

## ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES)

This document gives pertinent information concerning the reissuance of the AZPDES permit listed below. This facility is a wastewater treatment plant (WWTP) with a design capacity of 3 million gallons per day (mgd) and is considered to be a major facility under the NPDES program. The effluent limitations contained in this permit will maintain the Water Quality Standards listed in Arizona Administrative Code (A.A.C.) R18-11-101 et. seq. This permit is proposed to be issued for a period of 5 years.

<b>I. PERMITTEE INFORMATION</b>	
Permittee's Name:	Continental Country Club, Inc.
Permittee's Mailing Address:	2380 North Oakmont Drive, Flagstaff, AZ 86004
Facility Name:	Continental Country Club
Facility Address or Location:	2380 North Oakmont Drive, Flagstaff, AZ 86004
County:	Coconino
Contact Person(s): Phone/e-mail address	Tahlia Murray Phone: (928) 526-5125 Email: tmurray@continentalflagstaff.com
AZPDES Permit Number:	AZ0025895
Inventory Number:	513214
LTF Number:	79302

<b>II. STATUS OF PERMIT(s)</b>	
AZPDES permit applied for:	Renewal
Date application received:	November 20, 2019
Date application was determined administratively complete:	November 25, 2019
Previous permit number (if different):	N/A
Previous permit expiration date:	May 21, 2020
<b>208 Consistency:</b> 208 Plan consistency is not required for golf course storage pond.	

The Continental Country Club, Inc. has the following permits issued by ADEQ applicable to The Country Club:		
<b>Type of Permit</b>		
Reuse Permit	R - 100760	Regulates the practice of reusing treated wastewater for beneficial purposes.

<b>III. GENERAL FACILITY INFORMATION</b>	
Type of Facility:	Privately owned golf course that receives treated effluent from the Wildcat Hill WWTP (AZ0020427).
Facility Location Description:	The Continental Country Club is located approximately 5 miles east of the City of Flagstaff, one half mile south of the I-40 highway and approximately 1 mile west of Walnut Canyon Lake.
Permitted Design Flow:	N/A - Maximum flow received from WWTP is 3 mgd.
Treatment level (WWTP):	Tertiary
Treatment Processes :	The Wildcat Hill WWTP (AZ0020427) dechlorinates the effluent before delivering it via pipeline to storage ponds located on Continental Country Club golf course. Continental Country Club has no treatment facility but stores the treated wastewater in storage ponds to use for irrigation on the golf course. The effluent goes to Whale Lake first, and then can be piped to either Lake Humphreys or Lower Walnut Canyon Lake. These ponds, located along the southern edge of the Rio de Flag River, are designated waters of the U.S.
Sludge Handling and Disposal:	N/A
Nature of facility discharge:	Treated domestic (municipal) wastewater from the Wildcat Hill WWTP.
Total Number of significant industrial Users (SIUs):	None
Average flow per discharge:	The flow from Wildcat Hill WWTP to the Continental Country Club is metered continuously. Continental Country Club discharges intermittently an average 0.908 mgd per year, based on their irrigation needs.
Service Area:	N/A
Service Population:	N/A
Reuse / irrigation or other disposal method(s):	Currently, all treated effluent from the Continental Country Club's storage ponds is reused as irrigation on the golf course.
Continuous or intermittent discharge:	N/A

<b>IV. RECEIVING WATER</b>	
The State of Arizona has adopted water quality standards to protect the designated uses of its surface waters. Streams have been divided into segments and designated uses assigned to these segments. The water quality standards vary by designated use depending on the level of protection required to maintain that use.	
Receiving Water:	Whale Lake (35° 12' 32" / 111° 34' 42"), Lake Humphreys (35° 11' 51" / 111° 35' 16"), and Lower Walnut Canyon Lake (35° 12' 04" / 111° 34' 07") in the Rio de Flag River
River Basin:	Little Colorado River Basin
Outfall Location(s):	<p>Outfall 002: Township 21 N, Range 8 E, Section 18 Latitude 35° 11' 53", Longitude 111° 35' 15"</p> <p>Outfall 003: Township 21 N, Range 8 E, Section 17 Latitude 35° 12' 09", Longitude 111° 34' 08"</p> <p>Outfall 004: Township 21 N, Range 8 E, Section 18 Latitude 35° 12' 30", Longitude 111° 34' 50"</p>
The outfall discharges to, or the discharge may reach, a surface water listed in Appendix B of A.A.C. Title 18, Chapter 11, Article 1.	
Designated uses for the receiving water listed above:	Aquatic and Wildlife effluent dependent water (A&Wedw) Partial Body Contact (PBC)
Is the receiving water on the 303(d) list?	No, and there are no TMDL issues associated.
Given the uses stated above, the applicable narrative water quality standards are described in A.A.C. R18-11-108, and the applicable numeric water quality standards are listed in A.A.C. R18-11-109 and in Appendix A thereof. There are two standards for the Aquatic and Wildlife uses, acute and chronic. In developing AZPDES permits, the standards for all applicable designated uses are compared and limits that will protect for all applicable designated uses are developed based on the standards.	

<b>V. DESCRIPTION OF DISCHARGE</b>		
Because the facility is in operation and discharges have occurred, effluent monitoring data are available. The following is the measured effluent quality reported in the application.		
Parameters	Units	Maximum Daily Discharge Concentration
Biochemical Oxygen Demand (BOD)	mg/L	7.5
Total Suspended Solids (TSS)	mg/L	2
Total Kjeldahl Nitrogen (TKN)	mg/L	2.5
<i>E. coli</i>	cfu / 100 mL	52
Facility design removal rates:	BOD 85% TSS 85% N 85%	

<b>VI. STATUS OF COMPLIANCE WITH THE EXISTING AZPDES PERMIT</b>	
Date of most recent inspection:	5/26/2016; no potential violations were noted as a result of this inspection.
DMR files reviewed:	5/2015 through 4/2020
Lab reports reviewed:	5/2015 through 3/2020
DMR Exceedances:	Chlorine (May 2018 and June 2018)
NOVs issued:	Enforcement action issued 8/14/2018, Case ID #177506, for failure to meet monitoring requirements from the Outfall 004 as established in the permit. The Permittee submitted Discharge Monitoring Results (DMRs) for Continental Country Club reporting Total Residual Chlorine (TRC) exceedance in May & June 2018 from Outfall 004. The Permittee, utilizes and reports monitoring results for TRC taken at the City of Flagstaff-Wildcat Hill Wastewater Treatment Plant (WWTP). The City of Flagstaff - Wildcat Hill WWTP emailed ADEQ a written 5-day noncompliance response on June 4 <sup>th</sup> and 20 <sup>th</sup> , 2018 indicating the cause of the exceedances was a result of a malfunctioning Sulfur Dioxide regulator. Wildcat Hill corrected the issue at the time of noncompliance by setting the regulator to manually mode, then reported below detection limit follow-up sample result, which resolved the Continental Country Club enforcement action.
NOVs closed:	8/20/2018
Compliance orders:	None

<b>VII. PROPOSED PERMIT CHANGES</b>			
The following table lists the major changes from the previous permit in this draft permit.			
<b>Parameter</b>	<b>Existing Permit</b>	<b>Proposed permit</b>	<b>Reason for change</b>
Reporting Location	Mail in hard copies of DMRs and other attachments	DMRs and other reports to be submitted electronically through myDEQ portal	Language added to support the NPDES electronic DMR reporting rule that became effective on December 21, 2015.
<p>Anti-backsliding considerations – “Anti-backsliding” refers to statutory (Section 402(o) of the Clean Water Act) and regulatory (40 CFR 122.44(l)) requirements that prohibit the renewal, reissuance, or modification of an existing NPDES permit that contains effluent limits, permit conditions, or standards that are less stringent than those established in the previous permit. The rules and statutes do identify exceptions to these circumstances where backsliding is acceptable. This permit has been reviewed and drafted with consideration of anti-backsliding concerns. Limits for the following parameter have been removed from the permit because evaluation of current data allows the conclusion that no reasonable potential (RP) for an exceedance of a standard exists:</p> <ul style="list-style-type: none"> <li>• Mercury</li> </ul> <p>This is considered allowable backsliding under 303(d)(4). The effluent limitations in the current permit for these two parameters were based on state standards, the respective receiving waters are in attainment for these parameters, and the revisions are consistent with antidegradation requirements. See Section XII for information regarding antidegradation requirements. No limits are less stringent due to a change in the WQS in this permit.</p>			

**VIII. DETERMINATION OF EFFLUENT LIMITATIONS and ASSESSMENT LEVELS**

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

**Technology-based Limitations:**

There are no treatment facilities at the Continental Country Club, therefore no technology-based standards apply. Lake standards are applicable to the storage ponds and are included in Part III.B of the draft permit. Technology-based standards of BOD, TSS, and pH are included in the Wildcat Hill WWTP permit for treated effluent delivered to the Continental Country Club.

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

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

Since the effluent delivered to Continental’s Outfall 004 comes directly from the last treatment process at the Wildcat Hill WWTP, the Continental permit contains constituents, which have been determined to have RP for discharge from the Wildcat Hill WWTP. These include copper, cyanide, and selenium. It is assumed that RP exists for exceedance of water quality criteria for the pollutants E. coli and total residual chlorine (TRC). TRC has been shown through extensive monitoring of POTWs to fluctuate greatly and thus is not conducive to exclusion from limitation due to a lack of RP. Therefore, the draft permit contains numeric limits for TRC. Wildcat Hill WWTP will ensure, through a Cooperative Agreement with Continental, that chlorination systems and effluent pumps will be coordinated such that only non-chlorinated effluent shall be channeled into the Continental piping for reuse as irrigation on the golf course. This will remove the need for a separate and distinct monitoring point for chlorine after a dechlorination point in the reuse system before it is piped to the juncture. Chlorine is limited for Outfalls 002, 003, and 004. Because of the way the irrigation system is set up as described above, Outfall 004 sampling data will also be representative of Outfalls 002 and 003. E. coli is strictly controlled (by the Reuse Permit) in the effluent before delivery to the site. Based on this, no monitoring is required at Outfall 004 at this time. Except for E. coli and the technology based standards, Continental has the same discharge limits as the Wildcat Hill WWTP. Continental is responsible for obtaining the applicable data generated by the Wildcat Hill WWTP. Continental shall review the Wildcat Hill data and submit a Quarterly Summary Report to ADEQ.

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

**Mixing Zone**

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

**Permit Limitations and Monitoring Requirements**

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

DRAFT

Parameter	Lowest Standard / Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/ Rationale (1)
Flow	---	---	---	---	---	Discharge flow is to be monitored on a continual basis using a flow meter.
Chlorine, Total Residual (TRC)	11 µg/L/ A&Wedw chronic	202 µg/L	1,155	N/A	RP always expected when chlorine or bromine is used for disinfection.	TRC is to be monitored as a discrete sample and a WQBEL remains in the permit. 40 CFR Part 136 specifies that discrete samples must be collected for chlorine.
Copper (2)	36 µg/L/ Site Specific Standard A.A.C. R18-11-113.F Appendix C	9.5 µg/L	19	15.2 µg/L	No RP	36 µg/L/ Site Specific Standard A.A.C. R18-11-113.F Appendix C
Cyanide	9.7 µg/L/ A&Wedw chronic	7.5 µg/L	19	19.5 µg/L	RP Exists	Monitoring is required and a WQBEL remains.
Selenium	2 µg/L/ A&Wedw chronic	0.9 µg/L	19	2.86 µg/L	RP Exists	Monitoring required and a WQBEL remains.

Footnotes:

- 1 The monitoring frequencies are as specified in the permit.
- 2 Copper limits are based on a site specific standard set in A.A.C. R18-11-115 Appendix C and are not hardness dependent.

DRAFT

**IX. NARRATIVE WATER QUALITY STANDARDS**

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

**X. MONITORING AND REPORTING REQUIREMENTS (Part II of Permit)**

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

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

Discrete (i.e., grab) samples are specified in the permit for parameters that for varying reasons are not amenable to compositing.

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

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

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

Reporting requirements for monitoring results are detailed in Part II.B of the permit, including completion and submittal of a Quarterly Summary Report. The golf course shall also continue to submit information regarding the flow record volumes to each pond in the Quarterly Summary Report.

**Electronic reporting**

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

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

**XI. SPECIAL CONDITIONS (Part V in Permit)**

**Lake Monitoring and Reporting**

Monitoring and reporting shall be conducted in each of Whale Lake, Lake Humphreys, and Lower Walnut Canyon Lake, and one time each year (rotating months) during the peak season which is required as per A.A.C. R18-11-108.03. This is a newly adopted narrative water quality standard for nutrients which came into effect on January 31, 2009 for lakes and reservoirs. No limits are set but monitoring is required for chlorophyll-a, secchi depth, total phosphorus, total nitrogen, total Kjeldahl nitrogen, blue-green algae, dissolved oxygen and pH. See Part V.A in the permit.



### **Best Management Practices Plan**

The permit requires the permittee to develop and implement a Best Management Practices (BMP). Plan for the use of chemicals on the golf course turfed areas to minimize runoff of these chemicals into the lakes. See Part V.B in the permit.

### **Permit Reopener**

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

## **XII. ANTIDegradation**

Antidegradation rules have been established under A.A.C. R18-11-107 to ensure that existing surface water quality is maintained and protected. The discharge from the Wildcat Hill WWTP will be to an effluent-dependent water. Except for flows resulting from rain events, the only water in the wash will be the effluent. Therefore, the discharge and the receiving water will normally be one and the same. Effluent quality limitations and monitoring requirements have been established under the proposed permit to ensure that the discharge will meet the applicable water quality standards. As long as the permittee maintains consistent compliance with these provisions, the designated uses of the receiving water will be presumed protected, and the facility will be deemed to meet currently applicable antidegradation requirements under A.A.C. R18-11-107.

## **XIII. STANDARD CONDITIONS**

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

## **XIV. ADMINISTRATIVE INFORMATION**

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

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

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

Rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

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

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

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

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

#### **XV. ADDITIONAL INFORMATION**

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

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

Or by contacting Jessica Kohls at (602) 771 – 0391 or by e-mail at [kohls.jessica@azdeq.gov](mailto:kohls.jessica@azdeq.gov).

#### **XVI. INFORMATION SOURCES**

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

1. AZPDES Permit Application Forms 2A and 2S, received November 20, 2019, along with supporting data, facility diagram, and maps submitted by the applicant with the application forms.
2. Supplemental information to the application received by ADEQ on November 20, 2019.
3. ADEQ files on Continental Country Club, Inc.
5. ADEQ Geographic Information System (GIS) Web site.
7. Arizona Administrative Code (AAC) Title 18, Chapter 11, Article 1, *Water Quality Standards for Surface Waters*, adopted December 31, 2016.
8. A.A.C. Title 18, Chapter 9, Article 9. *Arizona Pollutant Discharge Elimination System* rules.
9. Code of Federal Regulations (CFR) Title 40:
  - Part 122, *EPA Administered Permit Programs: The National Pollutant Discharge Elimination System*.
  - Part 124, *Procedures for Decision Making*.
  - Part 133, *Secondary Treatment Regulation*.
  - Part 503, *Standards for the Use or Disposal of Sewage Sludge*.
10. EPA Technical Support Document for Water Quality-based Toxics Control dated March 1991.
11. *Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs*, US EPA, May 31, 1996.
12. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA /821-R-02-013).
13. U.S. EPA NPDES Permit Writers' Manual, September 2010.