mg/L from 3 hours after sunrise to sunset and 1 mg/l from sunset to 3 hours after sunrise, unless the percent saturation of oxygen remains equal to or greater than 90%.
- I. Samples taken for the monitoring requirements specified in Part I shall be collected at the following locations:
 - 1. Influent samples shall be taken after the last addition to the collection system and prior to the first treatment process.
 - 2. Effluent samples shall be taken downstream from the last treatment process and prior to mixing with the receiving waters.

PART II. MONITORING AND REPORTING

A. Sample Collection and Analysis

- 1. The permittee is responsible for the quality and accuracy of all data required under this permit.
- 2. Quality Assurance (QA) Manual

The permittee shall keep a QA Manual on site that describes the sample collection and analyses processes. If the permittee collects samples or conducts sample analyses in-house, the permittee shall develop a QA Manual that addresses these activities. If a third party collects and/or analyzes samples on behalf of the permittee, the permittee shall obtain a copy of the applicable QA procedures. The QA Manual shall be available for review by ADEQ upon request. The QA Manual shall be updated as necessary to reflect current conditions, and shall describe the following:

- a. Project Management, including:
 - Purpose of sample collection and sample frequency;
 - When and where samples will be collected;
 - How samples will be collected;
 - Who will collect samples and their qualifications;
 - Laboratory(s) that will perform analyses;
 - Any field tests to be conducted (detail methods and specify equipment, including a description of any needed calibrations); and

- Pollutants or analytes being measured and for each, the permit-specific limits, Assessment Levels, or thresholds, (e.g. the associated detection limits needed.)
- b. Sample collection procedures including
 - Equipment to be used;
 - Type and number of samples to be collected including QA/QC samples (i.e., background samples, duplicates, and equipment or field blanks);
 - Types, sizes, and number of sample bottles needed;
 - Preservatives and holding times for the samples (see methods under 40 CFR 136 or 9 A.A.C. 14, Article 6 or any condition within this permit that specifies a particular test method); and
 - Chain of custody procedures.
- c. Specify approved analytical method(s) to be used and include;
 - Limits of Detection (LOD) and Limits of Quantitation (LOQs);
 - Required quality control (QC) results to be reported (e.g., matrix spike recoveries, duplicate relative percent differences, blank contamination, laboratory control sample recoveries, surrogate spike recoveries, etc.) and acceptance criteria; and
 - Corrective actions to be taken by the permittee or the laboratory as a result of problems identified during QC checks.
- d. How the permittee will perform data review; complete DMRs and records used to report results to ADEQ; resolve data quality issues; and identify limitations on the use of the data.
- 3. Sample collection, preservation and handling shall be performed as described in 40 CFR 136 including the referenced Edition of *Standard Methods for the Examination of Water and Wastewater*, or by procedures referenced in A.R.S Title 9, Chapter 14 of the Arizona Department of Health Services (ADHS) Laboratory Licensure rules. The permittee shall outline the proper procedures in the QA Manual, and samples taken for this permit must conform with these procedures whether collection and handling is performed directly by the permittee or contracted to a third-party.
- 4. Analytical requirements
 - a. The permittee shall use a laboratory licensed by the ADHS Office of Laboratory Licensure and Certification that has demonstrated proficiency within the last 12 months under R9-14-609, for each parameter to be sampled under this permit. However, this requirement does not apply to parameters which require analysis at the time of sample collection as long as the testing methods used are approved by ADHS or ADEQ. (These parameters may include flow, dissolved oxygen, pH, temperature, and total residual chlorine.)
 - b. The permittee must utilize analytical methods specified in this permit. If no test procedure is specified, the permittee shall analyze the pollutant using:
 - i. A test procedure listed in 40 CFR 136 which is also approved under A.A.C. R9-14-610;
- ii. An alternative test procedure approved by EPA as provided in 40 CFR 136 and which is also approved under A.A.C. R9-14-610;
- iii. A test procedure listed in 40 CFR 136, with modifications allowed by EPA or approved as a method alteration by ADHS under A.A.C. R9-14-610(C); or
- iv. If no test procedure for a pollutant is available under (3)(b)(i) through (3)(b)(iii) above, any Method approved under A.A.C. R9-14-610(C) for wastewater may be used, except the use of field kits is not allowed unless otherwise specified in this permit. If there is no approved wastewater method for a parameter, any other method identified in 9 A.A.C. 14, Article 6 that will achieve appropriate detection and reporting limits may be used for analyses.
- c. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods.
- d. The permittee shall use analytical methods with a Limit of Quantitation (LOQ) that is lower than the effluent limitations, Assessment Levels, Action Levels, or water quality criteria specified in this permit. If all methods have LOQs higher than applicable water quality criteria, the Permittee shall use the approved analytical method with the lowest LOQ.
- e. The permittee shall use a standard calibration curve when applicable to the method, where the lowest standard point is equal to or less than the LOQ.
- f. The permittee shall participate in the annual NPDES DMR/QA study and submit the results of this study to ADEQ and ADHS for all laboratories used in monitoring compliance with this permit.

5. <u>Mercury Monitoring</u>

The permittee shall use a "clean hands/dirty hands" sampling technique such as EPA Method 1669 and an ADHS-certified low-level mercury analytical method if necessary to achieve a reporting limit at or below the effluent limitations or assessment levels for mercury as specified in this permit.

6. <u>Chlorine Momitoring</u>

Because of the short holding time for chlorine, samples may be analyzed on-site using Hach Method No. 10014. Other methods are also acceptable for chlorine if the Method has a LOQ lower than discharge limits specified in this permit.

7. Metals Analyses

In accordance with 40 CFR 122.45(c), all effluent metals concentrations with the exception of chromium VI, shall be measured as "total metals". Discharge Limits and Assessment Levels in this permit are for total metals, except for Chromium VI for which the levels listed are dissolved.

B. Reporting of Monitoring Results

- 1. The permittee shall report monitoring results on Discharge Monitoring Report (DMR) forms supplied by ADEQ, to the extent that the results may be entered on the forms. The permittee shall submit results of all monitoring required by this permit in a format that will allow direct comparison with the limitations and requirements of this permit. If no discharge occurs during a reporting period, the permittee shall specify "No discharge" on the DMR. The results of all discharge analyses conducted during the monitoring period shall be included in calculations of the monthly average and daily maximums reported on the DMRs if the analyses were by methods specified in Part II.A above.
- 2. DMRs and attachments are to be submitted (see Appendix A- definitions) by the 28th day of the month following the end of a monitoring period. For example, if the monitoring period ends January 31st, the permittee shall submit the DMR by February 28th. The permittee shall submit original copies of these and all other reports required in this Part, signed by an authorized representative, to ADEQ at the following address:

ADEQ Water Quality Compliance Section Data Unit Mailcode: 5415B-1 1110 W. Washington St. Phoenix, AZ 85007

or fax to (602) 771-4505.

For each month, the permittee shall complete and submit a copy of the **AZPDES Discharge Flow Record** (found in Appendix B) with the DMR for that month, along with copies of the original lab results for all parameters monitored during the reporting period.

- 3. When sampling for ammonia, the temperature and pH of the sample must be recorded at the time of sample collection. Results for all three parameters shall be recorded on the **Ammonia Data Log** provided in Appendix c, as well as on DMRs. The ammonia data log shall be submitted to ADEQ annually to the address in Part II.B.2, above.
- 4. The permittee shall submit results of the NPDES DMR/QA study to ADEQ and ADHS for all laboratories used in monitoring compliance with this permit by December 31st of each year. The permittee shall also participate in the DMR-QA study for any DMR-QA parameters that the permittee analyzes (typically pH and chlorine) and submit the results along with the laboratory results. The results shall be submitted to the following addresses:

Arizona Department of Environmental Quality ADEQ Surface Water Permits Unit Mailcode: 5415A-1 1110 W. Washington St. Phoenix, AZ 85007 Arizona Department of Health Services Attn: DMRQA Coordinator 250 N 17th Avenue Phoenix, AZ 85007

- 5. For the purposes of reporting, the permittee shall use the Limit of Quantitation.
- 6. For parameters with Daily Maximum Limits or Daily Maximum Assessment Levels in this permit, the permittee shall review the results of all samples collected during the reporting period and report as follows:

Use the following tables for information on how to report data on the DMR when the LOQ for a parameter is greater than the permit limits or standards:

For Daily Maximum Limits/Assessment Levels	The Permittee shall Report on the DMR
When the maximum value of any analytical result is greater than the LOQ	The maximum value of all analytical results
When the maximum value detected is greater than or equal to the laboratory's LOD but less than the LOQ (1)	The numeric result with E4 or E8 flag as applicable (AZ qualifier)
When the maximum value is less than the laboratory's LOD (2)	"< ND" (specify the LOD level, i.e.,< 10 ug/L)

Footnotes:

(1) Not Quantifiable

- (2) Below Detection
 - 7. For parameters with Monthly Average Limits or Monthly Average Assessment Levels in this permit, the permittee shall review the results of all samples collected during the reporting period and report:

For Monthly Avera	ge Limits/Assessment Levels	The Permittee shall Report on the DMR	
If only one sample is collected during the reporting period (monthly, guarterly,	When the value detected is greater than the LOQ	The analytical result	
annually, etc.) (In this case, the sample result is the monthly average.)	When the value detected is greater than or equal to the laboratory's LOD, but less than the LOQ	The numeric result with E4 or E8 flag as applicable (AZ qualifier)	
	When the value is less than the laboratory's LOD	"< LOD" (specify the LOD level, i.e., < 10ug/L)	
If more than one sample is collected during the reporting period	 All samples collected in the same calendar month must be averaged. When all results are greater than the LOQ, all values are averaged If some results are < LOQ, use the LOD value in the averaging Use '0' for values less than the LOD 	The highest monthly average which occurred during the reporting period	

- 8. If the information below is not included on the laboratory reports required in Part II.B.2, the permittee shall attach a report to each DMR that includes, for all analytical results during the reporting period:
 - a. The analytical result.
 - b. The number or title of the approved analytical method, preparation and analytical procedure utilized by the laboratory, and LOD and the LOQ for the analytical method for the pollutant.
 - c. Any applicable data using Arizona Data Qualifiers Revision 3.0 (9/20/2007).

C. Twenty-four Hour Reporting of Noncompliance

The permittee shall orally report any noncompliance which may endanger the environment or human health within 24 hours from the time the permittee becomes aware of the event to:

ADEQ 24 hour hotline at (602) 771-2330

The permittee shall also notify the Water Quality Compliance Section Manager at (602) 771-2209 by phone call or voice mail by 9 a.m. on the first business day following the noncompliance. The permittee shall also notify the Water Quality Compliance Section in writing within 5 days of the noncompliance event. The permittee shall include in the written notification: a description of the noncompliance and its cause; the period of noncompliance, including dates and times, and, if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

D. Monitoring Records

The permittee shall retain records of the following monitoring information:

- 1. Date, exact location and time of sampling or measurements performed, preservatives used;
- 2. Individual(s) who performed the sampling or measurements;
- 3. Date(s) the analyses were performed;
- 4. Laboratory(s) which performed the analyses;
- 5. Analytical techniques or methods used;
- 6. Chain of custody forms;
- 7. Any comments, case narrative or summary of results produced by the laboratory. These comments should identify and discuss QA/QC analyses performed concurrently during sample analyses and should specify whether analyses met project requirements and 40 CFR 136. If results include information on initial and continuing calibration, surrogate analyses, blanks, duplicates, laboratory control samples, matrix spike and matrix spike duplicate results, sample receipt condition, or holding times and preservation, these records must also be retained.
- 8. Summary of data interpretation and any corrective action taken by the permittee.

PART III. BIOSOLIDS/ SEWAGE SLUDGE REQUIREMENTS

Note: "Biosolids" refers to non-hazardous sewage sludge as defined in 40 CFR 503.9 and Arizona Administrative Code (A.A.C.) R18-9-1001.7. Sewage sludge that is hazardous as defined in 40 CFR 261 must be disposed of in accordance with the Resource Conservation and Recovery Act (RCRA). Sludge with PCB (polychlorinated biphenyls) levels greater than 50 mg/kg must be disposed of in accordance with 40 CFR 761.

A. Use or Disposal Requirements

All biosolids/sewage sludge generated and/or prepared at this facility shall be used or disposed of in compliance with the applicable portions of 18 A.A.C. Chapter 9, Article 10 and

- 1. 40 CFR 503 Subpart C: for biosolids that are placed on the land (surface disposal) for the purpose of disposal (dedicated land disposal sites, lagoons, or monofills).
- 2. 40 CFR 258: for biosolids disposed of in municipal solid waste landfills; and
- 3. 40 CFR 257: for all biosolids use and disposal practices not covered under 40 CFR 258 or 503.

B. Biosolids Preparer's Responsibility

The permittee is responsible for ensuring that all biosolids/sewage sludge produced or accepted at this facility are used or disposed of in accordance with 40 CFR 503 Subpart C, 257, 258 and 18 A.A.C. Chapter 9, Article 10, as applicable, whether the permittee uses or disposes of the biosolids itself or transfers them to another party for further treatment, use, or disposal. The permittee is responsible for informing any subsequent transporters, preparers, applicators, and disposers of the requirements that they must meet under 18 A.A.C. Chapter 9, Article 10.

C. Duty to Mitigate

The permittee shall take all reasonable steps to prevent or minimize any biosolids use or disposal which has a likelihood of adversely affecting human health or the environment.

D. General Requirements

The permittee shall ensure that:

- 1. No biosolids generated and/or prepared at this facility enter wetlands or other waters of the United States;
- Biosolids treatment, storage, use or disposal does not contaminate surface water or groundwater. (Note: Surface disposal or land treatment sites for biosolids must be permitted under the aquifer protection program per A.A.C. R18-9-1002(E)(2) and may also require a separate AZPDES permit. The permittee shall ensure a site has appropriate permits before directing biosolids to a surface disposal or land treatment site.)
- 3. Biosolids treatment, storage, and use or disposal does not create a nuisance such as malodorous smell or attraction of flies or other disease carrying vectors.

- 4. Biosolids generated and/or prepared at this facility are not applied to the land or placed on a surface disposal site if the biosolids are likely to adversely affect a threatened or endangered species as listed under section 4 of the Endangered Species Act (16 U.S.C 1533), or its designated critical habitat as defined in 16 U.S.C. 1532;
- 5. Land application sites receiving bulk biosolids generated and/or prepared at this facility are registered with ADEQ in accordance with A.A.C. R18-9-1004; and
- 6. No biosolids generated and/or prepared at this facility are incinerated in the state of Arizona.

E. Biosolids Storage

- 1. Biosolids shall not be stored on land for over two years from the time they are generated unless a permit for surface disposal is obtained per 18 A.A.C. Chapter 9, Article 10 and 40 CFR 503 Subpart C, or written notification has been submitted to the ADEQ Biosolids Coordinator with the information in 40 CFR 503.20(b) that sufficiently demonstrates the need for longer temporary storage.
- 2. For the protection of public health, biosolids shall not be stored uncovered on-site or off-site unless the permittee can demonstrate that prior to placement in storage:
 - a. Biosolids meet Class A or B pathogen reduction requirements established in A.A.C. R18-9-1006(D) or (E), and
 - b. Biosolids meet one of the vector attraction reduction alternatives in A.A.C. R18-9-1010 subsections (A)(1) through (A)(8).
 - c. For biosolids which are classified as EQ or Class A, or as Class B through pathogen reduction Alternative 1, the permittee must also sample for pathogen reduction following storage and within 30 days prior to reuse/disposal or distribution (see Part III.J.2.d). Sampling before and after storage shall occur at least at the minimum frequency given in Part III.I.1 below.
- 3. Prior to storing biosolids at an off-site storage location, the permittee shall notify the ADEQ Biosolids Coordinator in writing where the biosolids will be stored and the expected date of final use or disposal.

F. Surface Water Protection

The permittee must design and operate all on-site treatment, disposal, or storage areas for biosolids to:

- divert surface run-on from adjacent areas to prevent contact with biosolids;
- protect the site boundaries from erosion; and
- prevent any drainage that has contacted biosolids from escaping the site.

These features shall be designed to be protective for at least a 25-year 24-hour storm event. If the permittee sends biosolids off-site that are not EQB, the permittee shall ensure all treatment, disposal, or storage areas that receive those biosolids have the same level of protection.

G. Facilities with Pretreatment Programs

Not applicable at this time. The permittee does not have full-scale pretreatment requirements at this time (design flow < 5 mgd).

H. Inspection and Entry

The permittee shall allow, directly or through contractual arrangements with their biosolids management contractors, authorized representatives of ADEQ and EPA to:

- 1. Enter upon all premises where biosolids are treated, stored, used, or disposed, either by the permittee or by another party to whom the permittee transfers the biosolids for treatment, storage, use, or disposal;
- 2. Have access to and copy any records that must be kept under the conditions of this permit and per 18 A.A.C. Chapter 9 Article 10 (including those in 40 CFR 503 Subpart C) by the permittee or by another party to whom the permittee transfers the biosolids for further treatment, storage, use, or disposal; and
- 3. Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations used in biosolids treatment, storage, use, or disposal by the permittee or by another party to whom the permittee transfers the biosolids for treatment, use, or disposal.

I. General Biosolids Monitoring Requirements (dry weight testing)

1. Biosolids Self-monitoring Frequency

Unless otherwise specified in this permit, the permittee shall conduct self-monitoring events at least at the frequency listed in the table that follows for any sampling required in Part III of this permit.

Diogonas fiton	toring requele
Amount of Blosolids Prepared per Calendar Year (dry metric tons)	Minimum Monitoring Frequency
> 0 to < 290	One sampling event per year
≥ 290 to < 1500	One sampling event per quarter
≥ 1500 to < 15,000	One sampling event per 60 days
≥ 15,000	One sampling event per month

Biosolids Monitoring Frequency

2. Sampling and Analysis Methods

The permittee shall ensure biosolids are tested using the methods specified in 40 CFR 503.8, as required in A.A.C. R18-9-1012(G) Testing shall be performed at a laboratory operating in compliance with A.R.S. 36-495. Because of the potential for re-growth of pathogens, for Class A or EQ biosolids, samples demonstrating pathogen reduction shall be taken within 30 days before biosolids are shipped off-site, so verification that requirements are met is obtained before the biosolids leave the site.

3. Representative Sampling

The permittee shall ensure that sampling conducted during a monitoring period adequately represents the quality of all biosolids used/treated/disposed over the monitoring period. This may entail taking several samples per sampling event and/or sampling more frequently than the minimum specified.

4. Testing Stockpiled/Accumulated Biosolids Prior to Distribution or Use

If, after treatment, biosolids classified as EQ or Class A, or as Class B demonstrated through Alternative 1, are stockpiled or accumulated on-site prior to reuse/disposal, the permittee shall develop a sampling plan that ensures samples representative of the entire stockpile are collected and analyzed for pathogens within 30 days before distribution or use. The plan shall detail the number and location of samples to be taken from a cross section of **each** pile or area. The plan must include at least 1 sample for each 0-290 metric dry ton increments. More sampling is appropriate when the biosolids are inconsistent in nature or non-uniformly treated.

The permittee must collect and analyze representative samples per the sampling plan. Distribution or use/disposal shall not occur until the permittee verifies that the biosolids sampled meet all applicable requirements for its use/disposal.

5. Testing for Hazardous Waste Determination.

The permittee shall test biosolids at least annually, and more frequently as necessary, to determine if biosolids are hazardous in accordance with 40 CFR 261. Initial screening of the biosolids may be conducted by analyzing biosolids for the total amount of a pollutant. This screening test is all that is required each monitoring period if the total amount doesn't exceed the 20X TCLP screening value in the table below. If the total amount of a pollutant exceeds the 20X TCLP screening value, then the leachable amount must be determined using the Toxicity Characteristic Leaching Procedure (TCLP). The disposal of biosolids that test hazardous is not covered under this permit, and all such biosolids must be disposed of in accordance with the Resource Conservation and Recovery Act (RCRA).

Parameter	TCLP:Limit Mg/L	20X TOLP Screening Value mg/kg (dry weigijt),	Minimal Monitoring Fraquency per Generator
Metais			
Arsenic	5	100	Once / year
Barium	100	2000	Once / year
Cadmium	1	20	Once / year
Chromium	5	100	Once / year
Lead	5	100	Once / year
Mercury	0.2	4	Once / year
Selenium	1	20	Once / year
Silver	5	100	Once / year
Volatiles and Semi-Volatiles			
Benzene	0.5	10	Once / year
Carbon Tetrachloride	0.5	10	Once / year
Chiorobenzene	100	2000	Once / year
Chloroform	6	120	Once / year
1,2-Dichloroethane	0.5	10	Once / year
1,1-Dichloroethylene	0.7	14	Once / year
Methyl ethyl ketone	200	4000	Once / year
Tetrachloroethylene	0.07	1.4	Once / year
Trichloroethylene	0.5	10	Once / year
Vinyl Chloride	0.2	4	Once / year
1,4-Dichlorobenzene	7.5	150	Once / year
o-cresol (1)	200	4000	Once / year
m-cresol (1)	200	4000	Once / year
p-cresol (1)	200	4000	Once / year
Cresol (total) (1)	· 200	4000	Once / year
2,4-Dinitrotoluene	0.13	2.6	Once / year
Hexachlorobenzene	0.13	2.6	Once / year
Hexachlorobutadiene	0.5	10	Once / year
Hexachloroethane	3	60	Once / year
Nitrobenzene	2	40	Once / year

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Toxicity Characteristic Leaching Procedure Test

Pentachiorophenol	100	2000	Once / year
Pyrídine	5	100	Once / year
2,4,5-Trichlorophenol	400	8000	Once / year
2,4,6-Trichlorophenol	2	40	Once / year
Herbicides / Pesticides			
2,4-D	10	200	Once / year
2,4,5-TP (Silvex)	1	20	Once / year
Chiordane	0.03	0.6	Once / year
Endrin	0.02	0.4	Once / year
Heptachlor	0.008	0.16	Once / year
Heptachtor epoxide	0.008	0.16	Once / year
Lindane	0.44	8.8	Once / year
Methoxychior	10	200	Once / year
Toxaphene	0.5	10	Once / year

Footnotes:

(1) If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/L.

J. Biosolids Limitations and Monitoring Requirements for Land Application

The permittee shall monitor biosolids generated and/or prepared at this facility for land application and limit their use as follows:

1. Metals Concentrations for Land Application

a. Biosolids shall be sampled for the metals listed in the following table at a frequency not less than the minimum indicated for the amount of biosolids prepared annually. Samples shall be taken after all treatment and blending processes, but prior to land application.

Pollutant	Célling Concentrations (milligrams/- kilogram) (1)	Monthly Average Pollutant Concentrations (milligrams/ kilogram) (1)	Minimum Monitoring Frequency per Volume Prepared Annually
Arsenic	75.0	41.0	0 to < 290 dry metric tons - 1 sampling event /year
Cadmium	85.0	39.0	_
Chromium	3000.0	Not Applicable	≥ 290 to < 1500 dry metric tons – 1 sampling event
Copper	4300.0	1500.00	/quarter
Lead	840.0	300.00	
Mercury	57.0	17.0	2 root to < ro,000 dry metric tons – 1 sampling event /60 days
Molybdenum	75.0	Not Applicable	

Nickel	420.0	420.00	
Selenium	100.0	100.0	\geq 15,000 dry metric tons – 1 sampling event /month
Zinc	7500.0	2800.00	

Footnotes

(1) Dry-weight basis

- b. The permittee shall not land apply biosolids with pollutant concentrations that exceed any of the ceiling concentrations in the preceding table. The permittee shall not sell or give away biosolids for land application if pollutant concentrations exceed any of the ceiling concentrations in the preceding table.
- c. If biosolids exceed any Ceiling Concentration in the preceding table, the permittee must:
 - Notify the ADEQ Biosolids Coordinator;
 - Find alternative disposal methods other than land application for the biosolids represented by that sampling event; and
 - Identify the source of the pollutants and take appropriate source control measures to reduce the presence of the pollutant(s) of concern.
- d. If biosolids exceed a Monthly Average Pollutant Concentration listed in the table in Part III.I.1.a above:
 - The biosolids shall not be applied as bulk biosolids to a lawn or garden.
 - The biosolids shall not be sold or given away if any annual pollutant loading rate listed in Table 3 of A.A.C. R18-9-1005(D) will be exceeded. The annual pollutant loading rate shall be determined using the methodology in18 A.A.C. Chapter 9, Article 10, Appendix A.
 - The biosolids shall not be applied to a site if any cumulative pollutant loading rate in Table 4 of A.A.C. R18-9-1005(D) will be exceeded. The cumulative pollutant loading rate shall be determined using the methodology in A.A.C. R18-9-1005(D).
- e. The permittee shall not apply, sell, or give away biosolids for application to a lawn or garden unless they are Exceptional Quality (EQ) biosolids.
- f. The permittee shall be able to demonstrate that all biosolids meet the definition of EQ biosolids in order to claim exemption from the management practices in A.A.C. R18-9-1007 and R18-9-1008. If claiming biosolids are EQ, during the first two years of this permit, the permittee shall submit the results of all biosolids testing and details about the pathogen and vector control treatment processes to the ADEQ Biosolids Coordinator. The permittee shall receive written confirmation from ADEQ that the results demonstrate the biosolids meet EQ requirements prior to selling or giving away or land applying any biosolids for uses requiring an EQ biosolids classification.

2. Pathogen Reduction Requirements for Land Application

- a. Biosolids must meet Class A or Class B pathogen reduction requirements established in A.A.C. R18-9-1006 at the time the biosolids are land applied and, if stored uncovered prior to land application, at the time the biosolids are stored. The permittee shall also verify that the reduction is met within 30 days prior to distribution (see Part III.I.4). The permittee shall document and retain records of the treatment used to achieve Class A or Class B pathogen reduction levels and, if demonstrating treatment to Class A, the fecal coliform or *Salmonella sp.* density. Retesting is required within 30 days of distribution for EQ and Class A biosolids and for Class B biosolids if pathogen reduction was demonstrated through Alternative 1.
- b. Biosolids sold or given away in a bag or other container for land application, or applied on a lawn or home garden, shall meet the Class A pathogen reduction requirements established in A.A.C. R18-9-1006(D).
- c. The permittee shall maintain daily records of the operating parameters for the pathogen reduction treatment alternative used. If using A.A.C. R18-9-1006(D) Alternative 4, the permittee shall demonstrate acceptable levels of enteric virus and viable helminth ova through monitoring.
- d. Microbiological monitoring for fecal coliforms or *Salmonella sp.* to demonstrate pathogen reduction during a given monitoring period shall be conducted as close to the actual distribution or disposal of the biosolids as feasible. The analytical results must demonstrate effective pathogen reduction is achieved prior to distributing or disposing of the biosolids. If the permittee stores biosolids before they are distributed for use or disposal, microbiological testing must take place within 30 days prior to distribution or disposal.
- e. In order to demonstrate Class B pathogen reduction using A.A.C. R18-9-1006(E) Alternative 1;
 - At least seven individual grab samples must be taken and analyzed for fecal coliform during each monitoring event (unless an alternate sampling plan has been approved by ADEQ).
 - The geometric mean of the results must be <2,000,000 MPN/gram or CFU/gram of total solids (dry-weight basis).
 - Samples are to be taken over a 14-day period to adequately represent sludge variability.

(Note: A 'monitoring event' includes the period of time that samples are collected, analyzed, and the sample results provided to the permittee.)

f. In order to demonstrate Class A pathogen reduction, in addition to meeting one of the alternative pathogen treatment options in A.A.C. R18-9-1006(D);

- At least seven individual grab samples must be collected and analyzed for fecal coliform during each monitoring event (unless an alternate sampling plan has been approved by ADEQ) and all seven samples must be < 1,000 MPN/gram.; or
- At least seven individual grab samples must be collected and analyzed for *Salmonella sp.* during each monitoring event (unless an alternate sampling plan has been approved by ADEQ) and each must be <3 MPN/4 grams total solids (dryweight basis).
- Samples are to be taken over a 14-day period to adequately represent sludge variability.
- g. If demonstrating Class A pathogen reduction using A.A.C. R18-9-1006(D) Alternative 4;
 - One composite sample consisting of at least seven grab samples must be collected and analyzed for enteric virus during each monitoring event and the arithmetic mean of 4 duplicate analyses of that composite must be <1 PFU/4 grams total solids (dryweight basis). Grab samples are to be taken over a 14-day period prior to compositing them to adequately represent sludge variability, and the maximum holding time is 2 weeks.
 - One composite sample consisting of at least seven grab samples must be collected and analyzed for viable helminth ova during each monitoring event and the arithmetic mean of 4 duplicate analyses of that composite must be <1 viable ova/4 grams total solids (dry-weight basis). Grab samples are to be taken over a 14-day period prior to compositing them to adequately represent sludge variability.

3. Vector Attraction Reduction Requirements for Land Application

- a. The permittee shall ensure that all biosolids generated and/or prepared at this facility meet the vector attraction reduction requirements established in A.A.C. R18-9-1010 when the biosolids are land-applied. If biosolids are stored uncovered prior to land application, one of the vector attraction reduction alternatives established in A.A.C. R18-9-1010 subsections (A)(1) through (A)(8) must be met prior to storage. The permittee shall document and retain records of the operational parameters or application methods used to achieve the vector attraction reduction requirements.
- b. The permittee shall ensure that all biosolids generated and/or prepared at this facility that are sold or given away in a bag or other container, or applied to a lawn or home garden, meet one of the vector attraction reduction alternatives established in A.A.C. R18-9-1010 subsections (A)(1) through (A)(8). The permittee shall document and retain records of the operational parameters or application methods used to achieve the vector attraction reduction reduction reduction reduction reduction reduction subsections (A)(1) through (A)(8).

4. Nitrogen Testing for Land Application

The permittee shall ensure that biosolids generated and/or prepared at this facility for land application are tested for organic-N, ammonium-N, and nitrate-N at least at the applicable minimum frequency in Part III.I and that the most recent test results are provided to any subsequent preparer, user, or disposer.

K. Management Practices for Land Application

The permittee shall ensure that all non-EQ bulk biosolids generated and/or prepared at this facility are land applied in accordance with the management practices in A.A.C. R18-9-1007, unless the bulk biosolids are land applied for reclamation.

If the permittee generates or prepares non-EQ bulk biosolids that are land applied for reclamation, the permittee shall ensure that the biosolids are land applied in accordance with the management practices in A.A.C. R18-9-1008.

If the permittee generates or prepares non-EQ biosolids placed in a bag or other container for distribution/land application or reclamation, the permittee shall distribute a label or information sheet to the person receiving the material. This label or information sheet shall contain the information in A.A.C. R18-9-1007(B).

L. Biosolids/Sewage Sludge Limitations and Monitoring Requirements for Surface Disposal

The permittee shall ensure that any sewage sludge or biosolids directed to or placed in a surface disposal unit meets the requirements of 40 CFR 503 Subpart C. The permittee shall also ensure the surface disposal site is permitted under the aquifer protection program and has a valid AZPDES permit prior to disposal of any biosolids in the unit.

M. Biosolids Monitoring Requirements for Disposal in a Municipal Landfill

Biosolids placed in a municipal landfill shall be tested by the Paint Filter Test (method 9095) at the frequency in Part III.J.1. above or more often as necessary to demonstrate that there are no free liquids. The permittee shall keep records documenting that biosolids disposed in a municipal landfill did not contain free liquids.

N. On-site Management Plan

The permittee shall submit a Management Plan (Plan) within 180 days of permit issuance or maintain a previously submitted Plan for the on-site management operations.

1. This Plan shall detail how sludge/biosolids are managed from the time that they are generated at the facility until they are shipped off-site. The Plan shall give specific protocols to be followed to ensure that the material generated at this facility will consistently meet all applicable requirements in 18 A.A.C. Chapter 9, Article 10 and 40 CFR Part 503 Subpart C and the provisions of this permit. The Plan must address issues of potential concern such as storage areas; run-on and run-off control; odor and dust control; and include a professional diagram of facilities/areas used in the operation and the area surrounding the operation. The Plan shall specify how and when representative samples of biosolids will be taken and contain a contingency plan for managing biosolids that exceed the requirements for the expected end use/disposal.

O. Record Keeping

1. The permittee shall collect and retain all biosolids information required by this permit and A.A.C. R18-9-1013(A)(1) through (A)(6) for at least five years.

- 2. The permittee shall keep analytical test results and all documentation that supports the biosolids classification on-site and available for review.
- 3. All biosolid records are subject to periodic inspection, and copying by ADEQ.

P. Notification Requirements

The permittee, either directly or through contractual arrangements with their biosolids management contractors, shall comply with the following:

1. Notification of Noncompliance

- a. The permittee shall notify ADEQ of any noncompliance with the biosolids provisions of this permit or with 18 A.A.C. Chapter 9 Article 10, which may endanger health or the environment. The permittee shall provide the information orally within 24 hours from the time the permittee becomes aware of the circumstances (See Part II.C of this permit.)
- b. For other instances of noncompliance with the biosolids provisions, the permittee shall notify the ADEQ Biosolids Coordinator in writing within five working days of becoming aware of the circumstances.
- c. Permittees shall require their biosolids management contractors to notify ADEQ of any noncompliance within the time-frames specified in Sections P.1.a and b.

2. Notification of Shipment to another State

If biosolids are shipped to another State or to Indian Lands, the permittee shall send a notice of the shipment to the NPDES permitting authorities in the receiving State or Indian Land (the EPA Regional Office for that area and the State/Indian authorities) with a copy to the Arizona Biosolids Coordinator. The notice shall be sent at least 60 days before the biosolids are planned to be shipped.

3. Notification of Change in Land Application Sites, Applicators, or Disposal Methods

- a. Prior to sending, placing or applying any bulk biosolids generated and/or prepared at this facility to a site that the permittee has not previously utilized for biosolids use/disposal within the last five years, the permittee must verify that the application site has been registered in accordance with A.A.C. R18-9-1004 and shall notify the ADEQ Biosolids Coordinator of the planned change. The notification shall include a description and topographic map of the proposed site(s), latitude and longitude coordinates at the center of each field/site, slope of land surface, names and addresses of the applicator(s) and site owner(s), a listing of any state or local permits which must be obtained, a description of the crops or vegetation to be grown at each site, proposed loading rates and determination of agronomic rates.
- b. Prior to selling or giving away bulk biosolids for land application to an applicator that the permittee has not sold or given biosolids to within the last five years, the permittee shall notify the ADEQ Biosolids Coordinator of the planned change. The notification shall include: the name, address, and telephone number of the applicator and any agent of the applicator; the name and telephone number of a primary contact person who has specific

knowledge of the land application activities of the applicator; and whether the applicator holds a NPDES or AZPDES permit, and, if so, the permit number.

- c. Prior to changing the method of biosolids use, treatment or disposal that was identified in the permittee's application for this permit, the permittee shall notify the ADEQ Biosolids Coordinator of the planned change in writing. If ADEQ determines that the newly proposed practice is not covered under this permit, the permittee shall request and receive a permit modification prior to making the change.
- d. The permittee shall keep records of site registration verifications and of all notifications made to ADEQ.

4. Notification of Land Application of Biosolids that Exceed Monthly Average Pollutant Concentrations

The permittee must notify the ADEQ Biosolids Coordinator and any subsequent biosolids handlers if biosolids generated and/or prepared at this facility do not meet any of the Monthly Average Pollutant Concentration values listed at Part III.J.1.a above. The permittee shall ensure that bulk biosolids exceeding a monthly average pollutant concentration will not be applied to a site if any cumulative pollutant loading rate (Table 4 in A.A.C. R18-9-1005) will be exceeded per A.A.C. R18-9-1005(D)(2).

5. Notification to Subsequent Land Applicators

The permittee shall notify the applicator of all the applicator's requirements under Title 18 Chapter 9 Article 10 including the requirement that the applicator certify that management practices, site restrictions, and any applicable vector attraction reduction requirements have been met.

6. Notification of Surface Disposal

Prior to disposal in a new or previously unreported surface disposal site, the permittee shall notify the Biosolids Coordinator in writing. Notice shall include a description and a topographic map of the proposed site; the names of the site operator and site owner; whether the site has any permits; and shall include a description of procedures for ensuring public access and grazing restrictions until three years following site closure. The permittee shall not direct biosolids to the surface disposal site without prior written approval from ADEQ.

Q. Annual Report for All Permittees

The permittee shall submit an annual biosolids report to ADEQ by **February 19 of each year** for the period covering the previous calendar year. The report shall be filled out on forms prescribed by ADEQ and shall include:

1. The amount of biosolids received/generated the previous calendar year and the amount stored at the beginning and end of the previous calendar year, in dry tons or dry metric tons (prefer metric tons), and the amount distributed.

- 2. The results of all biosolids analytical monitoring conducted during the previous calendar year and copies of the laboratory analytical reports. Metals (other than TCLP metals) shall be reported on a 100% dry weight basis. Note: make certain microbiological testing submitted meets required holding times.
- 3. Descriptions of pathogen reduction methods and vector attraction reduction methods used during the previous calendar year. The permittee must submit sludge processing data used to demonstrate how treatment alternative(s) in A.A.C. R18-9-1006 and R18-9-1010 were attained, (such as time, temperature, percent solids, pH etc.) as applicable.
- 4. Names, mailing addresses, and street addresses of all persons who received biosolids generated and/or prepared at this facility for storage, further treatment, disposal in a municipal waste landfill, or for other use/disposal methods not covered under 40 CFR 258 or 503, and the amount delivered to each.
- 5. Except for biosolids that are demonstrated to be EQ, the following information shall be submitted by the permittee for land application sites, unless the permittee requires its biosolids management contractors to report this information directly to ADEQ:
 - a. Locations of land application sites (with field names and numbers) used that calendar year, size of each field applied to, applier, and site owner;
 - b. Volumes applied to each field (in wet tons and dry metric tons), nitrogen applied, calculated plant available nitrogen;
 - c. Crop(s) planted, date of planting, harvesting;
 - d. For any biosolids exceeding A.A.C. R18-9-1005 Table 2 metals concentrations, the locations of sites where applied and cumulative metals loading at each of these sites to date;
 - e. Certifications of management practices in A.A.C. R18-9-1007 or A.A.C. R18-9-1008; and
 - f. Certifications of site restrictions in A.A.C. R18-9-1009.
- 6. For surface disposal sites, the permittee shall ensure that the following information is submitted, the permittee requires its biosolids management contractors to report this information directly to ADEQ:
 - a. Locations of sites, site operator, site owner, size of parcel on which disposed;
 - b. Results of any required groundwater monitoring;
 - c. A description of and certifications of management practices in 40 CFR 503.24; and
 - d. For closed sites, date of site closure and certifications of management practices for the three years following site closure.

R. Reporting Location

ADEQ Biosolids Coordinator Water Quality Compliance Section (5415B-1) 1110 W. Washington St. Phoenix, AZ 85007 602-771-4612

PART IV. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. General Conditions

- 1. The permittee shall conduct (quarterly) chronic toxicity tests on 24-hour composite samples of the final effluent.
- 2. Final effluent samples must be taken following all treatment processes, including chlorination and dechlorination, and prior to mixing with the receiving water. The required WET tests must be performed on unmodified samples of final effluent. WET tests conducted on samples that are dechlorinated after collection are not acceptable for compliance with this permit.
- 3. Chemical testing for all the parameters listed in Part I.A, Tables 1 and 2 of this permit shall be performed on a split of at least one of the three composite samples taken for each chronic WET test performed. Analysis of the split sample(s) may be used to fulfill the monitoring requirements in Part I.A., but only for parameters whose required sample type is a composite.
- 4. Definitions related to toxicity are found in Appendix A.

B. Chronic Toxicity

- 1. The permittee shall conduct short-term chronic toxicity tests on three species: the waterflea, *Ceriodaphnia dubia* (survival and reproduction test); the fathead minnow, *Pimephales promelas* (larval survival and growth test); and the green alga, *Selenastrum capricornutum* (growth test).
- 2. The permittee must follow the USEPA 4th edition manual, "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821-R-02-013) for all chronic compliance toxicity testing.
- 3. The chronic toxicity action levels are any one test result greater than 1.6 TUc or any calculated monthly median value greater than 1.0 TUc. If chronic toxicity is detected above these values, follow-up testing is required per Part IV, Section E. A chronic toxicity unit (TUc) shall be calculated as TUc = 100/NOEC.
- 4. The chronic WET test shall be conducted using a series of five dilutions and a control. The following dilution series must be used: 12.5, 25, 50, 75, and 100% effluent.

C. Quality Assurance:

1. Effluent samples must be maintained between 0 and 6°C from collection until utilized in the toxicity testing procedure. When a composite sample is required, each aliquot making up the composite must be chilled after collection and throughout the compositing period. The single

allowable exception is when a grab sample is delivered to the performing laboratory for test initiation no later than 4 hours following the time of collection.

- 2. Control and dilution water should be receiving water or lab water as appropriate, as described in the 40 CFR Part 136.3 approved method. If the dilution water used is different from the culture water, a second control, using culture water shall also be used.
- 3. Reference toxicity tests, (a check of the laboratory and test organisms' performance), shall be conducted at least 1 time in a calendar month for each toxicity test method conducted in the laboratory during that month. Additionally, any time the laboratory changes its source of test organisms, a reference toxicity test must be conducted before or in conjunction with the first WET test performed using the organisms from the newer source. Reference toxicant testing must be conducted using the same test conditions as the effluent toxicity tests (ie., same test duration, etc.).
- 4. If either the reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the 40 CFR Part 136.3 approved WET methods, then the permittee must resample and re-test within 14 days of receipt of the test results. The re-sampling and re-testing requirements include laboratory induced error in performing the test method.
- 5. The chronic reference toxicant and effluent tests must meet the upper and lower bounds on test sensitivity as determined by calculating the percent minimum significant difference (PMSD) for each test result. The test sensitivity bound is specified for each test method (see Section 10, Table 6 in EPA/821-R-02-013). There are five possible outcomes based on the PMSD result.
 - a. Unqualified Pass- The test's PMSD is within bounds and there is no significant difference between the means for the control and the effluent. The regulatory authority would conclude that there is no toxicity.
 - b. Unqualified Fail- The test's PMSD is larger than the lower bound (but not greater than the upper bound) in Table 6 and there is a significant difference between the means for the control and the effluent. The regulatory authority would conclude that there is toxicity.
 - c. Lacks Test Sensitivity- The test's PMSD exceeds the upper bound in Table 6 and there is no significant difference between the means for the control and the effluent. The test is considered invalid. An effluent sample must be collected and another toxicity test must be conducted within 14 days of receipt of the test results.
 - d. *Lacks Test Sensitivity* The test's PMSD exceeds the upper bound in Table 6 and there is a significant difference between the means for the control and the effluent. The test is considered valid. The regulatory authority will conclude that there is toxicity.
 - e. *Very Small but Significant Difference* The relative difference between the means for the control and effluent is smaller than the lower bound in Table 6 and this difference is statistically significant. The test is acceptable and the NOEC should be determined.

D. Toxicity Identification Evaluation (TIE)/Toxicity Reduction Evaluation (TRE) Processes

- 1. If chronic toxicity is detected above a WET action level or Limit specified in this permit and the source of toxicity is <u>known</u> (for instance, a temporary plant upset), the permittee shall conduct one follow-up test within two weeks of receipt of the sample results that exceeded the action level or limit. The permittee shall use the same test and species as the failed toxicity test. If toxicity is detected in the follow-up, the permittee shall immediately begin developing a TRE plan and submit the plan to ADEQ for review and approval within 30 days after receipt of the toxic result. Requirements for the development of a TRE are listed in paragraph 3 below. The permittee must implement the TRE plan as approved and directed by ADEQ.
- 2. If chronic toxicity is detected above an action level or Limit specified in this permit and the source of toxicity is <u>unknown</u>, the permittee shall begin additional toxicity monitoring within two weeks of receipt of the sample results that exceeded the action level. The permittee shall conduct one WET test approximately every other week until either a test exceeds an action level (or limit) or four tests have been completed. The follow-up tests must use the same test and species as the failed toxicity test. For intermittent discharges, testing shall be conducted on the next four discharge events using the same test and species as the failed toxicity test.
 - a. If none of the four tests exceed a WET action level or limit, then the permittee may return to the routine WET testing frequency specified in this permit.
 - b. If a WET action level or limit is exceeded in any of the additional tests, the permittee shall immediately begin developing a TRE plan and submit the plan to ADEQ for review and approval within 30 days after receipt of the toxic result. Requirements for the development of a TRE are listed in subsection 3, below. The permittee must implement the TRE plan as approved and directed by ADEQ.
- 3. The permittee shall use the EPA guidance manual *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, 1999 (EPA/833/B-99/002) in preparing a TRE plan. The TRE plan shall include, at a minimum, the following:
 - a. Further actions to investigate and identify the causes of toxicity, if unknown. The permittee may initiate a TIE as part of the TRE process using the following EPA manuals as guidance: Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, 1992 (EPA/600/6-91/005F); Methods for Aquatic Toxicity Identification Evaluations: Phase I, Toxicity Characterization Procedures, 2nd Edition, 1991 (EPA/600/6-91/003); Methods for Aquatic Toxicity Identification Evaluations: Phase II, Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, 1993 (EPA/600/R-92/080); and Methods for Aquatic Toxicity Identification Evaluations: Phase III, Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Evaluations: Phase III, Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Evaluations: Phase III, Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Evaluations: Phase III, Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Evaluations: Phase III, Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Evaluations: Phase III, Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, 1993 (EPA/600/R-92/081).
 - b. Action the permittee will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity; and
 - c. A schedule for implementing these actions.

E. WET Reporting

- 1. The permittee shall report chronic toxicity results on DMRs in Chronic Toxicity Units (TUc). The TUc for DMR reporting shall be calculated as TUc = 100/NOEC.
- 2. In addition to reporting WET results on DMRs, the permittee shall submit a copy of the full lab report(s) for all WET testing conducted during the monitoring period covered by the DMR. The lab report should report TUc as 100/NOEC and as 100/IC₂₅. If the lab report does not contain any of the following items, then these must also be supplied in a separate attachment to the report: 1) sample collection and test initiation dates, 2) the results of the effluent analyses for all parameters required to be tested concurrently with WET testing as defined in Part I, Tables 1 and 2, and Part IV, Section A.3 of this permit, and 3) copies of completed "AZPDES Discharge Flow Records" for the months in the WET monitoring period.
- 3. WET lab reports and any required additional attachments shall be submitted to ADEQ by the 28th day of the month following the end of the WET monitoring period, or upon request, to the following address:

Arizona Department of Environmental Quality ADEQ Surface Water Permits Unit, Mailcode: 5415A-1 1110 W. Washington St. Phoenix, AZ 85007

(NOTE: This is not the same ADEQ address as the one specified under Part II.B.1 of this permit.)

PART V. SPECIAL CONDITIONS

A. OPERATION

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The permittee shall ensure that the facilities or systems are operated by or under the supervision of an operator currently certified by ADEQ at the level appropriate for the facility or system.

B. PRE-TREATMENT CONDITIONS

The permittee shall provide oversight of all industrial users which discharge regulated process wastewater to the permittee's facility. Oversight shall include the development of a Pretreatment Toxic Control Plan within one year of permit issuance that will ensure compliance with prescribed pretreatment methods for the control of toxic pollutants discharged to the WWTP. The Pretreatment Toxic Control Plan shall be submitted to ADEQ for approval and include:

- 1. An industrial waste survey to identify all industries or potential industrial users discharging or are likely to discharge pollutants which may adversely impact the collection system or treatment works.
- 2. Development of Best Management Practices as a standard for pretreatment compliance for commercial and industrial discharges (including Fats, Grease and Oil) which are harmful to the treatment system.

- 3. An updated Ordinance with the authorities to enforce any violations of the Pretreatment Toxic Control Plan.
- 4. Annual report to cover operations from January 1 through December 31; due on February 28 of each year.

The annual report shall include but is not limited to:

- 1. A brief description of changes concerning the Pretreatment Toxic Control Plan.
- 2. A brief description of any other programs implemented to reduce pollutants from nondomestic users.
- 3. A discussion of any upset, interference, or pass through incidents at the treatment plant which the permittee knows or suspects were caused by industrial users of the POTW system.

All reports should be sent to:

State Pretreatment Coordinator Arizona Department of Environmental Quality <u>Mail Code</u>: 5415B-1 1110 W. Washington Street Phoenix, AZ 85007

C. REOPENER

This permit may be modified per the provisions of A.A.C. R18-9-B906, and R18-9-A905 which incorporates 40 CFR Part 122. This permit may be reopened 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.

APPENDIX A PART A: ACRONYMS

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
ADHS	Arizona Department of Health Services
EQ	Exceptional Quality (biosolids)
ÄZPDES	Arizona Pollutant Discharge Elimination System
A.R.S.	Arizona Revised Statutes
CFR	Code of Federal Regulations
CFU	Colony Forming Units
Director	The Director of ADEQ or any authorized representative thereof
DMR	Discharge Monitoring Report
EPA	The U.S. Environmental Protection Agency
kg/day	kilograms per day
MĞD	Million Gallons per Day
mg/L	milligrams per Liter, also equal to parts per million (ppm)
MPN	Most Probable Number
NPDES	National Pollutant Discharge Elimination System
PFU	Plaque-Forming Unit
QA	Quality Assurance
SSU	Sewage Sludge Unit
ug/L	micrograms per Liter, also equal to parts per billion (ppb)

APPENDIX A PART B: DEFINITIONS

ACTIVE SEWAGE SLUDGE UNIT means a sewage sludge unit that has not closed.

- ACUTE TOXICITY TEST is a test used to determine the concentration of effluent or ambient waters that produces an adverse effect (lethality) on a group of test organisms during a short-term exposure (e.g., 24, 48, or 96 hours). Acute toxicity is measured using statistical procedures (e.g., point estimate techniques or hypothesis testing) and is reported as PASS/FAIL or in TUas, where TUa = 100/LC₅₀.
- ACUTE-to-CHRONIC RATIO (ACR) is the ratio of the acute toxicity of an effluent or a toxicant to its chronic toxicity. It is used as a factor for estimating chronic toxicity on the basis of acute toxicity data, or for estimating acute toxicity on the basis of chronic toxicity data.
- AGRONOMIC RATE means the whole biosolids application rate on a dry-weight basis that meets the following conditions: a.) The amount of nitrogen needed by existing vegetation or a planned or actual crop has been provided, and b.) The amount of nitrogen that passes below the root zone of the crop or vegetation is minimized.
- ANNUAL POLLUTANT LOADING RATE means the maximum amount of a pollutant that can be applied to an acre or hectare of land during a 365-day period.
- APPLICATOR means a person who arranges for and controls the site-specific land application of biosolids in Arizona.
- BASE FLOOD means a flood that has a one percent chance of occurring in any given year (or a flood that is likely to occur once in 100 years).
- BULK BIOSOLIDS means biosolids that are transported and land-applied in a manner other than in a bag or other container holding biosolids of 1.102 short tons or 1 metric ton or less.

- CHRONIC TOXICITY TEST is a test in which sublethal effects (e.g., reduced growth or reproduction) are measured in addition to lethality. Chronic toxicity is measured as TUc = 100/NOEC or TUc = 100/Ecp or 100/ICp. The ICp and ECp value should be the approximate equivalent of the NOEC calculated by hypothesis testing for each test method.
- COMPOSITE SAMPLE means a sample that is formed by combining a series of individual, discrete samples of specific volumes at specified intervals. Composite samples characterize the quality of a discharge over a given period of time. Although, composite samples can be time-weighted or flow-weighted, this permit requires the collection of flow-proportional composite samples. This means that samples are collected and combined using aliquots in proportion to flow rather than time. Also see Flow-Proportional Composite.

CUMULATIVE POLLUTANT LOADING RATE means the maximum amount of a pollutant applied to land application site.

- DAILY MAXIMUM CONCENTRATION LIMIT means the maximum allowable discharge of a pollutant in a calendar day as measured on any single discrete sample or composite sample.
- DAILY MAXIMUM MASS LIMIT means the maximum allowable total mass of a pollutant discharged in a calendar day.
- DISCRETE or GRAB SAMPLE means an individual **sample of at least 100 mL** collected from a single location, or over a period of time not exceeding 15 minutes.
- DRY-WEIGHT BASIS means the weight of biosolids calculated after the material has been dried at 105 °C until reaching a constant mass.
- EFFECT CONCENTRATION POINT (ECP) is a point estimate of the toxicant (or effluent) concentration that would cause an observable adverse effect (e.g., survival or fertilization) in a given percent of the test organisms, calculated from a continuous model (e.g., USEPA Probit Model).
- EXCEPTIONAL QUALITY BIOSOLIDS means biosolids certified under R18-9-1013(A)(6) as meeting the pollutant concentrations in R18-9-1005 Table 2, Class A pathogen reduction in R18-9-1006, and one of the vector attraction reduction requirements in subsections R-18-9-1010(A)(1) through R18-9-1010(A)(8).
- FLOW PROPORTIONAL COMPOSITE SAMPLE means a sample that combines discrete samples collected over time, based on the flow of the discharge being sampled. There are two methods used to collect this type of sample. One collects a constant sample volume at time intervals that vary based on stream flow. The other collects discrete samples that are proportioned into aliquots of varying volumes based on stream flow, at constant time intervals (i.e. flow-weighted composite sample).
- HARDNESS means the sum of the calcium and magnesium concentrations, expressed as calcium carbonate (CACO₃) in milligrams per liter.
- HYPOTHESIS TESTING is a statistical technique (e.g., Dunnetts test) that determines what concentration is statistically different from the control. Endpoints determined from hypothesis testing are NOEC and LOEC. The two hypotheses commonly tested in WET are:
 - Null hypothesis (H₀): The effluent is not toxic.
 - Alternative hypothesis (H_a): The effluent is toxic.
- INHIBITION CONCENTRATION (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal biological measurement (e.g., reproduction or growth) calculated from a continuous model (e.g., USEPA Interpolation Method). IC25 is a point estimate of the toxicant concentration that would cause a 25% reduction in a non-lethal biological measurement.
- LAND APPLICATION or LAND APPLY means spraying or spreading biosolids on the surface of the land, injecting biosolids below the land's surface, or incorporating biosolids into the soil to amend, condition, or fertilize the soil.
- LAND TREATMENT FACILITY means an operation designed to treat and improve the quality of waste, wastewater, or both, by placement wholly or in part on the land surface to perform part or all of the treatment. A land treatment facility includes a facility that performs biosolids drying, processing, or composting, but not land application performed in compliance with 18 A.A.C. 9, Article 10.

LC50 is the toxicant (or effluent) concentration that would cause death in 50 percent of the test organisms.

- LIMIT OF QUANTITATION (LOQ) means the minimum levels, concentrations, or quantities of a target variable such as an analyte that can be reported with a specific degree of confidence. The calibration point shall be at or below the LOQ. The LOQ is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all of the method-specified sample weights, volumes, and processing steps have been followed.
- LIMIT OF DETECTION (LOD) means an analyte and matrix-specific estimate of the minimum amount of a substance that

the analytical process can reliably detect with a 99% confidence level. This may be laboratory dependent and is developed according to R9014-615(C)(7).

- METHOD DETECTION LIMIT (MDL) See LOD.
- MIXING ZONE is an area where an effluent discharge undergoes initial dilution and may be extended to cover the secondary mixing in the ambient waterbody. A mixing zone is an allocated impact zone where water quality criteria can be exceeded as long as acutely toxic conditions are prevented.
- MONTHLY OR WEEKLY AVERAGE CONCENTRATION LIMIT, other than for bacteriological testing, means the highest allowable average calculated as an arithmetic mean of consecutive measurements made during calendar month or week, respectively. The "monthly or weekly average concentration limit" for *E. coli* bacteria means the highest allowable average calculated as the geometric mean of a minimum of four (4) measurements made during a calendar month or week, respectively. The geometric mean is the nth root of the product of n numbers. For either method (CFU or MPN), when data are reported as "0" or non-detect then input a "1" into the calculation for the geometric mean.
- MONTHLY OR WEEKLY AVERAGE MASS LIMITATION means the highest allowable value that shall be obtained by taking the total mass discharged during a calendar month or week, respectively, divided by the number of days in the period that the facility was discharging. Where less than daily sampling is required by this permit, the monthly or weekly average value shall be determined by the summation of all the measured discharges by mass divided by the number of days during the month or week, respectively, when the measurements were made.
- NO OBSERVED EFFECT CONCENTRATION (NOEC) is the highest tested concentration of effluent or toxicant, that causes no observable adverse effect on the test organisms (i.e., the highest concentration of toxicant at which the values for the observed responses are <u>not</u> statistically significant different from the controls).
- PATHOGEN means a disease-causing organism.
- POINT ESTIMATE TECHNIQUES such as Probit, Interpolation Method, Spearman-Karber are used to determine the effluent concentration at which adverse effects (e.g., fertilization, growth or survival) occurred. For example, concentration at which a 25 percent reduction in fertilization occurred.
- REFERENCE TOXICANT TEST is a toxicity test conducted with the addition of a known toxicant to indicate the sensitivity of the organisms being used and demonstrate a laboratory's ability to obtain consistent results with the test method. Reference toxicant data are part of the routine QA/QC program to evaluate the performance of laboratory personnel and test organisms.
- RUNOFF means rainwater, leachate, or other liquid that drains over any part of a land surface and runs off of the land surface.
- SEWAGE SLUDGE UNIT means land on which only sewage sludge is placed for final disposal. This does not include land on which sewage sludge is either stored or treated. Land does not include navigable waters.
- SIGNIFICANT DIFFERENCE is defined as statistically significant difference (e.g., 95% confidence level) in the means of two distributions of sampling results.
- SINGLE CONCENTRATION ACUTE TEST is a statistical analysis comparing only two sets of replicate observations. In the case of WET, comparing only two test concentrations (e.g., a control and 100% effluent). The purpose of this test is to determine if the 100% effluent concentration differs from the control (i.e., the test passes or fails).

STORE BIOSOLIDS or STORAGE OF BIOSOLIDS means the temporary holding or placement of biosolids on land before land application.

SURFACE DISPOSAL SITE means an area of land that contains one or more active sewage sludge units. SUBMIT, as used in this permit, means post-marked, documented by other mailing receipt, or hand-delivered to ADEQ.

TEST ACCEPTABILITY CRITERIA (TAC) are specific criteria for determining whether toxicity tests results are acceptable. The effluent and reference toxicant must meet specific criteria as defined in the test method.

TON means a net weight of 2000 pounds and is known as a short ton.

TOTAL SOLIDS means the biosolids material that remains when sewage sludge is dried at 103° C to 105° C.

- TOXIC UNIT (TU) is a measure of toxicity in an effluent as determined by the acute toxicity units or chronic toxicity units measured. Higher the TUs indicate greater toxicity.
- TOXIC UNIT ACUTE (TUa) is the reciprocal of the effluent concentration that causes 50 percent of the organisms to die by the end of an acute toxicity test (i.e., TUa = 100/LC50).
- TOXIC UNIT CHRONIC (TUc) is the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of a chronic toxicity test (i.e., TUc = 100/NOEC).
- TOXICITY IDENTIFICATION EVALUATION (TIE) is a set of procedures used to identify the specific chemical(s) causing effluent toxicity.
- TOXICITY REDUCTION EVALUATION (TRE) is a site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.
- TOXICITY TEST is a procedure to determine the toxicity of a chemical or an effluent using living organisms. A toxicity test measures the degree of effect of a specific chemical or effluent on exposed test organisms.

VECTORS means rodents, flies, mosquitoes, or other organisms capable of transporting pathogens.

WHOLE EFFLUENT TOXICITY is the total toxic effect of an effluent measured directly with a toxicity test.

APPENDIX B

	AZPDES Discharge I	Flow Record
P	inal Creek Wastewater Treatn	nent Facility- AZ0020249
	Discharge to Pinal Creek	in the Salt River Basin:
Outfall No.: 001		
Location:		
Month:	Year:	
DATE	Flow Duration ⁽¹⁾ (Totai hours per day)	Flow Rate ⁽²⁾ (Total MGD per day)
1		
2		
3		
4		
7		
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footnotes:

(1) Total time of discharge in hours per day. If actual time is not available, use an estimate of flow duration.

(2) Report flow discharged in MGD. If no discharge occurs on any given day, report 'ND' for the flow for that day

Signature of Authorized Representative:

APPENDIX C

Ammonia Data Log

Pinal Creek Wastewater Treatment Facility - AZ0020249

Date of Sample	Ammonía Value In Effluent (mg/L N)	рН (in effluent)	Temperature (in effluent) (Celsius)	Ammonia Standard as Determined from Ammonia Criteria Tables (attached)
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Please copy and complete for each month of each year for permit term. Attach any additional pages as necessary.

APPENDIX C - AMMONIA SPECIAL REPORTING REQUIREMENTS

The Arizona Administrative Code, Title 18, Chapter 11 <u>Department of Environmental Quality Water Quality Standards</u> contains acute and chronic ammonia standards that are contingent upon temperature and/or pH values. The chronic criteria are more stringent than the acute ammonia criteria, so the effluent ammonia will be compared to the chronic ammonia standards. The chronic table for Aquatic and Wildlife warm will follow below. The permittee may refer to these tables to determine the ammonia standard that applies each time an ammonia sample is taken. The permittee must record all data results for ammonia, pH, temperature and sampling dates in a log. The required minimum sampling frequency for these parameters may be found in Table 1 of this permit. Anytime an ammonia sample is found to be above the corresponding ammonia standard for the pH and temperature at the time the sample was taken, the permittee must highlight this on the ammonia data log. These results must also be reported on DMRs with any exceedances noted. Annual submittal of the ammonia data log is required (See Part II.B.3)

		<u>De</u>	termination	n of Chronic	: Total Ami	monia Crite	eria in mg N	<u>[/L</u>		
	<u>, </u>	<u>B</u>	ased on pH	l and Temp	erature at ⁻	Time of Sar	npling (1)	<u>(2)</u>		
рΉ	Temperature, °C									
	0	14	16	18	20	22	24	26	28	30
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.5	3.07	2.7	2.37
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3	2.64	2.32
6.9	6.12	6.12	5.56	4.89	4.3	3.78	3.32	2.92	2.57	2.25
7	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.67	5.15	4.53	3.98	3.5	3.08	2.7	2.38	2.08
7.2	5.39	5.39	4.9	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.73	4.3	3.78	3.33	2.92	2.57	2.26	1.98	1.74
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.9	1.67	1.47
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.5	1.32
7.8	_3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	2.8	2.8	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03

A&W Designated Uses

Determination of Chronic Total Ammonia Criteria in mg N / L											
	Based on pH and Temperature at Time of Sampling (1) (2)										
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897	
8.1	2.1	2.1	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773	
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661	
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562	
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.7	0.615	0.541	0.475	
8.5	1.09	1.09	0.99	0.87	0.765	0.672	0.591	0.52	0.457	0.401	
8.6	0.92	0.92	Q.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339	
8.7	0.778	0.778	0.707	0.622	0.547	0.48	0.422	0.371	0.326	0.287	
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244	
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208	
- 9	0.486	0.486	0.442	0.389	0.342	0.3	0.264	0.232	0.204	0.179	

Footnotes:

(1) pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.

(2) If field measured pH and/or temperature values fall between the Chronic Total Ammonia tabular values, round field measured values according to standard scientific rounding procedures to nearest tabular value to determine the ammonia standard.

Determination of Acute Total Ammonia Criteria in mg N / L					
pH	A&W c	A&Ww and A&Wedw			
6.5	32.6	48.8			
6.6	31.3	46.8			
6.7	29.8	44.6			
6.8	28.1	42.0			
5.9	26.2	39.1			
.0	24.1				
.1	22.0	32.8			
2	19.7	29.5			
.3	17.5	26.2			
.4	15.4	23.0			
.5	13.3	19.9			
.6	11.4	17.0			
.7	9.65	14.4			

7.8	8.11	12.1
7.9	6.77	10.1
8.0	5.62	8.40
8.1	4.64	6.95
8.2	3.83	5.72
8.3	3.15	4.71
8.4	2.59	3.88
8.5	2.14	3.20
8.6	1.77	2.65
8.7	1.47	2.20
8.8	1.23	1.84
8.9	1.04	1.56
9.0	0.885	1.32

(1) pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.

(2) If field measured pH and/or temperature values fall between the Acute Total Ammonia tabular values, round field measured values according to standard scientific rounding procedures to nearest tabular value to determine the ammonia standard.

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<u>APPENDIX D</u>

STANDARD AZPDES PERMIT CONDITIONS & NOTIFICATIONS

(Updated as of February 2, 2004)

- <u>Duty to Reapply</u> [R18-9-B904(C)] Unless the Permittee permanently ceases the discharging activity covered by this permit, the Permittee shall submit a new application 180 days before the existing permit expires.
- 2. Applications [R18-9-A905(A)(1)(c) which incorporates 40 CFR 122.22]
 - a. All applications shall be signed as follows:
 - 1) <u>For a corporation</u>: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - A) A president, secretary, treasurer, or vice-president of the corporation in charge of a principle business function, or any other person who performs similar policy- or decision-making functions for the corporation, or
 - B) The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - 2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - 3) <u>For a municipality, State, Federal, or other public agency</u>: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
 - b. All reports required by permits and other information requested by the Director shall be signed by a person described in paragraph (a) of this Section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - 1) The authorization is made in writing by a person described in paragraph (a) of this section;
 - 2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and,

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- 3) The written authorization is submitted to the Director.
- <u>Changes to Authorization</u>. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
- d. <u>Certification</u>. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

- 3. <u>Duty to Comply</u> [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(a)(i) and A.R.S. §49- 262, 263.01, and 263.02.]
 - a. The Permittee shall comply with all conditions of this permit and any standard and prohibition required under A.R.S. Title 49, Chapter 2, Article 3.1 and A.A.C. Title 18, Chapter 9, Articles 9 and 10. Any permit noncompliance constitutes a violation of the Clean Water Act; A.R.S. Title 49, Chapter 2, Article 3.1; and A.A.C. Title 18, Chapter 9, Articles 9 and 10, and is grounds for enforcement action, permit termination, revocation and reissuance, or modification, or denial of a permit renewal application.
 - b. The issuance of this permit does not waive any federal, state, county, or local regulations or permit requirements with which a person discharging under this permit is required to comply.
 - c. The Permittee shall comply with the effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Clean Water Act within the time provided in the regulation that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
 - d. <u>Civil Penalties.</u> A.R.S. § 49-262(C) provides that any person who violates any provision of A.R.S. Title 49, Chapter 2, Article 3.1 or a rule, permit, discharge limitation or order issued or adopted under A.R.S. Title 49, Chapter 2, Article 3.1 is subject to a civil penalty not to exceed \$25,000 per day per violation.
 - e. <u>Criminal Penalties</u>. Any a person who violates a condition of this permit, or violates a provision under A.R.S. Title 49, Chapter 2, Article 3.1, or A.A.C. Title 18, Chapter 9, Articles 9 and 10 is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4, which may include the possibility of fines and/or imprisonment.
- <u>Need to Halt or Reduce Activity Not a Defense</u> [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(c)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(d)]

The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(e)]

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliancewith the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of the permit. 7. Permit Actions [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(f)]

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This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

8. Property Rights [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(g)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Duty to Provide Information [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(h)]

The Permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

10. Inspection and Entry [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(i)]

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and such other documents as may be required by law, to:

- a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- Have access to and copy, at reasonable times, any records that must be kept under the terms of the permit;
- Inspect at reasonable times any facilities, equipment (including monitoring equipment or control equipment), practices or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by A.R.S. Title 49, Chapter 2, Article 3.1, and A.A.C. Title 18, Chapter 9, Articles 9 and 10, any substances or parameters at any location.
- 11. Monitoring and Records [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(j)]
 - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - b. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application, except for records of monitoring information required by this permit related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the Director at any time.
 - c. Records of monitoring information shall include:
 - 1) The date, exact place and time of sampling or measurements;
 - The individual(s) who performed the sampling or measurements;
 - 3) The date(s) the analyses were performed;
 - 4) The individual(s) who performed the analyses;
 - 5) The analytical techniques or methods used; and

- 6) The results of such analyses.
- d. Monitoring must be conducted according to test procedures specified in this permit. If a test procedure is not specified in the permit, then monitoring must be conducted according to test procedures approved under A.A.C. R18-9-A905(B) including those under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 (for sludge).
- e. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both for first conviction. For a second conviction, such a person is subject to a fine of not more than \$20,000 per day of violation, or imprisonment for not more than four years, or both.

Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4, which includes the possibility of fines and/or imprisonment.

- 12. Signatory Requirement [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(k)]
 - a. All applications, reports, or information submitted to the Director shall be signed and certified. (See 40 CFR 122.22 incorporated at R18-9-A905(A)(1)(c))
 - b. The CLEAN WATER ACT provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than \$20,000 per day of violation, or imprisonment of not more than four years, or both.
- 13. <u>Reporting Requirements</u> [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(l)]
 - a. <u>Planned changes</u>. The Permittee shall give notice to the Director as soon as possible of any planned physical alterations of additions to the permitted facility. Notice is required only when:
 - The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b) (incorporated by reference at R18-9-A905(A)(1)(e)); or
 - 2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1) (incorporated by reference at R18-9-A905(A)(3)(b)).
 - 3) The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
 - <u>Anticipated noncompliance</u>. The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
 - c. <u>Transfers</u>. (R18-9-B905) This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under Arizona Revised Statutes and the Clean Water Act.

- d. <u>Monitoring reports</u>. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
 - Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms: provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.
 - 2) If the Permittee monitors any pollutant more frequently than required by the permit, then the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR, or sludge reporting form specified by the Director.
 - Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
- e. <u>Compliance schedules</u>. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

f. <u>Twenty-four hour reporting</u>.

- 1) The Permittee shall report any noncompliance which may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
- 2) The following shall be included as information which must be reported within 24 hours under this paragraph.
 - a) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR 122.41(g) which is incorporated by reference at R18-9-A905(A)(3)(a))
 - b) Any upset which exceeds any effluent limitation in the permit.
 - Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (See 40 CFR 122.44(g) which is incorporated by reference at R18-9-A905(A)(3)(d))
- g. <u>Other noncompliance</u>. The Permittee shall report all instances of noncompliance not reported under paragraphs (d), (e), and (f) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (f) of this section.
- h. <u>Other information</u>. Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.
- 14. <u>Bypass</u> [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(m)]
 - a. <u>Definitions</u>
 - 1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
 - 2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the
absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

- <u>Bypass not exceeding limitations</u>. The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of paragraphs (c) and (d) of this section.
- c. <u>Notice</u>.
 - 1) <u>Anticipated bypass</u>. If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of bypass.
 - 2) <u>Unanticipated bypass</u>. The Permittee shall submit notice of an unanticipated bypass as required in paragraph (f)(2) of section 13 (24-hour notice).
- d. <u>Prohibition of bypass</u>.
 - Bypass is prohibited, and the Director may take enforcement action against a Permittee for bypass, unless:
 - Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - c) The Permittee submitted notices as required under paragraph (c) of this section.
 - The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (d)(1) of this section.
- 15. Upset [A.R.S. § 49-255(8) and 255.01(E), R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(n)]
 - a. <u>Definition</u>. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
 - b. <u>Effect of an upset</u>. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (c) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
 - c. <u>Conditions necessary for a demonstration of upset</u>. A Permittee who wishes to establish the affirmative defenses of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - 1) An upset occurred and that the Permittee can identify the cause(s) of the upset;
 - 2) The permitted facility was at the time being properly operated; and
 - 3) The Permittee submitted notice of the upset as required in paragraph (f)(2) of Section 13 (24-hour notice).

- 4) The Permittee has taken appropriate measure including all reasonable steps to minimize or prevent any discharge or sewage sludge use or disposal that is in violation of the permit and that has a reasonable likelihood of adversely affecting human health or the environment per A.R.S. §49-255.01(E)(1)(d)
- d. <u>Burden of proof</u>. In any enforcement proceeding the Permittee seeking to establish the occurrence of an upset has the burden of proof.
- 16. <u>Existing Manufacturing, Commercial, Mining, and Silvicultural Dischargers</u> [R18-9-A905(A)(3)(b) which incorporates 40 CFR 122.42(a)]

In addition to the reporting requirements under 40 CFR 122.41(I) (which is incorporated at R18-9-A905(A)(3)(a)), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - 1) One hundred micrograms per liter (100 μg/l);
 - 2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - 3) Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7) (which is incorporated at R18-9-A905(A)(1)(b)); or
 - 4) The level established by the Director in accordance with 40 CFR 122.44(f) (which is incorporated at R18-9-A905(A)(3)(d)).
- b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - 1) Five hundred micrograms per liter (500 µg/l);
 - 2) One milligram per liter (1 mg/l) for antimony;
 - 3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7)(which is incorporated at R18-9-A905(A)(1)(b));
 - 4) The level established by the Director in accordance with 40 CFR 122.44(f) (which is incorporated at R18-9-A905(A)(3)(d)).
- 17. Publicly Owned Treatment Works [R18-9-A905(A)(3)(b) which incorporates 40 CFR 122.42(b)]

This section applies only to publicly owned treatment works as defined at ARS §49-255(5).

- a. All POTW's must provide adequate notice to the Director of the following:
 - 1) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the CLEAN WATER ACT if it were directly discharging those pollutants; and

- Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- 3) For the purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharge from the POTW.
- b. Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR 270. Hazardous wastes are defined at 40 CFR 261 and include any mixture containing any waste listed under 40 CFR 261.31 261.33. The Domestic Sewage Exclusion (40 CFR 261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned treatment works and not to mixtures of hazardous wastes and sewage or septage delivered to the treatment plant by truck.
- 18. Reopener Clause [R18-9-A905(A)(3)(d) which incorporates 40 CFR 122.44(c)]

This permit shall be modified or revoked and reissued to incorporate any applicable effluent standard or limitation or standard for sewage sludge use or disposal under sections 301(b)(2)(C), and (D), 304(b)(2), 307(a)(2) and 405(d) which is promulgated or approved after the permit is issued if that effluent or sludge standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant or sludge use or disposal practice not limited in the permit.

19. Privately Owned Treatment Works [R18-9-A905(A)(3)(d) which incorporates 40 CFR 122.44]

This section applies only to privately owned treatment works as defined at 40 CFR 122.2.

- a. Materials authorized to be disposed of into the privately owned treatment works and collection system are typical domestic sewage. Unauthorized material are hazardous waste (as defined at 40 CFR Part 261), motor oil, gasoline, paints, varnishes, solvents, pesticides, fertilizers, industrial wastes, or other materials not generally associated with toilet flushing or personal hygiene, laundry, or food preparation, unless specifically listed under "Authorized Non-domestic Sewer Dischargers" elsewhere in this permit.
- b. It is the Permittee's responsibility to inform users of the privately owned treatment works and collection system of the prohibition against unauthorized materials and to ensure compliance with the prohibition. The Permittee must have the authority and capability to sample all discharges to the collection system, including any from septic haulers or other unsewered dischargers, and shall take and analyze such samples for conventional, toxic, or hazardous pollutants when instructed by the permitting authority. The Permittee must provide adequate security to prevent unauthorized discharges to the collection system.
- c. Should a user of the privately owned treatment works desire authorization to discharge nondomestic wastes, the Permittee shall submit a request for permit modification and an application, pursuant to 40 CFR 122.44(m), describing the proposed discharge. The application shall, to the extent possible, be submitted using ADEQ Forms 1 and 2C, unless another format is requested by the permitting authority. If the privately owned treatment works or collection system user is different from the Permittee, and the Permittee agrees to allow the non-domestic discharge, the user shall submit the application and the Permittee shall submit the permit modification request. The application and request for modification shall be submitted at least 6 months before authorization to discharge non-domestic wastes to the privately owned treatment works or collection system is desired.

20. Transfers by Modification [R18-9-B905]

Except as provided in section 21, a permit may be transferred by the Permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made under R18-9-B906, to identify the new Permittee and incorporate such other requirements as may be necessary.

21. Automatic Transfers [R18-9-B905]

An alternative to transfers under section 20, any AZPDES permit may be automatically transferred to a new Permittee if:

- a. The current Permittee notifies the Director at least 30 days in advance of the proposed transfer date;
- b. The notice includes a written agreement between the existing and new Permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
- c. The Director does not notify the existing Permittee and the proposed new Permittee of his or her intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under R18-9-B906(B).
- 22. Minor Modification of Permits [R18-9-B906(B)]

Upon the consent of the Permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following public notice procedures under R18-9-A907 or A908. Minor modifications may only:

- a. Correct typographical errors;
- b. Update a permit condition that changed as a result of updating an Arizona water quality standard;
- c. Require more frequent monitoring or reporting by the Permittee;
- d. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;
- e. Allow for a change in ownership or operational control of a facility where the Director determines that no other change in their permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittee has been submitted to the Director.
- f. Change the construction schedule for a discharger which is a new source. No such change shall affect a discharger's obligation prior to discharge under 40 CFR 122.29 (which is incorporated by reference in R18-9-A905(A)(1)(e)).
- g. Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with the permit limits.
- Incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 and 403.18 as enforceable conditions of the POTW's permit.
- i. Annex an area by a municipality.

23. Termination of Permits [R-9-B906(C)]

The following are causes for terminating a permit during its term, or for denying a permit renewal application:

- a. Noncompliance by the Permittee with any condition of the permit;
- b. The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the Permittee's misrepresentation of any relevant facts at any time;
- c. A determination that the permitted activity endangers human health or the environment and can only by regulated to acceptable levels by permit modification or termination; or
- d. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit (for example, a plant closure or termination of discharge by connection to a POTW).
- 24. Availability of Reports [Pursuant to A.R.S §49-205]

Except for data determined to be confidential under A.R.S §49-205(A), all reports prepared in accordance with the terms of this permit shall be available for public inspection at ADEQ offices. As required by A.R.S. §49-205(B) and (C), permit applications, permits, and effluent data shall not be considered confidential.

25. <u>Removed Substances</u> [Pursuant to Clean Water Act Section 301]

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

26. <u>Severability</u> [Pursuant to A.R.S §49-324(E)]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and remainder of this permit, shall not be affected thereby.

27. <u>Civil and Criminal Liability</u> [Pursuant to A.R.S §49-262, 263.01, and 263.02]

Except as provided in permit conditions on "Bypass" (Section 14) and "Upset" (Section 15), nothing in this permit shall be construed to relieve the Permittee from civil or criminal penalties for noncompliance.

28. <u>Oil and Hazardous Substance Liability</u> [Pursuant to Clean Water Act Section 311]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under Section 311 of the Clean Water Act.

29. <u>State or Tribal Law</u> [Pursuant to R18-9-A904(C)]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State or Tribal law or regulation under authority preserved by Section 510 of the Clean Water Act.

Appendix C

A.P.P. Permit

EPS Group, Inc.

STATE OF ARIZONA AQUIFER PROTECTION PERMIT NO. P-100692 PLACE ID 1041, LTF 30435 SIGNIFICANT AMENDMENT

1.0 AUTHORIZATION

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Articles 1, 2 and 3, Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 1 and 2, A. A. C. Title 18, Chapter 11, Article 4 and amendments thereto, and the conditions set forth in this permit, the City of Globe is hereby authorized to operate the Pinal Creek Wastewater Treatment Plant located on Pinal Creek Road, just northwest of the City of Globe, Gila County, Arizona, over groundwater of the Salt River Basin, in the S1/2, SW1/4 of Section 14 and N1/2, NW1/4 of Section 23, Township 1 North, Range 15 East, of the Gila and Salt River Base Line and Meridian.

This permit becomes effective on the date of the Water Quality Division Directors signature and shall be valid for the life of the facility (operational, closure, and post-closure periods), unless suspended or revoked pursuant to A.A.C. R18-9-A213. The permittee shall construct, operate and maintain the permitted facilities:

- 1. Following all the conditions of this permit including the design and operational information documented or referenced below, and
- 2. Such that Aquifer Water Quality Standards (AWQS) are not violated at the applicable point(s) of compliance (POC) set forth below, or if an AWQS for a pollutant has been exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer relative to that pollutant, and as determined at the applicable POC, occurs as a result of the discharge from the facility.

1.1 PERMITTEE INFORMATION

Facility Name: Globe City of - Pinal Creek Wastewater Treatment Plant (WWTP)

Permittee:	Mailing Address:	Facility s Street Address:
City of Globe	150 North Pine Street Globe, Arizona 85501	Pinal Creek Road Just Northwest of the City of Globe
Facility Contact: Mr. Larry	B. Hansen, City Engineer	(928) 425-8346
Emergency Telephone Nun	aber: (928) 425-7146	

Latitude: 33° 25' 22" N

Longitude: 110° 48' 08" W

Legal Description: Township 1 N, Range 15 E, S1/2, SW1/4, of Section 14 and N1/2, NW1/4 of Section 23

1.2 AUTHORIZING SIGNATURE

______/s/____ Joan Card, Director Water Quality Division Arizona Department of Environmental Quality

Signed this 9th day of September , 2005

THIS PERMIT SUPERCEDES ALL PREVIOUS PERMITS

2.0 SPECIFIC CONDITIONS [A.R.S. • 49-203(4), 49-241(A)]

2.1 Facility / Site Description [A.R.S. • 49-243(K)(8)]

The City of Globe Pinal Creek Wastewater Treatment Plant (WWTP) has the capacity to collect and treat a maximum average monthly flow of 1.2 million gallons per day (MGD). The WWTP treatment process consists of headworks with a bar screen and grit chamber, an oxidation ditch, clarifiers, chlorine contact chamber, and sludge drying beds. All the units of the WWTP, except the sludge drying beds, are constructed from monolithic reinforced concrete tanks. The permeability of the clay underlying the sludge drying beds is less than 550 gallons per day (gpd)/acre. Part of the effluent generated is consumptively reused as regulated under a valid Reuse Permit and the remaining effluent is discharged to Pinal Creek, as regulated under AZPDES Permit AZ0020249. The effluent discharged under the existing AZPDES is dechlorinated prior to disposal. The sludge generated is dried and hauled to the dedicated disposal area located on the WWTP site. The sludge disposal site is designed, bermed, and graded such that it will not get flooded with stormwater. Presently, the on-site sludge disposal capacity is 7 years of storage. At the end of this period, the applicant will apply for a permit amendment to include additional sludge disposal capacity to the WWTP.

The Imhoff tanks, oxidation pond, and aeration pond of the old WWTP were closed and abandoned 20 years ago, prior to the effective date of the Groundwater Quality Protection Permit Program. Therefore, these areas are not regulated by this permit.

The depth to groundwater at the WWTP site is approximately 40 feet below ground surface, and the direction of groundwater flow in the shallow alluvial aquifer is northwest, towards Pinal Creek.

This permit amendment is for allowing the disposal of sludge at the WWTP site and for other minor, miscellaneous changes and updates to the permit.

Facility	Latitude	Longitude	
WWTP	33° 25' 22" N	110° 48' 08" W	
Point of Effluent Discharge to Pinal Creek (AZPDES Outfall)	33° 25' 43" N	110° 48' 29" W	
On-site Sludge Disposal Site	33° 25' 22" N	110° 48' 08" W	

The site includes the following permitted discharging facilities:

Annual Registration Fee [A.R.S. • 49-242(D)]

The Annual Registration Fee for this permit is established by A.R.S. \bullet 49-242(D) and is payable to ADEQ each year. The design flow is 1.2 MGD.

Financial Capability [A.R.S. • 49-243(N) and A.A.C. R18-9-A203]

The permittee has demonstrated financial capability, as required for a Government entity, under A.R.S. \bullet 49-243(N) and A.A.C. R18-9-A203. The permittee shall maintain financial capability throughout the life of the facility.

2.2 Best Available Demonstrated Control Technology [A.R.S. • 49-243(B) and A.A.C. R18-9-A202(A)(5)]

The Wastewater Treatment Plant is designed to meet the treatment performance criteria for existing facilities as specified in Arizona Administrative Code R18-9-B205.

The facility meets the requirements for the pretreatment by conducting monitoring as per A.A.C. R18-9-B204(A)(6)(b)(iii).

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

2.2.1 Engineering Design

The on-site sludge disposal site was approved by ADEQ based on the evaluation reports prepared by the City of Globe Engineer, Arizona registered professional engineer, Mr. Larry B. Hansen, P.E., dated July 15, 2003, April 27, August 9, 18, October 12, and November 23, 2004.

2.2.2 Site-specific Characteristics

The permeability of the clay underlying the sludge drying beds is less than 550 gallons per day (g pd)/acre.

2.2.3 **Pre-Operational Requirements**

Not Applicable.

2.2.4 Operational Requirements

- 1. The permittee shall maintain a copy of the up-to-date O & M manual at the WWTP site at all times and shall be available upon request during inspections by ADEQ personnel.
- 2. The pollution control structures shall be inspected for the items listed in Section 4.0, Table III Facility Inspection (Operational Monitoring).
- 3. If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and material(s) used shall be documented on the Self-Monitoring Report Form submitted quarterly to the ADEQ Water Quality Compliance.

2.2.5 Wastewater Treatment Plant Classification [A.A.C. R18-9-703(C)(2)(a), A.A.C. R18-11-303 THROUGH 307]

The WWTP is classified as producing Class B reclaimed water pursuant to A.A.C. R18-11 Article 3 and the effluent from this WWTP may be utilized for any of the applicable Class B uses under a valid reclaimed water reuse permit as per A.A.C. R18-9 Articles 6 & 7.

2.3 Discharge Limitations [A.R.S. • 49-201(14), 49-243 and A.A.C. R18-9-A205(B)]

- 1. The permittee is authorized to operate the WWTP with a maximum average monthly flow of 1.2 MGD.
- 2. The permittee shall notify all users that the materials authorized to be disposed of through the WWTP are typical household sewage and shall not include motor oil, gasoline, paints, varnishes, hazardous

wastes, solvents, pesticides, fertilizers or other materials not generally associated with toilet flushing, food preparation, laundry facilities and personal hygiene.

3. Specific discharge limitations are listed in Section 4.0, Table I.

2.4 Point(s) of Compliance (P.O.C.) [A.R.S. • 49-244]

The Points of Compliance are established by the following monitoring locations:

P.O.C. Locations	Latitude	Longitude
The hazardous POC is located near the WWTP outfall to Pinal Creek at "Alluvial Well-1"	33° 25' 43" N	110° 48' 29" W
The non-hazardous POC (at monitor well UPC-1) is located approximately two miles downstream of the WWTP outfall into Pinal Creek	33° 27' 02" N	110° 49' 50" W

Monitoring requirements for each P.O.C. are listed in Section 4.0, TABLE II.

The Director may amend this permit to designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

2.5 Monitoring Requirements [A.R.S. • 49-243(K)(1), A.A.C. R18-9-A206(A)]

All monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. All sampling, preservation and holding times shall be in accordance with currently accepted standards of professional practice. Trip blanks, equipment blanks and duplicate samples shall also be obtained, and chain of custody procedures shall be followed, in accordance with currently accepted standards of professional practice. The permittee shall consult the most recent version of the ADEQ Quality Assurance Project Plan (QAPP) and EPA 40 CFR PART 136 for guidance in this regard. Copies of laboratory analyses and chain of custody forms shall be maintained at the permitted facility. Upon request these documents shall be made immediately available for review by ADEQ personnel.

2.5.1 Discharge Monitoring

The permittee shall monitor the wastewater according to Section 4.0, TABLE I. A representative sample of the wastewater shall be collected at the point of discharge from the chlorine contact tank to the Reuse and the AZPDES discharge points.

2.5.2 Facility / Operational Monitoring

Operational monitoring inspections shall be conducted according to Section 4.0, Table III.

- a. If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and materials used shall be documented on the Self-Monitoring Report Form (SMRF) submitted quarterly to the ADEQ Water Quality Compliance. If none of the conditions occur, the report shall say "no event" for a particular reporting period. If the facility is not in operation, the permittee shall indicate that fact in the SMRF.
- b. The permittee shall submit data required in Section 4.0, Table III regardless of the operating status of the facility unless otherwise approved by the Department or allowed in this permit.

2.5.3 Groundwater Monitoring and Sampling Protocols

Static water levels shall be measured and recorded prior to sampling. Wells shall be purged of at least three borehole volumes (as calculated using the static water level) or until field parameters (pH, temperature, conductivity) are stable, whichever represents the greater volume. If evacuation results in the well going dry, the well shall be allowed to recover to 80% of the original borehole volume, or for 24 hours, whichever is shorter, prior to sampling. If after 24 hours there is not sufficient water for sampling, the well shall be recorded as **m**dry• for the monitoring event. An explanation for reduced pumping volumes, a record of the volume pumped, and modified sampling procedures shall be reported and submitted with the Self- Monitoring Report Form (SMRF).

2.5.4 Surface Water Monitoring and Sampling Protocols

Routine surface water monitoring is not required under the terms of this permit.

2.5.5 Analytical Methodology

All samples collected for compliance monitoring shall be analyzed using Arizona state approved methods. If no state approved method exists, then any appropriate EPA approved method shall be used. Regardless of the method used, the detection limits must be sufficient to determine compliance with the regulatory limits of the parameters specified in this permit. Analyses shall be performed by a laboratory licensed by the Arizona Department of Health Services, Office of Laboratory Licensure and Certification. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods. A list of Arizona state certified laboratories can be obtained at the address below:

Arizona Department of Health Services Office of Laboratory Licensure and Certification 250 North 17th Avenue Phoenix, AZ 85007 Phone: (602) 364-0720

2.5.6 Installation and Maintenance of Monitoring Equipment

Monitoring equipment required by this permit shall be installed and maintained so that representative samples required by the permit can be collected. If new groundwater wells are determined to be necessary, the construction details shall be submitted to the ADEQ Water Permits Section for approval prior to installation and the permit shall be amended to include any new points.

2.6 Contingency Plan Requirements [A.R.S. • 49-243(K)(3), (K)(7) and A.A.C. R18-9-A204 and R18-9-A205]

2.6.1 General Contingency Plan Requirements

At least one copy of the approved contingency and emergency response plan(s) submitted in the application shall be maintained at the location where day-to-day decisions regarding the operation of the facility are made. The permittee shall be aware of and follow the contingency and emergency plans.

Any alert level (AL) that is exceeded or any violation of an aquifer quality limit (AQL), discharge limit (DL), or other permit condition shall be reported to ADEQ following the reporting requirements in Section 2.7.3.

Some contingency actions involve verification sampling. Verification sampling shall consist of the first follow-up sample collected from a location that previously indicated a violation or the exceedance of an AL. Collection and analysis of the verification sample shall use the same protocols and test methods to analyze for the pollutant or pollutants that exceeded an AL or violated an AQL. The permittee is subject to enforcement action for the failure to comply with any contingency actions in this permit. Where verification sampling is specified in this permit, it is the option of the permittee to perform such sampling. If verification sampling is not conducted within the timeframe allotted, ADEQ and the permittee shall presume the initial sampling result to be confirmed as if verification sampling has been conducted. The permittee is responsible for compliance with contingency plans relating to the exceedance of an AL or violation of a DL, AQL or any other permit condition.

2.6.2 Exceeding of Alert Levels/Performance Levels

2.6.2.1 Exceeding of Performance Levels (PL) Set for Operational Conditions

- 1. If the operational PL set in Section 4.0, Table III has been exceeded (permit condition violated) the permittee shall:
 - a. Notify the ADEQ Water Quality Compliance Section within five (5) days of becoming aware of a violation of any permit condition in Table III.
 - b. Submit a written report within thirty (30) days after becoming aware of a violation of a permit condition. The report shall document all of the following:
 - 1. A description of the violation and its cause;
 - 2. the period of violation, including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue;
 - 3. any action taken or planned to mitigate the effects or the violation, or the spill, or to eliminate or prevent recurrence of the violation;
 - 4. any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard; and
 - 5. any malfunction or failure of pollution control devices or other equipment or process.
- 2. The facility is no longer on alert status once the operational indicator no longer indicates that a PL is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.
- 3. After 7 years, or whenever the on-site sludge application area reaches its design capacity, the applicant shall apply for a permit amendment to include additional sludge disposal capacity to the WWTP.

2.6.2.2 Exceeding of Alert Levels Set for Discharge Monitoring

1. If an AL set in Section 4.0, TABLE I has been exceeded, the permittee shall

immediately investigate to determine the cause of the AL being exceeded. The investigation shall include the following:

- a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the AL being exceeded.
- b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences.
- 2. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL being exceeded. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6.
- 3. Within thirty (30) days after confirmation of an AL being exceeded, the permittee shall submit the laboratory results to the ADEQ Water Quality Compliance Section, Data Unit, along with a summary of the findings of the investigation, the cause of the AL being exceeded, and actions taken to resolve the problem.
- 4. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

2.6.2.3 Exceeding of Alert Levels in Groundwater Monitoring

2.6.2.3.1 Alert Levels for Indicator Parameters

Not required at time of permit issuance.

2.6.2.3.2 Alert Levels for Pollutants with Numeric Aquifer Water Quality Standards

- 1. If an AL for a pollutant set in Section 4.0, TABLE II has been exceeded, the permittee may conduct verification sampling within 5 days of becoming aware of an AL being exceeded. The permittee may use the results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
- 2. If verification sampling confirms the AL being exceeded or if the permittee opts not to perform verification sampling, then the permittee shall increase the frequency of monitoring to 'Daily', 'Weekly', and 'Monthly' for constituents that have a permit monitoring frequency of 'Weekly', 'Monthly', and 'Quarterly', 'Semi-Annual' or 'Annual' respectively. In addition, the permittee shall immediately initiate an investigation of the cause of the AL being exceeded, including inspection of all discharging units and all related pollution control devices, review of any operational and maintenance practices that might have resulted in an unexpected discharge, and hydrologic review of groundwater conditions including upgradient water quality.
- 3. The permittee shall initiate actions identified in the approved

contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL being exceeded. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6. Alternatively, the permittee may submit a technical demonstration, subject to written approval by the Water Permits Section, that although an AL is exceeded, pollutants are not reasonably expected to cause a violation of an AQL. The demonstration may propose a revised AL or monitoring frequency for approval in writing by the Water Permits Section.

- 4. Within thirty (30) days after confirmation of an AL being exceeded, the permittee shall submit the laboratory results to the Water Quality Compliance Section, Data Unit along with a summary of the findings of the investigation, the cause of the AL being exceeded, and actions taken to resolve the problem.
- 5. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, or other actions.
- 6. The increased monitoring required as a result of ALs being exceeded may be reduced to 4.0, Table I or III frequencies, for effluent or sludge, depending on what the case is, if the results of four sequential sampling events demonstrate that no parameters exceed the AL.

2.6.2.3.3 Alert Levels to Protect Downgradient Users from Pollutants Without Numeric Aquifer Water Quality Standards

Not required at time of permit issuance.

2.6.3 Discharge Limitations (DL) Violations

- 1. If a DL set in Section 4.0, TABLE I, has been violated, the permittee shall immediately investigate to determine the cause of the violation. The investigation shall include the following:
 - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the violation;
 - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences;

The permittee also shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. The permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

2. Upon review of the submitted report, the Department may amend the permit to require

additional monitoring, increased frequency of monitoring, or other actions.

2.6.4 Aquifer Quality Limit (AQL) Violation

- 1. If an AQL set in Section 4.0, TABLE II has been exceeded, the permittee may conduct verification sampling within 5 days of becoming aware of an AQL being exceeded. The permittee may use the results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
- 2. If verification sampling confirms that the AQL is violated for any parameter or if the permittee opts not to perform verification sampling, then the permittee shall increase the frequency of monitoring to 'Daily', 'Weekly', and 'Monthly' for constituents that have a permit monitoring frequency of 'Weekly', 'Monthly', and 'Quarterly', 'Semi-Annual' or 'Annual' respectively. In addition, the permittee shall immediately initiate an evaluation for the cause of the violation, including inspection of all discharging units and all related pollution control devices, and review of any operational and maintenance practices that might have resulted in unexpected discharge.

The permittee also shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. A verified exceedance of an AQL will be considered a violation unless the permittee demonstrates within 30 days that the exceedance was not caused or contributed to by pollutants discharged from the facility. Unless the permittee has demonstrated that the exceedance was not caused or contributed to by pollutants discharged from the facility. Unless the permittee has demonstrated that the exceedance was not caused or contributed to by pollutants discharged from the facility, the permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

3. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

2.6.5 Emergency Response and Contingency Requirements for Unauthorized Discharges [A.R.S. • 49-201(12) and pursuant to A.R.S. • 49-241]

2.6.5.1 Duty to Respond

The permittee shall act immediately to correct any condition resulting from a discharge (A.R.S. \bullet 49-201(12)) if that condition could pose an imminent and substantial endangerment to public health or the environment.

2.6.5.2 Discharge of Hazardous Substances or Toxic Pollutants

In the event of any unauthorized discharge (A.R.S. \bullet 49-201(12)) of suspected hazardous substances (A.R.S. \bullet 49-201(18)) or toxic pollutants (A.R.S. \bullet 49-243(I)) on the facility site, the permittee shall promptly isolate the area and attempt to identify the spilled material. The permittee shall record information, including name, nature of exposure and follow-up medical treatment, if necessary, on persons who may have been exposed during the incident. The permittee shall notify the ADEQ Water Quality Field Service Unit at (602) 771-4841, within 24-hours upon discovering the discharge of hazardous material which: a) has the potential to cause an AWQS or AQL to be exceeded; or b) could pose

an endangerment to public health or the environment.

2.6.5.3 Discharge of Non-hazardous Materials

In the event of any unauthorized discharge (A.R.S. • 49-201(12)) of non-hazardous materials from the facility, the permittee shall promptly attempt to cease the discharge and isolate the discharged material. Discharged material shall be removed and the site cleaned up as soon as possible. The permittee shall notify the ADEQ Water Quality Field Service Unit at (602) 771-4841, within 24-hours upon discovering the discharge of non-hazardous material which: a) has the potential to cause an AQL to be exceeded; or b) could pose an endangerment to public health or the environment.

2.6.5.4 Reporting Requirements

The permittee shall submit a written report for any unauthorized discharges reported under Sections 2.6.5.2 and 2.6.5.3 to ADEQ Water Quality Field Service Unit at (602) 771-4841, within thirty days of the discharge or as required by subsequent ADEQ action. The report shall summarize the event, including any human exposure, and facility response activities and include all information specified in Section 2.7.3. If a notice is issued by ADEQ subsequent to the discharge notification, any additional information requested in the notice shall also be submitted within the time frame specified in that notice. Upon review of the submitted report, ADEQ may require additional monitoring or corrective actions.

2.6.6 Corrective Actions

Specific contingency measures identified in Section 2.6 and actions identified in the approved contingency plan referenced in Section 5.0 have already been approved by ADEQ and do not require written approval to implement.

With the exception of emergency response actions taken under Section 2.6.5, the permittee shall obtain written approval from the Water Permits Section prior to implementing a corrective action to accomplish any of the following goals in response to exceeding an AL or violation of an AQL, DL, or other permit condition:

- 1. Control of the source of an unauthorized discharge;
- 2. Soil cleanup;
- 3. Cleanup of affected surface waters;
- 4. Cleanup of affected parts of the aquifer;
- 5. Mitigation to limit the impact of pollutants on existing uses of the aquifer.

Within 30 days of completion of any corrective action, the operator shall submit to the ADEQ Water Quality Compliance Section, a written report describing the causes, impacts, and actions taken to resolve the problem.

2.7 Reporting and Recordkeeping Requirements [A.R.S. • 49-243(K)(2) and A.A.C. R18-9-A206(B) and R18-9-A207]

2.7.1 Self Monitoring Report Forms (SMRF)

1. The permittee shall complete the SMRFs provided by ADEQ, and submit them to the Water Quality Compliance Section, Data Unit.

- The permittee shall complete the SMRF to the extent that the information reported may be entered on the form. If no information is required during a quarter, the permittee shall enter not required on the SMRF and submit the report to ADEQ. The permittee shall use the format devised by ADEQ.
- 3. The tables contained in Sections 4.0 list the parameters to be monitored and the frequency for reporting results for groundwater compliance monitoring. Analytical methods shall be recorded on the SMRFs.
- 4. In addition to the SMRF, the information contained in Section 6.8 shall be included for exceeding an AL or violation of an AQL, DL, or any other permit condition being reported in the current reporting period.

2.7.2 Operation Inspection / Log Book Recordkeeping

A signed copy of this permit shall be maintained at all times at the location where day-to-day decisions regarding the operation of the facility are made. A log book (paper copies, forms or electronic data) of the inspections and measurements required by this permit shall be maintained at the location where day-to-day decisions are made regarding the operation of the facility. The log book shall be retained for ten years from the date of each inspection, and upon request, the permit and the log book shall be made immediately available for review by ADEQ personnel. The information in the log book shall include, but not be limited to, the following information as applicable:

- 1. Name of inspector;
- 2. Date and shift inspection was conducted;
- 3. Condition of applicable facility components;
- 4. Any damage or malfunction, and the date and time any repairs were performed;
- 5. Documentation of sampling date and time;
- 6. Any other information required by this permit to be entered in the log book, and
- 7. Monitoring records for each measurement shall comply with R18-9 A206(B)(2).

2.7.3 Permit Violation and Alert Level Status Reporting

- 1. The permittee shall notify the Water Quality Compliance Section, Enforcement Unit in writing within five days (except as provided in Section 2.6.5) of becoming aware of a violation of any permit condition, discharge limitation or of an Alert Level being exceeded.
- 2. The permittee shall submit a written report to the Water Quality Compliance Section, Enforcement Unit within 30 days of becoming aware of the violation of any permit condition or discharge limitation. The report shall document all of the following:
 - a. Identification and description of the permit condition for which there has been a violation and a description of its cause.
 - b. The period of violation including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue.
 - c. Any corrective action taken or planned to mitigate the effects of the violation, or to eliminate or prevent a recurrence of the violation.
 - d. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard.

- e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring.
- f. Description of any malfunction or failure of pollution control devices or other equipment or processes.

2.7.4 Operational, Other or Miscellaneous Reporting

The permittee shall complete the Self-Monitoring Report Form provided by the Department to reflect facility inspection requirements designated in Section 4.0, Table III and submit to the ADEQ, Water Quality Compliance quarterly along with other reports required by this permit. Facility inspection reports shall be submitted no less frequently than quarterly, regardless of operational status.

The permittee shall submit the results of water quality testing for total nitrogen, fecal coliform, turbidity and flow volumes to any of the following in accordance with A.A.C. R18-9-703(C)(2)(c):

- 1. Any reclaimed water agent who has contracted for delivery of reclaimed water from the permittee;
- 2. Any end user who has not waived interest in receiving this information.

2.7.5 Reporting Location

All SMRFs shall be submitted to:

Arizona Department of Environmental Quality Water Quality Compliance Section, Data Unit Mail Code: 5415B-1 1110 W. Washington Street Phoenix, AZ 85007 Phone (602) 771-4513

All documents required by this permit to be submitted to the Water Quality Compliance Section shall be directed to:

Arizona Department of Environmental Quality Water Quality Compliance Section, Enforcement Unit Mail Code: 5415B-1 1110 W. Washington Street Phoenix, AZ 85007 Phone (602) 771-4614

All documents required by this permit to be submitted to the Water Permits Section shall be directed to:

Arizona Department of Environmental Quality Water Permits Section Mail Code: 5415B-3 1110 W. Washington Street Phoenix, AZ 85007 Phone (602) 771-4428

2.7.6 Reporting Deadline

Monitoring conducted during quarter:	Quarterly Report due by:	
January-March	April 30	
April-June	July 30	
July-September	October 30	
October-December	January 30	

The following table lists the quarterly report due dates:

2.7.7 Changes to Facility Information in Section 1.0

The Water Permits Section and Water Quality Compliance Section shall be notified within 10 days of any change of facility information including Facility Name, Permittee Name, Mailing or Street Address, Facility Contact Person or Emergency Telephone Number.

2.8 Temporary Cessation [A.R.S. • 49-243(K)(8) and A.A.C. R18-9-A209(A)]

The permittee shall give written notice to the Water Quality Compliance Section before ceasing operation of the facility for a period of 60 days or greater. The permittee shall take the following measures upon temporary cessation:

- 1. If applicable, direct the wastewater flows from the facility to another State approved wastewater treatment facility.
- 2. Correct the problem that caused the temporary cessation of the facility.
- 3. Notify ADEQ with a monthly facility Status Report describing the activities conducted on the WWTP to correct the problem

At the time of notification the permittee shall submit for ADEQ approval a plan for maintenance of discharge control systems and for monitoring during the period of temporary cessation. Immediately following ADEQ approval, the permittee shall implement the approved plan. If necessary, ADEQ shall amend permit conditions to incorporate conditions to address temporary cessation. Every three years during the period of temporary cessation, the permittee shall provide written notice to the Water Quality Compliance Section of the operational status of the facility. If the permittee intends to permanently cease operation of any facility, the permittee shall submit closure notification, as set forth in Section 2.9 below.

2.9 Closure [A.R.S. • 49-243(K)(6), 49-252 and A.A.C. R18-9-A209(B)]

For a facility addressed under this permit, the permittee shall give written notice of closure to the Water Quality Compliance Section of the permittee's intent to cease operation without resuming activity for which the facility was designed or operated.

2.9.1 Closure Plan

Within 90 days following notification of closure, the permittee shall submit for approval to the

Water Permits Section, a detailed Closure Plan which meets the requirements of A.R.S. \bullet 49-252 and A.A.C. R18-9-A209(B)(1)(a).

If the closure plan achieves clean closure immediately, ADEQ shall issue a letter of approval to the permittee. If the closure plan contains a schedule for bringing the facility to a clean closure configuration at a future date, ADEQ may incorporate any part of the schedule as an amendment to this permit.

2.9.2 Closure Completion

Upon completion of closure activities, the permittee shall give written notice to the Water Permits Section indicating that the approved Closure Plan has been implemented fully and providing supporting documentation to demonstrate that clean closure has been achieved (soil sample results, verification sampling results, groundwater data, as applicable). If clean closure has been achieved, ADEQ shall issue a letter of approval to the permittee at that time. If any of the following conditions apply, the permittee shall follow the terms of Post Closure stated in this permit:

- 1. Clean closure cannot be achieved at the time of closure notification or within one year thereafter under a diligent schedule of closure actions;
- 2. Further action is necessary to keep the facility in compliance with aquifer water quality standards at the applicable point of compliance;
- 3. Continued action is required to verify that the closure design has eliminated discharge to the extent intended;
- 4. Remedial or mitigative measures are necessary to achieve compliance with Title 49, Ch. 2;
- 5. Further action is necessary to meet property use restrictions.

2.10 Post-Closure [A.R.S. • 49-243(K)(6), 49-252 and A.A.C. R18-9 A209(C)]

Post-closure requirements shall be established based on a review of facility closure actions and will be subject to review and approval by the Water Permits Section.

In the event clean closure cannot be achieved pursuant to A.R.S. • 49-252, the permittee shall submit for approval to the Water Permits Section a Post-Closure Plan that addresses post-closure maintenance and monitoring actions at the facility. The Post-Closure Plan shall meet all requirements of A.R.S. • 49-201(29) and 49-252 and A.A.C. R18-9-A209(C). Upon approval of the Post-Closure Plan, this permit shall be amended or a new permit shall be issued to incorporate all post-closure controls and monitoring activities of the Post-Closure Plan.

2.10.1 Post-Closure Plan

A specific post closure plan may be required upon the review of the closure plan.

2.10.2 Post-Closure Completion

Not required at the time of permit issuance.

3.0 COMPLIANCE SCHEDULE [A.R.S. • 49-243(K)(5) and A.A.C. R18-9-A208]

Not Applicable.

Sampling Point Number	San Ide	npling Point entification	Latitude	Longitude	
1	Point of D Creek	ischarge to Pinal	33° 25' 43" N	110° 48' 29" V	V
Parameter		\mathbf{AL}^{1}	DL ²	Sampling Frequency	Reporting Frequency
Flow: Daily		Not Established ³	Not Established	Daily ⁴	Quarterly
Flow: Average Mont	hly	1.1 MGD	1.2 MGD	Monthly ⁵	Quarterly
Microbes:					
Fecal Coliform (single sample maxin	num)	Not Established	800 CFU	Daily ⁶	Quarterly
Fecal Coliform ⁷ (4 out of 7 last Daily	samples)	Not Established	200 CFU	Daily	Quarterly

TABLE I DISCHARGE MONITORING

Notes:

¹ AL = Alert Level.

² DL = Discharge Limit. All discharge and alert limits are in mg/l, except flow which is presented in million gallons per day (MGD), and Fecal Coliform which are presented in Colony Forming Units (CFUs) or Most Probable Number (MPN) per 100 ml sample. The ALs and DLs are maximum numbers.

³ Reserved = No limits are specified.

⁴ Flow shall be measured using a continuous recording, totalizing flow meter.

⁵ Monthly = Calculated value = Average of daily flows in a month.

⁶ Daily = Every day on which a sample can practicably be obtained and delivered in sufficient time for proper analysis, provided that no less than five (5) samples in each calendar week are obtained and analyzed.

⁷ If at least four (4) out of the last seven (7) samples are less than 200 CFU/MPN, report weso in the appropriate space on the SMRF (indicating that the standard has been met). If at least four (4) out of the last seven (7) samples are greater than 200 CFU/MPN, of fecal coliform, report moo in the appropriate space on the SMRF (indicating that the standard has not been met).

Parameter	\mathbf{AL}^{1}	DL ²	Sampling Frequency	Reporting Frequency
Metals (Total):				
Antimony	0.0048	0.006	Quarterly	Quarterly
Arsenic	0.04	0.05	Quarterly	Quarterly
Barium	1.60	2.00	Quarterly	Quarterly
Beryllium	0.0032	0.004	Quarterly	Quarterly
Cadmium	0.004	0.005	Quarterly	Quarterly
Chromium	0.08	0.1	Quarterly	Quarterly
Cyanide (As free cyanide)	0.16	0.2	Quarterly	Quarterly
Fluoride	3.2	4.0	Quarterly	Quarterly
Lead	0.04	0.05	Quarterly	Quarterly
Mercury	0.0016	0.002	Quarterly	Quarterly
Nickel	0.08	0.1	Quarterly	Quarterly
Selenium	0.04	0.05	Quarterly	Quarterly
Thallium	0.0016	0.002	Quarterly	Quarterly

TABLE I DISCHARGE MONITORING (continued)

Parameter	\mathbf{AL}^{1}	DL ²	Sampling Frequency	Reporting Frequency	
Volatile Organic Compound	s (VOCs):				
Benzene	0.004	0.005	Semi-Annual	Semi-Annual	
Carbon tetrachloride	0.004	0.005	Semi-Annual	Semi-Annual	
o-Dichlorobenzene	0.48	0.6	Semi-Annual	Semi-Annual	
para-Dichlorobenzene	0.06	0.075	Semi-Annual	Semi-Annual	
1,2-Dichloroethane	0.004	0.005	Semi-Annual	Semi-Annual	
1,1-Dichloroethylene	0.0056	0.007	Semi-Annual	Semi-Annual	
cis-1,2-Dichloroethylene	0.05	0.07	Semi-Annual	Semi-Annual	
trans-1,2-Dichloroethylene	0.08	0.1	Semi-Annual	Semi-Annual	
Dichloromethane	0.004	0.005	Semi-Annual	Semi-Annual	
1,2-Dichloropropane	0.004	0.005	Semi-Annual	Semi-Annual	
Ethylbenzene	0.56	0.7	Semi-Annual	Semi-Annual	
Monochlorobenzene	0.08	0.1	Semi-Annual	Semi-Annual	
Styrene	0.08	0.1	Semi-Annual	Semi-Annual	
Tetrachloroethylene	0.004	0.005	Semi-Annual	Semi-Annual	
Toluene	0.8	1.0	Semi-Annual	Semi-Annual	
Trihalomethanes (total) ⁸	0.08	0.1	Semi-Annual	Semi-Annual	
1,1,1-Trichloroethane	0.16	0.2	Semi-Annual	Semi-Annual	
1,2,4 - Trichlorobenzene	0.056	0.07	Semi-Annual	Semi-Annual	
1,1,2 – Trichloroethane	0.004	0.005	Semi-Annual	Semi-Annual	
Trichloroethylene	0.004	0.005	Semi-Annual	Semi-Annual	
Vinyl Chloride	0.0016	0.002	Semi-Annual	Semi-Annual	
Xylenes (Total)	8.0	10.0	Semi-Annual	Semi-Annual	

TABLE I DISCHARGE MONITORING (continued)

Notes:

⁸ Total Trihalomethanes comprises of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

	Sampling Point Number	Sar Id	npling Point entification		Latitude	2	Longitu	ıde	
	2^1	Hazardous Po	oint of Compliance	:	33° 25' 46''	N	110° 47' 0	6" W	
	3	(POC) # 1 P Non-hazardou (POC) # 2 "U	us Point of Compli JPC-1"	ance	33° 25' 22"	N	110° 49' 5	0" W	
Ра	rameter		AL^2	AL2AQL3Sampling Frequency		Repo Freq	orting uency		
N	itrients:								
Тс	otal Nitrogen ⁴		8.0		10.0		Monthly	Qua	rterly
	Nitrate-Nitrite	as N	8.0		10.0 Monthly		Qua	rterly	
	Total Kjeldahl Nitrogen (T	KN)	Not Established	Not	Established		Monthly	Qua	rterly
Microbes:									
	Total Coliform		Absence	A	bsence ⁵		Monthly	Qua	rterly

TABLE II GROUNDWATER MONITORING

Notes:

¹ If there is insufficient water in this well for sample collection, in accordance with Section 2.5.3 of the permit the permittee shall report 'Well Dry – No Sample Obtained', on the SMRFs.

 2 AL = Alert Level.

³ AQL = Aquifer Quality Limit. All AQLs and ALs are presented in mg/l, except Total Coliform which is presented in Colony Forming Units (CFU). All ALs and AQLs are maximum numbers except where stated otherwise.

⁴ Calculated value. Total Nitrogen = Nitrate as N plus Nitrite as N plus TKN.

⁵ Absence means the absence of total coliform in the first sample, or the absence of total coliform or fecal coliform in the repeat sample. In the event the facility must re-sample due to a positive result for total coliform in the initial sample, then only the result of the repeat sample must be submitted to ADEQ.

Parameter	\mathbf{AL}^1	AQL ²	Sampling Frequency	Reporting Frequency
Metals (Total) ⁶ :				
Antimony	0.0048	0.006	Quarterly	Quarterly
Arsenic	0.04	0.05	Quarterly	Quarterly
Barium	1.60	2.00	Quarterly	Quarterly
Beryllium	0.0032	0.004	Quarterly	Quarterly
Cadmium	0.004	0.005	Quarterly	Quarterly
Chromium	0.08	0.1	Quarterly	Quarterly
Cyanide (As free cyanide)	0.16	0.2	Quarterly	Quarterly
Fluoride	3.2	4.0	Quarterly	Quarterly
Lead	0.04	0.05	Quarterly	Quarterly
Mercury	0.0016	0.002	Quarterly	Quarterly
Nickel	0.08	0.1	Quarterly	Quarterly
Selenium	0.04	0.05	Quarterly	Quarterly
Thallium	0.0016	0.002	Quarterly	Quarterly

TABLE II GROUNDWATER MONITORING (continued)

Notes:

⁶ Monitoring for Metals has to be conducted only at Sampling Point # 2, i.e., POC # 1 monitor well, "Alluvial Well-1". It is not required at Sampling Point # 3, i.e., POC # 2 monitor well, "UPC-1".

Parameter	\mathbf{AL}^{1}	AQL ²	Sampling Frequency	Reporting Frequency	
Volatile Organic Compounds (VOCs) ⁶ :					
Benzene	0.004	0.005	Semi-Annual	Semi-Annual	
Carbon tetrachloride	0.004	0.005	Semi-Annual	Semi-Annual	
o-Dichlorobenzene	0.48	0.6	Semi-Annual	Semi-Annual	
para-Dichlorobenzene	0.06	0.075	Semi-Annual	Semi-Annual	
1,2-Dichloroethane	0.004	0.005	Semi-Annual	Semi-Annual	
1,1-Dichloroethylene	0.0056	0.007	Semi-Annual	Semi-Annual	
cis-1,2-Dichloroethylene	0.05	0.07	Semi-Annual	Semi-Annual	
Trans-1,2-Dichloroethylene	0.08	0.1	Semi-Annual	Semi-Annual	
Dichloromethane	0.004	0.005	Semi-Annual	Semi-Annual	
1,2-Dichloropropane	0.004	0.005	Semi-Annual	Semi-Annual	
Ethylbenzene	0.56	0.7	Semi-Annual	Semi-Annual	
Monochlorobenzene	0.08	0.1	Semi-Annual	Semi-Annual	
Styrene	0.08	0.1	Semi-Annual	Semi-Annual	
Tetrachloroethylene	0.004	0.005	Semi-Annual	Semi-Annual	
Toluene	0.8	1.0	Semi-Annual	Semi-Annual	
Trihalomethanes (total) ⁷	0.08	0.1	Semi-Annual	Semi-Annual	
1,1,1-Trichloroethane	0.16	0.2	Semi-Annual	Semi-Annual	
1,2,4 – Trichlorobenzene	0.056	0.07	Semi-Annual	Semi-Annual	
1,1,2 – Trichloroethane	0.004	0.005	Semi-Annual	Semi-Annual	
Trichloroethylene	0.004	0.005	Semi-Annual	Semi-Annual	
Vinyl Chloride	0.0016	0.002	Semi-Annual	Semi-Annual	
Xylenes (Total)	8.0	10.0	Semi-Annual	Semi-Annual	

TABLE II GROUNDWATER MONITORING (continued)

Notes:

⁶ Monitoring for VOCs has to be conducted only at Sampling Point # 2, i.e., POC # 1 monitor well, "Alluvial Well-1". It is not required at Sampling Point # 3, i.e., POC # 2 monitor well, "UPC-1".

⁷ Total Trihalomethanes comprises of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

Pollution Control Structures/Parameter	Performance Levels	Inspection Frequency
Pump Integrity	Good Working Condition	Weekly
Freeboard in the Sludge Drying Beds and the Sludge Disposal Area	Minimum 1 foot	Weekly
Berm Integrity of the Sludge Drying Beds and the Sludge Disposal Area	No damage	Weekly
Treatment Plant Components	Good Working Condition No visible cracks or leakage	Weekly

TABLE III FACILITY INSPECTION (OPERATIONAL MONITORING)

5.0 REFERENCES AND PERTINENT INFORMATION

The terms and conditions set forth in this permit have been developed based upon the information contained in the following, which are on file with the Department:

- 1 Previous APP signed dated: January 29, 2003
- 2 APP Significant Amendment (this permit) Application dated: July 17, 2003
- 3 Public Notice, dated: June 08, 2005
- 4 Public Hearing, dated: N/A
- 5 Responsiveness Summary, dated: N/A

6.0 NOTIFICATION PROVISIONS

6.1 Annual Registration Fees

The permittee is notified of the obligation to pay an Annual Registration Fee to ADEQ. The Annual Registration Fee is based upon the amount of daily influent or discharge of pollutants in gallons per day as established by A.R.S. • 49-242(D).

6.2 Duty to Comply [A.R.S. • 49-221 through 49-263]

The permittee is notified of the obligation to comply with all conditions of this permit and all applicable provisions of Title 49, Chapter 2, Articles 1, 2 and 3 of the Arizona Revised Statutes, Title 18, Chapter 9, Articles 1 through 4, and Title 18, Chapter 11, Article 4 of the Arizona Administrative Code. Any permit non-compliance constitutes a violation and is grounds for an enforcement action pursuant to Title 49, Chapter 2, Article 4 or permit amendment, suspension, or revocation.

6.3 Duty to Provide Information [A.R.S. • 49-243(K)(2) and 49-243(K)(8)]

The permittee shall furnish to the Director, or an authorized representative, within a time specified, any information which the Director may request to determine whether cause exists for amending or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

6.4 Compliance with Aquifer Water Quality Standards [A.R.S. • 49-243(B)(2) and 49-243(B)(3)]

The permittee shall not cause or contribute to a violation of an aquifer water quality standard at the applicable point of compliance for the facility. Where, at the time of issuance of the permit, an aquifer already exceeds an aquifer water quality standard for a pollutant, the permittee shall not discharge that pollutant so as to further degrade, at the applicable point of compliance for the facility, the water quality of any aquifer for that pollutant.

6.5 Technical and Financial Capability [A.R.S. • 49-243(K)(8) and 49-243(N) and A.A.C. R18-9-A202(B) and R18-9-A203(E) and (F)]

The permittee shall have and maintain the technical and financial capability necessary to fully carry out the terms and conditions of this permit. Any bond, insurance policy, trust fund, or other financial assurance mechanism provided as a demonstration of financial capability in the permit application, pursuant to A.A.C. R18-9-A203(D), shall be in effect prior to any discharge authorized by this permit and shall remain in effect for the duration of the permit.

6.6 Reporting of Bankruptcy or Environmental Enforcement [A.A.C. R18-9-A207(C)]

The permittee shall notify the Director within five days after the occurrence of any one of the following:

- 1. The filing of bankruptcy by the permittee.
- 2. The entry of any order or judgment not issued by the Director against the permittee for the enforcement of any environmental protection statute or rule.

6.7 Monitoring and Records [A.R.S. • 49-243(K)(8) and A.A.C. R18-9-A206]

The permittee shall conduct any monitoring activity necessary to assure compliance with this permit,

with the applicable water quality standards established pursuant to A.R.S. \bullet 49-221 and 49-223 and \bullet 49-241 through 49-252.

6.8 Inspection and Entry [A.R.S. •• 41-1009, 49-203(B) and 49-243(K)(8)]

In accordance with A.R.S. §§ 41-1009 and 49-203(B), the permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to enter and inspect the facility as reasonably necessary to ensure compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, and Title 18, Chapter 9, Articles 1 through 4 of the Arizona Administrative Code and the terms and conditions of this permit.

6.9 Duty to Modify [A.R.S. • 49-243(K)(8) and A.A.C. R18-9-A211]

The permittee shall apply for and receive a written amendment before deviating from any of the designs or operational practices specified by this permit.

6.10 Permit Action: Amendment, Transfer, Suspension & Revocation [A.R.S. • 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]

This permit may be amended, transferred, renewed, or revoked for cause, under the rules of the Department.

The permittee shall notify the Water Permits Section in writing within 15 days after any change in the owner or operator of the facility. The notification shall state the permit number, the name of the facility, the date of property transfer, and the name, address, and phone number where the new owner or operator can be reached. The operator shall advise the new owner or operators of the terms of this permit and the need for permit transfer in accordance with the rules.

7.0 ADDITIONAL PERMIT CONDITIONS

7.1 Other Information [A.R.S. • 49-243(K)(8)]

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit the correct facts or information.

7.2 Severability [A.R.S. •• 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. The filing of a request by the permittee for a permit action does not stay or suspend the effectiveness of any existing permit condition.

7.3 Permit Transfer

This permit may not be transferred to any other person except after notice to and approval of the transfer by the Department. No transfer shall be approved until the applicant complies with all transfer requirements as specified in A.A.C. R18-9-A212(B) and (C).

Appendix D

City of Globe-Freeport McMoran Agreement

FIRST AMENDMENT TO WATER/EFFLUENT EXCHANGE AGREEMENT

This FIRST AMENDMENT TO WATER/EFFLUENT EXCHANGE AGREEMENT dated December 12, 1983 (this "Amendment") is entered as of this 1079 day of Appr. 2018 (the "Effective Date" by the City of Globe, an Arizona municipal corporation (the "City"), and Freeport McMoRan, Miami Inc., a Delaware corporation ("FMMI"). The City and FMMI are sometimes referred to, together, as the "Parties" and, individually, as a "Party".

RECITALS

A. The City and FMMI, as successor to Inspiration Consolidated Copper Company, a Maine corporation, are parties to a Water/Effluent Exchange Agreement dated December 12. 1983 (the "<u>1983 Agreement</u>").

B. In 2013, FMMI exercised the first of three 10-year extensions of the term of the 1983 Agreement. If FMMI exercises the remaining two 10-year extensions under the 1983 Agreement, the 1983 Agreement will expire in 2043.

C. FMMI has requested that the City provide FMMI with a set additional 50 year term of the 1983 Agreement from the Effective Date and wishes to take delivery of not less than 500 acre feet per year of Effluent generated at the Sewage Plant.

D. The City is willing to provide FMMI with the set additional 50 year term of the 1983 Agreement from the Effective Date and deliver exclusively to FMMI not less than 500 acre feet of the first generated Effluent per year during the amended term of the 1983 Agreement, conditioned upon FMMI's willingness to increase the amount paid for Effluent.

E. FMMI has agreed to take delivery of all additional Effluent per year in excess of 500 acre feet that meets Water Quality Standards as defined in Section 9 subject to the Parties' rights and obligations under this Amendment.

F. The Parties desire to amend the 1983 Agreement to reflect, among other things, the extension of its term, the exclusive delivery of the first generated 500 acre feet of Effluent to FMMI and the increase in the amount paid for Effluent, all on the terms and conditions described below.

G. The Parties agree that in so far as the terms and conditions set forth in the Amendment differ in any way from the terms and conditions of the 1983 Agreement, in such case the terms and conditions of the Amendment supersede the terms and conditions in the 1983 Agreement and shall govern the understanding and relationship between the Parties.

FOR VALUABLE CONSIDERATION, the receipt and sufficiency of which are hereby acknowledged, the Parties agree to amend and restate the 1983 Agreement as follows:

Recitals.

The Recitals are hereby incorporated into this Amendment as though fully set forth herein.

2 FMML

Freeport McMoRan, Miami Inc., a Delaware corporation ("<u>FMMI</u>") is the successor to Inspiration Consolidated Copper Company, a Maine corporation. Accordingly, all references to "Inspiration" contained in the 1983 Agreement are hereby replaced by "FMMI".

3. Section 4

Section 4 of the 1983 Agreement is deleted, and the following new Section 4 is substituted in its stead:

"4. Sewage Effluent.

A. Effluent Volume. During the period commencing on the Effective Date and terminating 50 (fifty) years from the Effective Date (the "Term"), the City shall permit FMMI to utilize such quantity of the wastewater and sewage effluent (the "Effluent") which is generated by the City in the operation of its wastewater and sewage facilities located at 2005 N. Pinal Creek Road, Globe, AZ 85501 ("Sewage Plant"). The City shall deliver, and FMMI shall accept, the following volume of Effluent:

(1) Exclusively and with priority, the first generated 500 acre feet of Effluent per calendar year (or, if the Sewage Plant generates less than 500 acre feet of Effluent in any calendar year, all of the Effluent generated at the Sewage Plant in that calendar year); plus

(ii) FMMI may receive such additional volume of Effluent in excess of 500 acre feet per year as the City may elect to deliver through exercise of the Option, as provided in Sections 7(A).

For each calendar year during the Term of the 1983 Agreement as amended hereby, the "<u>Annual Order</u>" for that calendar year shall equal the total of Section 4(A)(i) and (ii).

B. Effluent Deliveries. For each calendar month during the term of the 1983 Agreement as amended hereby, the City shall meter and report to FMMI, the amount of Effluent generated by the City as measured at the discharge point at the Sewage Plant. In the event and before FMMI constructs the Pinal-to-Kiser Pipeline (defined below), the City shall deliver the Effluent by discharging it into Pinal Creek pursuant to AZPDES Permit No. AZ0020249, as it may be amended, renewed or reissued from time to time (the "Discharge Permit"), and FMMI shall be deemed to have accepted delivery of the Effluent automatically upon such discharge, except as provided in Section 8(C)(v) below. Effluent deliveries to FMMI shall be measured at that meter used by the City for reporting Effluent production under the Discharge Permit (the "<u>City</u> <u>Meter</u>"). FMMI Meter (defined below) will be installed as provided in this. Amendment. Following installation of the FMMI Meter, Effluent deliveries to FMMI will also be monitored at the FMMI Meter and reconciled with the City Meter readings to ensure accuracy. The amount of Effluent deliveries to FMMI shall be determined solely based on the Effluent delivered through the City Meter.

4. Tem.

The Term of the 1983 Agreement as amended hereby shall commence on the Effective Date and terminate 50 (fifty) years from the Effective Date, subject to earlier termination as provided in Section 6.

5 Payments for Effluent.

FMMI shall pay the City for Effluent at the following rates:

(i) Within thirty days after the <u>Effective Date</u>, a lump sum payment of \$45,000 for the entire amount of Effluent delivered by the City from January 1, 2018 through and including the Effective Date. Promptly following the Effective Date, the City shall notify FMM1 of the total amount of Effluent discharged into Pinal Creek from January 1, 2017 through and including the Effective Date;

(ii) After the Effective Date, the City shall deliver an invoice to FMMI for Effluent delivered by the City from the Effective Date through December 31, 2018, as measured by the City Meter. Thereafter, the City shall deliver an invoice to FMMI for Effluent for each calendar year during the Term, with the invoice for the last calendar year in which the fiftieth (50th) anniversary of the Effective Date occurs covering the partial calendar year prior to the termination of the Term. The City shall charge a rate of \$180.00 per acre foot of Effluent delivered by the City after the Effective Date, subject to any other conditions and limitations in the 1983 Agreement as amended hereby.

(iii) Each invoice shall cover Effluent delivered by the City to FMMI during the immediately-preceding calendar year, except in the case of the last invoice which will cover the partial calendar year prior to the termination of the Term. The amount due under each invoice shall equal the volume of Effluent delivered by the City during the applicable calendar year (or portion thereof) multiplied by the rate established under subsection 5. (iv).
(iv) The rate charged by the City for Effluent deliveries shall be determined as follows:

 (a) \$180.00 per acre foot from the Effective Date through December 31, 2023 (the "Base Rate");

(b) Every five years during the term of the 1983 Agreement as amended hereby, the City shall adjust the Base Rate based on the cumulative percentage change in the Consumer Price Index over the immediately preceding five-year period, as provided in Exhibit A attached hereto; and

(c) Notwithstanding anything to the contrary contained in the 1983 Agreement as amended hereby, during the period after the occurrence of a Deficit Test (defined below) until such time as the City notifies FMMI that the water quality of the Effluent meets Water Quality Standards as defined in Section 9, below, any Effluent discharged by the City into Pinal Creek or into the Pinal-to-Kiser Pipeline shall not be considered as Effluent delivered to FMMI under the 1983 Agreement as amended hereby, and the City shall not charge FMMI for any such Effluent.

(v) Each invoice delivered by the City shall be due and payable by FMMI on or before sixty (60) days after receipt by FMMI. Invoices which are not paid when due shall be automatically delinquent and thereafter accrue interest on the unpaid principal equal to eight percent (8%) per annum, prorated based on a 365-day year and computed daily until payment is received. Any payment received after delinquency shall first be applied to any interest charges owed, and then to the principal amount stated on the unpaid invoice.

6 Early Mutual Termination.

At any time 5 years after the Effective Date, the 1983 Agreement, as amended by the Amendment (the "1983 Agreement as amended hereby") may be terminated, upon mutual written notice of agreement to terminate by both parties. The notice of agreement to terminate shall specify the date on which the 1983 Agreement as amended hereby will terminate, which shall be no earlier than 180 days after the delivery of the termination notice of agreement. Upon the termination date, the 1983 Agreement as amended hereby shall automatically and immediately terminate, and neither Party shall have any further rights or obligations thereunder, except for accrued obligations and those rights and obligations that specifically survive the termination of the 1983 Agreement as amended hereby.

7. Pinal-to-Kiser Pipeline:

A. Connection to City Pipeline. The City transports Effluent to Pinal Creek from the Sewage Plant through an existing Cityowned pipeline that crosses land owned by FMMI (the "City Pipeline"). At any time during the term of the 1983 Agreement as amended hereby, FMMI may elect to construct, but is under no obligation to construct, at more expense to the City, such pipeline and other facilities and equipment (the "Pinal-to-Kiser Pipeline") as FMMI may deem appropriate to permit FMMI to transport Effluent from the Sewage Plant directly to FMMI property or other location of use. FMMI may connect the Pinal-to-Kiser Pipeline to the City Pipeline at a location mutually-acceptable to the Parties. At FMMI's request, the City shall promptly provide to FMMI information regarding the City Pipeline reasonably sufficient to allow FMMI to design a connection between the City Pipeline and the Pinal-to-Kiser Pipeline. The City supports the possible development and construction of the Pinal-Kaiser Pipeline at the discretion of FMMI and will cooperate in good faith in the efforts undertaken by FMMI in this regard so long as such efforts comply with applicable laws, rules, permits and regulations.

8 Excess Effluent.

A. Subject to the City's rights under section 8 (B), during the Term of the 1983 Agreement as amended hereby commencing with calendar year 2018, the City shall annually deliver to FMMI Excess Effluent and FMMI agrees to purchase such Excess Effluent, defined as Effluent generated at the Sewage Plant in excess of the mandatory delivery of the first generated 500 acre feet of Effluent required under the 1983 Agreement as amended hereby. Notwithstanding this obligation of the City to deliver such Excess Effluent to FMMI, FMMI may temporarily refuse in whole or part the delivery of Excess Effluent due to operational necessities, (i.e. imminent mine safety issues or operations oversaturation.) but FMMI will resume acceptance of the Excess Effluent once the necessity has passed or been resolved. FMMI must accept Excess Effluent up to the rated capacity of the Pinal-to-Kiser Pipeline but may refuse delivery of any additional amount of Excess Effluent that exceeds the capacity of the Pinal-to-Kiser Pipeline.

B. <u>City's Use of Effluent</u>. During the term of the 1983 Agreement as amended hereby, the City retains the right to construct at no cost to FMMI, the required infrastructure needed to use any Excess Effluent during any calendar year for any lawful purpose including but not limited to sales of the Effluent to third parties. Notwithstanding the City's

right under section 8 (B) herein, the City will continue to provide the Excess Effluent to FMNII subject to section 8 (A) herein for a minimum period of 24 months after the City provides notice to FMMI of its intent to use the Excess Effluent. The City agrees to give an initial 24 month notice to FMMI prior to the City's initiation of use of Excess Effluent. Such initial notice of use will provide the amount of Excess Effluent the City will use and the calendar year(s) in which the City will use the Excess Effluent. At any time after giving such 24 month notice, on each subsequent occasion that the City elects to use additional Excess Effluent not already the subject matter of an existing notice of use, the City will provide months' additional notice of use described herein to FMMI's Authorized Representative indicating the amount of Excess Effluent the City will be using and the calendar years during which the City will be using such Excess Effluent (each, a "Use Notice"). Upon FMMI's receipt of a Use Notice, the volume of additional Excess Effluent which FMMI has agreed to purchase under section 8(A) herein shall be reduced by the amount of Excess Effluent to be used by the City during the stated calendar year(s) as described in the Use Notice. If the City subsequently chooses not to use Excess Effluent prior to the stated calendar year as provided in the notice, the City can notify FMMI of the availability of the Excess Effluent and FMMI must commence using the Excess Effluent following the receipt of such notice, but payment for the purchase of the Excess Effluent under the same payment conditions as provided herein may be delayed to the next succeeding budget period. The City's right to use Excess Effluent shall not terminate due to non-use and FMMI is not liable for any payment to the City for non-use by the City of the Excess Effluent A failure by the City to elect to use Excess Effluent for a calendar year(s) shall not terminate or affect the City's right to use Excess Effluent for any other calendar year.

9. Water Quality; Testing; Reporting-

The City acknowledges and agrees that the quality of the Effluent produced at the Sewage Plant is a material consideration to FMMI's willingness to increase the price paid by FMMI for Effluent under this Agreement. Accordingly, the Parties agree that:

A. All Effluent delivered by the City shall meet at a minimum, all applicable permits, laws, regulations and rules regarding the Effluent including but not limited to the following water quality standards (together, the "<u>Water Quality Standards</u>"): (1) those water quality standards imposed under the Discharge Permit, and (ii) all other water quality standards for effluent discharged from sewage treatment plants under applicable federal, state and local laws, rules, regulations and permits issued to the City, as such may be imposed, amended, renewed or reissued from time to time (together, "<u>Applicable Law</u>"). B. Monthly the City will test the quality of the Effluent, the City shall withdraw Effluent samples for testing purposes at or in immediate proximity to the City Meter. The City will cause all such Effluent samples withdrawn at the City Meter to be tested in accordance with Applicable Law. Following each such testing, the City will promptly provide to FMMI a copy of water quality report(s) generated by such testing.

C. On each occasion that a water quality report for an Effluent sample withdrawn at the City Meter indicates that Effluent does not meet or exceed any Water Quality Standards (each, a "Deficit Test"): i. The City will immediately notify FMMI that a Deficit Test has occurred, will take corrective action, and divert deliveries prior to City Meter.

ii. Immediately after its receipt of notice from the City that a Deficit Test has occurred, the City or FMMI will shut-off Effluent deliveries into the Pinal-to-Kiser Pipeline (if necessary)

iii. The City will take all necessary corrective actions, at the City's cost and expense, to improve the water quality of the Effluent, so that such water quality meets or exceeds all Water Quality Standards then in effect;

iv. The City will notify FMMI when the Effluent's water quality has improved such that the water quality meets of exceeds all Water Quality Standards (the "<u>All-Clear Notice</u>); provided, however, that such improvement has been established by the testing of Effluent samples withdrawn at or in immediate proximity to the City Meter after the applicable Deficit Test. Together with the All Clear Notice, the City will provide to FMMI copies of the water quality report(s) documenting that the water quality of the Effluent meets or exceeds all Water Quality Standards. Upon receipt of such reports, City and FMMI shall promptly re-start Effluent deliveries through the Pinal-to-Kiser Pipeline (if operational); and

v. Notwithstanding anything to the contrary contained in the 1983 Agreement as amended hereby, during the period after the occurrence of a Deficit Test and until such time as the City notifies FMMI that the water quality of the Effluent meets or exceeds all Water Quality Standards as defined in Section 9, any Effluent discharged by the City into Pinal Creek or into the Pinal-to-Kiser Pipeline shall not be considered as Effluent delivered to FMMI under the 1983 Agreement as amended hereby and shall not count towards the minimum Effluent delivery amount of 500 acre feet per year and the City shall not charge FMMI for any such Effluent.

D. In the event FMMI proceeds with the development and construction of the Pinal-to-Kaiser Pipeline, the City shall have no responsibility or hability for the water quality of the Effluent after the Effluent passes the "point of delivery" (the point at which the Pinal-to-Kiser pipeline booster pumps take water from the tank) as will be tdentified in the Pinal – to – Kaiser Pipeline plans. FMMI shall bear the risk of any degradation or decline in the water quality of the Effluent after the Effluent passes through the point of delivery.

E. If an enforcement action is brought against FMMI due to the discharge of Effluent that does not meet Water Quality Standards as defined in Section 9 (as indicated by a Deficit Test), the City shall reasonably and in good faith cooperate with FMMI in responding to such enforcement action as requested by FMMI and FMMI shall have no responsibility or liability for the water quality of the Effluent discharged by the City.

10 FMMI's Use of Effluent.

EMMI may use the Effluent delivered by the City for any lawful purpose including but not limited to sales of the Effluent to third parties. The City shall have no obligation to assist FMMI in transporting the Effluent to any third party purchaser or exchange partner, but the City shall not object to such transportation.

11. Appointment of Authorized Representatives.

A. The City and FMMI shall each appoint an Authorized Representative and an alternate to administer the 1983 Agreement as amended hereby. The alternate shall act only in the absence of the Authorized Representative. All decisions and agreements of the Authorized Representatives shall be in writing and be signed by both Authorized Representatives.

B. Each Party shall notify the other Party in writing within thirty (30) days after the Effective Date of the designation of its Authorized Representative and alternate and shall promptly notify the other Party of any subsequent changes in such designation.

C. The Authorized Representatives shall meet at least once every twelve (12) months, unless they otherwise agree, to discuss matters of common concern to the City and FMMI.

D. The Authorized Representatives will determine, in good taith, efficient and effective means of reporting FMMI Meter readings and the City's Water Quality reports, which may include, for example, the delivery of such reports by e-mail to particular City or FMMI personnel, as applicable, E. If the Authorized Representatives disagree as to any action to be taken or decision to be made, or as to the need for taking anyaction or making any decision, or as to whether any matter is within the scope of the Authorized Representatives' responsibilities hereunder, the question or questions at issue may be referred to the City Manager of the City and General Manager of FMMI. Any issue(s) unresolved by those parties may be addressed in a manner consistent with Section 12.

F. The Authorized Representatives shall have no authority to modify or amend the express terms of the Amendment or the 1983 Agreement as amended hereby.

Resolution of Disputes

A. Any dispute, controversy, claim or cause of action arising out of or under or related to the 1983 Agreement as amended hereby (each, a "<u>Matter</u>") shall first be submitted to the Authorized Representatives for resolution. If the Matter cannot be resolved by the Authorized Representatives, any Party may submit the Matter to the City Manager of the City and the designated senior executive of FMMI. If the Matter cannot be resolved by the City Manager of the City and the designated senior executive of FMMI, both Parties will submit to binding arbitration to be conducted under the rules and procedures of the American Arbitration Association.

B. In the event of a dispute of any nature, each Party shall be solely responsible for its own attorneys' fees and costs incurred therein, including expert witness fees, without regard to the outcome of the Matter and without contribution from the other Party, whether the Matter is resolved by the Authorized Representatives, the principals of the Parties, arbitration, or otherwise.

C. Pending the resolution of a Matter, the Parties shall make payments and otherwise perform, to the extent legally permissible, in accordance with the 1983 Agreement as amended hereby. Amounts paid under the terms of the 1983 Agreement as amended hereby by a Partyduring the pendency of a Matter shall be subject to refund and adjustment upon a final resolution of any Matter involving an amount due. Upon such final resolution, money due shall be billed by the Party entitled to a refund and paid by the other Party on or before ninety (90) days after receipt by the other Party. Invoices which are not paid when due shall be automatically delinquent and thereafter accrue interest on the unpaid principal equal to eight percent (8%) per annum, prorated based on a 365day year and computed daily until payment is received. Any payment

12.

received after delinquency shall first be applied to any interest charges owed, and then to the principal amount stated on the unpaid invoice."

Section 3 of the 1983 Agreement is deleted in Whole with the acknowledgment by the City of Globe that FMMI, has been in the past, and is currently in compliance with all requirements of Section 3

 Section 3 of the 1983 Agreement is deleted in whole. The parties acknowledge that each has complied with the obligations of Section 3.

14. Section 5 of the 1983 Agreement is deleted in whole.

15. Section 7 of the 1983 Agreement is deleted in whole.

16. Miscellancous.

A. <u>Notices</u>. Unless otherwise agreed by the Authorized Representatives, any notice, demand or request (a "<u>Notice</u>") provided for in this Agreement shall be in writing and delivered in person, or sent by US Postal Service, registered or certified mail, postage prepaid, or sent by a national overnight delivery service to:

> If to Globe: City of Globe c/o Authorized Representative 150 N. Pine Street Globe, Arizona 85501

Reference: Agreement for the Purchase of Effluent with FMMI

With copy to:

If to FMMI: Freeport-McMoRan Miami Inc. c/o Authorized Representative 5701 New Street Claypool, Arizona 85532

Reference: Agreement for the Purchase of Effluent with The City of Globe

With copy to: Freeport Mineral Corporation 333 North Central Avenue

Phoenix, Arizona 85004 Attn: Director Water Strategy

Either Party may change its address by providing written notice of the new address to the other Party as provided in this Section. Notices shall be deemed delivered on the day of delivery, if hand-delivered; on the third husiness day after deposit with the U.S. Postal Service, if sent by mail as provided above; or on the first business day following deposit with a national overnight delivery service, if sent by overnight delivery.

B. <u>Waiver</u>. The waiver by either Party of any breach of any term, covenant or condition herein contained shall not be deemed a waiver of any other term, covenant or condition, or any subsequent breach of the same or any other term, covenant or condition herein contained.

C. <u>Conflict Of Interest</u>. This Agreement is subject to the provisions of A.R.S. § 38-511, the terms of which are incorporated herein by reference, which provides for the cancellation of contracts by the municipality for certain conflicts of interest.

D. <u>Governing Law</u>. This Amendment and the 1983 Agreement as amended hereby is made under, and shall be governed by, the laws of the State of Arizona.

E. Interpretation: Headings. The Parties hereby acknowledge and agree that each has been given the opportunity to independently review the Amendment and the 1983 Agreement as amended hereby with legal counsel, and that the Amendment and the 1983 Agreement as amended hereby is the result of negotiations between the Parties. In the event of any ambiguity in or dispute regarding the interpretation of the Amendment and the 1983 Agreement as amended hereby is the resolved by any rule of interpretation providing for the interpretation against the Party who caused the uncertainty to exist or against the draftsman. Title and paragraph headings herein are for reference only and are not part of the Amendment or the 1983 Agreement as amended hereby

F. Entire Agreement: Modifications: Counterparts. The terms, covenants and conditions of this Amendment and the 1983 Agreement as amended hereby constitute the entire 1983 Agreement as amended hereby or other agreement between the Parties related to the subject matter herein, and no understandings or obligations not herein expressly set forth shall be binding upon them. The Amendment and the 1983 Agreement as amended hereby may not be modified or amended in any manner unless in writing and signed by the Parties. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

G. Non-severable Agreement. If any material provision of the Amendment and the 1983 Agreement as amended hereby is determined to be unenforceable in a final, non-appealable order by a court of competent jurisdiction, the entire Amendment or the 1983 Agreement as amended hereby shall be deemed voidable by either Party. In the event of such an order, however, the Parties shall exercise their best efforts, through the use of a dispute resolution process of their choice, to agree on a modification of or replacement for the material unenforceable term or terms to achieve the objectives and preserve the mutual benefits of the Amendment and the 1983 Agreement as amended hereby.

H. Successors and Assigns. The 1983 Agreement as amended hereby is binding upon and shall inure to the benefit of the Parties hereto and to their successors and assigns, provided, however, that any assignment of the 1983 Agreement as amended hereby by FMMI shall be effective only upon the satisfaction of all of the following conditions: (a) the assignment shall be pursuant to a written instrument under which FMMI assigns all of its rights and delegates all of its obligations hereunder to the assignee, and the assignee assumes all of FMMI's rights and obligations hereunder; and (b) FMMI shall provide written notice of the assignment and a copy of the assignment instrument to the City promptly following the execution of the assignment instrument."

 <u>Ratification: Waiver</u>. Except as amended by this Amendment, the Parties hereby ratify and affirm the 1983 Agreement in all respects. Each Party hereby waives, releases and discharges any claims, actions or causes of action, in law or in equity, of any nature whatsoever, whether known or unknown, suspected or unsuspected, that the Party may have against the other Party based upon or under the 1983 Agreement that arose prior to execution of this Amendment.

J. <u>Counterparts</u>. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

[Signatures appear on following pages]

THE CITY

CITY OF GLOBE, an Arizona municipal corporation

By: Mayor Gamaros Name: A/

ATTEST:

City Clerk, lazar Name:

APPROVED AS TO FORM: lan

City Attorney Name: Villion) Sim FMMI

FREEPORT MCMORAN, MIAMI INC., a Delaware corporation

By: 5 que c Ma 64 Name: James C. Handley

Its: Vice President & General Manager

EXHIBIT A

Base Rate Adjustments

(1) Base Rate Adjustment. Commencing on the Adjustment Date of the second Five Year Period (i.e., January 1, 2024), and on the Adjustment Date of each succeeding Five Year Period, the Base Rate shall be changed based on the CPI Adjustment for the Five-Year Period then expiring. For purposes of the foregoing, each of the following definitions shall have the following meanings:

 (i) "<u>Adjustment Date</u>" shall mean the first day of the first month in each Five Year Period.

(ii) "CPI" shall mean the Consumer Price Index, U.S. City Average for all Urban Consumers—All Items (1982-1984 equals 100), as issued by the Bureau of Labor Statistics (BLS) of the U.S. Department of Labor. If the CPI shall hereafter be converted to a different standard reference base or otherwise revised, adjustments of the Base Rate hereunder shall be made with the use of such conversion factors, formula or table for converting the CPI as may be published by the BLS, or if said Bureau shall not publish the same, then with the use of such conversion factors, formula, or table as may be published by any nationally recognized publisher of sunilar statistical information.

(iii) "<u>CPI Adjustment</u>" shall mean the aggregate percentage change in the CPI between the December immediately preceding the first year of the then-expiring Five Year Period and the December of the last year of the expiring Five Year Period. The maximum CPI Adjustment that can be applied to the Base Rate for any Five Year Period shall be twelve and one-half percent (12.5%).

For example, with respect to the CPI Adjustment for the second Five Year Period (January 1, 2024 through December 31, 2029), if the aggregate increase in the CPI for first Five Year Period (comparing the CPI for December 2018 to the CPI for December 2023) was six and one-half percent (6.5%), then the CPI Adjustment for the second Five Year Period would be \$191.25 (which equals \$180 times 1.065).

The foregoing calculation is by way of example only and are not the actual CPI Index numbers to be employed at the time of the calculation of any CPI Adjustment.

(iv) "Five Year Period" shall mean each successive period of five (5) years during the term of this Agreement, commencing on January 1, 2018 and ending on December 31, 2068. The first Five-Year Period commences January 1, 2018 and ends on December 31, 2023.

(2) Promptly following each Adjustment Date, the City shall calculate the CPI Adjustment for the immediately-preceding Five Year Period and shall calculate the change in the Base Rate effective as of the applicable Adjustment Date. The resulting product shall be the "Base Rate" for the Five Year Period following the applicable Adjustment Date. Immediately after making such calculations, the City shall notify FMMI of the adjusted Base Rate and provide FMMI with the City's calculation of the CPI Adjustment and of the adjusted Base Rate.

Appendix E

Projected Flow Calculation

EPS Group, Inc.

Wastewater Flow Projection Calculations

Build-out

2038 Projected Population: PSWWTF Capacity Provided by City of Globe:

8,069 1,200,000 gpd

	Design flow per		Total Design flow			
	Applicable unit,	Design flow per	per Applicable			
	Dry, AAC	Applicable unit,	unit, AAC		% of inflow	Inflow
	(gal/day)	AAC (gal/day)	(gal/day)	Population	composition	(gal/day)
Domestic (Dwelling)*	80	20	100	8,069	0.80	806,900
Industrial **	-	-	-	-	0.19	191,639
Agriculture**	-	-	-	-	0.01	10,086
					Total:	1,008,625

*Residential = 100 gallons per Person (City of Goble 2035 General Plan and AAC R18-9 Table 1 80 GPD Dry + 20 GPD Inflow)

 $\ast\ast$ inflow obtained by using % of inflow composition with respect to domestic usage.

AAC= Arizona Administrative Code

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Wastewater Source	Applicable Unit	Sewage Design Flow per Applicable Unit, (gallons per day)
Airport	Passenger (average daily number) Employee	4 15
Auto Wash	Facility	Per manufacturer, if consistent with this Chapter
Bar/Lounge	Seat	30
Barber Shop	Chair	35
Beauty Parlor	Chair	100
Bowling Alley (snack bar only)	Lanc	75
Camp Day camp, no cooking facilities Campground, overnight, flush toilets Campground, overnight, flush toilets, and shower Campground, luxury Camp, youth, summer, or seasonal	Camping unit Camping unit Camping unit Person Person	30 75 150 100-150 50
Church Without kitchen With kitchen	Person (maximum attendance) Person (maximum attendance)	5 7
Country Club	Resident member Nonresident member	100 10
Dance Hall	Patron	5
Dental Office	Chair	500
Dog Kennel	Animal, maximum occupancy	15
Dwelling For determining design flow for sewage treatment facilities under R18-9-B202(A) (9)(a) and sewage collection systems under R18-9-E301(D) and R18-9-B301(K), excluding peaking factor.	Person	80
Dwelling For onsite wastewater treatment facilities per R18-9-E302 through R18-9-E323: Apartment Building 1 bedroom 2 bedroom 3 bedroom 4 bedroom	Apartment Apartment Apartment Apartment	200 300 400 500

Table 1. Unit Design Flows. Source: Arizona Administrative Code, R18-9.

/12/2018 ADEQ Table 1. Unit Design Flows.				
Seasonal or Summer Dwelling (with recorded seasonal occupancy restriction)	Resident see R18-9-A314(D)(1)	100 scc R18-9-A314(D)(1)		
Single-Family Dwellings				
Other than Single-Family Dwelling, the greater flow value based on: Bedroom count 1-2 hedrooms Each bedroom over 2 Fixture count	Bedroom [Dwelling] <u>†</u> Bedroom Fixture unit	300 150 25		
Fire Station	Employee	45		
Hospital All flows Kitchen waste only Laundry waste only	Bed Bed Bed	250 25 40		
Hotel/Motel Without kitchen With kitchen	Bed (2 person) Bed (2 person)	50 60		
Industrial Facility Without showers With showers Cafeteria, add	Employee Employee Employee	25 35 5		
Institutions Resident Nursing home Rest home	Person Person Person	75 125 125		
Laundry Self service Commercial	Wash cycle Washing machine	50 Per manufacturer, if consistent with this Chapter		
Office Building	Employee	20		
Park (temporary use) Pienic, with flush toilets, showers Pienic, with flush toilets only Recreational vehicle, no water or sewer connections Recreational vehicle, with water and sewer connections Mobile home/trailer	Parking space Parking space Vehicle space Vehicle space Space	40 20 75 100 250		
Restaurant/Cafeteria With toilet, add Kitchen waste, add Garbage disposal, add Cocktail lounge, add Kitchen waste disposal service, add	Employee Customer Meal Meal Customer Meal	20 7 6 1 2 2		
Restroom, public	Toilet	200		
School Staff and office	Person	. 20		

https://cals.arizona.edu/classes/abc459/ResourceFiles/ADEQTable1.htm

1/12/2018	ADEQ Table 1. Unit Desig	n Flows.
Elementary, add Middle and High, add With gym & showers, add With cafeteria, add Boarding, total flow	Student Student Student Student Person	1.5 20 5 3 100
Service Station, with toilets	First bay Each additional bay	1000 500
Shopping Center, no food or laundry	Square foot of retail space	0.1
Store Public restroom, add	Employee Square foot of retail space	20 0.1
Swimming Pool, public	Person	10
Theater Indoor Drive-in	Seat Car space	5 10

* Note: Unit flow rates published in standard texts, literature sources, or relevant area or regional studies are considered by the Department, if appropriate to the project.

[†] Note: the Arizona Administrative Code for Table 1. Unit Design Flows [R18-9] has a typographical error for 1-2 bedrooms under "Other than Single-Family Dwelling, the greater flow value based on:" – it should read **dwelling** not bedroom.

1.5 Community Characteristics and Economic Profile

A. Demographic Information

Population

The population of Globe has been increasing since 2000, after a slight decrease from 1990 to 2000. The 1990 population of 7,568 decreased to 7,486 in 2000, resulting in a -1.08% population growth rate. The subsequent increase by 0.61% in 2010 brought the population up to 7,532, but still remains below the 1990 population level.

According the population estimates provided by the Central Arizona Governments (CAG), Globe's population is expected to slightly increase over the next three decades. This can be seen in the chart below. **Table 1** shows this increase as equating to approximately 560 more people. Projections for Globe were derived from projections contained in the 2012 Cobre Valley Planning Assistance for Rural Areas Study and the 2006 Gila County Small Area Transportation Study (SATS).

Table 1: Globe Population Projections

Year	Population	Population Growth Rate
1990	7568	-
2000	7486	-1.08%
2010	7532	0.61%
2020	7578	0.61%
2030	7977	5.27%
2040	8092	1.44%

Chart 1: City of Globe Population Projections



Appendix F

208 Amendment Checklist

CITY OF GLOBE

208 AMENDMENT CHECKLIST

Section 208 Clean Water Act

40 CFR Part 130.6

REQUIREMENT	PROVIDE BRIEF SUMMARY ON HOW REQUIREMENTS ARE ADDRESSED	ADDRESSED ON PAGE:
AUTHORITY Proposed Designated Management Agency (DMA) shall self-certify that it has the authorities required by Section 208(c)(2) of the Clean Water Act to implement the plan for its proposed planning and service areas. Self-certification shall be in the form of a legal opinion by the DMA or entity attorney.	The City of Globe self-certifies that it has the authorities required by section 208(a)(2) of the Clean Water Act to implement the plan for the proposed amended planning and service areas.	3
20-YEAR NEEDS Clearly describe the existing wastewater (WWT) treatment facilities: - Describe existing WWT facilities.	Refer to Figure 1 for existing wastewater treatment facilities within the Town's CAG Planning Area. The City of Globe manage & operates the existing Pinal Creek Wastewater Treatment Facility (PCWWTF) located on 2005 Pinal Creek Road, Globe Az 85501. The facility serves residential and commercial areas within the City of Globe DMA Service Area. The PCWWTF consists of a head works with mechanical screens, grit chamber, aeration oxidation ditch with clarifiers, unlined sludge drying beds, gas chlorination and de-chlorination. The facility has a current capacity of 0.55 MGD with a full buildout capacity of 1.2 MGD. The Town of Miami Wastewater Treatment Facility (WWTF) is in close proximity to the City of Globe DMA Service Area. A portion of the City of Globe Service Area is served by the Town of Miami WWTF. The City of Globe and the Town of Miami have entered an Intergovernmental Agreement (IGA) to allow the Town of Miami to serve this portion of Globe DMA. The Town of Miami WWTF has a designed capacity of 640,000 gpd and consists of headworks, anoxic and aeration chambers, clarifiers, sludge holding tank, filtration and disinfection units.	3, Appendix A Figure 1
 Show WWT certified and service areas for private utilities and sanitary district boundaries if appropriate. 	Refer to Figure 2 for DMA Service Areas, Sanitary Districts as well as existing wastewater facilities. The City of Globe is requesting approval of an amendment to CAG Section 208 Area Wide Water Quality Management Plan to officially document the Service Area shown on Figure 2. The amendment to the current DMA's Service Area incorporates served customers already on the DMA but not shown on the latest version of the CAG 2018.	Appendix A Figure 2
Clearly describe alternatives and the recommended WWT plan: Provide POPTAC population estimates (or (COG-approved estimates only where POPTAC not available) over 20-year period.	Population projections were obtained from the City of Globe 2035 General Plan to estimate the 20-Year needs. The City of Globe is projected to grow from a population of 7,569 in 2018 to 8,069 by 2038. The Service Area is projected to include all residents at ultimate build out.	4,5
- Provide wastewater flow estimates over the 20-year planning period.	Projected 20-Year wastewater flow is 1.0 MGD. The City of Globe PCWWTF has full buildout capacity of 1.2 MGD.	5, Appendix E

- Illustrate the WWT planning and service areas.	Refer to Figure 2 for Service Area and existing PCWWTF within Gila County area corresponding to the City of Globe. The service area includes its City Limits as well as immediate areas as shown on Figure 2. The land usage within the Service Area varies from residential, single family and multifamily housing with varies density, to non-residential areas such as office and retail usage. The Service Area also contains open space including parks and recreational areas. Refer to Figure 4 for existing gravity sewer collection system within the Service Area.	3, Appendix A Figure 2 & 4
- Describe the type and capacity of the recommended WWT plant.	The facility sits at an approximate elevation of 3385 ft above sea level. The PCWWTF consists of a head works with mechanical screens, grit chamber, aeration oxidation ditch with clarifiers, unlined sludge drying beds (underlay by clay material), gas chlorination and de- chlorination. All the units of the PCWWTF, except the sludge drying beds, were constructed from monolithic reinforcement concrete tanks. The facility also processes septic tank sludge from areas of the City without sewer mains. Currently, the permit for the facility allows it to produce Class B effluent with future plans to update to Class A+. The effluent is both reuse and discharged into the Pinal Creek/Salt River Basin as per Environmental Protection Agency and Arizona Department of Environmental Quality standards. The facility has a current capacity of 0.55 MGD with a full buildout capacity of 1.2 MGD.	3
 Identify water quality problems, consider alternative control measures, and recommend solution for implementation. 	No water quality problems are anticipated. Effluent from existing WWTF is Class B quality standard. Effluent meets all limits established by the NPDES Permit, reuse permit, and recharge permit.	3, 5
 If private WWT utilities with certified areas are within the proposed regional service area; define who (municipal or private utility) serves what area and when. Identify whose sewer lines can be approved in what areas and when? 	No private wastewater treatment utilities is present within the Service Area.	Appendix A Figure 2
- Describe method of effluent disposal and reuse sites (if appropriate).	The effluent generated by the facility are both reuse and discharged. The reuse effluent is regulated under its current reuse permit. The discharged effluent is regulated under its current Arizona Pollutant Discharge Elimination System (AZPDES) permit. The effluent discharged under AZPDES is dechlorinated prior to disposal.	5
- If Sanitary Districts are within a proposed planning or service area, describe who serves the Sanitary Districts and when.	There are areas to the west of the City that falls under Tri-City Regional Sanitary District (TRSD). TRSD does not provide sewage service nor operate or maintain any wastewater infrastructure but instead manages sewage treatment within its area as cesspools and septic tanks are the primary means of treatment and disposal. TRSD area service areas is shown on figure 2.	6, Appendix A Figure 2
- Describe ownership of land proposed for plant sites and reuse areas.	Currently, the property is owned and managed by the City of Globe. Effluent reuse areas are owned privately and effluent discharge area, Pinal Creek, is owned by the State.	4
- Address time frames in the development of the treatment works.	The PCWWTF is an existing facility. No new construction or expansion to the existing treatment facility is expected during the completion of this amendment or the near future.	7
- Address financial constraints in the development of the treatment works.	The City of Globe, under the issued Aquifer Protection Permit No. P-100692 has demonstrated financial capability and is expected to maintain financial capability throughout the life of the facility to administer, operate & maintain (O&M), close and ensure proper post- closure activities of the facility.	7
 Describe how discharges will comply with EPA municipal and industrial stormwater discharge regulations (Section 405, CWA). 	The facility has been authorized to discharge its domestic wastewater to the Pinal Creek, a tributary to Salt River in the Salt River Basin, in compliances with provisions of Arizona Revised Statue (A.R.S) Title 49, Chapter 2, Article 3.1; the Federal Water Pollution Control Act, ((33 ISC & 1251 et. Seq., as amended), and Arizona Administrative Code (AAC) Tile 18, Chapter 9, Article 9 and 10. The discharged effluent is regulated under its current AZPDES permit.	5

 Describe how open areas & recreational opportunities will result from improved water quality and how those will be used. 	The effluent generated by the facility is both discharge and reuse. The reuse effluent is regulated under its current Reuse Permit. The permit allows it to produce Class B effluent which is utilized for any Class B usage under a valid reclaimed water reuse permit.	5
 Describe potential use of lands associated with treatment works and increased access to water-based recreation, if applicable. 	Not applicable.	Not applicable.
REGULATIONS Describe types of permits needed, including NPDES, APP and reuse.	The City of Globe currently manages the existing PCWWTF under Aquifer Protection Permit (APP) No. P-100692 and Arizona Pollutant Discharge Elimination System (AZPDES) permit No. AZ0020249	Appendix B & C
 Describe restrictions on NPDES permits, if needed, for discharge and sludge disposal. 	The on-site sewage sludge disposal was approved by ADEQ under the current A.P.P. permit. The sludge generated by the facility is dried and hauled to dedicated disposal areas, drying beds, within the PCWWTF property.	7, Appendix B & C
- Provide documentation of communication with ADEQ Permitting Section 30 to 60 days prior to public hearing regarding the need for specific permits.	Not Applicable as wastewater treatment is already existing.	Not applicable.
 Describe pretreatment requirements and method of adherence to requirements (Section 208 (b)(2)(D), CWA). 	All existing commercial, Industrial and other non-residential hookups discharging to the existing sanitary sewer system (Figure 4) are authorized to discharge according to applicable federal, state and local regulation as specified on A.P.P. No. P-100692. All users meet the requirements for pretreatment as per A.P.P. per AAC R18-9-B204(A)(6)(b)(iii).	6, Appendix A Figure 4
 Identify, if appropriate, specific pollutants that will be produced from excavations and procedures that will protect ground and surface water quality (Section 208(b)(2)(K) and Section 304, CWA). 	Not applicable.	Not applicable.
 Describe alternatives and recommendation in the disposition of sludge generated. (Section 405 CWA) 	The on-site sewage sludge disposal was approved by ADEQ under the current A.P.P. permit. The disposal site was designed such that it will not get flooded during onsite stormwater events. The sludge drying beds are underlined with clay material with permeability less than 550 gallon per day (gpd)/acre.	7
 Define any non-point issues related to the proposed facility and outline procedures to control them. 	Not applicable.	Not applicable.
 Describe process to handle all mining runoff, orphan sites and underground pollutants, if applicable. 	Not applicable.	Not applicable.
 If mining related, define where collection of pollutants has occurred, and what procedures are going to be initiated to contain contaminated areas. 	Not applicable.	Not applicable.
 If mining related, define what specialized procedures will be initiated for orphan sites, if applicable. 	Not applicable.	Not applicable.
<u>CONSTRUCTION</u> Define construction priorities and time schedules for initiation and completion.	No new construction or expansion to the existing treatment facility is expected during the completion of this amendment or the near future.	7
Identify agencies who will construct, operate and maintain the facilities and otherwise carry out the plan.	The City of Globe has owned and oversee the operation and maintenance of the facility since it was constructed. It will continue to oversee the operations throughout the life of the facility.	7
Identify construction activity-related sources of pollution and set forth procedures and methods to control, to the extent feasible, such sources.	Not applicable.	Not applicable.
FINANCING AND OTHER MEASURES NECESSARY TO CARRY OUT THE PLAN If plan proposes to take over certificated private utility, describe how, when and financing will be managed.	Not applicable.	Not applicable.
- Describe any significant measure necessary to carry out the plan, e.g., institutional, financial, economic, etc.	Not applicable.	Not applicable.

- Describe proposed methods(s) of community financing.	Not applicable.	Not applicable.
 Provide financial information to assure DMA has financial capability to operate and maintain wastewater system over its useful life. 	The City of Globe, under the issued Aquifer Protection Permit No. P-100692 and following A.R.S. 49-243(N) and A.A.C. R18-9-A203, has demonstrated financial capability and is expected to maintain financial capability throughout the life of the facility to administer, operate & maintain, close and ensure proper post-closure activities of the facility.	7
 Provide a timeline outlining period of time necessary for carrying out plan implementation. 	Not applicable.	Not applicable.
 Provide financial information indicating the method and measures necessary to achieve project financing. (Section 201 CWA or Section 604 may apply.) 	Not applicable.	Not applicable
IMPLEMENTABILITY		
Describe impacts and implementability of Plan: - Describe impacts on existing wastewater (WW) facilities, e.g., Sanitary district,	The implementation of the City of Globe DMA Service Area Plan is not anticipated to have any impact on adjacent municipalities, existing service areas, sanitary districts, communities, or businesses.	8
Describe how and when existing package plants will be connected to a regional system.	Not applicable.	Not applicable.
- Describe the impact on communities and businesses affected by the plan.	There will be no impacts on communities or businesses.	8
 If a municipal wastewater (WWT) system is proposed, describe how WWT service will be provided until the municipal system is completed: i.e. will package plants and septic systems be allowed and under what circumstances. (Interim services) 	Not applicable.	Not applicable.
PUBLIC PARTICIPATION		
- Submit copy of mailing list used to notify the public of the public hearing on the 208 amendment. (40 CFR, Chapter 1, Part 25.5)	All public notifications will be satisfied through CAG.	8
 List location where documents are available for review at least 30 days before public hearing. 	All public notifications will be satisfied through CAG.	8
 Submit copy of the public notice of the public hearing as well as an official affidavit of publication from the area newspaper. Clearly show the announcement appeared in the newspaper at least 45 days before the hearing. 	All public notifications will be satisfied through CAG.	8
- Submit affidavit of publication for official newspaper publication.	All public notifications will be satisfied through CAG.	8
- Submit responsiveness summary for public hearing.	All public notifications will be satisfied through CAG.	8