NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT FACT SHEET
October 2023

Permittee Name and Address: Navajo Tribal Utility Authority ("NTUA")
P.O. Box 170
Fort Defiance, AZ 86504

NPDES Permit No.: NN0030344

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Facility Location: NTUA Twin Arrows Wastewater Treatment Facility
22181 Resort Boulevard
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I. STATUS OF PERMIT

NTUA (the "permittee") applied for the renewal of its National Pollutant Discharge Elimination System ("NPDES") permit to authorize the discharge of treated effluent from the NTUA Twin Arrows Navajo Casino wastewater treatment plant ("WWTP") in Coconino County, Arizona. The WWTF is owned and operated by the NTUA. The permittee applied for a permit renewal on November 2, 2022.

The Navajo Nation is a federally recognized Indian tribe. As the Navajo Nation EPA ("NNEPA") does not have primary regulatory responsibility for administering the NPDES permitting program, U.S. EPA Region 9 ("EPA") has prepared the NPDES permit renewal and fact sheet pursuant to Section 402 of the Clean Water Act ("CWA"), which requires point source dischargers to control the amounts of pollutants that are discharged to waters of the United States. The permit incorporates both federal standards and applicable tribal water quality requirements.

The permittee is currently covered under NPDES Permit No. NN0030344, which became effective on May 1, 2018, through midnight April 30, 2023. The November 2022 application was deemed complete during the same month and EPA issued an administrative continuance on February 14, 2023. Pursuant to 40 CFR § 122.6, the terms of the existing permit are administratively extended until the issuance of a new permit. This fact sheet is based on information provided by the discharger through its permit application, effluent discharge data, and applicable laws and regulations.

Pursuant to Section 402 of CWA, EPA is issuing the NPDES permit renewal to the permittee for the discharge of treated domestic wastewater to an unnamed wash, which is a tributary to Padre Canyon,

a tributary to Canyon Diablo, a tributary to the Little Colorado River, waters of the United States. This permittee is classified as a minor discharger.

II. SIGNIFICANT CHANGES TO PREVIOUS PERMIT

Table 1. Significant Changes to Previous Permit

Permit Condition	Previous Permit (2018 – 2023)	Proposed permit (2023 – 2028)	Reason for change
Copper and Zinc monitoring and effluent limits	Monitoring required as part of priority pollutant scan.	Add effluent limits and monitoring requirements for these metals.	Reasonable potential to exceed WQS.
E. coli geometric mean calculation	Once per month	4 samples per month	To reflect NNEPA's requirement of geometric mean calculation using a minimum of four samples per month.
Chronic Whole Effluent Toxicity (WET) testing requirements and triggers	Results reported in Chronic Toxicity Units (TUc); Triggers of any one test result greater than 1.6 TUc or any calculated monthly median value greater than 1.0 TUc.	Add limits and report results in Pass "0" or Fail "1" of the Test of Significant Toxicity ("TST") null hypothesis (H_o) and the percent effect.	Testing requirements in accordance with the TST statistical approach (EPA 2010a); Limits for established toxicity due to established toxicity.
Hardness (as $CaCO_3$) monitoring	No effluent monitoring requirements	Add annual monitoring requirement for hardness.	To calculate hardness-dependent metals criteria and to be performed concurrently with TDS monitoring.
TDS monitoring	Quarterly	Annually	Concurrently with hardness.
Priority Pollutant Scan	One time in the 5-year permit cycle.	Monitoring frequency is required in Years 2 and 4 of the permit cycle.	To collect sufficient data to improve the analysis of reasonable potential.
BOD_5 and TSS mass effluent limits	Report mass limits in kg/day	Report mass limits in lbs/day.	To be consistent with recent EPA Region 9 permits.
Total residual chlorine (TRC) monitoring and effluent limit	TRC limit of 11 µg/l	Remove effluent limit and monitoring for TRC.	Chlorine is not being used for effluent disinfection nor as a backup. And no reasonable potential exists for TRC.
Best Management Practices ("BMPs")	None	Incorporate standard BMPs language for small utilities.	Provision of 40 CFR § 122.44(k)(4)
Sanitary Sewer Overflow ("SSO")	None	Incorporate standard SSO language for small utilities.	To be consistent with EPA Region 9 policy and recent permits.
WWTP Definition	None	Expand facility definition.	Clarifies that the facility includes the collection system.
DMR submittal	Hardcopy accepted for a portion of the permit period	E-reporting (NetDMR) required	EPA e-reporting Rule.
Biosolids report	Hardcopy accepted for a portion of the permit period	E-reporting (NetDMR) required	EPA e-reporting Rule.

III. GENERAL DESCRIPTION OF FACILITY

The NTUA Twin Arrows Navajo Casino WWTP is a wastewater treatment facility that uses membrane bioreactors ("MBR") as treatment technology. The facility is operated 24 hours per day and 7 days a week. It is manned by one operator 7 days a week from 8 am to 5 pm. The facility is located at Twin Arrows Casino, Coconino County, Arizona, within the western portion of the Navajo Nation, and 22.5 miles east of Flagstaff, Arizona along Interstate 40.

The facility is designed for 0.125 million gallons per day ("MGD"). Effluent from the MBR is disinfected with an ultraviolet ("UV") system and discharges into an unnamed wash, a tributary to Padre Canyon, a tributary to Canyon Diablo, a tributary to the Little Colorado River.

Sources of wastewater include the casino and resort complex (opened in May 2013), a public safety building (opened in September 2017), and a travel center (opened in September 2020). The types of water are domestic sanitary wastewater, gray water, swimming pool water (drained quarterly), laundry services, and wastewater from the food services. The WWTP serves a population of about 14,000 per day.

Permit Attachment B provides a satellite view of the WWTP. Raw wastewater enters the facility via a 6-inch pipe to a 5,000-gallon wet well for the lift station where one of the two lift station pumps (used in alternation) will send the wastewater in an 8-inch force main to two rotary drum screens. Liquids from the rotary drum screens flow into the underground 50,000-gallon equalization ("EQ") tank. Once the height of the liquid in the EQ tank reaches 3.5 feet, the pumps for the EQ tank will sent the liquid waste to the splitter box that divides the flow evenly to the two MBR trains.

The two trains run simultaneously and consist of an anoxic zone, an aeration zone, and the MBR filters. Each MBR train consists of four filters. After the wastewater flows through the MBR trains, it flows to the effluent tank which equalizes the flow into the ultraviolet (UV) banks for disinfection. NTUA alternates between two UV banks every month, and typically only activates one bank at a time. Waste activated sludge is pumped from the MBR trains into one of two 30-cubic yard roll-off steel containers that drain liquid back to the EQ tank. The dewatered solids are hauled off-site for disposal.

IV. DESCRIPTION OF RECEIVING WATER

Final treated effluent is discharged via Outfall No. 001 to an unnamed wash, which is a tributary to Padre Canyon, a tributary to Canyon Diablo, a tributary to the Little Colorado River. The unnamed wash is on the Navajo Nation, and the outfall is located approximately 0.6 miles away from Padre Canyon. The coordinates for discharge Outfall No. 1 are Latitude 35º 10' 23" North and Longitude 111º 15' 07" West.

V. DESCRIPTION OF DISCHARGE

The MBR system discharges continuously from a single location (Outfall No. 001) with monthly average flow rates ranging from 0.031 MGD to 0.074 MGD over a five-year review period from May 2018 to December 2022. The casino was closed from March 2020 until March 2021 due to the Covid-19 pandemic, and review of DMRs showed no discharge from May 2020 to February 2021.

A. Application Discharge Data

As part of the application for permit renewal, the permittee is required to provide data from an analysis of the facility's treated wastewater discharge.

Table 2. Application Discharge Data Reported in NPDES Permit Application Form 2A

Pollutant Parameter	Units	Discharge Data		Number of Samples
		Max Daily Discharge	Average Daily Discharge	
Flow	MGD	0.125	0.125	41
Biochemical oxygen demand, 5-day (BOD_5)	mg/L	22.3	10.1	41
pH	S.U.	6.5 to 8.09		n/a
Temperature (winter)	ºC	10.6		41
Temperature (summer)	ºC	28.8		41
Fecal Coliform	CFU	29.94	12.8	41
Total Suspended Solids (TSS)	mg/L	10.2	10.2	41
Ammonia (as N)	mg/L	3.86	3.86	41
Total Dissolved Solids (TDS)	mg/L	2183	2183	14
Hardness (as $CaCO_3$)	mg/L	n/a	n/a	n/a
Copper, total recoverable	mg/L	0.022	n/a	1
Zinc, total recoverable	mg/L	0.11	n/a	1

B. Recent Discharge Monitoring Report Data (2018-2022)

Table 3 shows data related to effluent discharged from Outfall No. 001 compiled from the permittee's discharge monitoring reports ("DMRs") from May 2018 to December 2022. More information is available on Enforcement and Compliance History Online ("ECHO") at https://echo.epa.gov/detailed-facility-report?fid=NN0030344. Pollutants believed to be absent or never detected in the effluent are not included in Table 3. The data showed elevated concentrations of AIR, TSS and WET above the permit limits.

Table 3. Effluent Data for Outfall 001 from May 2018-December 2022
(Based on 0.125 MGD design flow)

Parameters	Units	Permit Effluent Limitations			Effluent Data			
		Monthly Average	Weekly Average	Max Daily	Highest Monthly Average	Highest Weekly Average	Highest Daily Maximum	Monitoring Frequency
Flow Rate	MGD	-- (1)	--	-- (1)	0.074 (05/2021)	--	0.124 (08/2018)	Continuous
Ammonia (as N)	mg/L	-- (1)	--	-- (1)	3.86 (03/2021)	--	3.86 (03/2021)	Monthly
Ammonia Impact Ratio (AIR)	Ratio	1.0 (2)	--	1.0 (2)	1.485 (03/2021)	--	--	Monthly
Biochemical Oxygen Demand 5-day (BOD_5)	mg/L	30	45	--	22.3 (01/2020)	22.3 (02/2020)	--	Monthly
	kg/day	14.2(3)	21.3(3)	--	4.3 (01/2020)	5.39 (01/2020)	--	
	% Removal	>85 % minimum (4)			lowest = 97.5 % (06/2022)			

Parameters	Units	Permit Effluent Limitations			Effluent Data			
		Monthly Average	Weekly Average	Max Daily	Highest Monthly Average	Highest Weekly Average	Highest Daily Maximum	Monitoring Frequency
Total Suspended Solids (TSS)	mg/L	30	45	--	128 (03/2019)	128 (03/2019)	--	Monthly
	kg/day	14.2 (3)	21.3 (3)	--	21.8 (03/2019)	26.13 (03/2019)	--	
	% Removal	>85 % minimum (4)			lowest = 88.5% (06/2021)			
Chlorine, total residual (TRC)	µg/L	--	--	11.0	--	--	N/A (5)	Monthly
TDS	mg/L	--	--	--	--	--	1912 (12/2021)	Quarterly
E. coli	CFU/ 100mL	126	--	575	98.7 (11/2022)	--	98.7 (11/2022)	Monthly
pH	S.U.	6.5 to 9.0 (min-max)			6.17 (03/2021) – 8.65 (07/2018)			Monthly
Temperature	°C	-- (1)	--	-- (1)	--	--	28.7 (06/2018)	Monthly
Whole Effluent Toxicity, chronic (*Selenastrum Capricornutum*)	Pass (0) or Fail (1)	Pass (0) (6)	--	Pass (0) (6)	Fail (1) (04/2021) (05/2021)	--	Fail (1) (04/2021) (05/2021)	Monthly
Whole Effluent Toxicity, chronic (*Ceriodaphnia*)	Pass (0) or Fail (1)	Pass (0) (6)	--	Pass (0) (6)	Fail (1) (11/2018) (04/2021) (05/2021) (11/2021) (12/2021)	--	Fail (1) (11/2018) (04/2021) (05/2021) (11/2021) (12/2021)	Monthly
Whole Effluent Toxicity, chronic (*Pimephales Promelas*)	Pass (0) or Fail (1)	Pass (0) (6)	--	Pass (0) (6)	Fail (1) (04/2021)	--	Fail (1) (04/2021)	Monthly

FOOTNOTES:

(1) No effluent limits were set, but monitoring and reporting were required.

(2) When monitoring for total Ammonia (as Nitrogen), pH monitoring must be concurrent. The Ammonia Impact Ratio (AIR) is calculated as the ratio of the Ammonia value in the effluent and the applicable ammonia standard from the chronic equation in the Tribal Water Quality Standards. See Attachment E for a sample log to help calculate and record the AIR values. The AIR is the ammonia effluent limit and must be reported in the DMRs in addition to the Ammonia-N and pH effluent values.

(3) Mass based limits calculated using 0.125 MGD flow.

(4) Both the influent and the effluent shall be monitored. The arithmetic means of the BOD_5 and TSS values, by concentration, for effluent samples collected over a calendar month shall not exceed 15 percent of the arithmetic mean, by concentration, for influent samples collected at approximately the same times during the same period (i.e. minimum of 85% BOD_5 removal; minimum of 85% TSS removal).

(5) Chlorine was not used for disinfection as a substitute for UV disinfection.

(6) See Section C– Chronic WET Requirements of the previous permit for details of the chronic WET test requirement. All chronic WET tests must be "Pass," and no test may be "Fail." "Pass" constitutes a rejection of the null hypothesis. Testing shall be conducted concurrent with testing for all other parameters.

VI. DETERMINATION OF NUMERICAL EFFLUENT LIMITATIONS

EPA developed effluent limitations and monitoring requirements in the permit based on an evaluation of the technology used to treat the pollutant (e.g., "technology-based effluent limits,") and the water quality standards applicable to the downstream receiving water (e.g., "water quality-based effluent

limits"). EPA has established the most stringent of applicable technology-based or water quality-based effluent limitations in the permit, as described below.

A. Applicable Technology-Based Effluent Limitations

Publicly Owned Wastewater Treatment Systems ("POTWs")

EPA developed technology-based treatment standards for municipal wastewater treatment plants in accordance with Section 301(b)(1)(B) of the CWA. The minimum levels of effluent quality attainable by secondary treatment for BOD_5, TSS, and pH, as defined in 40 CFR § 133.102(a) and listed below. Mass limits, as required by 40 CFR § 122.45(f), are included for BOD_5 and TSS.

BOD_5 and TSS:

Concentration-based Limits

30-day average: 30 mg/L
7-day average: 45 mg/L
Minimum of 85% Removal Efficiency

Mass-based Limits

30-day average:

$$\frac{0.125\ MG}{day} \times \frac{30\ mg}{l} \times \frac{3.785\ kg/MG}{mg/l} = 14.2\ kg\ per\ day = 31.3\ lb\ per\ day$$

7-day average:

$$\frac{0.125\ MG}{day} \times \frac{45\ mg}{l} \times \frac{3.785\ kg/MG}{mg/l} = 21.3\ kg\ per\ day = 47.0\ lb\ per\ day$$

pH:

Instantaneous Measurement: 6.5 – 9.0 standard units (S.U.)

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

B. Water Quality-Based Effluent Limitations

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

When determining whether an effluent discharge causes, has the reasonable potential to cause, or contributes to an excursion above narrative or numeric criteria, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity) and where appropriate, the dilution of the effluent in the receiving water (40 CFR § 122.44(d)(1)(ii)).

EPA evaluated the reasonable potential to discharge toxic pollutants according to guidance

provided in the *Technical Support Document for Water Quality-Based Toxics Control* (TSD) (Office of Water, U.S. EPA, March 1991) and the *U.S. EPA NPDES Permit Writers' Manual* (Office of Water, U.S. EPA, September 2010). These factors include:

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

1. Applicable Standards, Designated Uses and Impairments of Receiving Water

In order to protect the designated uses of surface waters, the Tribe has developed Navajo Nation Surface Water Quality Standards ("NNSWQS") for different stream segments, depending on the level of protection required. EPA approved the 1999 NNSWQS on March 23, 2006. The NNSWQS were later revised in 2007 and approved by EPA on March 26, 2009. The NNSWQS were again revised in 2015/2017 and EPA partially approved the 2015 NNSWQS revisions on October 5, 2020, to be effective March 17, 2021. The approved 1999 NNSWQS and 2007 revision, and the approved 2015 NNSWQS revisions are used on a best professional judgment ("BPJ") basis for purposes of developing water quality-based effluent limitations. The requirements contained in the permit are necessary to prevent violations of applicable water quality standards.

The following beneficial uses are designated for Padre Canyon, as listed in Table 206.1 (page 32) of the NNSWQS:

- **ScHC** - Secondary Human Contact
- **AgWS** – Agriculture Water Supply
- **A&W** - Aquatic & Wildlife
- **LW** - Livestock Watering

The following water quality criteria from the 2015 NNSWQS are applied as effluent limitations:

E. coli:	126 CFU/100 mL (geometric mean, minimum four samples in 30 days) 575 CFU/100 mL (single sample maximum)
pH:	6.5-9.0 (2015 NNSWQS **ScHC** beneficial use)
Ammonia:	Based on Attachment C of the permit (2015 NNSWQS Table 207.20)
AIR:	AIR (Ammonia Impact Ratio) $\leq$ 1. 2015 NNSWQS do not have AIR criteria, but the ammonia limit is expressed as AIR. An AIR of less than or equal to 1 meets the 2015 NNSWQS Ammonia criteria.

No waterbodies receiving discharges from this facility have been identified as impaired and therefore have not been listed on the CWA Section 303(d) List of Water Quality Limited Segments. Therefore, no TMDLs are applicable to permittee's discharge.

2. Dilution in the Receiving Water

Discharge from Outfall No. 001 flows to an unnamed wash, a tributary to Padre Canyon, a tributary to Canyon Diablo, which is a tributary to the Little Colorado River. This unnamed wash may have no natural flow most times of the year. However, given the applicable designated uses of Padre Canyon is listed in Section VI.B.1 above, no dilution of the effluent has been considered in the development of water quality-based effluent limits applicable to the discharge.

3. Type of Industry

Typical pollutants of concern in treated and untreated domestic wastewater include ammonia, nitrate, oxygen demand, pathogens, temperature, pH, oil & grease, turbidity and solids. Chlorine is not a concern since the treatment plant uses UV disinfection and chlorination is not being used as a backup. The SIC code for this facility is 4952 (Sewerage Systems).

4. History of Compliance Problems and Toxic Impacts

Review of DMRs from May 2018 to December 2022 showed the facility had experienced many violations over the 54 months, as follows:

Month	Parameter	Result	Limit	Unit
March 2021	pH minimum	6.17	6.5	S.U.
	Ammonia Impact Ratio	1.485	1.0	
April 2021	WET Test – Static Renewal 7 Day Chronic Ceriodaphnia (Average)	1	0 Pass/1 Fail	
	WET Test – Static Renewal 7 Day Chronic Ceriodaphnia (Maximum)	1	0 Pass/1 Fail	
	WET Test – State 7 Day Chronic Pimephales Promelas (Average)	1	0 Pass/1 Fail	
	WET Test – State 7 Day Chronic Pimephales Promelas (Maximum)	1	0 Pass/1 Fail	
	WET Test – Static 96 Hour Selen. Capricornutum (Average)	1	0 Pass/1 Fail	
	WET Test – Static 96 Hour Selen. Capricornutum (Maximum)	1	0 Pass/1 Fail	
May 2021	WET Test – Static Renewal 7 Day Chronic Ceriodaphnia (Average)	1	0 Pass/1 Fail	
	WET Test – Static Renewal 7 Day Chronic Ceriodaphnia (Maximum)	1	0 Pass/1 Fail	
	WET Test – Static 96 Hour Selen. Capricornutum (Average)	1	0 Pass/1 Fail	
	WET Test – Static 96 Hour Selen. Capricornutum (Maximum)	1	0 Pass/1 Fail	
November 2021	WET Test – Static Renewal 7 Day Chronic Ceriodaphnia (Average)	1	0 Pass/1 Fail	
	WET Test – Static Renewal 7 Day Chronic Ceriodaphnia (Maximum)	1	0 Pass/1 Fail	
December 2021	WET Test – Static Renewal 7 Day Chronic Ceriodaphnia (Average)	1	0 Pass/1 Fail	
	WET Test – Static Renewal 7 Day Chronic Ceriodaphnia (Maximum)	1	0 Pass/1 Fail	

Source: NNEPA's June 2022 compliance inspection report

EPA and/or NNEPA conducted compliance evaluation inspections at the WWTP on July 8, 2019, and June 20, 2022. The effluent was found to be clear and free of objectionable odor; however, the inspections identified several areas of concern: (1) The influent auto sampler needs to be repaired and put back into service as soon as possible, (2) the pond outside the facility fence needs to be either included in

the NPDES permit or modified to not receive runoff from the facility, (3) the biosolids plan for the facility needs to be completed, (4) the O&M manual for the facility needs to be updated, and (5) the continued use of the irrigation pond needs to be clarified, if no longer used, it should be removed from the NPDES permit.

In an electronic mail sent to EPA on June 23, 2023, Mr. Wendell Murphy of NTUA clarified that Twin Arrows Casino WWTP does not have an emergency by-pass pond. This pond was used only once as a place to put the overflowing train due to poor permeating membranes. It was designed to collect rain/building runoffs and the slope carries the diversion to the pond. The pond is not part of the NPDES permit and there was no piping configuration to the pond.

5. Existing Data on Toxic Pollutants for a Reasonable Potential Analysis

For pollutants with effluent data available, EPA conducted a reasonable potential analysis based on statistical procedures outlined in EPA's TSD (EPA 1991). These statistical procedures result in the calculation of the projected maximum effluent concentrations based on monitoring data to account for effluent variability and a limited data set. EPA estimated the projected maximum effluent concentrations assuming a coefficient of variation ("CV") of 0.6 and the 99% confidence interval of the 99th percentile based on an assumed lognormal distribution of daily effluent values (sections 3.3.2 and 5.5.2 of EPA's TSD). Because of data variability and of small sample sizes (i.e. n = 1), EPA used a CV of 0.6 for all parameters. EPA calculated the projected maximum effluent concentration for each pollutant using the following equation:

$$\text{Projected maximum concentration} = C_e \times \textit{reasonable potential multiplier factor}$$

where "C_e" is the reported maximum effluent value, and the multiplier factor is obtained from Table 3-1 of the TSD.

Table 4. Summary of Reasonable Potential Statistical Analysis (1)

Pollutant Parameter (1)	Maximum Observed Effluent Concentration	*n*	RP Multiplier	Projected Maximum Effluent Concentration	Most Stringent Water Quality Criterion	Statistical Reasonable Potential? (2)
AIR	1.485	44	2.3	3.42	1	Yes
Ammonia (as N)	3.86 mg/L	44	2.3	8.88 mg/L	0.3 to 4.9 mg/L for chronic (3)(4)	Yes
Total Suspended Solids (TSS)	128 mg/L	44	2.3	294.4 mg/L	30 mg/L	Yes
E. coli	98.7 CFU/100ml	44	2.3	227	1c6(5)	Yes
Copper, total recoverable (5)	22 µg/L	1	13.2	290 µg/L	17.6 µg/L	Yes
Zinc, total recoverable (5)	110 µg/L	1	13.2	1425 µg/L	228.6 µg/L	Yes

Pollutant Parameter (1)	Maximum Observed Effluent Concentration	*n*	RP Multiplier	Projected Maximum Effluent Concentration	Most Stringent Water Quality Criterion	Statistical Reasonable Potential? (2)
Whole Effluent Toxicity (chronic *Selenastrum Capricornutum*)	1 (Fail)	41	2.3	1 (Fail)	0 (Pass)	Yes
Whole Effluent Toxicity, (chronic *Ceriodaphnia*)	1 (Fail)	41	2.3	1 (Fail)	0 (Pass)	Yes
Whole Effluent Toxicity (chronic *Pimephales Promelas*)	1 (Fail)	44	2.3	1 (Fail)	0 (Pass)	Yes

FOOTNOTES:
(1) For purposes of RP analysis, parameters measured as Non-Detect are considered to be zero. Only detected pollutants are included in this analysis.
(2) See Section VI.C. below for discussion of the reasonable potential analysis results and rationale for establishing numeric effluent limits and monitoring requirements in the permit.
(3) Based on Attachment C of the permit (Table 207.20 from the 2015 NNSWQS).
(4) EPA's 1999 Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life recommends acute criteria for ammonia that are pH-dependent and chronic criteria for ammonia that are pH- and temperature dependent.
(5) Geometric mean of samples collected for *E. coli*.
(6) The applicable NNSWQS for hardness-dependent metals are based on a hardness value of 220 mg/L.

C. Rationale for Numeric Effluent Limits and Monitoring

EPA evaluated pollutants expected to be present in the effluent and selected the most stringent of applicable technology-based effluent limits or water quality-based effluent limitations. Where effluent concentrations of toxic parameters are unknown or are not reasonably expected to be discharged in concentration that have the reasonable potential to cause or contribute to water quality standards, EPA has established monitoring requirements in the permit. This data will be re-evaluated and the permit re-opened to incorporate effluent limitations if necessary. Effluent limits are explained below and summarized in Table 5.

Flow:

No limits have been established for flow, but flow rates must be monitored and reported. Continuous monitoring is required for flow when discharging at Outfall No. 001.

BOD_5 and TSS:

EPA retains the effluent limits for BOD_5 and TSS, which are based on the technical capability of the secondary treatment process as defined by 40 CFR § 133.105(a) and (b). Mass limits are also required for BOD_5 and TSS under 40 CFR § 122.45(f). Based on the 0.125 MGD design flow, the mass-based limits are included in the permit. Monitoring is required monthly.

E. coli:

Presence of pathogens in untreated and treated domestic wastewater indicates a reasonable potential for *E. coli* bacteria levels in the effluent to cause or contribute to an excursion above the 2015

NNSWQS. The limits will continue to maintain protection of water quality and are based on the 2015 NNSWQS Section 207.B for protection of ScHC. As required by the permit, the monthly geometric mean of *E. coli* bacteria must not exceed 126/100 ml as a monthly average and 575/100 ml as a single sample maximum. The monitoring frequency is 4 times per month, which is the minimum number of samples to be used to calculate the geometric mean. This is a revision from the previous permit.

Total Residual Chorine ("TRC"):

No reasonable potential exists for TRC as UV light is being used for effluent disinfection purposes and chlorine/chlorination is no longer being used as an option. Therefore, regulating TRC is superfluous, and EPA is removing the previous TRC effluent limit consistent with the anti-backsliding exception related to material and substantial alternations or additions to the permitted facility. See section D below.

Total Dissolved Solids ("TDS"):

Total dissolved solids ("TDS") is an indicator parameter for salinity. Presence of solids in untreated and treated domestic wastewater indicates that reasonable potential for TDS level in the effluent to cause or contribute to an excursion above narrative water quality standards. While the NNSWQS do not include criteria for TDS, the regulations at 40 CFR §122.44(i) allow requirements for monitoring as determined to be necessary. No limits are set at this time. The monitoring frequency is annually to be conducted concurrently with hardness monitoring.

Copper and Zinc:

To conduct the reasonable potential analysis, EPA compared the most stringent, applicable water quality standard to the projected maximum expected value in the discharge in accordance with EPA's TSD. As shown in Table 4 above, the discharge demonstrates reasonable potential for copper and zinc in the effluent to cause or contribute to exceedances above the applicable water quality criteria. The permit establishes effluent limits and annual monitoring requirements for copper and zinc.

Hardness (as $CaCO_3$):

EPA's National Toxics Rule includes hardness-dependent criteria for the protection of freshwater aquatic life for metals. In order to have sufficient effluent hardness data to calculate hardness-dependent metals criteria, this permit includes a new requirement for annual monitoring for total (unfiltered) hardness to be conducted concurrently with metals monitoring.

Ammonia and Ammonia Impact Ratio ("AIR"):

Treated and untreated domestic wastewater may contain levels of ammonia that are toxic to aquatic organisms. Ammonia is converted to nitrate during biological nitrification process, and then nitrate is converted to nitrogen gas through the biological denitrification process. Due to the potential for ammonia to be present in sanitary wastewater at toxic levels, the establishment of reasonable potential for ammonia levels to cause an excursion above water quality standards, and due to the conversion of ammonia to nitrate, effluent limitations using the AIR are carried over from the previous permit.

AIR is determined by the concurrent measurement of ammonia concentration, pH and temperature. AIR is calculated by dividing the ammonia concentration in the effluent by the applicable ammonia criteria as described in Attachment D in the permit. The water quality standards for ammonia in freshwater for protection of A&W are listed in Table 207.21 (page 68) of the 2015 NNSWQS. The

ammonia criteria are pH and temperature dependent. Therefore, pH, temperature, and ammonia sampling must be concurrent. See Attachment D of the permit for a sample log to help calculate and record the AIR values. The AIR effluent limitation value is 1.0, carried over from the previous permit.

The permittee also must monitor and report ammonia effluent values in addition to the AIR value. AIR provides more flexibility than a specific, fixed effluent concentration and is protective of water quality standards since the value is set relative to the water quality standard, with consideration of dilution. If the reported value exceeds the AIR limitation, then the effluent ammonia-N concentration exceeded the ammonia water quality criterion. Any AIR value in excess of 1.0 will indicate an exceedance of the permit limit.

pH:

Untreated and treated domestic wastewater could be contaminated with substances that affect pH, which indicates reasonable potential for pH levels in the effluent to cause or contribute to an excursion above the WQS. To ensure adequate protection of beneficial uses of the receiving water, a minimum pH limit of 6.5 and a maximum limit of 9.0 S.U. are established in Section 207.C of the 2015 NNSWQS. The permit limit is carried over from the previous permit, and the monitoring frequency is once per month. Measurements for pH are required to be taken concurrently with ammonia and temperature measurements.

Temperature:

To support the Navajo Nation's established Ammonia standards and their dependence on temperature, monthly temperature monitoring is to be performed concurrently with ammonia and pH measurements.

Whole Effluent Toxicity (WET) Testing:

The NNSWQS includes a narrative objective for toxicity that requires that "All waters of the Navajo Nation shall be free of toxic pollutants from other than natural sources in amounts, concentrations, or combinations which affect the propagation of fish or which of toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitation or aquatic organisms for food..." The Twin Arrows Casino facility monitoring results show exceedances of the WET limit during the previous 5 years.

To evaluate the secondary effects of discharged nutrients, and to comply with the NNSWQS for the A&W designated use, a minimum standard for chronic toxicity (a value of 0, "Pass" of the Test of Significant Toxicity (TST) null hypothesis (H_o) for the WET test) has been incorporated into the permit. Due to past toxicity and the detection of toxic pollutants, EPA finds that there is reasonable potential to exceed the narrative toxicity standard and is retaining the WET requirement.

To ensure continued compliance with the narrative objective for toxicity, the permit includes a new effluent limit and monitoring requirements for chronic WET to be conducted monthly using a 24-hour composite sample of the treated effluent for the water flea (*Ceriodaphnia*), microalga (*Selenastrum Capricornutum*), and fathead minnow *(Pimephales promelas).* Chronic WET testing must be completed in accordance with Part II, Section C of the permit. WET testing was required in the previous permit, but the current permit incorporates changes to testing and reporting consistent with the EPA TST (EPA 2010a). Testing must also be conducted concurrently with the priority pollutant scan.

Priority Pollutant Scan:

The permit includes a monitoring requirement for the full list of priority pollutants as listed in 40 CFR Part 423, Appendix A. No limit is set at this time. Monitoring must be performed at least once during the second and fourth years of the permit cycle and concurrently with WET testing.

D. Anti-Backsliding

CWA § 402(o) and § 303(d)(4) and 40 CFR § 122.44(l)(1) prohibit the renewal or reissuance of an NPDES permit that contains effluent limits and permit conditions less stringent than those established in the previous permit, except as provided in the statute and regulation. The permit limits are equal to or more stringent than those in the previous permit.

The permit removes the effluent limit for total residual chlorine (TRC) as neither chlorine nor chlorination is in use at the facility. Ultraviolet (UV) is the primary use for effluent disinfection with no backup. All other effluent limits are retained from the prior permit to this permit.

The permit establishes less stringent technology-based effluent limitations for TRC. This is based on new information (effluent monitoring results) gathered over the course of the prior permit timeframe and analysis shows there is no reasonable potential for TRC; this is consistent with CWA Section 303(d)(4) so there is no backsliding.

E. Antidegradation Policy

EPA's antidegradation policy under CWA § 303(d)(4) and 40 CFR § 131.12, and the NNSWQS require that existing water uses and the level of water quality necessary to protect the existing uses be maintained. The receiving water is not listed as an impaired waterbody under CWA § 303(d)(4) and 40 CFR § 131.12.

As described in this document, the permit establishes effluent limits and monitoring requirements to ensure that all applicable water quality standards are met. The permit does not include a mixing zone; therefore, these limits will apply at the end of pipe without consideration of dilution in the receiving water.

Since the permittee is expected to comply with all limits in the permit, the effluent should not have a negative, degrading effect, on the receiving waterbody. A priority pollutant scan has been conducted of the effluent, demonstrating that most pollutants will be discharged below detection levels. Therefore, due to the low (non-detected) levels of toxic pollutants present in the effluent, and inclusion of water quality-based effluent limitations where needed, the discharge is not expected to adversely affect receiving water bodies or result in any degradation of water quality.

VII. NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS

The approved 2015 NNSWQS revisions contain narrative water quality standards for pollutants applicable to the receiving water. Thus, the permit incorporates applicable narrative water quality standards. Pursuant to the narrative surface water quality standards (Section 203 of the 2015 NNSWQS), the discharge shall be free from pollutants in amounts or combinations that cause solids, oil, grease, foam, scum, or any other form of objectionable floating debris on the surface of the water body; may

cause a film or iridescent appearance on the surface of the water body; or that may cause a deposit on a shoreline, on a bank, or on aquatic vegetation.

VIII. MONITORING AND REPORTING REQUIREMENTS

The permit requires the permittee to conduct monitoring for all pollutants or parameters in Table 5, at the minimum frequency specified. Additionally, where effluent concentrations of pollutant parameters are unknown or where data are insufficient to determine reasonable potential, monitoring may be required for pollutant parameters where effluent limits have not been established.

A. Effluent Monitoring and Reporting

The permittee mut conduct effluent monitoring to evaluate compliance with the permit conditions. The permittee shall perform all monitoring, sampling and analyses in accordance with the methods described in the most recent edition of 40 CFR Part 136, unless otherwise specified in the permit. All monitoring data shall be electronically reported via EPA's Central Data Exchange (CDX) on monthly DMR forms and submitted monthly as specified in the permit.

B. Priority Toxic Pollutants Scan

A priority toxic pollutants scan must be conducted at least once during Years 2 and 4 of the permit cycle to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards. The permittee must conduct the priority pollutants scan concurrently with a whole effluent toxicity testing. Permit Attachment E provides a complete list of Priority Toxic Pollutants, including identifying the volatile compounds that should be collected via grab sample procedures. The permittee must perform all effluent sampling and analyses for the priority pollutants scan in accordance with the methods described in the most recent edition of 40 CFR Part 136, unless otherwise specified in the permit or by EPA. 40 CFR § 131.36 provides a complete list of Priority Toxic Pollutants.

C. Whole Effluent Toxicity (WET) Requirements

Aquatic life is a public resource protected in surface waters covered by the CWA. As evidence that CWA requirements protecting aquatic life from toxicity are met in surface waters receiving the NPDES discharge, samples are collected from the effluent and tested for toxicity in a laboratory using EPA's WET methods. These aquatic toxicity test results are used to determine if the NPDES effluent causes toxicity to aquatic organisms. Toxicity testing is important because for scores of individual chemicals and compounds, chemical-specific environmentally protective levels for toxicity to aquatic life have not been developed or set as water quality standards. These chemicals and compounds can eventually make their way into effluents and their receiving surface waters. When this happens, toxicity tests of effluents can demonstrate toxicity due to present, but unknown, toxicants (including possible synergistic and additive effects), signaling a water quality problem for aquatic life.

EPA's WET methods are systematically-designed instructions for laboratory experiments that expose sensitive life stages of a test species (e.g., fish, invertebrate, algae) to both an NPDES effluent sample and a negative control sample. During the toxicity test, each exposed test organism can show a difference in biological response; some will be undesirable differences. Examples of undesirable biological responses include, but are not limited to, eggs not fertilized, early life stages that grow too slowly or abnormally, or death. At the end of a toxicity test, the different biological responses of the

organisms in the effluent group and the organisms in the control group are summarized using common descriptive statistics (e.g., means, standard deviations, coefficients of variation). The effluent and control groups are then compared using an applicable inferential statistical approach (i.e., hypothesis testing or point estimate model) chosen by the permitting authority and specified in the NPDES permit. The chosen statistical approach is compatible with both the experimental design of the WET method and the applicable toxicity water quality standard. Based on this statistical comparison, a toxicity test will demonstrate that the effluent is either toxic or not toxic, in relation to the permit's toxicity level for the effluent, which is set to protect the quality of surface waters receiving the NPDES discharge. EPA's WET methods are specified under 40 CFR Part 136 and/or in applicable water quality standards.

EPA recommends inferential statistical approaches that a permitting authority chooses from to set a protective level for toxicity in an NPDES discharge. The statistical approach chosen for this permit is based on bioequivalence hypothesis testing and is called the Test of Significant Toxicity (TST) statistical approach. It is described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Technical Document* (EPA 833-R-10-004, 2010; TST Technical Document) and Denton DL, Diamond J, and Zheng L. 2011.

Test of significant toxicity: A statistical application for assessing whether an effluent or site water is truly toxic. *Environ Toxicol Chem* 30:1117-1126. This statistical approach supports important choices made within a toxicity laboratory which favor quality data and EPA's intended levels for statistical power when true toxicity is statistically determined to be unacceptably high (≥ 25 PE, Percent (%) Effect), or acceptably low (< 10 PE). Example choices are practices supporting healthy test organisms, increasing the minimum recommended replication component of the WET method's experimental design (if needed), technician training, etc.

TST results do not often differ from other EPA-recommended statistical approaches using hypothesis testing (Diamond D, Denton D, Roberts J, Zheng L. 2013. *Evaluation of the Test of Significant Toxicity for determining the toxicity of effluents and ambient water samples-- Environ Toxicol Chem* 32:1101-1108). The TST maintains EPA's desired low false positive rate for WET methods—the probability of declaring toxicity when true toxicity is acceptably low ≤ 5%—when quality toxicity laboratories conduct toxicity tests (TST Technical Document; Fox JF, Denton DL, Diamond J, and Stuber R. 2019. *Comparison of false-positive rates of 2 hypothesis-test approaches in relation to laboratory toxicity test performance*. *Environ Toxicol Chem* 38:511-523). Note: The false positive rate is a long-run property for the toxicity laboratory conducting a WET method. A low false positive rate is indicted by a low long-run toxicity laboratory control coefficent of variation for the test species/WET method, using a minimum of 30 to 50 toxicity tests.

In accordance with 40 CFR § 122.44(d)(1), reasonable potential for chronic toxicity has been established. This is because at least one chronic toxicity test result was Fail (1), indicating unacceptable toxicity is present in the effluent, or at least one associated PE (Percent (%) Effect) value is ≥ 10, indicating toxicity at a level higher than acceptable is present in the effluent (see Section 1.4 in TST Technical Document). Thus, chronic toxicity WQBELs are required for the permitted discharge (40 CFR § 122.44(d)(1)). As a result, monitoring and reporting for compliance with median monthly and maximum daily effluent limits for the parameter of chronic toxicity are required, so that effluent toxicity can be assessed in relation to these WQBELs for the permitted discharge (see Part I, Table 2 in NPDES permit).

In accordance with 40 CFR § 122.44(d)(1)(ii), in setting the permit's levels for chronic toxicity and conditions for discharge, EPA is using a test species/chronic short-term WET method and a discharge Instream Waste Concentration ("IWC") representing conservative assumptions for effluent dilution necessary to protect receiving water quality. The IWC is a discharge-specific term based on the permit's authorized mixing zone or initial dilution. Generally, the dilution model result "S" from Visual Plumes/Cormix is used. S is the volumetric dilution factor, i.e. 1 volume effluent is diluted with S − 1 volumes surface water) = [(Ve + Va) / Ve]. Following the mass balance equation, if the dilution ratio D = Qs / Qe, then

$$[(Qe + Qs) / Qe] = 1 + D = S$$

For this discharge, S = 1 (i.e., no authorized dilution). The discharge-specific IWC = 1 to 1 dilution (1:1, 1/1) = 100% effluent. The IWC made by the toxicity laboratory is mixed as 1 part solute (i.e., effluent) to 0 parts dilutant (1: (1 – 1)) for a total of 1 part.

The TST's null hypothesis for chronic toxicity (H_o) is:

$$\text{IWC mean response (\% effluent)} \leq 0.75 \times \text{Control mean response}$$

The TST's alternative hypothesis (H_a) is:

$$\text{IWC mean response (\% effluent)} > 0.75 \times \text{Control mean response}$$

For this permit, results obtained from a single chronic toxicity test are analyzed using the TST statistical approach, where the required chronic toxicity IWC for Discharge Outfall Number 001 is 100% effluent.

For NPDES samples for toxicity testing, the sample hold time begins when the 24-hour composite sampling period is completed (or the last grab sample in a series of grab samples is taken) and ends at the first time of sample use (initiation of toxicity test). 40 CFR § 136.3(e) states that the WET method's 36-hour hold time cannot be exceeded unless a variance of up to 72 hours is authorized by EPA.

For this discharge, EPA has set a median monthly effluent limit and a maximum daily effluent limit (40 CFR § 122.45(d)) for chronic toxicity. These limits are set to restrict the discharge of toxic pollutants in toxic amounts and protect both applicable aquatic life water quality standards, including standards downstream of the discharge, and existing aquatic life beneficial uses in receiving waters (CWA §§ 101(a)(3), 301(b)(1)(C)). The median monthly WQBEL—no more than one of a maximum of three chronic toxicity tests with unacceptably high toxicity declared by the TST statistical approach—ensures a high probability of declaring such discharges toxic. The maximum daily WQBEL—one toxicity test rejecting the TST null hypothesis and an associated chronic biological endpoint PE < 50 (2x the TST's chronic toxicity Regulatory Management Decision (RMD) of 25 PE)—ensures the restriction of highly toxic discharges. Both effluent limits take into account that, on

occasion, quality toxicity laboratories conducting effluent toxicity tests can incorrectly declare a sample with acceptable toxicity "toxic" (≤ 5% of the time when the true toxicity of the discharge is < 10 PE).

For POTWs, it is not practicable (40 CFR § 122.45(d)) for EPA to set an average (median) weekly effluent limit, in lieu of a maximum daily effluent limit. This is because discharges of unacceptable toxicity—true chronic toxicity ≥ 25 PE, the TST's chronic toxicity RMD—are not adequately restricted by two effluent limits (median weekly and median monthly) each using a median of up to three toxicity test results. Under such limits, a highly toxic discharge could occur with no restriction. Using two such median limits further decreases the probability that an effluent with unacceptable toxicity will be caught, resulting in a permitted discharge which under-protects the aquatic life from unacceptable chronic toxicity.

Species sensitivity screening for chronic toxicity is not an automatic requirement in this permit. However, the permit retains a species sensitivity screening condition as an option for the permitting authority to exercise, particularly when the quality of the permitted discharge has changed, or is expected to change, during the permit term.

IX. SPECIAL CONDITIONS

A. Biosolids Requirements

Standard requirements for the monitoring, reporting, recordkeeping, and handling of biosolids, in accordance with 40 CFR Part 503, are contained in the permit. If the permittee changes the management of its biosolids, the permittee must notify EPA of any changes. The permit also includes biosolids annual reports and electronic reporting requirements. Permittees must submit biosolids annual reports using EPA's NPDES Electronic Reporting Tool ("NeT") by February 19th of the following year.

B. Development and Implementation of Best Management Practices and Pollution Prevention

40 CFR § 122.44(k)(4) requires permittees to develop (or update) and implement Best Management Practices ("BMPs") for pollution prevention. A Pollution Prevention Plan must be developed (updated) and implemented with appropriate pollution prevention measures or BMPs designed to prevent pollutants from entering the unnamed wash that discharges into the San Juan River while performing normal processing operations at the facility.

The permittee must develop and implement BMPs that are necessary to control the high BOD_5 and TSS concentrations and reduce the AIR.

C. Sanitary Sewer Overflows

The permit prohibits sanitary sewer overflows and requires the permittee to identify and describe all sanitary sewer overflows that occur over the permit term.

D. Asset Management Plan

40 CFR § 122.41(e) requires permittees to properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Asset management planning provides a framework for setting and operating quality assurance procedures and ensuring the permittee has sufficient financial and technical

resources to continually maintain a targeted level of service. Asset management requirements have been established in the permit to ensure compliance with the provisions of 40 CFR § 122.41(e).

X. OTHER CONSIDERATIONS UNDER FEDERAL LAW

A. Consideration of Environmental Justice

EPA conducted a screening level evaluation of environmental justice ("EJ") vulnerabilities in the community posed to residents in the vicinity of the permitted facility using EPA's EJSCREEN tool (https://www.epa.gov/ejscreen). The purpose of the screening is to identify areas disproportionately burdened by pollutant loadings and to consider demographic characteristics of the population living near the discharge when drafting permit conditions.

On June 5, 2023, EPA conducted an EJSCREEN analysis of the community in a 10-mile radius of the vicinity of the outfall. Of the 12 environmental indicators screened through EJSCREEN, the evaluation determined elevated risk for the following factors:

Table 5. EJSCREEN Analysis – Twin Arrows Casino WWTP

5 miles Ring Centered at Arizona, EPA Region 9
Approximate Population: 50
Input Area (sq. miles): 78.53

Selected Variables	Percentile in State	Percentile in USA
Environmental Justice Indexes		
Particulate Matter 2.5 EJ Index	6	0
Ozone EJ Index	79	96
Diesel Particulate Matter EJ Index*	10	5
Air Toxics Cancer Risk EJ Index*	0	3
Air Toxics Respiratory HI EJ Index*	8	11
Traffic Proximity EJ Index	10	16
Lead Paint EJ Index	81	63
Superfund Proximity EJ Index	21	9
RMP Facility Proximity EJ Index	37	24
Hazardous Waste Proximity EJ Index	14	13
Underground Storage Tanks EJ Index	33	27
Wastewater Discharge EJ Index	72	86

EJ Indexes - The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator

The results, summarized in Table 5, suggest that the areas around the facility are at high risk for EJ factors. The EJSCREEN analysis of demographic characteristics of the community living near the facility indicates the local population may be at relatively higher risk if exposed to environmental contaminants than the national population. For example, the population within a wide range of the Twin Arrows WWTP is at greater risk for hazardous wastewater discharge than 72% of the population in the state and 86% of people in the nation. Air quality indices may be influenced by the presence of both state and federal highways near or adjacent to the facility as wastewater facilities don't generate ozone or lead paint. It is also possible that the presence of a former uranium mine outside of the community influences the indices. Demographic characteristics that showed potentially sensitive scores were a high

proportion of minority and low-income population.

EPA also considers the characteristics of the wastewater treatment facility operation and discharges, and whether those discharges pose exposure risks that the NPDES permit needs to further address. EPA found no evidence to indicate the treatment facility discharge poses a significant risk to residents. However, EPA has conducted outreach by public noticing the permit as well as reaching out to the Navajo Nation by offering consultation on the issuance of this permit. EPA in this action is renewing an existing wastewater discharge permit with no backsliding of effluent limits and no anticipated degradation of surface water quality in Padre Canyon. EPA concludes that the facility is unlikely to contribute to any EJ issues. Furthermore, EPA is aware of the potential for cumulative burden of the permitted discharge on the impacted community and is issuing this permit to be consistent with the Navajo Nation Water Quality Standards and the CWA. EPA believes that by implementing and requiring compliance with the provisions of the CWA, which are designed to ensure full protection of human and aquatic health, the permit is sufficient to ensure the effluent discharges do not cause or contribute to human health risk in the vicinity of the facility.

B. Impact to Threatened and Endangered Species

Section 7 of the Endangered Species Act of 1973 (16 U.S.C. § 1536) requires federal agencies to ensure that any action authorized, funded, or carried out by the federal agency does not jeopardize the continued existence of a listed or candidate species, or result in the destruction or adverse modification of its habitat.

On June 12, 2023, EPA generated official species listing from the U.S. Fish and Wildlife Service ("USFWS") Arizona Ecological Services Field Office website, which identifies the threatened and endangered species and their critical habitat that may occur in the vicinity of the Twin Arrows Navajo Casino wastewater treatment facility and its effluent discharge to Padre Canyon. This Information for Planning and Conservation ("IPaC") report provides an up-to-date listing of all proposed (P), candidate (C), threatened (T) and endangered (E) species that occur in area neighboring the facility in Coconino County, as provided in Table 6 below, and should be considered as part of an effect analysis for this permit.

Table 6. Listed Species, Designated under the U.S. Endangered Species Act

Type	Common Name	Scientific Name	Status	Critical Habitat
Mammals	Mexican Wolf	*Canis lupus baileyi*	E	No
Birds	Mexican Spotted Owl	*Strix occidentalis lucida*	T	No*
	Yellow-billed Cuckoo	*Coccyzus americanus*	T	No*
Insect	Monarch Butterfly	*Danaus plexippus*	C	No

*These species have designated, proposed or final critical habitats but outside of the Action Area.

Action Area

The "Action Area" is defined by the "effects of the Action." The Action Area includes all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. To identify the areas that will be affected by the Action, EPA has considered all consequences to listed species or critical habitat that are caused by the action. A consequence is caused by the action if it would not occur but for the action and it is reasonably certain to occur. The action area is defined as the wastewater treatment plant, the area surrounding that facility, and the waters

receiving discharges from the facility and discharge outfall to an unnamed wash tributary to Padre Canyon, a tributary to Canyon Diablo, a tributary to the Little Colorado River. The permit contains limits to protect the designated uses of the receiving water, including warmwater habitat and wildlife, and does not involve physical habitat alteration or change in flow.

As the discharge from the facility is limited, streamflow in the unnamed wash is ephemeral with no natural flow most times of the year, and effluent typically does not reach the Padre Canyon, nor Canyon Diablo nor the Little Colorado River. If, in the rare instance that the effluent is to be discharged during a precipitation event large enough to result in continuous flow from the outfall, it would be so heavily diluted during such times of high flow that it would have no effect on the waters of the Little Colorado River. There are no designated critical habitats for any of the listed species in the action area.

EPA has developed a "Biological Evaluation" (BE) for all the listed species and critical habitat, determining that reissuance of the NPDES permit for Twin Arrows facility will have no effect on any federally listed species in the action area. EPA has provided the USFWS with copies of the fact sheet and permit for review and comment during the 30-day public review period. No comments were received during the public notice.

Mammals

The **Mexican Wolf** *(Canis lupus baileyi)* is an endangered species and a subspecies of gray wolf native to southeastern Arizona and southern New Mexico in the United States, and northern Mexico. A non-essential experimental population of Mexican wolves has been *proposed* in the action area. Generally, an experimental population of a listed species shall be treated as a species proposed for listing under the ESA as a threatened species. 50 CFR § 17.83(a).(https://ecos.fws.gov/ecp/species/3916) Federal agencies are required to confer with FWS on any action which is likely to jeopardize the continued existence of any species proposed for listing as threatened or endangered. 50 CFR § 402.10(a). Here, since the experimental population is proposed, and is not yet in existence, the applicable standard is whether the action may affect the existing listed species. 50 CFR § 402.14(a).

Experimental populations may only be established outside of a species' current natural range. 50 CFR § 17.81(a). The best available information on the Mexican wolf, including the proposal to establish an experimental population, indicates that the species is not present in the action area. Therefore, EPA has determined that reissuance of this NPDES permit will not affect the Mexican wolf.

Birds

The **Mexican Spotted Owl** *(Strix occidentalis lucida)* is a resident of old-growth or mature forests that possess complex structural components (uneven aged stands, high canopy closure, multi-storied levels, high tree density) (https://ecos.fws.gov/ecp/species/8196). Canyons with riparian or conifer communities are also important components. In southern Arizona and New Mexico, the mixed conifer, Madrean pine-oak, Arizona cypress, encinal oak woodlands, and associated riparian forests provide habitat in the small mountain ranges (Sky Islands) distributed across the landscape. Owls are also found in canyon habitat dominated by vertical-walled rocky cliffs within complex watersheds, including tributary side canyons. Rock walls with caves, ledges, and other areas provide protected nest and roost sites. Canyon habitat may include small, isolated patches or stringers of forested vegetation including stands of mixed-conifer, ponderosa pine, pine-oak, pinyon-juniper, and/or riparian vegetation in which owls regularly roost and forage. Roosting and nesting habitats exhibit certain identifiable

features, including large trees (those with a trunk diameter of 12 inches (in) (30.5 centimeters (cm)) or more (i.e., high tree basal area)), uneven aged tree stands, multi-storied canopy, a tree canopy creating shade over 40 percent or more of the ground (i.e., moderate to high canopy closure), and decadence in the form of downed logs and snags (standing dead trees). Canopy closure is typically greater than 40 percent. Owl foraging habitat includes a wide variety of forest conditions, canyon bottoms, cliff faces, tops of canyon rims, and riparian areas. The listed typical habitats of old-growth or mature forests, canyons with rock ledges, or large trees with a multi-storied canopy creating 40 percent shade are not present in the action area. Because the action area does not contain suitable habitat for the Mexican Spotted Owl and discharges would not affect owls merely flying over, EPA has determined that the action will not affect the Mexican Spotted Owl. Critical habitat for the Mexican Spotted Owl was finalized on August 31, 2004 (69 FR 53182) in Arizona in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Navajo, Pima, Pinal, Santa Cruz, and Yavapai counties. There is final critical habitat for this species but not near or within the action area. EPA has thus determined that reissuance of this NPDES permit will not affect final critical habitat for Mexican Spotted Owl.

The **Yellow-billed Cuckoo** *(Coccyzus americanus*) is a migratory bird species, traveling between its wintering grounds in Central and South America and its breeding grounds in North America (Continental U.S. and Mexico) each spring and fall often using river corridors as travel routes (https://ecos.fws.gov/ecp/species/3911). Habitat conditions through most of the Yellow-billed Cuckoo's range are dynamic and may change within or between years depending on vegetation growth, tree regeneration, plant maturity, stream dynamics, and sediment movement and deposition. The Yellow-billed Cuckoo is known or believed to occur throughout most of Arizona and Utah, and in parts of New Mexico, Colorado, Idaho, Montana, Nevada, Texas, Wyoming, Oregon, and Washington. They are found in dense cover with water nearby, such as woodlands with low vegetation, overgrown orchards, and dense thickets along streams or marshes and riparian vegetation. Caterpillars are their primary food source, along with cicadas, katydids and crickets. They also forage on wild fruits in the summer, with seeds becoming a larger portion of their winter diet (https://ecos.fws.gov/ecp/species/3911). There is no dense cover or overgrown orchards in the action area. Because the action area contains no suitable habitat for Yellow-billed Cuckoo, EPA has determined that reissuance of this NPDES permit will not affect this species.

In February 2020, USFWS proposed 72 units of critical habitat for the Western Yellow-billed Cuckoo in the arid southwest. (See page 11477 of the following Federal Register notice: https://www.govinfo.gov/content/pkg/FR-2020-02-27/pdf/2020-02642.pdf). The action area does not fall into any of the 72 identified units proposed to be designated as critical habitat by the USFWS. EPA has thus determined that its action will not affect proposed critical habitat for the Yellow-billed Cuckoo.

Insects

Monarch Butterfly *(Danaus plexippus)* (https://ecos.fws.gov/ecp/species/9743) is a candidate species and not yet listed or proposed for listing, (Endangered and Threatened Wildlife and Plants; 12-Month Finding for the Monarch Butterfly, December 17, 2020). Candidate species do not have statutory protection under the ESA, although USFWS encourages cooperative conservation efforts for these species. No critical habitat has been designated for this species by the USFWS.

Conclusion

Considering the information available, EPA concludes that the reissuance of this NPDES permit

will not affect any of the above listed species. There is no designated critical habitat for the listed species within the action area. A copy of the draft fact sheet and permit was forwarded to the Arizona Ecological Field Office of the USFWS for review and comment during the 30-day public review period No comments were received from the USFWS. If, in the future, EPA obtains information or is provided information that indicates that there could be adverse impacts to federally listed species, EPA will contact the appropriate agency or agencies and initiate consultation, to ensure that such impacts are minimized or mitigated. In addition, re-opener clauses have been included should new information become available to indicate that the requirements of the permit need to be changed.

C. Migratory Bird Treaty Act and Bald Eagle Protection Act

The Migratory Bird Treaty Act ("MBT") (16 USC 703-712) protects migratory birds. Bald Eagle nests would be protected under the Bald Eagle Protection Act (Eagle Act) (16 USC 668 et seq.), which are not expected to be found near the facility.

D. Impact to Coastal Zones

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

This permit does not affect land or water use in the coastal zone; therefore, CZMA does not apply to this permit.

E. Impact to Essential Fish Habitat

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

The permit does not authorize direct discharges to areas of essential fish habitat. Therefore, EPA has determined that essential fish habit does not apply to this permit.

F. Impact to National Historic Properties

Section 106 of the National Historic Preservation Act ("NHPA") requires federal agencies to consider the effect of their undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. Pursuant to the NHPA and 36 CFR § 800.3(a)(1), EPA is making a determination that re-issuing this NPDES permit does not have the potential to affect any historic properties or cultural properties. As a result, Section 106 does not require EPA to undertake additional consulting on this permit reissuance.

The permit does not allow the disturbance of any historic properties.

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

For this permit, the permittee is required to seek water quality certification (including paying applicable fees) that this permit will meet applicable water quality standards obtained water quality certification from the Navajo Nation EPA that this Permit will meet applicable water quality standards. Certification under section 401 of the CWA must be in writing and include conditions necessary to assure compliance with referenced applicable provisions of Sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of Navajo Nation law. EPA cannot issue the permit until the NNEPA has granted certification under 40 CFR § 124.55 or waived its right to certify. NNEPA issued certification under CWA section 401 on June 8, 2023.

XI. STANDARD CONDITIONS

A. Reopener Provision

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

B. Standard Provisions

The permit requires the permittee to comply with EPA Region 9's *Standard Federal NPDES Permit Conditions* found at Part III of the permit.

XII. ADMINISTRATIVE INFORMATION

A. Public Notice (40 CFR § 124.10)

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

B. Public Comment Period (40 CFR § 124.10)

Notice of the draft permit appeared on EPA Region 9's website from August 24, 2023, to September 22, 2023, for a 30-day comment period for interested parties to submit written comments to EPA. No comments were received during the public notice.

C. Public Hearing (40 CFR § 124.12(c))

A public hearing may be requested in writing by any interested party during the public comment period. A public hearing will be held if EPA determines there is a significant amount of interest expressed during the 30-day public comment period or when it is necessary to clarify the issues involved in the permit decision.

XIII. CONTACT INFORMATION

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

Linh Tran, NPDES Permit Office, U.S. EPA Region 9

Tran.Linh@epa.gov
(415) 972-3511

XIV. REFERENCES

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EPA. 2019. July 8 NPDES Compliance Evaluation Inspection of Twin Arrows WWTP; Report prepared by EPA Wastewater Section, Enforcement Division, dated November 19, 2019.

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NNEPA. 2023. Water Quality Program. Clean Water Act Section 401 Certification for NPDES permit for Twin Arrows WWTP. Dated June 8, 2023.

USFWS. 2023. IPaC Report for Endangered and Threatened Species List in the Vicinity/Action Area of

NTUA Twin Arrows Navajo Casino WWTP and Discharge