

SUMMARY PAGE

Name of Facility: Dekalb County Department of Watershed Management – Snapfinger Creek AWWTF

NPDES Permit No.: GA0024147

This is a reissuance of the NPDES permit for the Snapfinger Creek AWWTF. Up to 36.0 MGD (monthly average) of treated domestic wastewater is discharged to South River in the Ocmulgee River Basin. The permit also includes effluent limitations and monitoring requirement for the expanded flows of 44 MGD. The draft permit was issued on October 28, 2022 and the public comment period ended on November 30, 2022.

Please Note The Following Changes to the Proposed NPDES Permit From The Existing Permit:

Part I.B. – Effluent Limitations and Monitoring Requirements:

- Converted mass loading limits from Kg/day to lbs/day.
- Removed LTBOB requirements as this has been fulfilled.
- Added total nitrogen monitoring requirements to determine nutrient speciation and to quantify nutrient loadings in the Ocmulgee River Basin.
- Replaced monthly average fecal coliform effluent limit of 200 counts/100 mL with monthly average *Escherichia coli* (*E. coli*) of 126 counts/100 mL to reflect the recently approved bacterial indicator for freshwater. The proposed limit is in accordance with EPD's *Bacteria Equivalency Strategy for Using the Optimal Indicator Organisms for WQS and NPDES Permitting, 2022*.

Part I.C. – Monitoring and Reporting:

- Added permit condition for the development of a Comprehensive Nutrient Optimization Plan (CNOP) with reopener clause to include nutrient limits.

Standard Conditions and Boilerplate Modifications:

The permit boilerplate includes modified language or added language consistent with current NPDES permits.

Final Permit Determinations and Public Comments:

- ☒ Final issued permit did not change from the draft permit placed on public notice.
- ☒ Public comments were received during public notice period.
- ☐ Public hearing was held on
- ☐ Final permit includes changes from the draft permit placed on public notice. See attached permit revisions and/or permit fact sheet revisions.



Jeffrey W. Cown, Director

EPD Director's Office

2 Martin Luther King, Jr. Drive
Suite 1456, East Tower
Atlanta, Georgia 30334
404-656-4713

Mr. David E. Hayes, Director
DeKalb County Department of Watershed Management
1580 Roadhaven Drive
Stone Mountain, Georgia 30083

03/27/2024

RE: Permit Issuance
Snapfinger Creek
Advanced Wastewater Treatment Facility
NPDES Permit No. GA0024147
DeKalb County, Ocmulgee River Basin

Dear Mr. Hayes:

Pursuant to the Georgia Water Quality Control Act, as amended; the Federal Water Pollution Control Act, as amended; and the Rules and Regulations promulgated thereunder, we have today issued the attached National Pollutant Discharge Elimination System (NPDES) permit for the referenced wastewater treatment facility.

Your facility has been assigned to the following EPD office for reporting and compliance:

Georgia Environmental Protection Division
Watershed Compliance Program
2 Martin Luther King Jr. Drive
Suite 1470A East
Atlanta, GA 30334

Please be advised that on and after the effective date indicated in the attached NPDES permit, the permittee must comply with all the terms, conditions and limitations of this permit. If you have any questions, please contact Shauna Hennessey at 470.524.0596 or shauna.hennessey@dnr.ga.gov.

Sincerely,

A handwritten signature in cursive script that reads "Jeffrey W. Cown".

Jeffrey W. Cown
Director

JWC\smh

Attachment: Response to comments, NPDES Permit No. GA0024147, Fact Sheet

cc: Marzieh Shahbazaz, EPD Municipal Compliance Unit (Marzieh.Shahbazaz@dnr.ga.gov)
David E. Hayes, DeKalb Co. Department of Watershed Management (dehayes@dekalbcountyga.gov)
Georginna Lockett, DeKalb Co. Department of Watershed Management (gllockett1@dekalbcountyga.gov)
Kenneth Gobin, DeKalb Co. Department of Watershed Management (khgobin@dekalbcountyga.gov)
Brent Zern, DeKalb Co. Department of Watershed Management (bzern@dekalbcountyga.gov)
Josh Welte, EPD Water Quality Modeling Unit (josh.welte@dnr.ga.gov)
Tyler Parsons, EPD TMDL Modeling & Development Unit (Tyler.Parsons@dnr.ga.gov)
EPA Region IV Mailbox (R4NPDESPermits@epa.gov)

Response to Comments
Snapfinger Creek AWWTF
NPDES Permit Nos. GA0024147
DeKalb County, Ocmulgee River Basin

Comment	EPD Response
<p>Sludge Management Plan.</p> <p>Section 5.4 of the Fact Sheet explains that because sludge from the AWWTF is disposed of in a permitted landfill, the Draft Permit does not include requirements for a sludge management plan. However, Part I.A.1. of the Draft Permit does include language requiring a sludge management plan prior to land applying municipal sludge. We note this so that the Fact Sheet can be clarified to explain that a sludge management plan will be required in the event municipal sludge is disposed of other than in a landfill.</p>	<p>Section 5.4 of the fact sheet has been edited to clarify that the permittee shall submit a sludge management plan to EPD for written approval should they want to dispose of municipal sewage sludge by land application or any method other than co-disposal in a permitted sanitary landfill.</p>
<p>Whole Effluent Toxicity Testing.</p> <p>Part I.C.9.b. of the Draft Permit requires DeKalb County to conduct one chronic whole effluent toxicity (WET) test for four consecutive quarters after receiving EPD's written authorization to commence operation under the effluent limitations applicable to the expansion (i.e., 44 MGD). The County respectfully requests this testing be limited to two tests over the first 12 months of operation of the expanded facility. There are two reasons for this request. First, the existing facility has performed extremely well on historical WET tests. Second, the expanded facility's effluent limits are noticeably more stringent and will result in improved effluent quality. Therefore, there is no reason to believe that four rounds of testing are required.</p>	<p>The monitoring requirements for whole effluent toxicity (WET) in the draft permit (one WET test for 4 consecutive quarters) are consistent with EPD's monitoring requirements for all expanding facilities; therefore, these requirements have been maintained in the proposed final permit. Further, WET testing is included in NPDES permits to manage the effluent for the additive effects of all Section 307(a)(1) Federal Clean Water Act toxic pollutants and other unknown toxic substances or priority pollutants. This approach helps to ensure that the wastewater treatment plant effluent does not contain unknown sources of toxicity that may interfere with the designated water quality use classifications of the receiving stream. The results of these 4 tests will be used to conduct reasonable potential analysis evaluation and determine whether a WET limit is necessary.</p>

The Proposed Nutrient Optimization Plan Is Premature And Not Legally Or Technically Justified.

DeKalb County supports EPD's data driven approach to evaluating nutrients and its development of a comprehensive Nutrient Permitting Strategy. We understand the development of the Nutrient Permitting Strategy will include public input, including stakeholder and permittee feedback on key elements of the strategy. The Fact Sheet also explains that the Nutrient Permitting Strategy is expected to "analyze available ambient and permitted discharge data, determine limiting factors, develop a reasonable potential analysis for total nitrogen and total phosphorus, develop TBELs, and provide a NPDES permit implementation schedule." We look forward to that transparent process, as well as the regulatory certainty that EPD envisions will result. However, for the reasons provided below, DeKalb County is concerned that requiring a Comprehensive Nutrient Optimization Plan (CNOP) in this permit would be premature and without legal justification. The County respectfully requests that the Draft Permit be revised to exclude the CNOP.

EPD should allow data gathering and analysis be completed first.

The Draft Permit would, for the first time, require additional monitoring of nutrients, and this new data collection will inform the permittee and the agency about the types and amounts of nutrients in the discharge. As noted above, DeKalb County supports EPD's data-driven approach to evaluating nutrients and its development of a comprehensive Nutrient Permitting Strategy, but EPD needs to first complete that data collection and analysis, especially given that the expanded facility's effluent limits are noticeably more stringent and will result in improved effluent quality. EPD can always reopen the permit with a tailored condition after appropriate data gathering and analysis have been completed.

The Clean Water Act (CWA) authorizes the United States Environmental Protection Agency (USEPA) and delegated states to develop and implement water quality standards to protect human health, aquatic life, and the environment. In April 2022, EPA issued a Nutrient Policy Memorandum that outlined EPA's plans to accelerate progress in controlling nutrient pollution in the nation's waters using three main strategies, which included deepening collaborative partnerships with agriculture, increasing efforts to support the achievement of nutrient reductions from all sources, and utilizing Clean Water Act authorities to drive progress, innovation, and collaboration.

40 CFR 122.44 states "each NPDES permit shall include conditions meeting the following requirements when applicable." Under 40 CFR 122.44(k) "Best management practices (BMPs) to control or abate the discharge of pollutants when:". Under 40 CFR 122.44(k)(4) "The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purpose and intent of the CWA."

The CNOP is justifiable on the basis that inclusion of BMPs will be used to carry out the purposes and intent of the CWA. The CWA aims to prevent, reduce, and eliminate pollution in the Nation's waters in order to "Restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (section 101(a)).

The draft permit includes monthly effluent monitoring requirements for total nitrogen. The permittee may propose to collect and provide influent data for total nitrogen and/or sample effluent more frequently as part of their CNOP. The document is due 24 months after the effective date of the permit to allow time for preliminary data collection, if needed. The permittee may also update their CNOP in the future as

The Proposed CNOP is not just a monitoring and reporting requirement; it has a sweeping array of technical and operational requirements.

Although the requirement to develop and submit the CNOP is included in Part I.C. of the permit, titled MONITORING AND REPORTING, the Draft Permit language specifies that certain actions be taken, not just monitoring. Such actions include implementing “operational adjustments aimed to reduce nutrients...” As detailed in the Draft Permit, a CNOP would “at a minimum, identify and quantify sources of nutrients entering the wastewater treatment plant, evaluate potential source reductions, identify and implement operational adjustments aimed to reduce nutrients, and establish annual nutrient reduction goals.” Draft Permit C.11.a. Furthermore, the Draft Permit would require the permittee to develop and submit to EPD a CNOP within 24 months of the effective date of the new permit. In addition, the Draft Permit would require DeKalb County to update the CNOP annually “to evaluate effectiveness of the adopted strategies, reduction goals, and established targets.” Indeed, the Draft Permit would require an “annual certification statement documenting that the CNOP is being implemented.” Draft Permit Part I.C.11.b. In effect, the CNOP would be a sweeping requirement, far more expansive than MONITORING AND REPORTING would suggest, and without justification.

As drafted, the CNOP would require physical or operational changes before a reasonable potential analysis has been completed.

DeKalb County is also concerned that the Draft Permit would require physical or operational changes to reduce nutrient discharges before EPD has developed or conducted a reasonable potential analysis for nitrogen and phosphorus. We understand that the development of a reasonable potential analysis is part of EPD’s Nutrient Permitting Strategy, and such an analysis will inform the agency about whether a

needed when the facility is expanded to allow for effluent data collection.

EPD has historically included compliance schedule requirements (to meet new or more stringent limits), watershed protection plan requirements, and any other facility-specific requirements under Part I.C. MONITORING & REPORTING, although those requirements may include more than “monitoring” the effluent and “reporting” the data. CNOP requirements were included under Part I.C. as well to maintain consistency with historical permit format.

Per EPD’s *Guidance for Developing the Comprehensive Nutrient Optimization Plan* (2024), CNOP goals or targets do not have to be numeric reductions, nor do they have to include physical changes to the existing wastewater treatment plant to reduce the current total nitrogen load.

specific discharge may cause or contribute to water quality standard violations in receiving waters, and therefore whether water quality-based effluent limits are necessary. It is premature to require physical or operational changes before a determination that nutrient discharges from the AWWTF may cause or contribute to violations of water quality standards.

The CNOP is not justifiable on the basis that numeric effluent limitations are infeasible.

Section 5.11 of the Fact Sheet explains that the CNOP is to “include a suite of site specific BMPs that EPD believes meet the intent of 40 CFR 122.44(k).” The cited regulation provides that NPDES permits “shall include” best management practices (BMPs) “to control or abate the discharge of pollutants” when “numeric effluent limitations are infeasible.” 40 CFR 122.44(k). EPA’s NPDES Permit Writer’s Manual explains that numeric effluent limitations “might be infeasible” when, “regulating a pollutant for which limited treatability or aquatic impact data are available to allow development of numeric TBELs or WQBELs”; or when “regulating discharges when the types of pollutants vary greatly over time.” NPDES Permit Writer’s Manual, 9-4. We are not aware that these circumstances are present, particularly as EPD is currently implementing its Nutrient Permitting Strategy, which includes developing numeric water quality standards for nutrients and a process for determining when numeric limits are necessary. EPD has not yet completed this process, and the inclusion of 40 CFR 122.44(k)-driven BMPs is premature.



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

In accordance with the provisions of the Georgia Water Quality Control Act (Georgia Laws 1964, p. 416, as amended), hereinafter called the State Act; the Federal Water Pollution Control Act, as amended (33 U.S. C. 1251 et seq.), hereinafter called the Federal Act; and the Rules and Regulations promulgated pursuant to each of these Acts,

**Dekalb County Department of Watershed Management
1580 Roadhaven Drive
Stone Mountain, Georgia, 30083**

is authorized to discharge from a facility located at

**Snapfinger Creek
Advanced Wastewater Treatment Facility
4124 Flakes Mill Road
Decatur, Georgia 30034
(Dekalb County)**

to receiving waters

**South River
(Ocmulgee River Basin)**

in accordance with effluent limitations, monitoring requirements and other conditions set forth in the permit.

This permit is issued in reliance upon the permit application signed on December 14, 2021, any other applications upon which this permit is based, supporting data entered therein or attached thereto, and any subsequent submittal of supporting data.

This permit shall become effective on April 1, 2024.

This permit and the authorization to discharge shall expire at midnight, March 31, 2029.



Jeffrey W. Cown

Director,
Environmental Protection Division

PART I

EPD is the Environmental Protection Division of the Department of Natural Resources.

The Federal Act referred to is The Clean Water Act.

The State Act referred to is The Water Quality Control Act (Act No. 870).

The State Rules referred to are The Rules and Regulations for Water Quality Control (Chapter 391-3-6).

A. SPECIAL CONDITIONS

1. SLUDGE DISPOSAL REQUIREMENTS

Sludge shall be disposed of according to the regulations and guidelines established by the EPD and the Federal Act section 405(d) and (e), and the Resource Conservation and Recovery Act (RCRA). In land applying nonhazardous municipal sewage sludge, the permittee shall comply with the general criteria outlined in the most current version of the EPD "Guidelines for Land Application of Sewage Sludge (Biosolids) at Agronomic Rates" and with the State Rules, Chapter 391-3-6-.17. Before disposing of municipal sewage sludge by land application or any method other than co-disposal in a permitted sanitary landfill, the permittee shall submit a sludge management plan to EPD for written approval. This plan will become a part of the NPDES Permit after approval and modification of the permit. The permittee shall notify the EPD of any changes planned in an approved sludge management plan.

If an applicable management practice or numerical limitation for pollutants in sewage sludge is promulgated under Section 405(d) of the Federal Act after approval of the plan, then the plan shall be modified to conform with the new regulations.

2. SLUDGE MONITORING REQUIREMENTS

The permittee shall develop and implement procedures to ensure adequate year-round sludge disposal. The permittee shall monitor and maintain records documenting the quantity of sludge removed from the facility. Records shall be maintained documenting that the quantity of solids removed from the facility equals the solids generated on an average day. The total quantity of sludge removed from the facility during the reporting period shall be reported each month with the Discharge Monitoring Reports as required under Part I.D.1. of this permit. The quantity shall be reported on a dry weight basis (dry tons).

3. INTRODUCTION OF POLLUTANTS INTO THE PUBLICLY OWNED TREATMENT WORKS (POTW)

The permittee must notify EPD of:

- a. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Sections 301 or 306 of the Federal Act if the pollutants were directly discharged to a receiving stream; and
- b. Any substantial change in the volume or character of pollutants from a source that existed when the permit was issued.

This notice shall include information on the quality and quantity of the indirect discharge introduced and any anticipated impact on the quantity or quality of effluent to be discharged from the POTW.

4. EFFLUENT TOXICITY AND BIOMONITORING REQUIREMENTS

The permittee shall comply with effluent standards or prohibitions established by section 307(a) of the Federal Act and with Chapter 391-3-6-.03(5)(e) of the State Rules and may not discharge toxic pollutants in concentrations or combinations that are harmful to humans, animals, or aquatic life.

If toxicity is suspected in the effluent, the EPD may require the permittee to perform any of the following actions:

- a. Acute biomonitoring tests;
- b. Chronic biomonitoring tests;
- c. Stream studies;
- d. Priority pollutant analyses;
- e. Toxicity reduction evaluations (TRE); or
- f. Any other appropriate study.

The EPD will specify the requirements and methodologies for performing any of these tests or studies. Unless other concentrations are specified by the EPD, the critical concentration used to determine toxicity in biomonitoring tests will be the effluent instream wastewater concentration (IWC) based on the permitted monthly average flow of the facility and the critical low flow of the receiving stream (7Q10). The endpoints that will be reported are the effluent concentration that is lethal to 50% of the test organisms (LC50) if the test is for acute toxicity and the no observed effect concentration (NOEC) of effluent if the test is for chronic toxicity.

The permittee must eliminate effluent toxicity and supply the EPD with data and evidence to confirm toxicity elimination.

B.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to South River - Outfall #001 (33.662714°, -84.217326°):

- a. The discharge from the advanced wastewater treatment facility shall be limited and monitored by the permittee as specified below starting on the effective date of the permit and continuing until EPD provides approval of construction completion and written authorization to operate under the B.2. effluent limitations (44.0 MGD):

Parameters	Discharge limitations in mg/L (lbs/day) unless otherwise specified		Monitoring Requirements		
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type	Sample Location
Flow (MGD) ⁽¹⁾	36.0	45.0	Seven Days/Week	Continuous Recording	Effluent
Five-Day Biochemical Oxygen Demand ⁽²⁾			Five Days/Week	Composite	Influent & Effluent
January - March	20.0 (6,005)	30.0 (7,506)			
April - June	15.0 (4,504)	22.5 (5,630)			
July - September	10.0 (3,002)	15.0 (3,753)			
October - December	15.0 (4,504)	22.5 (5,630)			
Total Suspended Solids ⁽²⁾	20.0 (6,005)	30.0 (7,506)	Five Days/Week	Composite	Influent & Effluent
Ammonia, as N ⁽³⁾			Five Days/Week	Composite	Effluent
January - March	3.5 (1,051)	5.3 (1,314)			
April - June	1.2 (360)	1.8 (450)			
July - September	0.8 (240)	1.2 (300)			
October - December	1.1 (330)	1.7 (413)			
Total Phosphorus, as P ⁽⁴⁾	0.30 (90.1)	0.45 (113)	Five Days/Week	Composite	Effluent
<i>E. coli</i> (counts/100 ml)	126	410	Three Days/Week	Grab	Effluent

- (1) The combined monthly average flow from the Snapfinger Creek and Polebridge Creek AWWTFs shall not exceed 56 MGD.
- (2) Numeric limits only apply to the effluent.
- (3) Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen (TKN) must be analyzed or calculated from the same sample. Organic nitrogen, as N = TKN – ammonia, as N. Total nitrogen is the sum of all nitrogen and calculated as follows:
TN = TKN + nitrite + nitrate.
- (4) Total phosphorus and orthophosphate must be analyzed from the same sample.

B.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

(CONTINUED)

Discharge to South River - Outfall #001 (33.662714°, -84.217326°):

Parameters	Discharge limitations in mg/L unless otherwise specified	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
Five-Day Biochemical Oxygen Demand Removal, Minimum (%) ⁽¹⁾	85	See Below	See Below	See Below
Total Suspended Solids Removal, Minimum (%) ⁽¹⁾	85	See Below	See Below	See Below
pH, Daily Minimum – Daily Maximum (Standard Unit)	6.0 – 8.5	Seven Days/Week	Grab	Effluent
Total Residual Chlorine, Daily Maximum ⁽²⁾	0.01	Seven Days/Week	Grab	Effluent
Dissolved Oxygen, Daily Minimum	6.0	Seven Days/Week	Grab	Effluent
Orthophosphate, as P ⁽³⁾⁽⁴⁾	Report	One Day/Month	Composite	Effluent
Total Nitrogen, as N ⁽⁴⁾⁽⁵⁾	Report	One Day/Month	Calculated	Effluent
Organic Nitrogen, as N ⁽⁴⁾⁽⁵⁾	Report	One Day/Month	Calculated	Effluent
Nitrate-Nitrite, as N ⁽⁴⁾⁽⁵⁾	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N ⁽⁴⁾⁽⁵⁾	Report	One Day/Month	Composite	Effluent
Chronic Whole Effluent Toxicity (%) ⁽⁶⁾	Report NOEC	Annually	Composite	Effluent

⁽¹⁾ Percent removal shall be calculated from monthly average influent and effluent concentrations. Influent and effluent samples shall be collected at approximately the same time.

⁽²⁾ Monitoring requirements and the effluent limitation for Total Residual Chlorine (TRC) only apply when chlorine is in use at the facility. The permittee must use the appropriate No Data Indicator (NODI) code on the Discharge Monitoring Reports when TRC monitoring is not required.

⁽³⁾ Total phosphorus and orthophosphate must be analyzed from the same sample.

⁽⁴⁾ Refer to Part I.C.11. COMPREHENSIVE NUTRIENT OPTIMIZATION PLAN.

⁽⁵⁾ Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen (TKN) must be analyzed or calculated from the same sample. Organic nitrogen, as N = TKN – ammonia, as N. Total nitrogen is the sum of all nitrogen and calculated as follows: TN = TKN + nitrite + nitrate.

⁽⁶⁾ Refer to Part I.C.9. CHRONIC WHOLE EFFLUENT TOXICITY.

- b. The monthly average, other than for *E. coli*, is the arithmetic mean of values obtained for samples collected during a calendar month.
- c. The weekly average, other than for *E. coli* is the arithmetic mean of values obtained for samples collected during a 7-day period. The week begins 12:00 midnight Saturday and ends at 12:00 midnight the following Saturday. To define a different starting time for the sampling period, the permittee must notify the EPD in writing. For reporting required by Part I.D.1. of this permit, a week that starts in one month and ends in another month shall be considered part of the second month. The permittee may calculate and report the weekly average as a 7-day moving average.
- d. *E. coli* will be reported as the geometric mean of the values for the samples collected during the time periods in I.B.1.b. and I.B.1.c.
- e. Influent monitoring: Unless otherwise specified, influent samples shall be collected before any return or recycle flows. These flows include returned activated sludge, supernatants, centrates, filtrates, and backwash.
- f. Effluent monitoring: Unless otherwise specified, effluent samples shall be collected after the final treatment process and before discharge to receiving waters.
- g. A composite sample shall consist of a minimum of 13 subsamples collected at least once every 2 hours for at least 24 hours and shall be composited proportionately to flow.
- h. Flow measurements shall be conducted using the flow measuring device(s) in accordance with the approved design of the facility. If instantaneous measurements are required, then the permittee shall have a primary flow measuring device that is correctly installed and maintained. If continuous recording measurements are required, then flow measurements must be made using continuous recording equipment. Calibration shall be maintained of the continuous recording instrumentation to $\pm 10\%$ of the actual flow.

Flow shall be measured manually to check the flow meter calibration at a frequency of once a month. If secondary flow instruments are in use and malfunction or fail to maintain calibration as required, the flow shall be computed from manual measurements or by other method(s) approved by EPD until such time as the secondary flow instrument is repaired. For facilities which utilize alternate technologies for measuring flow, the flow measurement device must be calibrated semi-annually by qualified personnel.

Records of the calibration checks shall be maintained.

- i. If secondary flow instruments malfunction or fail to maintain calibration as required in I.B.1.h., the flow shall be computed from manual measurements taken at the times specified for the collection of composite samples.
- j. Some parameters will be reported as "not detected" when they are below the detection limit and will then be considered in compliance with the effluent limit. The detection limit will also be reported.

B.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to South River - Outfall #001 (33.662714°, -84.217326°):

- a. The discharge from the advanced water treatment facility shall be limited and monitored by the permittee as specified below starting on the date EPD provides approval of construction completion and written authorization to operate under the B.2 effluent limitations (44.0 MGD):

Parameters	Discharge limitations in mg/L (lbs/day) unless otherwise specified		Monitoring Requirements		
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type	Sample Location
Flow (MGD) ⁽¹⁾	44.0	55.0	Seven Days/Week	Continuous Recording	Effluent
Five-Day Biochemical Oxygen Demand ⁽²⁾			Five Days/Week	Composite	Influent & Effluent
January - March	16.0 (5,871)	24.0 (7,339)			
April - June	12.0 (4,404)	18.0 (5,504)			
July - September	8.0 (2,936)	12.0 (3,670)			
October - December	12.0 (4,404)	18.0 (5,504)			
Total Suspended Solids ⁽²⁾	16 (5,871)	24 (7,339)	Five Days/Week	Composite	Influent & Effluent
Ammonia, as N ⁽³⁾			Five Days/Week	Composite	Effluent
January - March	3.2 (1,174)	4.8 (1,468)			
April - June	1.1 (404)	1.7 (505)			
July - September	0.7 (257)	1.1 (321)			
October - December	1.0 (367)	1.5 (459)			
Total Phosphorus, as P ⁽⁴⁾	0.25 (91.7)	0.38 (115)	Five Days/Week	Composite	Effluent
<i>E. coli</i> (counts/100 ml)	126	410	Three Days/Week	Grab	Effluent

⁽¹⁾ The combined monthly average flow from the Snapfinger Creek (GA0024147) and Polebridge Creek (GA0026816) AWWTFs shall not exceed 56 MGD.

⁽²⁾ Numeric limits only apply to the effluent.

⁽³⁾ Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen (TKN) must be analyzed or calculated from the same sample. Organic nitrogen, as N = TKN – ammonia, as N. Total nitrogen is the sum of all nitrogen and calculated as follows: TN = TKN + nitrite + nitrate.

⁽⁴⁾ Total phosphorus and orthophosphate must be analyzed from the same sample.

B.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

Discharge to South River - Outfall #001 (33.662714°, -84.217326°):

Parameters	Discharge limitations in mg/L unless otherwise specified	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
Five-Day Biochemical Oxygen Demand Removal, Minimum (%) ⁽¹⁾	85	See Below	See Below	See Below
Total Suspended Solids Removal, Minimum (%) ⁽¹⁾	85	See Below	See Below	See Below
pH, Daily Minimum – Daily Maximum (Standard Unit)	6.0 – 8.5	Seven Days/Week	Grab	Effluent
Total Residual Chlorine, Daily Maximum ⁽²⁾	0.01	Seven Days/Week	Grab	Effluent
Dissolved Oxygen, Daily Minimum	6.0	Seven Days/Week	Grab	Effluent
Orthophosphate, as P ⁽³⁾⁽⁴⁾	Report	One Day/Month	Composite	Effluent
Total Nitrogen, as N ⁽⁴⁾⁽⁵⁾	Report	One Day/Month	Calculated	Effluent
Organic Nitrogen, as N ⁽⁴⁾⁽⁵⁾	Report	One Day/Month	Calculated	Effluent
Nitrate-Nitrite, as N ⁽⁴⁾⁽⁵⁾	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N ⁽⁴⁾⁽⁵⁾	Report	One Day/Month	Composite	Effluent
Chronic Whole Effluent Toxicity (%) ⁽⁶⁾	Report NOEC	See Below	Composite	Effluent
Priority Pollutants ⁽⁷⁾	Report	See Below	Grab	Effluent

⁽¹⁾ Percent removal shall be calculated from monthly average influent and effluent concentrations. Influent and effluent samples shall be collected at approximately the same time.

⁽³⁾ Monitoring requirements and the effluent limitation for Total Residual Chlorine (TRC) only apply when chlorine is in use at the facility. The permittee must use the appropriate No Data Indicator (NODI) code on the Discharge Monitoring Reports when TRC monitoring is not required.

⁽³⁾ Total phosphorus and orthophosphate must be analyzed from the same sample.

⁽⁴⁾ Refer to Part I.C.11. COMPREHENSIVE NUTRIENT OPTIMIZATION PLAN.

⁽⁵⁾ Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen (TKN) must be analyzed or calculated from the same sample. Organic nitrogen, as N = TKN – ammonia, as N. Total nitrogen is the sum of all nitrogen and calculated as follows: TN = TKN + nitrite + nitrate.

⁽⁶⁾ Refer to Part I.C.9. CHRONIC WHOLE EFFLUENT TOXICITY.

⁽⁷⁾ Refer to Part I.C.10. PRIORITY POLLUTANTS.

- b. The monthly average, other than for *E. coli*, is the arithmetic mean of values obtained for samples collected during a calendar month.
- c. The weekly average, other than for *E. coli* is the arithmetic mean of values obtained for samples collected during a 7-day period. The week begins 12:00 midnight Saturday and ends at 12:00 midnight the following Saturday. To define a different starting time for the sampling period, the permittee must notify the EPD in writing. For reporting required by Part I.D.1. of this permit, a week that starts in one month and ends in another month shall be considered part of the second month. The permittee may calculate and report the weekly average as a 7-day moving average.
- d. *E. coli* will be reported as the geometric mean of the values for the samples collected during the time periods in I.B.2.b. and I.B.2.c.
- e. Influent monitoring: Unless otherwise specified, influent samples shall be collected before any return or recycle flows. These flows include returned activated sludge, supernatants, centrates, filtrates, and backwash.
- f. Effluent monitoring: Unless otherwise specified, effluent samples shall be collected after the final treatment process and before discharge to receiving waters.
- g. A composite sample shall consist of a minimum of 13 subsamples collected at least once every 2 hours for at least 24 hours and shall be composited proportionately to flow.
- h. Flow measurements shall be conducted using the flow measuring device(s) in accordance with the approved design of the facility. If instantaneous measurements are required, then the permittee shall have a primary flow measuring device that is correctly installed and maintained. If continuous recording measurements are required, then flow measurements must be made using continuous recording equipment. Calibration shall be maintained of the continuous recording instrumentation to $\pm 10\%$ of the actual flow.

Flow shall be measured manually to check the flow meter calibration at a frequency of once a month. If secondary flow instruments are in use and malfunction or fail to maintain calibration as required, the flow shall be computed from manual measurements or by other method(s) approved by EPD until such time as the secondary flow instrument is repaired. For facilities which utilize alternate technologies for measuring flow, the flow measurement device must be calibrated semi-annually by qualified personnel.

Records of the calibration checks shall be maintained.

- i. If secondary flow instruments malfunction or fail to maintain calibration as required in I.B.2.h., the flow shall be computed from manual measurements taken at the times specified for the collection of composite samples.
- j. Some parameters will be reported as "not detected" when they are below the detection limit and will then be considered in compliance with the effluent limit. The detection limit will also be reported.

C. MONITORING AND REPORTING

1. REPRESENTATIVE SAMPLING

Samples and measurements of the monitored waste shall represent the volume and nature of the waste stream. The permittee shall maintain a written sampling and monitoring schedule.

2. SAMPLING PERIOD

- a. Unless otherwise specified in this permit, quarterly samples shall be taken during the periods January-March, April-June, July-September, and October-December.
- b. Unless otherwise specified in this permit, semiannual samples shall be taken during the periods January-June and July-December.
- c. Unless otherwise specified in this permit, annual samples shall be taken during the period of January-December.

3. MONITORING PROCEDURES

All analytical methods, sample containers, sample preservation techniques, and sample holding times must be consistent with the techniques and methods listed in 40 CFR Part 136. The analytical method used shall be sufficiently sensitive. EPA-approved methods must be applicable to the concentration ranges of the NPDES permit samples.

4. RECORDING OF RESULTS

For each required parameter analyzed, the permittee shall record:

- a. The exact place, date, and time of sampling, and the person(s) collecting the sample. For flow proportioned composite samples, this shall include the instantaneous flow and the corresponding volume of each sample aliquot, and other information relevant to document flow proportioning of composite samples;
- b. The dates and times the analyses were performed;
- c. The person(s) who performed the analyses;
- d. The analytical procedures or methods used; and
- e. The results of all required analyses.

5. ADDITIONAL MONITORING BY PERMITTEE

If the permittee monitors required parameters at the locations designated in I.B. more frequently than required, the permittee shall analyze all samples using approved analytical methods specified in I.C.3. The results of this additional monitoring shall be included in calculating and reporting the values on the Discharge Monitoring Report forms. The permittee shall indicate the monitoring frequency on the report. The EPD may require in writing more frequent monitoring, or monitoring of other pollutants not specified in this permit.

6. RECORDS RETENTION

The permittee shall retain records of:

- a. All laboratory analyses performed including sample data, quality control data, and standard curves;
- b. Calibration and maintenance records of laboratory instruments;
- c. Calibration and maintenance records and recordings from continuous recording instruments;
- d. Process control monitoring records;
- e. Facility operation and maintenance records;
- f. Copies of all reports required by this permit;
- g. All data and information used to complete the permit application; and
- h. All monitoring data related to sludge use and disposal.

These records shall be kept for at least three years. Sludge handling records must be kept for at least five years. Either period may be extended by EPD written notification.

7. PENALTIES

Both the Federal and State Acts provide that any person who falsifies or tampers with any monitoring device or method required under this permit, or who makes any false statement, representation, or certification in any record submitted or required by this permit shall, if convicted, be punished by a fine or by imprisonment or by both. The Acts include procedures for imposing civil penalties for violations or for negligent or intentional failure or refusal to comply with any final or emergency order of the Director of the EPD.

8. WATERSHED PROTECTION PLAN

The permittee has a Watershed Protection Plan that has been approved by EPD. The permittee's approved Watershed Protection Plan shall be enforceable through this permit.

- a. The Watershed Protection Plan provides for the following:
 - i. The Watershed Protection Plan will apply to all basins and subbasins that are served by the facility. The plan will utilize the information generated in the permittee's watershed assessment to establish a baseline of watershed conditions and to provide ongoing long-term monitoring according to the approved plan to either verify that the plan is effective or to modify the plan such that water quality standards will be achieved.
 - ii. The Watershed Protection Plan must include a schedule for correcting current water quality problems that are causing water quality standards violations. The permittee shall provide ongoing monitoring to verify that the actions taken to correct the water quality problems are effective.
 - iii. The permittee shall develop and put in place best management practices (BMPs) to prevent future water quality standards violations.
 - iv. The permittee shall provide ongoing monitoring to verify that the BMPs are working or to provide the information necessary to modify the BMPs to achieve water quality standards.
- b. Each June 30th the permittee is to submit the following to EPD:
 - i. An annual certification statement documenting that the plan is being implemented as approved. The certification statement shall read as follows: "I certify, under penalty of law, that the Watershed Protection Plan is being implemented. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."
 - ii. All Watershed Plan data collected during the previous year in an electronic format. This data shall be archived using a digital format such as a spreadsheet developed in coordination with EPD. All archived records, data, and information pertaining to the Watershed Protection Plan shall be maintained permanently.
 - iii. A progress report that provides a summary of the BMPs that have been implemented and documented water quality improvements. The progress report shall also include any necessary changes to the Watershed Protection Plan.

The report and other information shall be submitted to EPD at the address below:

Environmental Protection Division
Watershed Planning and Monitoring Program
2 Martin Luther King Jr. Drive SE
Suite 1462East
Atlanta, Georgia 30334

9. CHRONIC WHOLE EFFLUENT TOXICITY (WET)

a. Part I.B.1 (36 MGD)

The permittee must conduct annual chronic Whole Effluent Toxicity (WET) tests. The testing must be conducted in accordance with the most current U.S. Environmental Protection Agency (EPA) chronic aquatic toxicity testing manuals. The referenced document is entitled Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th Edition, U.S. EPA, 821-R-02-013, October 2002. Definitive tests must be run on the same samples concurrently using both an invertebrate species (i.e., *Ceriodaphnia dubia*) and a vertebrate species (i.e., *Pimephales promelas*). The testing must include a dilution equal to the facility's instream wastewater concentration (IWC) of 90%.

The results of the tests shall be submitted to EPD with the permittee's monthly Discharge Monitoring Reports. EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. An effluent discharge will not be considered toxic if the No Observed Effect Concentration (NOEC) is greater than or equal to the Instream Wastewater Concentration (IWC) of 90%. If the test results indicate effluent toxicity, the permittee may be required to perform additional tests or studies in accordance with Part I.C.5 of the permit and/or the permit may be modified to include a chronic WET limit.

b. Part I.B.2 (44 MGD)

The permittee shall conduct one chronic whole effluent toxicity (WET) test for four consecutive quarters after receiving EPD written authorization to commence operation under Part I.B.2 effluent limitations (44.0 MGD), with the first test conducted within 90 days of the authorization. The testing must be conducted in accordance with the most current U.S. Environmental Protection Agency (EPA) chronic aquatic toxicity testing manuals. The referenced document is entitled Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th Edition, U.S. EPA, 821-R-02-013, October 2002. Definitive tests must be run on the same samples concurrently using both an invertebrate species (i.e., *Ceriodaphnia dubia*) and a vertebrate species (i.e., *Pimephales promelas*). The testing must include a dilution equal to the facility's instream wastewater concentration (IWC) of 92%.

EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. An effluent discharge will not be considered toxic if the No Observed Effect Concentration (NOEC) is greater than or equal to the Instream Wastewater Concentration (IWC) of 92%. The results of the tests shall be submitted to EPD with the permittee's monthly Discharge Monitoring Reports.

Within fifteen months of receiving authorization to operate under Part I.B.2 effluent limitations (44.0 MGD), the permittee shall submit a report to EPD that includes a summary of the effluent data collected as well as copies of all the analytical laboratory reports. The report shall be submitted to EPD at the address below:

Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive SE
Suite 1462 East
Atlanta, Georgia 30334

Upon receipt of the report, EPD will evaluate the results. If the test results indicate effluent toxicity, the permittee may be required to perform additional tests or studies in accordance with Part I.C.5 of the permit and/or the permit may be modified to include a chronic WET limit.

10. PRIORITY POLLUTANTS

Part I.B.2 (44 MGD):

The permittee must conduct one scan of the priority pollutants for three consecutive quarters after receiving EPD written authorization to commence operation under Part I.B.2 effluent limitations (44.0 MGD), with the first scan conducted within 90 days of the authorization. The priority pollutant scans must represent seasonal variation. Total recoverable mercury must be sampled and analyzed using EPA Method 1631E. The results of the tests shall be submitted to EPD with the permittee's monthly Discharge Monitoring Reports.

Within fifteen months of receiving authorization to operate under Part I.B.2 effluent limitations (44.0 MGD), the permittee shall submit a report to EPD that includes a summary of the effluent data collected as well as copies of all the analytical laboratory reports. The report shall be submitted to EPD at the address below:

Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive SE
Suite 1462 East
Atlanta, Georgia 30334

Upon receipt of the report, EPD will conduct a reasonable potential evaluation. If substances are measured at levels of concern, then the permittee may be required to perform additional priority pollutant analyses in accordance with Part I.C.5 or the permit may be modified to include effluent limitations for priority pollutants.

11. COMPREHENSIVE NUTRIENT OPTIMIZATION PLAN

- a. Within 24 months of the effective date of this permit, the Permittee shall develop and submit to EPD a Comprehensive Nutrient Optimization Plan (CNOP). Wastewater treatment efficiency optimization is an adaptive management strategy the Permittee shall use to limit the discharge of total nitrogen. The CNOP will include a suite of site specific best management practices. The CNOP shall, at a minimum, identify and quantify sources of nutrients entering the wastewater treatment plant, evaluate potential source reductions, identify and implement operational adjustments aimed to reduce nutrients, and establish annual nutrient reduction goals. The CNOP shall be updated annually and retained on site. Prior to the submittal of the CNOP, the permittee will submit semi-annual progress reports detailing the status of the development and implementation of the CNOP to the assigned EPD Compliance Office.
- b. Annual Report: Each June 30th the permittee is to submit the following to EPD:
 - i. An annual certification statement documenting that the CNOP is being implemented. The certification statement and signatory requirements shall comply with Part I.D.5 in this permit.
 - ii. A detailed progress report that provides a summary of the reduction goals and numeric targets developed for the previous year and discussion of how the goals and targets were achieved, BMPs that have been implemented, new reduction goals and targets for the following year. The progress report shall also include any necessary changes made to CNOP.
- c. Once EPD has completed the statewide Nutrient Permitting Strategy, EPD may reopen this permit to include numeric or narrative effluent limits for nutrients.

D. REPORTING REQUIREMENTS

1. The permittee must electronically report the DMR, OMR and additional monitoring data using the web based electronic NetDMR reporting system, unless a waiver is granted by EPD.
 - a. The permittee must comply with the Federal National Pollutant Discharge Elimination System Electronic Reporting regulations in 40 CFR §127. The permittee must electronically report the DMR, OMR, and additional monitoring data using the web based electronic NetDMR reporting system online at: <https://netdmr.epa.gov/netdmr/public/home.htm>
 - b. Monitoring results obtained during the calendar month shall be summarized for each month and reported on the DMR. The results of each sampling event shall be reported on the OMR and submitted as an attachment to the DMR.
 - c. The permittee shall submit the DMR, OMR and additional monitoring data no later than 11:59 p.m. on the 15th day of the month following the sampling period.

- d. All other reports required herein, unless otherwise stated, shall be submitted to the EPD Office listed on the permit issuance letter signed by the Director of EPD.
2. **No later than December 21, 2025**, the permittee must electronically report the following compliance monitoring data and reports using the online web based electronic system approved by EPD, unless a waiver is granted by EPD:
- a. Sewage Sludge/Biosolids Annual Program Reports provided that the permittee has an approved Sewage Sludge (Biosolids) Plan;
 - b. Pretreatment Program Reports provided that the permittee has an approved Industrial Pretreatment Program in this permit;
 - c. Sewer Overflow/Bypass Event Reports;
 - d. Noncompliance Notification;
 - e. Other noncompliance; and
 - f. Bypass

3. OTHER REPORTS

All other reports required in this permit not listed above in Part I.D.2 or unless otherwise stated, shall be submitted to the EPD Office listed on the permit issuance letter signed by the Director of EPD.

4. OTHER NONCOMPLIANCE

All instances of noncompliance not reported under Part I.B. and Part II. A. shall be reported to EPD at the time the monitoring report is submitted.

5. SIGNATORY REQUIREMENTS

All reports, certifications, data or information submitted in compliance with this permit or requested by EPD must be signed and certified as follows:

- a. Any State or NPDES Permit Application form submitted to the EPD shall be signed as follows in accordance with the Federal Regulations, 40 C.F.R. 122.22:
 - 1. For a corporation, by a responsible corporate officer. A responsible corporate officer means:
 - i. a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision making functions for the corporation, or

- ii. the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
 3. For a municipality, State, Federal, or other public facility, by either a principal executive officer or ranking elected official.
- b. All other reports or requests for information required by the permit issuing authority shall be signed by a person designated in (a) above or a duly authorized representative of such person, if:
1. The representative so authorized is responsible for the overall operation of the facility from which the discharge originates, e.g., a plant manager, superintendent or person of equivalent responsibility;
 2. The authorization is made in writing by the person designated under (a) above; and
 3. The written authorization is submitted to the Director.
- c. Any changes in written authorization submitted to the permitting authority under (b) above which occur after the issuance of a permit shall be reported to the permitting authority by submitting a copy of a new written authorization which meets the requirements of (b) and (b.1) and (b.2) above.
- d. Any person signing any document under (a) or (b) above shall make the following certification:

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

PART II

A. MANAGEMENT REQUIREMENTS

1. PROPER OPERATION AND MAINTENANCE

The permittee shall properly maintain and operate efficiently all treatment or control facilities and related equipment installed or used by the permittee to achieve compliance with this permit. Efficient operation and maintenance include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. Back-up or auxiliary facilities or similar systems shall be operated only when necessary to achieve permit compliance.

2. PLANNED CHANGE

Any anticipated facility expansions, or process modifications which will result in new, different, or increased discharges of pollutants requires the submission of a new NPDES permit application. If the changes will not violate the permit effluent limitations, the permittee may notify EPD without submitting an application. The permit may then be modified to specify and limit any pollutants not previously limited.

3. TWENTY-FOUR HOUR REPORTING

If, for any reason the permittee does not comply with, or will be unable to comply with any effluent limitations specified in the permittee's NPDES permit, the permittee shall provide EPD with an oral report within 24 hours from the time the permittee becomes aware of the circumstances followed by a written report within five (5) days of becoming aware of such condition. The written submission shall contain the following information:

- a. A description of the noncompliance and its cause; and
- b. The period of noncompliance, including the exact date and times; or, if not corrected, the anticipated time the noncompliance is expected to continue; and
- c. The steps taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

4. ANTICIPATED NONCOMPLIANCE NOTIFICATION

The permittee shall give written notice to the EPD at least 10 days before:

- a. Any planned changes in the permitted facility; or
- b. Any activity which may result in noncompliance with the permit.

5. OTHER NONCOMPLIANCE

The permittee must report all instances of noncompliance not reported under other specific reporting requirements, at the time monitoring reports are submitted. The reports shall contain the information required under conditions of twenty-four hour reporting.

6. OPERATOR CERTIFICATION REQUIREMENTS

The person responsible for the daily operation of the facility must be a Class I Certified Operator in compliance with the Georgia State Board of Examiners for Certification of Water and Wastewater Plant Operators and Laboratory Analysts Act, as amended, and as specified by Subparagraph 391-3-6-.12 of the Rules and Regulations for Water Quality Control. All other operators must have the minimum certification required by this Act.

7. LABORATORY ANALYST CERTIFICATION REQUIREMENTS

Laboratory Analysts must be certified in compliance with the Georgia State Board of Examiners for Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts Act, as amended.

8. BYPASSING

Any diversion of wastewater from or bypassing of wastewater around the permitted treatment works is prohibited, except if:

- a. Bypassing is unavoidable to prevent loss of life, personal injury, or severe property damage;
- b. There are no feasible alternatives to bypassing; and
- c. The permittee notifies the EPD at least 10 days before the date of the bypass.

Feasible alternatives to bypassing include use of auxiliary treatment facilities and retention of untreated waste. The permittee must take all possible measures to prevent bypassing during routine preventative maintenance by installing adequate back-up equipment.

The permittee shall operate the facility and the sewer system to minimize discharge of pollutants from combined sewer overflows or bypasses and may be required by the EPD to submit a plan and schedule to reduce bypasses, overflows, and infiltration.

Any unplanned bypass must be reported following the requirements for noncompliance notification specified in II.A.3. The permittee may be liable for any water quality violations that occur as a result of bypassing the facility.

9. POWER FAILURES

If the primary source of power to this water pollution control facility is reduced or lost, the permittee shall use an alternative source of power to reduce or control all discharges to maintain permit compliance.

10. DUTY TO MITIGATE

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge disposal which might adversely affect human health or the environment.

11. NOTICE CONCERNING ENDANGERING WATERS OF THE STATE

Whenever, because of an accident or otherwise, any toxic or taste and color producing substance, or any other substance which would endanger downstream users of the waters of the State or would damage property, is discharged into such waters, or is so placed that it might flow, be washed, or fall into them, it shall be the duty of the person in charge of such substances at the time to forthwith notify EPD in person or by telephone of the location and nature of the danger, and it shall be such person's further duty to immediately take all reasonable and necessary steps to prevent injury to property and downstream users of said water.

Spills and Major Spills:

A "spill" is any discharge of raw sewage by a Publicly Owned Treatment Works (POTW) to the waters of the State.

A "major spill" means:

1. The discharge of pollutants into waters of the State by a POTW that exceeds the weekly average permitted effluent limit for biochemical oxygen demand (5-day) or total suspended solids by 50 percent or greater in one day, provided that the effluent discharge concentration is equal to or greater than 25 mg/L for biochemical oxygen demand or total suspended solids.
2. Any discharge of raw sewage that 1) exceeds 10,000 gallons or 2) results in water quality violations in the waters of the State.

"Consistently exceeding effluent limitation" means a POTW exceeding the 30 day average limit for biochemical oxygen demand or total suspended solids for at least five days out of each seven day period during a total period of 180 consecutive days.

The following specific requirements shall apply to POTW's. If a spill or major spill occurs, the owner of a POTW shall immediately:

- a. Notify EPD, in person or by telephone, when a spill or major spill occurs in the system.
- b. Report the incident to the local health department(s) for the area affected by the incident.

The report at a minimum shall include the following:

1. Date of the spill or major spill;
 2. Location and cause of the spill or major spill;
 3. Estimated volume discharged and name of receiving waters; and
 4. Corrective action taken to mitigate or reduce the adverse effects of the spill or major spill.
- c. Post a notice as close as possible to where the spill or major spill occurred and where the spill entered State waters and also post additional notices along portions of the waterway affected by the incident (i.e. bridge crossings, boat ramps, recreational areas, and other points of public access to the affected waterway). The notice at a minimum shall include the same information required in 11(b)(1-4) above. These notices shall remain in place for a minimum of seven days after the spill or major spill has ceased.
- d. Within 24 hours of becoming aware of a spill or major spill, the owner of a POTW shall report the incident to the local media (television, radio, and print media). The report shall include the same information required in 11(b)(1-4) above.
- e. Within 5 days (of the date of the spill or major spill), the owner of a POTW shall submit to EPD a written report which includes the same information required in 11(b)(1-4) above.
- f. Within 7 days (after the date of a major spill), the owner of a POTW responsible for the major spill, shall publish a notice in the largest legal organ of the County where the incident occurred. The notice shall include the same information required in 11(b)(1-4) above.
- g. The owner of a POTW shall immediately establish a monitoring program of the receiving waters affected by a major spill or by consistently exceeding an effluent limit, with such monitoring being at the expense of the POTW for at least one year. The monitoring program shall include an upstream sampling point as well as sufficient downstream locations to accurately characterize the impact of the major spill or the consistent exceedence of effluent limitations described in the definition of “Consistently exceeding effluent limitation” above. As a minimum, the following parameters shall be monitored in the receiving stream:
1. Dissolved Oxygen;
 2. Bacteria;
 3. pH;
 4. Temperature; and
 5. Other parameters required by the EPD.

The monitoring and reporting frequency as well as the need to monitor additional parameters, will be determined by EPD. The results of the monitoring will be provided by the POTW owner to EPD and all downstream public agencies using the affected waters as a source of a public water supply.

- h. Within 24 hours of becoming aware of a major spill, the owner of a POTW shall provide notice of a major spill to every county, municipality, or other public agency whose public water supply is within a distance of 20 miles downstream and to any others which could be potentially affected by the major spill.

12. UPSET PROVISION

Provision under 40 CFR 122.41(n)(1)-(4), regarding “Upset” shall be applicable to any civil, criminal, or administrative proceeding brought to enforce this permit.

B. RESPONSIBILITIES

1. DUTY TO COMPLY

The permittee must comply with all conditions of this permit. Any permit noncompliance is a violation of the Federal Clean Water Act, State Act, and the State Rules, and is grounds for:

- a. Enforcement action;
- b. Permit termination, revocation and reissuance, or modification; or
- c. Denial of a permit renewal application.

2. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

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

3. INSPECTION AND ENTRY

The permittee shall allow the Director of the EPD, the Regional Administrator of EPA, and their authorized representatives, agents, or employees after they present credentials to:

- a. Enter the permittee's premises where a regulated activity or facility is located, or where any records required by this permit are kept;
- b. Review and copy any records required by this permit;
- c. Inspect any facilities, equipment, practices, or operations regulated or required by this permit; and
- d. Sample any substance or parameter at any location.

4. DUTY TO PROVIDE INFORMATION

The permittee shall furnish any information required by the EPD to determine whether cause exists to modify, revoke and reissue, or terminate this permit or to determine compliance with this permit. The permittee shall also furnish the EPD with requested copies of records required by this permit.

5. TRANSFER OF OWNERSHIP

A permit may be transferred to another person by a permittee if:

- a. The permittee notifies the Director in writing at least 30 days in advance of the proposed transfer;
- b. An agreement is written containing a specific date for transfer of permit responsibility including acknowledgment that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on. This agreement must be submitted to the Director at least 30 days in advance of the proposed transfer; and
- c. The Director does not notify the current permittee and the new permittee within 30 days of EPD intent to modify, revoke and reissue, or terminate the permit. The Director may require that a new application be filed instead of agreeing to the transfer of the permit.

6. AVAILABILITY OF REPORTS

Except for data determined to be confidential by the Director of EPD under O.C.G.A. 12-5-26 or by the Regional Administrator of EPA under the Code of Federal Regulations, Title 40, Part 2, all reports prepared to comply with this permit shall be available for public inspection at an EPD office. Effluent data, permit applications, permittees' names and addresses, and permits shall not be considered confidential.

7. PERMIT ACTIONS

This permit may be modified, terminated, or revoked and reissued in whole or in part during its term for causes including, but not limited to:

- a. Permit violations;
- b. Obtaining this permit by misrepresentation or by failure to disclose all relevant facts;
- c. Changing any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;
- d. Changes in effluent characteristics; and
- e. Violations of water quality standards.

The filing of a request by the permittee for permit modification, termination, revocation and reissuance, or notification of planned changes or anticipated noncompliance does not negate any permit condition.

8. CIVIL AND CRIMINAL LIABILITY

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

9. PROPERTY RIGHTS

The issuance of this permit does not convey any property rights of either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, or any infringement of Federal, State or local laws or regulations.

10. DUTY TO REAPPLY

The permittee shall submit an application for permit reissuance at least 180 days before the expiration date of this permit. The permittee shall not discharge after the permit expiration date. To receive authorization to discharge beyond the expiration date, the permittee shall submit the information, forms, and fees required by the EPD no later than 180 days before the expiration date.

11. CONTESTED HEARINGS

Any person aggrieved or adversely affected by any action of the Director of the EPD shall petition the Director for a hearing within 30 days of notice of the action.

12. SEVERABILITY

The provisions of this permit are severable. If any permit provision or the application of any permit provision to any circumstance is held invalid, the provision does not affect other circumstances or the remainder of this permit.

13. OTHER INFORMATION

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

14. PREVIOUS PERMITS

All previous State wastewater permits issued to this facility, whether for construction or operation, are hereby revoked on the effective date of this permit. This action is taken to assure compliance with the Georgia Water Quality Control Act, as amended, and the Federal Clean Water Act, as amended. Receipt of the permit constitutes notice of such action. The conditions, requirements, terms and provisions of this permit authorizing discharge under the National Pollutant Discharge Elimination System govern discharges from this facility.

PART III

A. APPROVED INDUSTRIAL PRETREATMENT PROGRAM FOR PUBLICLY OWNED TREATMENT WORKS (POTWs)

1. The permittee's approved pretreatment program shall be enforceable through this permit. The permittee shall also comply with the provisions of 40 CFR 403.
2. The permittee shall administer the approved pretreatment program by:
 - a. Maintaining records identifying the character and volume of pollutants contributed by industrial users to the POTW.
 - b. Enforcing and obtaining appropriate remedies for noncompliance by any industrial user with any applicable pretreatment standard or requirement defined by Section 307(b) and (c) of the Federal Act, 40 CFR Part 403.5 and 403.6 or any State or local requirement, whichever is more stringent.
 - c. Revising the adopted local limits based on technical analyses to ensure that the local limits continue to prevent:
 1. Interference with the operation of the POTW;
 2. Pass-through of pollutants in violation of this permit;
 3. Municipal sludge contamination; and
 4. Toxicity to life in the receiving stream.

Within 180 days of the effective date of this permit issuance or reissuance (excluding permit modifications), the permittee shall review the local limits of the program and submit to EPD a written technical evaluation of the need to revise the local limits.

- d. Ensuring that industrial wastewater discharges from industrial users are regulated through discharge permits or equivalent individual control mechanisms. Compliance schedules will be required of each industrial user for the installation of control technologies to meet applicable pretreatment standards and the requirements of the approved program.
- e. Inspecting, surveying, and monitoring to determine if the industrial user is in compliance with the applicable pretreatment standards.
- f. Equitably maintaining and adjusting revenue levels to ensure adequate and continued pretreatment program implementation.
- g. Preparing a list of industrial users which, during the reporting period October 1 to September 30, have been in significant noncompliance with the pretreatment requirements enumerated in 40 CFR Part 403.8 (f)(2)(viii). This list will be published annually each October in the newspaper with the largest circulation in the service area.

B. APPROVED PRETREATMENT PROGRAM ANNUAL REPORT

1. Within 1 month of the close of the reporting period October 1 through September 30, the permittee shall submit a report to the EPD that includes:
 - a. An updated list of POTW industrial users;
 - b. The results of POTW sampling and analyses required by the EPD;
 - c. A summary of POTW industrial user inspections;
 - d. A summary of POTW operations including information on upsets, interferences, pass through events, or violations of the permit related to industrial user discharges;
 - e. A summary of all activities to involve and inform the public of pretreatment requirements;
 - f. A summary of the annual pretreatment program budget;
 - g. A descriptive summary of any compliance activities initiated, ongoing, or completed against industrial users which shall include the number of administrative orders, show cause hearings, penalties, civil actions, and fines;
 - h. A list of contributing industries using the treatment works, divided into Standard Industrial Classification Code (SIC) categories, which have been issued permits or similar enforceable individual control mechanisms, and a status of compliance for each industrial user. The list should also identify the industries that are categorical or significant industrial users;
 - i. The name and address of each industrial user that has received a conditionally revised discharge limit;
 - j. A list of all industrial users who were in significant noncompliance with applicable pretreatment standards and requirements;
 - k. A list of all industrial users showing the date that each was notified that a categorical pretreatment standard had been promulgated by EPA for their industrial category and the status of each industrial user in achieving compliance within the 3 year period allowed by the Federal Act; and
 - l. A description of all substantial changes proposed for the program. All substantial changes must first be approved by the EPD before formal adoption by the POTW. Substantial changes shall include but not be limited to:
 1. Changes in legal authority;
 2. Changes in local limits;
 3. Changes in the control mechanisms;
 4. Changes in the method for implementing categorical pretreatment standards.

5. A decrease in the frequency of self-monitoring or reporting required of industrial users;
 6. A decrease in the frequency of industrial user inspections or sampling by the POTW;
 7. Significant reductions in the program resources including personnel commitments, equipment, and funding levels;
 8. Changes in confidentiality procedures; and
 9. Changes in the POTW sludge disposal and management practices.
2. Reports submitted by an industrial user will be retained by the permittee for at least 3 years and shall be available to the EPD for inspection and copying. This period shall be extended during the course of any unresolved litigation concerning the discharge of pollutants by an industrial user or concerning the operations of the program or when requested by the Director.

C. INDUSTRIAL PRETREATMENT STANDARDS

Effluent limitations for the permittee's discharge are listed in Part I. Other pollutants attributable to industrial users may also be present in the discharge. When sufficient information becomes available, this permit may be revised to specify effluent limitations for these pollutants based on best practicable technology or water quality standards. Once the specific nature of industrial contributions has been identified, data collection and reporting may be required for parameters not specified in Part I.

D. REQUIREMENTS FOR EFFLUENT LIMITATIONS ON POLLUTANTS ATTRIBUTABLE TO INDUSTRIAL USERS

1. The permittee shall require all industrial dischargers to the POTW to meet State pretreatment regulations promulgated in response to Section 307(b) of the Federal Act. Other information about new industrial discharges may be required and will be requested from the permittee after the EPD has received notice of the discharge.
2. The permittee may be required to supplement the requirements of the State and Federal pretreatment regulations to ensure compliance with all applicable effluent limitations listed in Part I. Supplemental actions by the permittee concerning some or all of the industries discharging to the POTW may be necessary.

E. RETAINER

EPD may require the permittee to amend an approved pretreatment program to incorporate revisions in State Pretreatment Regulations or other EPD requirements. Any approved POTW pretreatment program identified by EPD that needs to modify its program to incorporate requirements that have resulted from revision to the Rules shall develop and submit those revisions to EPD no later than one (1) year of notification by EPD to modify the Program. Any modifications made to the approved pretreatment program must be incorporated into the permit and the program pursuant to Chapter 391-3-6-.09(7) of the State Rules. Implementation of any revision or amendments to the program shall be described in the subsequent annual report to the EPD.



The Georgia Environmental Protection Division proposes to issue an NPDES permit to the applicant identified below. The draft permit places conditions on the discharge of pollutants from the wastewater treatment plant to waters of the State.

Technical Contact:

Shauna Hennessey, Environmental Specialist
Shauna.hennessey@dnr.ga.gov
470-524-0596

Draft permit:

- ☐ First issuance
- ☐ Reissuance with no or minor modifications from previous permit
- ☒ Reissuance with substantial modifications from previous permit
- ☐ Modification of existing permit
- ☒ Requires EPA review
- ☒ Designated as a major (≥ 1 MGD or approved industrial pre-treatment program)

1. FACILITY INFORMATION

1.1 NPDES Permit No.: GA0024147

1.2 Name and Address of Owner/Applicant

Dekalb County Department of Watershed Management
1580 Roadhaven Drive
Stone Mountain, GA 30083

1.3 Name and Address of Facility

Snapfinger Creek Advanced Wastewater Treatment Facility (AWWTF)
4124 Flakes Mill Road
Decatur, GA 30034
(Dekalb County)

1.4 Location and Description of the Discharge (as reported by applicant)

Outfall #	Latitude (°)	Longitude (°)	Receiving Waterbody
001	33.662714	-84.217326	South River

1.5 Permitted Design Capacity

Part I.B.1 (current flow): 36 MGD

Part I.B.2 (future expansion): 44 MGD

The draft permit also includes a combined flow limit with Polebridge Creek AWWTF of 56 MGD total.

1.6 SIC Code and Description

SIC Code 4952 – Sewerage systems: Establishments primarily engaged in the collection and disposal of wastes conducted through a sewer system, including such treatment processes as may be provided.

1.7 Description of the Water Pollution Control Plant

Wastewater treatment:

The treatment process consists of screening, grit removal, chemical addition (lime and alum), primary clarification, aeration basin, secondary clarification, filtration, chlorine disinfection, dechlorination, and post aeration. Treated effluent is then discharged to South River.

Solids processing:

Sludge is digested, thickened and dewatered using a plate and frame press. Sludge is then transported to the Seminole Landfill.

1.8 Type of Wastewater Discharge

- | | | | |
|-------------------------------------|---------------------|-------------------------------------|---------------------|
| <input checked="" type="checkbox"/> | Process wastewater | <input type="checkbox"/> | Stormwater |
| <input checked="" type="checkbox"/> | Domestic wastewater | <input checked="" type="checkbox"/> | Combined (Describe) |
| <input type="checkbox"/> | Other (Describe) | | |

1.9 Characterization of Effluent Discharge (as reported by applicant)Outfall No. 001:

Effluent Characteristics (as Reported by Applicant)	Maximum Daily Value	Average Daily Value
Flow (MGD)	17.36	7.86
Five-Day Biochemical Oxygen Demand (mg/L)	14	3
Total Suspended Solids (mg/L)	7.45	4.76
Fecal Coliform Bacteria (#/100mL)	21	11
Ammonia, as N (mg/L)	0.51	0.23
Total Phosphorus, as P (mg/L)	0.17	0.14

2. APPLICABLE REGULATIONS**2.1 State Regulations**

Chapter 391-3-6 of the Georgia Rules and Regulations for Water Quality Control

2.2 Federal Regulations

Source	Activity	Applicable Regulation
Municipal/Domestic/POTW	Municipal/Domestic Effluent Discharge	40 CFR 122
		40 CFR 125
		40 CFR 127
		40 CFR 133
		40 CFR 136
	Non-Process Water Discharges	40 CFR 122
		40 CFR 125
		40 CFR 127
		40 CFR 136
	Municipal/Domestic Sludge Use and Disposal	40 CFR 122
		40 CFR 127
		40 CFR 136
		40 CFR 257
		40 CFR 501 & 503

3. WATER QUALITY STANDARDS & RECEIVING WATERBODY INFORMATION

Section 301(b)(1)(C) of the Clean Water Act (CWA) requires the development of limitations in permits necessary to meet water quality standards. Federal Regulations 40 CFR 122.4(d) require that conditions in NPDES permits ensure compliance with the water quality standards which are composed of designated use classifications, numeric and or narrative water quality criteria and an antidegradation policy. The designated use classification system identifies the designated uses that each waterbody is expected to achieve, such as drinking water, fishing, or recreation. The numeric and narrative water quality criteria are deemed necessary to support the designated use for each water body. The antidegradation policy represents an approach to maintain and to protect various levels of water quality and uses. Section 391-3-6-.3(5) of the GA Water Quality Control Act provide General Criteria for All Waters, commonly referred to as the narrative water quality standards, and Specific Criteria for Specific Designated Uses. In addition to the General Criteria the Specific Criteria in Section 3.1 below are deemed necessary for this waterbody and shall be required for the specific designated uses.

3.1 Receiving Waterbody Classification and Information – South River:

Specific Water Quality Criteria for Classified Water Usage [391-3-6-.03(6)]:

Fishing: Propagation of Fish, Shellfish, Game and Other Aquatic Life; primary contact recreation in and on the water for the months of May – October, secondary contact recreation in and on the water for the months of November – April; or for any other use requiring water of a lower quality.

- (i) Dissolved Oxygen: A daily average of 6.0 mg/L and no less than 5.0 mg/L at all times for water designated as trout streams by the Wildlife Resources Division. A daily average of 5.0 mg/L and no less than 4.0 mg/L at all times for waters supporting warm water species of fish.
- (ii) pH: Within the range of 6.0 - 8.5.
- (iii) Bacteria:

1. Estuarine waters:

For the months of May through October, when primary water contact recreation activities are expected to occur, culturable enterococci not to exceed a geometric mean of 35 counts per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours. There shall be no greater than a ten percent excursion frequency of an enterococci statistical threshold value (STV) of 130 counts per 100 mL the same 30-day interval.

For the months of November through April, culturable enterococci not to exceed a geometric mean of 74 counts per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours. There shall be no greater than a ten percent excursion frequency of an enterococci statistical threshold value (STV) of 273 counts per 100 mL in the same 30-day interval.

2. All other fishing waters:

For the months of May through October, when primary water contact recreation activities are expected to occur, culturable E. coli not to exceed a geometric mean of 126 counts per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours. There shall be no greater than a ten percent excursion frequency of an E. coli statistical threshold value (STV) of 410 counts per 100 mL in the same 30-day interval.

For the months of November through April, culturable E. coli not to exceed a geometric mean of 265 counts per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours. There shall be no greater than a ten percent excursion frequency of an E. coli statistical threshold value (STV) of 861 counts per 100 mL in the same 30-day interval.

3. The State does not encourage swimming in these surface waters since a number of factors which are beyond the control of any State regulatory agency contribute to elevated levels of bacteria.

4. For waters designated as shellfish growing areas by the Georgia DNR Coastal Resources Division, the requirements will be consistent with those established by the State and Federal agencies responsible for the National Shellfish Sanitation Program. The requirements are found in National Shellfish Sanitation Program Guide for the Control of Molluscan Shellfish, 2007 Revision (or most recent version), Interstate Shellfish Sanitation Conference, U.S. Food and Drug Administration.

(iv) Temperature: Not to exceed 90°F. At no time is the temperature of the receiving waters to be increased more than 5°F above intake temperature except that in estuarine waters the increase will not be more than 1.5°F. In streams designated as primary trout or smallmouth bass waters by the Wildlife Resources Division, there shall be no elevation of natural stream temperatures. In streams designated as secondary trout waters, there shall be no elevation exceeding 2°F natural stream temperatures.

3.2 Ambient Information

Outfall ID	30Q3 (cfs)	7Q10 (cfs)	1Q10 (cfs)	Annual Average Flow (cfs)	Hardness (mg CaCO ₃ /L)	Upstream Total Suspended Solids (mg/L)
001	16.0	6.0	4.0	180	12 ⁽¹⁾	10 ⁽²⁾

⁽¹⁾ Value in accordance to EPD's *Hardness in Georgia's Waterbodies*, 2021 for ecoregion 45b (10th percentile)

⁽²⁾ Not available. A conservative value of 10 mg/L will be used for the reasonable potential analysis calculations.

3.3 Georgia 305(b)/303(d) List Documents

South River	Flakes Mill Road to Pole Bridge Creek	Ocmulgee	Not Supporting	FC, Fish Tissue (PCBs)	9	4a	TMDLs completed FC 2002 (revised 2007), Fish Tissue (PCBs) 2002. Source of FC is UR, CSO and M.
GAR030701030108	DeKalb	Fishing	1,10	UR, M, CSO	Miles		Source of Fish Tissue (PCBs) is UR & CSO.

South River is listed on the 2022 305(b)/303(d) list as not supporting its designated use (fishing) but TMDLs have been completed for the impacted parameters (fecal coliform bacteria, polychlorinated biphenyls).

3.4 Total Maximum Daily Loads (TMDLs)

Fecal Coliform:

In 2007, the GA EPD established a TMDL for “Seventy Four Stream Segments in the Ocmulgee River Basin for Fecal Coliform” (TMDL). The TMDL recommends that all wastewater treatment facilities with the potential to discharge fecal coliform bacteria will be required to meet effluent limitations of 200 counts/100 mL. The fecal coliform bacteria limits in the draft permit are in compliance with the TMDL. In accordance with EPD’s *Bacteria Equivalency Strategy for Using the Optimal Indicator Organisms for WQS and NPDES Permitting, September 2022* (Bacteria Strategy) the TMDL was amended to replace fecal coliform bacteria with *E. coli*. The *E. coli* limits of 126 counts/100 mL in the draft permit are in accordance with the amended TMDL requirements

Polychlorinated biphenyls (PCBs):

In 2002, the GA EPD completed a TMDL for PCBs in Four Segments of the South River in the Ocmulgee River Basin. The TMDL attributes the PCB contamination to urban runoff from Metropolitan Atlanta and Combined Sewer Overflows (CSOs). Other possible sources could include movement of contaminated bedload sediment, soil erosion, air deposition, and other nonpoint source discharges. PCBs have been banned in the United States since 1980’s; however, PCBs do not break down easily and may remain in lake and river sediments for years. Over time, levels of contamination will decrease. The TMDL recommends that a reasonable potential analysis be performed for individual point source dischargers to determine whether a PCB limit is needed. The permittee submitted 3 priority pollutant scans with the permit application. All samples were non-detect for PCBs; therefore, effluent from Snapfinger Creek AWWTP has no reasonable potential to cause or contribute to an exceedance of the water quality standards or instream TMDL target and further monitoring or an effluent limitation for PCB is not necessary.

3.5 Wasteload Allocation (WLA)

WLA for reissuance was issued on September 16, 2022. Refer to *Appendix A* of the Fact Sheet for a copy of the WLA.

4. PERMIT CONDITIONS AND EFFLUENT LIMITATIONS

4.1 Water Quality Based Effluent Limitations (WQBELs) & Technology Based Effluent Limits (TBELs)

When drafting a National Pollutant Discharge Elimination System (NPDES) permit, a permit writer must consider the impact of the proposed pollutants in a discharge on the quality of the receiving water. Water quality goals for a waterbody are defined by state water quality criteria or standards. By analyzing the effect of a pollutant in the discharge on the receiving water, a permit writer could find that technology-based effluent limitations (TBELs) alone will not achieve the applicable water quality standards or protect downstream users. In such cases, the Clean Water Act (CWA) and its implementing regulations require development of water quality-based effluent limitations (WQBELs). WQBELs help meet the CWA objective of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters and the goal of water quality that provides for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water (fishable/swimmable).

WQBELs are designed to protect water quality by ensuring water quality standards are met in the receiving water and the designated use and downstream uses are protected. On the basis of the requirements of 40 C.F.R. §125.3(a), additional or more stringent effluent limitations and conditions, such as WQBELs, are imposed when TBELs are not sufficient to protect water quality.

TBELs aim to prevent pollution by requiring a minimum level of effluent quality that is attainable using demonstrated technologies for reducing discharges of pollutants or pollution into the waters of the State. TBELs are developed independently of the potential impact of a discharge on the receiving water, which is addressed through water quality standards and WQBELs. The NPDES regulations at 40 C.F.R. §125.3(a) require NPDES permit writers to develop technology-based treatment requirements, consistent with CWA section 301(b), that represent the minimum level of control that must be imposed in a permit. The regulation also requires permit writers to include in permits additional or more stringent effluent limitations and conditions, including those necessary to protect water quality.

40 CFR Part §122.44(a)(1) requires that NPDES permits include applicable technology-based limitations and standards, while regulations at § 125.3(a)(1) state that TBELs for publicly owned treatment works must be based on secondary treatment standards and the "equivalent to secondary treatment standards" (40 CFR Part 133). The regulation applies to all POTWs and identifies the technology-based performance standards achievable based on secondary treatment for five-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), and pH.

The table below shows the secondary treatment standards:

Parameter	Secondary Treatment Standards	
	30-day Average	7-day Average
BOD ₅	30 mg/L	45 mg/L
TSS	30 mg/L	45 mg/L
BOD ₅ and TSS removal (concentration)	≥ 85%	--
pH (Daily Minimum – Daily Maximum)	6.0-9.0 S.U.	

4.2 Reasonable Potential Analysis (RPA)

EPA regulations at 40 C.F.R. §122.44(d)(1)(i) state, “Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level that will *cause*, have the *reasonable potential to cause*, or *contribute* to an excursion above any [s]tate water quality standard, including [s]tate narrative criteria for water quality.” [emphasis added]

EPA regulations at 40 C.F.R. §122.44(d)(1)(ii) require States to develop procedures for determining whether a discharge causes, has the reasonable potential to cause, or contributes to an instream excursion above a narrative or numeric criterion within a state water. If such reasonable potential is determined to exist, the NPDES permit must contain pollutant effluent limits and/or effluent limits for whole effluent toxicity. Georgia has reasonable potential procedures, based upon the specific category of pollutants and/or specific pollutant of concern. Chemical specific and biomonitoring data and other pertinent information in EPD’s files will be considered in accordance with the review procedures specified in the GA Rules and Regulations for Water Quality Control, Chapter 391-3-6 in the evaluation of a permit application and in the evaluation of the reasonable potential for a discharge to cause an exceedance in the numeric or narrative criteria.

The term “pollutant” is defined in CWA section 502(6) and 40 C.F.R. §122.2. Pollutants are grouped into three categories under the NPDES program: conventional, toxic, and nonconventional. Conventional pollutants are those defined in CWA section 304(a)(4) and 40 C.F.R. §401.16 (five day-biochemical oxygen demand (BOD₅), total suspended solids (TSS), fecal coliform, pH, and oil and grease). Toxic (priority) pollutants are those defined in CWA section 307(a)(1) and include 126 metals and manmade organic compounds. Nonconventional pollutants are those that do not fall under either of the above categories (conventional or toxic pollutants) and include parameters such as, but not limited to, chlorine, ammonia, nitrogen, phosphorus, chemical oxygen demand (COD), and whole effluent toxicity (WET).

EPD evaluates the data provided in the application and supporting documents. If a pollutant is listed in the following sections of this fact sheet below, the permit writer determined the pollutant is a pollutant of concern and there may be a reasonable potential to cause or contribute to an instream violation of the Georgia water quality standards. If a pollutant is not listed below, EPD determined the pollutant is not a pollutant of concern or has determined, based on the data provided in the application, there is no reasonable potential to cause or contribute to an instream

violation of the Georgia water quality standards. An example may be if the applicant reported “not detect” or “below detection limit”.

Upon identification of a pollutant of concern by the permit writer, in accordance with 40 C.F.R. §122.44(d)(1)(ii), the permit writer must then perform a reasonable potential analysis using a procedure which has accounted for any combination of the following criteria: existing controls on point and nonpoint 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 to determine if the pollutant and its discharge has the reasonable potential to cause, or contribute to an in-stream excursion above the allowable ambient concentration of a state narrative or numeric criteria within the state’s water quality standard for an individual pollutant.

In accordance with 40 C.F.R. §122.44(d)(1)(iii), if the permit writer has determined, using a reasonable potential procedure the pollutant of concern in the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a state numeric or narrative criteria within a state water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant. If the permit writer has determined there is insufficient data, the permit writer might also consider monitoring requirements to collect the additional data related to the presence or absence of a specific pollutant to provide information for further analyses for the development of appropriate numeric or narrative standard .

The conventional, nonconventional, and toxic pollutants listed in the following sections have been identified by the permit writer as pollutants of concern and the permit writer has determined through current practices and procedures one of the following: no additional monitoring or numeric and/or narrative effluent limits are needed; additional monitoring is required; or numeric and/or narrative effluent limits are necessary to protect the receiving water body and its downstream users and those limits have been included in the permit.

The monitoring and sampling locations are prescribed in the permit and determined by the permit writer after considering, at a minimum, the following: type of discharge, specific pollutant, discharge frequency, location of the discharge, receiving waterbody, downstream users, etc.

The sample type, grab vs. composite, is prescribed in the permit and determined by the permit writer after considering, at a minimum, the analytical method required in 40 C.F.R. §136, the type of pollutant, retention time, etc. Grab samples are required for the analysis of pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, *E. coli* , or volatile organics.

4.3 Whole Effluent Toxicity (WET)

Chronic WET test measures the effect of wastewater on indicator organisms’ growth, reproduction and survival. Effluent toxicity is predicted when the No Observable Effect Concentrations (NOEC) for a test organism is less than the facility’s Instream Wastewater Concentration (IWC). WET testing also requires a measure of test sensitivity known as the Percent Minimum Significant Difference (PMSD). See Table below from Section 10.2.8.3 (page 52) of EPA 821-R-02-013 *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, 4th Edition, 2002 for PMSD variability criteria.

TABLE 6. VARIABILITY CRITERIA (UPPER AND LOWER PMSD BOUNDS) FOR SUBLETHAL HYPOTHESIS TESTING ENDPOINTS SUBMITTED UNDER NPDES PERMITS.¹

Test Method	Endpoint	Lower PMSD Bound	Upper PMSD Bound
Method 1000.0, Fathead Minnow Larval Survival and Growth Test	growth	12	30
Method 1002.0, <i>Ceriodaphnia dubia</i> Survival and Reproduction Test	reproduction	13	47
Method 1003.0, <i>Selenastrum capricornutum</i> Growth Test	growth	9.1	29

¹ Lower and upper PMSD bounds were determined from the 10th and 90th percentile, respectively, of PMSD data from EPA's WET Interlaboratory Variability Study (USEPA, 2001a; USEPA, 2001b).

$$\text{MSD} = \frac{\text{Minimum Significant Data (MSD)}}{\text{Control Mean}} \times 100 \quad \%$$

Phase I (36 MGD):

The effluent from the Snapfinger Creek AWWTF will not be considered toxic if the No Observed Effect Concentration (NOEC) is greater than or equal to the Instream Wastewater Concentration (IWC) of 90%. If results of the WET tests predict toxicity or are invalid, then the permittee may be required to perform additional WET tests or the permit may be modified to include chronic WET effluent limitations.

The permittee submitted the results of 5 WET tests with the application. For all tests, the NOEC for the *Ceriodaphnia dubia* survival and reproduction and the *Pimephales promelas* survival and growth were greater than or equal to the IWC of 90%; therefore, effluent is not considered toxic. Refer to WET Test results summary in the table below.

PMSD values were calculated for each set of results and compared to EPA's Variability Criteria to ensure their validity. PMSD for *Ceriodaphnia dubia* reproduction and *Pimephales promelas* survival from the four WET tests were lower or within EPA's Variability Criteria; therefore, the tests are considered valid. Refer to Appendix C for PSMD values.

Test	Sample Date	No Observed Effect Concentration (NOEC)			
		<i>Ceriodaphnia dubia</i>		<i>Pimephales promelas</i>	
		Survival (%)	Reproduction (%)	Survival (%)	Growth (%)
1	2017	90	90	90	90
2	2018	90	90	90	90
3	2019	90	90	90	90
4	2020	90	90	90	90
5	2021	90	90	90	90

EPD is including annual WET monitoring for all facilities with a permitted discharge of 1.0 MGD or greater; therefore, annual WET testing has been included in the draft permit.

EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. If the test results indicate effluent toxicity, the permittee may be required to perform additional WET tests or studies in accordance with Part I.C.5 of the permit and/or the permit may be modified to include a chronic WET limit.

Phase II (44 MGD):

The permittee must conduct one whole effluent toxicity (WET) test for four consecutive quarters during the first year after receiving EPD written authorization to commence operation under Part I.B.2 effluent limitations, with the first test being conducted within 90 days of this authorization.

EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. If the test results indicate effluent toxicity or if the tests are invalid, the permittee may be required to perform additional WET tests in accordance with Part I.C.5 of the permit and/or the permit may be modified to include a chronic WET limit.

4.4 Conventional Pollutants

Pollutants of Concern	Basis
pH	<p><u>Phase I (36 MGD):</u></p> <p>The instream wastewater concentration (IWC) is 90%. When the IWC is greater than 50%, there is reasonable potential for pH to cause or contribute to violations of the instream Georgia Water Quality Standard; therefore, pH limits of 6.0-8.5 SU (daily minimum-daily maximum) were included in the draft permit.</p>
	<p><u>Phase II (44 MGD):</u></p> <p>The instream wastewater concentration (IWC) is 92%. When the IWC is greater than 50%, there is reasonable potential for pH to cause or contribute to violations of the instream Georgia Water Quality Standard; therefore, pH limits of 6.0-8.5 SU (daily minimum-daily maximum) were included in the draft permit.</p>
Five-Day Biochemical Oxygen Demand (BOD ₅)	<p><u>Phase I (36 MGD):</u></p> <p>According to the steady-state dissolved oxygen Georgia DOSAG model, a monthly average BOD₅ limit of 20 mg/L (January – March), 15 mg/L (April – June, October – December), and 10 mg/L (July – September) when combined with the ammonia limit (refer to Section 4.5.1 below), is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above. Refer to the WLA in <i>Appendix A</i> for model inputs.</p>
	<p><u>Phase II (44 MGD):</u></p> <p>According to the steady-state dissolved oxygen Georgia DOSAG model, a monthly average BOD₅ limit of 16 mg/L (January – March), 12 mg/L (April – June, October – December), and 8.0 mg/L (July – September) when combined with the ammonia limit (refer to Section 4.5.1 below), is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above. Refer to the WLA in <i>Appendix A</i> for model inputs.</p>

Phase I (36 MGD):

The monthly average TSS limit of 20 mg/L is in accordance with EPD's *Guidelines for Establishing Technology-Based Total Suspended Solids (TSS) Limits in Domestic Wastewater NPDES Permits*, 2020 for mechanical plants.

Total Suspended Solids (TSS)

Phase II (44 MGD):

The current monthly average TSS limit of 16 mg/L has been maintained in the draft permit. A review of Discharge Monitoring Report data indicates that the plant is able to consistently meet this technology-based limit.

EPD considers all POTWs, Private and Institutional Developments, and CSO Control Facilities, discharging all or a portion of domestic sanitary wastewater, to have the reasonable potential to cause or contribute to instream water quality standard violations for bacteria, including the conventional pollutant fecal coliform, but also *Escherichia coli*, and Enterococci. EPD has determined these facilities discharge bacteria, wastewater treatment systems are designed to limit bacteria levels in the effluent, and bacteria are highly variable in the receiving stream after treatment. Furthermore, dilution is not considered in EPD's analysis as bacteria have the inherent ability to reproduce in the receiving stream

Escherichia coli (E.coli)

As part of the 2019 Triennial Review, approved by US EPA on August 31, 2022, EPD adopted new bacterial indicators (*E. coli* and Enterococci) for waterbodies with a designated use of fishing, coastal fishing, and drinking water to protect secondary contact recreators who may inadvertently ingest water.

Phase I (36 MGD) & Phase II (44 MGD):

In accordance with EPD's *Bacteria Equivalency Strategy for Using the Optimal Indicator Organisms for WQS and NPDES Permitting*, 2022 for discharges into freshwaters, a monthly average *E. coli* limit of 126 counts/100 mL and a weekly average limit of 410 counts/100 mL (equivalent to the Statistical Threshold Value) have been included in the draft permit.

The proposed limits also meet the TMDL requirements in Section 3.4 of the fact sheet.

The facility is equipped with a disinfection system, therefore a compliance schedule to meet the new limit has not been included in the draft permit.

4.5 Nonconventional Pollutants

Pollutants of Concern	Basis
<u>Phase I (36 MGD) & Phase II (44 MGD):</u>	
Total Residual Chlorine (TRC)	Chlorine is used for disinfection. A daily maximum TRC limit of 0.01 mg/L has been determined using the US EPA's chronic TRC criterion of 11 µg/L in the receiving stream after dilution. Refer to Section 4.7.8 below for calculations.
<u>Phase I (36 MGD) & Phase II (44 MGD):</u>	
Dissolved Oxygen (DO)	According to the steady-state dissolved oxygen Georgia DOSAG model, a minimum effluent DO of 6.0 mg/L is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above.
Total Phosphorus (TP), Orthophosphate	Total phosphorus measures all forms of phosphorus in a sample (orthophosphate, condensed phosphate, and organic phosphate). Orthophosphate, or reactive phosphorus is the amount of phosphorus available to chemically or biologically react.
	Discharges of total phosphorus directly to or within the watershed upstream from waterbodies with total phosphorus water quality standards must undergo an analysis to determine if the discharge of the pollutants has the reasonable potential to cause or contribute to instream water quality standard violations.
	Based on the pollutant being present in the wastestream, EPD has identified total phosphorus as a pollutant of concern for the following: POTWs, Private and Institutional Developments, CSO Control Facilities, and applicable Non POTWs. Monitoring for orthophosphate has been included in the permit to provide information for further analyses and development of appropriate numeric or narrative effluent limits. Additionally, the permittee will be required to develop and maintain a Comprehensive Nutrient Optimization Plan.
	Orthophosphate monitoring has been included in the draft permit in accordance with EPD's <i>Strategy for Addressing Phosphorus in NPDES Permitting</i> , 2011. See Section 5.10 and 5.11 of this Fact Sheet for additional information.

Phase I (36 MGD):

A monthly average limit of 0.3 mg/L is in accordance with EPD's *Strategy for Addressing Phosphorus in NPDES Permitting*, 2011 for facilities with permitted flow greater than or equal to 1.0 MGD.

Phase II (44 MGD):

A monthly average limit of 0.25 mg/L is in accordance with EPD's *Strategy for Addressing Phosphorus in NPDES Permitting*, 2011 for facilities with permitted flow greater than or equal to 1.0 MGD

Phase I (36 MGD) & Phase II (44 MGD):

Discharges of total nitrogen directly to or within the watershed upstream from waterbodies with total nitrogen water quality standards must undergo an analysis to determine if the discharge has the reasonable potential to cause or contribute to instream water quality standard violations.

Total Nitrogen, Total Kjeldahl
Nitrogen (TKN), Organic
Nitrogen, Nitrate-Nitrite

Based on the pollutant being present in the wastestream, EPD has identified total nitrogen as a pollutant of concern for the following: POTWs, Private and Institutional Developments, CSO Control Facilities, and applicable Non POTWs. Monitoring for TKN, organic nitrogen, and nitrate-nitrite has been included in the permit to calculate total nitrogen, quantify nutrient loadings in the Ocmulgee River Basin, and provide information for further analyses the development of appropriate numeric or narrative effluent limits. Additionally, the permittee will be required to develop and maintain a Comprehensive Nutrient Optimization Plan.

Total nitrogen is the sum of all nitrogen forms or
 $TN = TKN + \text{nitrite} + \text{nitrate}$.

Organic nitrogen, as N = $TKN - \text{ammonia}$, as N.

Ammonia, organic nitrogen, nitrate-nitrite, and TKN must be analyzed or calculated from the same sample to correctly calculate total nitrogen. See Section 5.10 and 5.11 of this Fact Sheet for additional information.

Phase I (36 MGD):

According to the steady-state dissolved oxygen Georgia DOSAG model, a monthly average ammonia limit of 3.5 mg/L (January – March), 1.2 mg/L (April – June), 0.8 mg/L (July – September), and 1.1 mg/L (October – December), when combined with the monthly average BOD₅ limit (Refer to Section 4.4 above), is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above.

The proposed limits are also in accordance with EPD's *NPDES Permitting Strategy for Addressing Ammonia Toxicity*, 2017.

Ammonia (NH₃)

Phase II (44 MGD):

According to the steady-state dissolved oxygen Georgia DOSAG model, a monthly average ammonia limit of 3.2 mg/L (January – March), 1.1 mg/L (April – June), 0.7 mg/L (July – September), and 1.0 mg/L (October – December), when combined with the monthly average BOD₅ limit (Refer to Section 4.4 above), is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above.

The proposed limits are also in accordance with EPD's *NPDES Permitting Strategy for Addressing Ammonia Toxicity*, 2017.

4.6 Toxics & Manmade Organic Compounds

4.6.1 Phase I (36 MGD):

The permittee submitted the results of three Priority Pollutant Scans (PPS) with the permit application.

Pollutants of Concern	Basis
Total Recoverable Zinc	<p>This parameter was evaluated in accordance with the procedures provided in 391-3-6.06 of the Georgia Rules and Regulations for Water Quality Control and its instream concentration was found to be less than 50% of the acute and chronic instream water quality standards. Refer to <i>Appendix B</i> of the Fact Sheet for reasonable potential evaluations.</p> <p>In accordance with the EPD reasonable potential procedures for toxicity, zinc is not considered a pollutant of concern and additional monitoring is not required.</p>

Total Recoverable Mercury

This parameter was evaluated in accordance with the procedures provided in 391-3-6.06 of the Georgia Rules and Regulations for Water Quality Control and its instream concentration was found to be less than 50% of the acute and chronic instream water quality standards. Refer to *Appendix B* of the Fact Sheet for reasonable potential evaluations.

In accordance with the EPD reasonable potential procedures for toxicity, mercury is not considered a pollutant of concern and additional monitoring is not required.

Chloroform

This parameter was evaluated in accordance with the procedures provided in 391-3-6.06 of the Georgia Rules and Regulations for Water Quality Control and its instream concentration was found to be less than 50% of the instream water quality standards. Refer to *Appendix B* of the Fact Sheet for reasonable potential evaluations.

In accordance with the EPD reasonable potential procedures for toxics, chloroform is not considered a pollutant of concern and additional monitoring is not required.

4.6.2 Phase II (44 MGD):

The permittee must conduct one scan of the priority pollutants for three consecutive quarters after receiving EPD written authorization to commence operation under Part I.B.2 effluent limitations (44 MGD), with the first scan conducted within 90 days of the authorization. The priority pollutant scans must represent seasonal variation. Total recoverable mercury must be sampled and analyzed using EPA Method 1631E.

4.7 Calculations for Effluent Limits

4.7.1 Instream Waste Concentration (IWC):

Phase I (36 MGD):

$$\begin{aligned} \text{IWC} &= \frac{Q_{\text{Effluent}} (\text{ft}^3/\text{sec})}{Q_{\text{Effluent}} (\text{ft}^3/\text{sec}) + 7Q_{10} (\text{ft}^3/\text{sec})} \% \\ &= \frac{55.7}{55.7+6} \\ &= 90 \% \end{aligned}$$

Phase II (44 MGD):

$$\begin{aligned} \text{IWC} &= \frac{Q_{\text{Effluent}} (\text{ft}^3/\text{sec})}{Q_{\text{Effluent}} (\text{ft}^3/\text{sec}) + 7Q_{10} (\text{ft}^3/\text{sec})} \% \\ &= \frac{68.1}{68.1+6} \\ &= 92 \% \end{aligned}$$

4.7.2 Flow:

Phase I (36 MGD):

Weekly Average Flow:

$$\begin{aligned} Q_{\text{Weekly}} &= Q_{\text{Monthly}} (\text{MGD}) \times 1.25 \\ &= 36 \times 1.25 \\ &= 45 \text{ MGD} \end{aligned}$$

Q = Flow
C = Concentration
M = Mass

Phase II (44 MGD):

Weekly Average Flow:

$$\begin{aligned} Q_{\text{Weekly}} &= Q_{\text{Monthly}} (\text{MGD}) \times 1.25 \\ &= 44 \times 1.25 \\ &= 55 \text{ MGD} \end{aligned}$$

4.7.3 Five-Day Biochemical Oxygen Demand:Phase I (36 MGD):January – March:*Weekly Average Concentration:*

$$\begin{aligned} [C]_{\text{Weekly}} &= [C]_{\text{Monthly}} (\text{mg/L}) \times 1.5 \\ &= 20 \times 1.5 \\ &= 30 \text{ mg/L} \end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned} M_{\text{Monthly}} &= Q_{\text{Monthly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 36 \times 20 \times 8.34 \\ &= 6,005 \text{ lbs/day} \end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned} M_{\text{Weekly}} &= Q_{\text{Weekly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 45 \times 20 \times 8.34 \\ &= 7,506 \text{ lbs/day} \end{aligned}$$

April – June & October – December:*Weekly Average Concentration:*

$$\begin{aligned} [C]_{\text{Weekly}} &= [C]_{\text{Monthly}} (\text{mg/L}) \times 1.5 \\ &= 15 \times 1.5 \\ &= 22.5 \text{ mg/L} \end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned} M_{\text{Monthly}} &= Q_{\text{Monthly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 36 \times 15 \times 8.34 \\ &= 4,504 \text{ lbs/day} \end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned}M_{\text{Weekly}} &= Q_{\text{Weekly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\&= 45 \times 15 \times 8.34 \\&= 5,630 \text{ lbs/day}\end{aligned}$$

*July – September:**Weekly Average Concentration:*

$$\begin{aligned}[C]_{\text{Weekly}} &= [C]_{\text{Monthly}} \text{ (mg/L)} \times 1.5 \\&= 10 \times 1.5 \\&= 15 \text{ mg/L}\end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned}M_{\text{Monthly}} &= Q_{\text{Monthly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\&= 36 \times 10 \times 8.34 \\&= 3,002 \text{ lbs/day}\end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned}M_{\text{Weekly}} &= Q_{\text{Weekly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\&= 45 \times 15 \times 8.34 \\&= 3,753 \text{ lbs/day}\end{aligned}$$

*Phase II (44 MGD):**January – March:**Weekly Average Concentration:*

$$\begin{aligned}[C]_{\text{Weekly}} &= [C]_{\text{Monthly}} \text{ (mg/L)} \times 1.5 \\&= 16 \times 1.5 \\&= 24 \text{ mg/L}\end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned}M_{\text{Monthly}} &= Q_{\text{Monthly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\&= 44 \times 16 \times 8.34 \\&= 5,871 \text{ lbs/day}\end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned}M_{\text{Weekly}} &= Q_{\text{Weekly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\&= 55 \times 16 \times 8.34 \\&= 7,339 \text{ lbs/day}\end{aligned}$$

*April – June & October – December:**Weekly Average Concentration:*

$$\begin{aligned}[C]_{\text{Weekly}} &= [C]_{\text{Monthly}} \text{ (mg/L)} \times 1.5 \\&= 12 \times 1.5 \\&= 18 \text{ mg/L}\end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned}M_{\text{Monthly}} &= Q_{\text{Monthly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\&= 44 \times 12 \times 8.34 \\&= 4,403 \text{ lbs/day}\end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned}M_{\text{Weekly}} &= Q_{\text{Weekly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\&= 55 \times 12 \times 8.34 \\&= 5,504 \text{ lbs/day}\end{aligned}$$

July – September:*Weekly Average Concentration:*

$$\begin{aligned} [C]_{\text{Weekly}} &= [C]_{\text{Monthly}} (\text{mg/L}) \times 1.5 \\ &= 8 \times 1.5 \\ &= 12 \text{ mg/L} \end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned} M_{\text{Monthly}} &= Q_{\text{Monthly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 44 \times 8 \times 8.34 \\ &= 2,936 \text{ lbs/day} \end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned} M_{\text{Weekly}} &= Q_{\text{Weekly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 55 \times 8 \times 8.34 \\ &= 3,670 \text{ lbs/day} \end{aligned}$$

4.7.4 Total Suspended Solids:Phase I (36 MGD):*Weekly Average Concentration:*

$$\begin{aligned} [C]_{\text{Weekly}} &= [C]_{\text{Monthly}} (\text{mg/L}) \times 1.5 \\ &= 20 \times 1.5 \\ &= 30 \text{ mg/L} \end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned} M_{\text{Monthly}} &= Q_{\text{Monthly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 36 \times 20 \times 8.34 \\ &= 6,005 \text{ lbs/day} \end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned} M_{\text{Weekly}} &= Q_{\text{Weekly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\ &= 45 \times 20 \times 8.34 \\ &= 7,506 \text{ lbs/day} \end{aligned}$$

Phase II (44 MGD):

Weekly Average Concentration:

$$\begin{aligned} [C]_{\text{Weekly}} &= [C]_{\text{Monthly}} \text{ (mg/L)} \times 1.5 \\ &= 16 \times 1.5 \\ &= 24 \text{ mg/L} \end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned} M_{\text{Monthly}} &= Q_{\text{Monthly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\ &= 44 \times 16 \times 8.34 \\ &= 5,871 \text{ lbs/day} \end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned} M_{\text{Weekly}} &= Q_{\text{Weekly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\ &= 55 \times 16 \times 8.34 \\ &= 7,339 \text{ lbs/day} \end{aligned}$$

4.7.5 Ammonia:

Toxicity Analysis:

The chronic criterion based on *Villosa iris* (rainbow mussel) is determined as follows:

$$CCC = 0.8876 \times \left(\frac{0.0278}{1 + 10^{7.688 - \text{pH}}} + \frac{1.1994}{1 + 10^{\text{pH} - 7.688}} \right) \times 2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))} \text{ mg/L}$$

Where: pH : pH of receiving stream and discharge
T : Temperature of receiving stream
CCC : Chronic Continuous Concentration

The ammonia effluent limit (monthly average) is then calculated as follows:

$[\text{NH}_3]_{\text{Effluent}} =$

$$\frac{(Q_{\text{Effluent}} (\text{ft}^3/\text{sec}) + 30Q_3 (\text{ft}^3/\text{sec})) \times \text{CCC} (\text{mg/L}) - 30Q_3 (\text{ft}^3/\text{sec}) \times [\text{NH}_3]_{\text{Stream Background}} (\text{mg/L})}{Q_{\text{Effluent}} (\text{ft}^3/\text{sec})}$$

Refer to *Appendix C* for detailed calculations.

Phase I (36 MGD):

January – March:

Weekly Average Concentration:

$$\begin{aligned} [\text{C}]_{\text{Weekly}} &= [\text{C}]_{\text{Monthly}} (\text{mg/L}) \times 1.5 \\ &= 3.5 \times 1.5 \\ &= 5.3 \text{ mg/L} \end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned} M_{\text{Monthly}} &= Q_{\text{Monthly}} (\text{MGD}) \times [\text{C}]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 36 \times 3.5 \times 8.34 \\ &= 1,051 \text{ lbs/day} \end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned} M_{\text{Weekly}} &= Q_{\text{Weekly}} (\text{MGD}) \times [\text{C}]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 45 \times 3.5 \times 8.34 \\ &= 1,314 \text{ lbs/day} \end{aligned}$$

April – June:

Weekly Average Concentration:

$$\begin{aligned} [\text{C}]_{\text{Weekly}} &= [\text{C}]_{\text{Monthly}} (\text{mg/L}) \times 1.5 \\ &= 1.2 \times 1.5 \\ &= 1.8 \text{ mg/L} \end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned} M_{\text{Monthly}} &= Q_{\text{Monthly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 36 \times 1.2 \times 8.34 \\ &= 360 \text{ lbs/day} \end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned} M_{\text{Weekly}} &= Q_{\text{Weekly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 45 \times 1.2 \times 8.34 \\ &= 450 \text{ lbs/day} \end{aligned}$$

July – September:

Weekly Average Concentration:

$$\begin{aligned} [C]_{\text{Weekly}} &= [C]_{\text{Monthly}} (\text{mg/L}) \times 1.5 \\ &= 0.8 \times 1.5 \\ &= 1.2 \text{ mg/L} \end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned} M_{\text{Monthly}} &= Q_{\text{Monthly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 36 \times 0.8 \times 8.34 \\ &= 240 \text{ lbs/day} \end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned} M_{\text{Weekly}} &= Q_{\text{Weekly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 45 \times 0.8 \times 8.34 \\ &= 300 \text{ lbs/day} \end{aligned}$$

October – December:*Weekly Average Concentration:*

$$\begin{aligned} [C]_{\text{Weekly}} &= [C]_{\text{Monthly}} (\text{mg/L}) \times 1.5 \\ &= 1.1 \times 1.5 \\ &= 1.7 \text{ mg/L} \end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned} M_{\text{Monthly}} &= Q_{\text{Monthly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 36 \times 1.1 \times 8.34 \\ &= 330 \text{ lbs/day} \end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned} M_{\text{Weekly}} &= Q_{\text{Weekly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 45 \times 1.1 \times 8.34 \\ &= 413 \text{ lbs/day} \end{aligned}$$

Phase II (44 MGD):January – March:*Weekly Average Concentration:*

$$\begin{aligned} [C]_{\text{Weekly}} &= [C]_{\text{Monthly}} (\text{mg/L}) \times 1.5 \\ &= 3.2 \times 1.5 \\ &= 4.8 \text{ mg/L} \end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned} M_{\text{Monthly}} &= Q_{\text{Monthly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\ &= 44 \times 3.2 \times 8.34 \\ &= 1,174 \text{ lbs/day} \end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned}M_{\text{Weekly}} &= Q_{\text{Weekly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\&= 55 \times 3.2 \times 8.34 \\&= 1,468 \text{ lbs/day}\end{aligned}$$

April – June:

$$\begin{aligned}[C]_{\text{Weekly}} &= [C]_{\text{Monthly}} (\text{mg/L}) \times 1.5 \\&= 1.1 \times 1.5 \\&= 1.7 \text{ mg/L}\end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned}M_{\text{Monthly}} &= Q_{\text{Monthly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\&= 44 \times 1.1 \times 8.34 \\&= 404 \text{ lbs/day}\end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned}M_{\text{Weekly}} &= Q_{\text{Weekly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\&= 55 \times 1.1 \times 8.34 \\&= 505 \text{ lbs/day}\end{aligned}$$

July – September:

$$\begin{aligned}[C]_{\text{Weekly}} &= [C]_{\text{Monthly}} (\text{mg/L}) \times 1.5 \\&= 0.7 \times 1.5 \\&= 1.1 \text{ mg/L}\end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned}M_{\text{Monthly}} &= Q_{\text{Monthly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\&= 44 \times 0.7 \times 8.34 \\&= 257 \text{ lbs/day}\end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned}M_{\text{Weekly}} &= Q_{\text{Weekly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\&= 55 \times 0.7 \times 8.34 \\&= 321 \text{ lbs/day}\end{aligned}$$

October – December:

$$\begin{aligned}[C]_{\text{Weekly}} &= [C]_{\text{Monthly}} (\text{mg/L}) \times 1.5 \\&= 1.0 \times 1.5 \\&= 1.5 \text{ mg/L}\end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned}M_{\text{Monthly}} &= Q_{\text{Monthly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\&= 44 \times 1.0 \times 8.34 \\&= 367 \text{ lbs/day}\end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned}M_{\text{Weekly}} &= Q_{\text{Weekly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal}) \\&= 55 \times 0.7 \times 8.34 \\&= 459 \text{ lbs/day}\end{aligned}$$

4.7.6 Total Phosphorus:*Phase I (36 MGD):**Weekly Average Concentration:*

$$\begin{aligned}[C]_{\text{Weekly}} &= [C]_{\text{Monthly}} (\text{mg/L}) \times 1.5 \\&= 0.30 \times 1.5 \\&= 0.45 \text{ mg/L}\end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned}M_{\text{Monthly}} &= Q_{\text{Monthly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\&= 36 \times 0.30 \times 8.34 \\&= 90.1 \text{ lbs/day}\end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned}M_{\text{Weekly}} &= Q_{\text{Weekly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\&= 45 \times 0.30 \times 8.34 \\&= 113 \text{ lbs/day}\end{aligned}$$

Phase II (44 MGD):

$$\begin{aligned}[C]_{\text{Weekly}} &= [C]_{\text{Monthly}} \text{ (mg/L)} \times 1.5 \\&= 0.25 \times 1.5 \\&= 0.38 \text{ mg/L}\end{aligned}$$

Monthly Average Mass Loading:

$$\begin{aligned}M_{\text{Monthly}} &= Q_{\text{Monthly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\&= 44 \times 0.25 \times 8.34 \\&= 91.7 \text{ lbs/day}\end{aligned}$$

Weekly Average Mass Loading:

$$\begin{aligned}M_{\text{Weekly}} &= Q_{\text{Weekly}} \text{ (MGD)} \times [C]_{\text{Monthly}} \text{ (mg/L or ppm)} \times 8.34 \text{ (lbs/gal)} \\&= 55 \times 0.25 \times 8.34 \\&= 115 \text{ lbs/day}\end{aligned}$$

4.7.7 Total Residual Chlorine (TRC):Phase I (36 MGD):*Daily Maximum Concentration:*

$$\begin{aligned} [\text{TRC}]_{\text{Effluent}} &= \frac{[Q_{\text{Effluent}} (\text{ft}^3/\text{sec}) + 7Q_{10} (\text{ft}^3/\text{sec})] \times [\text{TRC}]_{\text{Stream}} (\text{mg/L})}{Q_{\text{Effluent}} (\text{ft}^3/\text{sec})} \\ &= \frac{(55.7 + 6.0) \times 0.011}{55.7} \\ &= 0.01 \text{ mg/L} \end{aligned}$$

Phase II (44 MGD):*Daily Maximum Concentration:*

$$\begin{aligned} [\text{TRC}]_{\text{Effluent}} &= \frac{[Q_{\text{Effluent}} (\text{ft}^3/\text{sec}) + 7Q_{10} (\text{ft}^3/\text{sec})] \times [\text{TRC}]_{\text{Stream}} (\text{mg/L})}{Q_{\text{Effluent}} (\text{ft}^3/\text{sec})} \\ &= \frac{(68.1 + 6.0) \times 0.011}{68.1} \\ &= 0.01 \text{ mg/L} \end{aligned}$$

4.7.8 MetalsRefer to *Appendix B* for metal calculations.

4.8 Comparison & Summary of Water Quality vs. Technology Based Effluent Limits

After determining applicable technology-based effluent limitations and water quality-based effluent limitations, the most stringent limits are applied in the permit:

4.8.1. Current phase (36 MGD):

Parameter	WQBELS ⁽¹⁾	TBELS ⁽¹⁾
	<i>Monthly Average</i>	<i>Monthly Average</i>
Five-Day Biochemical Oxygen Demand (mg/L)		
January - March	20	30.0
April - June	15	30.0
July – September	10	30.0
October - December	15	30.0
Total Suspended Solids (mg/L)	None	20
Total Phosphorus (mg/L)	0.30	None
Ammonia (mg/L)		
January - March	3.5	None
April - June	1.2	None
July – September	0.8	None
October - December	1.1	None
<i>Escherichia coli</i> (counts/100 mL), 30-day geo mean	126	None
Dissolved Oxygen (mg/L), Daily Minimum	6.0	None
Total Residual Chlorine (mg/L), Daily Maximum	0.01	0.5
pH (SU), Daily Minimum-Daily Maximum	6.0 – 8.5	6.0 – 9.0

⁽¹⁾ Effluent limits in bold were included in the permit. Refer to Sections 4.4 and 4.5 for more information.

4.8.2. Future phase (44 MGD):

Parameter	WQBELS ⁽¹⁾	TBELS ⁽¹⁾
	<i>Monthly Average</i>	<i>Monthly Average</i>
Five-Day Biochemical Oxygen Demand (mg/L)		
January - March	16	30.0
April - June	12	30.0
July – September	8.0	30.0
October - December	12	30.0
Total Suspended Solids (mg/L)	None	20
Total Phosphorus (mg/L)	0.25	None
Ammonia (mg/L)		
January - March	3.2	None
April - June	1.1	None
July – September	0.7	None
October - December	1.0	None
<i>Escherichia coli</i> (counts/100 mL), 30-day geo mean	126	None
Dissolved Oxygen (mg/L), Daily Minimum	6.0	None
Total Residual Chlorine (mg/L), Daily Maximum	0.01	0.5
pH (SU), Daily Minimum-Daily Maximum	6.0 – 8.5	6.0 – 9.0

⁽¹⁾ Effluent limits in bold were included in the permit. Refer to Sections 4.5 and 4.6 above for more information.

5. OTHER PERMIT REQUIREMENTS AND CONSIDERATIONS

5.1 Expansion to 44 MGD

An Antidegradation Analysis is only required for proposed new or expanded (increase in loading) wastewater discharges to surface waters. An antidegradation analysis is not required for a flow expansion of a wastewater treatment facility if the mass discharge of the pollutants is equal to or less than the mass discharge of pollutants allowed in the permit for the existing facility.

EPD made the determination that the proposed permit limits for the expanded flows of 44 MGD are as or more stringent than the currently permitted concentrations and mass loading limits; therefore, in accordance with EPD's *Antidegradation Implementation Guidelines*, an Antidegradation Review is not required.

5.2 Mass loading limits

All mass loading limits expressed in Kg/Day in the current permit have been converted to lbs/day in the draft permit.

5.3 Industrial Pretreatment Program (IPP)

Dekalb County has an approved IPP; therefore language has been included in the draft permit to reflect the approved program.

5.4 Sludge Management Plan (SMP)

The current permit includes language for an approved SMP to land apply sludge at agronomic rates. However, sludge from Snapfinger AWWTF is disposed of in a permitted landfill; therefore, SMP language has not been included in the draft permit. In the event that the facility chooses to dispose of municipal sewage sludge by land application or any method other than co-disposal in a permitted sanitary landfill, the permittee shall submit a sludge management plan to EPD for written approval.

5.5 Watershed Protection Plan (WPP)

The County has an approved WPP; therefore, language has been included in the draft permit to reflect the approved plan. The permittee must submit an updated WPP to EPD for review and approval to reflect a change in the bacterial indicator. Please visit our website at for more information.

5.6 Service Delivery Strategy

Dekalb County Department of Watershed Management is in compliance with the Department of Community Affairs approved Service Delivery Strategy for Dekalb County.

5.7 Metropolitan North Georgia Water Wastewater Plan

Dekalb County is in compliance with the Metropolitan North Georgia Water Planning District (MNGWPD)'s Water Resource Management Plan.

5.8 Compliance Schedules

Effluent limitations are applicable immediately upon the effective date of the permit.

5.9 Anti-Backsliding

The limits in this permit are in compliance with the 40 C.F.R. 122.44(l), which requires a reissued permit to be as stringent as the previous permit.

The replacement of the fecal coliform effluent limit with either *E. coli* or Enterococci effluent limits is considered equivalently protective of the instream water quality fecal coliform criteria. The *E. coli* or Enterococci effluent limits apply water quality criteria at the “end-of-pipe” and a discharge in compliance with the effluent limits will not cause or contribute to excursions above the new water quality criteria for *E. coli* or Enterococci criteria. Therefore, EPD believes that the replacement of fecal coliform effluent limits with *E. coli* or Enterococci effluent limits is compliant with Section 303(d)(4)(A) and Section 303(d)(B) of the CWA as the existing effluent limitations are based on either a WLA or TMDL, and the water quality modeling indicates that attainment of the water quality standards is assured. EPD does not believe that the change in bacteria indicator will result in further degradation of the receiving water(s) or have any effect whatsoever regarding the protection of designated uses. Hence, changing the pathogen indicator and associated effluent limits in NPDES point source permits for fecal coliform is not considered backsliding. The inclusion of *E. coli* and Enterococci effluent limits simply use a different pathogen indicator to provide the same level of protection for the designated use of primary and secondary contact recreation as is currently required in Section 301(b)(1)(C) of the CWA and at 40 CFR 122.44(d).

5.10 Development of a Comprehensive Permitting Strategy for Nutrients

The Clean Water Act (CWA) authorizes EPA and delegated states to develop and implement water quality standards to protect human health and the environment. In 1990, the Georgia General Assembly passed the “Lake Law” (OCGA 12-5-23.1) that authorizes the Environmental Protection Division (EPD) to establish water quality standards for each publicly owned lake or reservoir located wholly or partially within the state of Georgia that have a normal pool level surface average of 1,000 or more acres. The law requires that a comprehensive study of each lake be conducted prior to the adoption of lake and major tributary water quality standards. Since that time, Georgia has evaluated all our waterbodies for nutrients and developed water quality models for our watershed, lakes, and estuaries.

EPD is developing a comprehensive Permitting Strategy for Nutrients (Nutrient Permitting Strategy). The development of the Nutrient Permitting Strategy will allow EPD to update the 2011 Phosphorus Strategy; develop a comprehensive nutrient reduction approach to tackle phosphorus, nitrogen, and their effect on chlorophyll *a*; and solicit stakeholder and permittee feedback on key strategy elements. EPD anticipates the Nutrient Permitting Strategy will provide some degree of regulatory certainty for point source dischargers and minimize the regulatory burden whereby EPD will be evaluating and establishing WLAs for nitrogen and phosphorus.

The Nutrient Permitting Strategy will complement the work completed over the last several decades and build upon the Nutrient WQS Plan, analyze available ambient and permitted discharge data, determine limiting factors, develop a reasonable potential analysis for total nitrogen and total phosphorus, develop TBELs, and provide a NPDES permit implementation schedule.

Upon completion of the Nutrient Management Strategy, EPD would begin implementing the Strategy by including site-specific nitrogen effluent limits and potentially new and reduced phosphorus limits, as applicable, in point source discharge permits, based on the results of lake and watershed models for those lakes with water quality standards. The development of effluent limits for point source dischargers into or upstream from lakes that currently do not have numeric nutrient criteria will be challenging. For these lakes, EPD may have to develop numeric nutrient targets ahead of establishing lake standards. This will allow a comprehensive evaluation to be performed to assess the discharge of phosphorus and nitrogen from point source dischargers and their effects on chlorophyll a in lakes.

In lieu of including numeric nutrient effluent limits for nitrogen (unless required in a TMDL or wasteload allocation), EPD will include a nutrient optimization permit condition, as appropriate in all domestic wastewater permits and non-POTW permits where nitrogen has been identified as a pollutant of concern or where there is a potential to discharge nutrients. Additionally, EPD will include a specific permit condition to reopen the permit during the 5-year term to include applicable nutrient effluent limits upon completion and implementation of the Nutrient Permitting Strategy.

5.11 Comprehensive Nutrient Optimization Plan

40 CFR 122.44(k) states that best management practices (BMPs) to control or abate the discharge of pollutants are acceptable when numeric effluent limitations are infeasible. While EPD develops a comprehensive Nutrient Permit Strategy, continues to develop water quality standards resulting in wasteload allocations and the development of numeric WQBELs, EPD is including a permit condition requiring the development of a Comprehensive Nutrient Optimization Plan (CNOP). Wastewater treatment efficiency optimization is an adaptive management strategy the Permittee shall use to limit the discharge of total phosphorus and total nitrogen. The CNOP will include a suite of site specific BMPs that EPD believe meets the intent of 40 CFR 122.44(k).

The proposed permit requires the permittee to develop, implement, and maintain a Comprehensive Nutrient Optimization Plan due 24 months following the permit effective date. The Permittee must use the CNOP to evaluate existing treatment processes for nutrient reduction. This must include identifying opportunities through influent source identification, operational adjustments designed to enhance nitrification and denitrification, minor retrofits such as the incorporation of anoxic zones, side-stream management opportunities, and minor upgrades. The Permittee must update the plan annually to evaluate effectiveness of the adopted strategies, reduction goals, and established targets.

6. REPORTING**6.1 Compliance office**

The facility has been assigned to the following EPD office for reporting, compliance and enforcement:

Georgia Environmental Protection Division
Watershed Compliance Program
2 Martin Luther King Jr. Drive
Suite 1462 East
Atlanta, Georgia 30334

6.2 E-Reporting

The permittee is required to electronically submit documents in accordance with 40 CFR Part 127.

7. REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS

Not applicable

8. PERMIT EXPIRATION

The permit will expire five years from the effective date.

9. PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS**9.1 Comment Period**

The Georgia Environmental Protection Division (EPD) proposes to issue a permit to this applicant subject to the effluent limitations and special conditions outlined above. These determinations are tentative.

The permit application, draft permit, and other information are available for review at 2 Martin Luther King Jr. Drive, Suite 1462 East, Atlanta, Georgia 30334, between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday and on EPD's website accessible through the publicly available Georgia EPD Online System (GEOS) at: <https://geos.epd.georgia.gov/GA/GEOS/Public/GovEnt/Shared/Pages/Main/Login.aspx> For additional information, you can contact 404-463-1511.

9.2 Public Comments

Persons wishing to comment upon or object to the proposed determinations are invited to submit same in writing to the EPD address above, or via e-mail at EPDcomments@dnr.ga.gov within 30 days of the initiation of the public comment period. All comments received prior to that date will be considered in the formulation of final determinations regarding the application. The permit number should be placed on the top of the first page of comments to ensure that your comments will be forwarded to the appropriate staff.

9.3 Public Hearing

Any applicant, affected state or interstate agency, the Regional Administrator of the U.S. Environmental Protection Agency (EPA) or any other interested agency, person or group of persons may request a public hearing with respect to an NPDES permit application if such request is filed within thirty (30) days following the date of the public notice for such application. Such request must indicate the interest of the party filing the request, the reasons why a hearing is requested, and those specific portions of the application or other NPDES form or information to be considered at the public hearing.

The Director shall hold a hearing if he determines that there is sufficient public interest in holding such a hearing. If a public hearing is held, notice of same shall be provided at least thirty (30) days in advance of the hearing date.

In the event that a public hearing is held, both oral and written comments will be accepted; however, for the accuracy of the record, written comments are encouraged. The Director or a designee reserves the right to fix reasonable limits on the time allowed for oral statements and such other procedural requirements, as deemed appropriate.

Following a public hearing, the Director, unless it is decided to deny the permit, may make such modifications in the terms and conditions of the proposed permit as may be appropriate and shall issue the permit.

If no public hearing is held, and, after review of the written comments received, the Director determines that a permit should be issued and that the determinations as set forth in the proposed permit are substantially unchanged, the permit will be issued and will become final in the absence of a request for a contested hearing. Notice of issuance or denial will be made available to all interested persons and those persons that submitted written comments to the Director on the proposed permit.

If no public hearing is held, but the Director determines, after a review of the written comments received, that a permit should be issued but that substantial changes in the proposed permit are warranted, public notice of the revised determinations will be given and written comments accepted in the same manner as the initial notice of application was given and written comments accepted pursuant to EPD Rules, Water Quality Control, subparagraph 391-3-6-.06(7)(b). The Director shall provide an opportunity for public hearing on the revised determinations. Such opportunity for public hearing and the issuance or denial of a permit thereafter shall be in accordance with the procedures as are set forth above.

9.4 Final Determination

At the time that any final permit decision is made, the Director shall issue a response to comments. The issued permit and responses to comments can be found at the following address:

<http://epd.georgia.gov/watershed-protection-branch-permit-and-public-comments-clearinghouse-0>

9.5 Contested Hearings

Any person who is aggrieved or adversely affected by the issuance or denial of a permit by the Director of EPD may petition the Director for a hearing if such petition is filed in the office of the Director within thirty (30) days from the date of notice of such permit issuance or denial. Such hearing shall be held in accordance with the EPD Rules, Water Quality Control, subparagraph 391-3-6-.01.

Petitions for a contested hearing must include the following:

1. The name and address of the petitioner;
2. The grounds under which petitioner alleges to be aggrieved or adversely affected by the issuance or denial of a permit;
3. The reason or reasons why petitioner takes issue with the action of the Director;
4. All other matters asserted by petitioner which are relevant to the action in question.

FACT SHEET

Appendix A

Snapfinger Creek Advanced Wastewater Treatment Facility NPDES Permit No. GA0024147

Waste Load Allocation (WLA)

National Pollutant Discharge Elimination System Wasteload Allocation Form

Part I: Background Information

WLA Request Type: Reissuance ☒ Expansion ☐ Relocation ☐ New Discharge ☐ Modification ☐
 Facility Name: **DeKalb County – Snapfinger Creek AWTF** County: **DeKalb** WQMU: **0490**
 NPDES Permit No.: **GA0024147** Expiration Date: **December 31, 2021** Outfall Number: **001**
 Receiving Water: **South River** River Basin: **Ocmulgee** 10-Digit HUC: **0307010301**
 Discharge Type: Domestic ☒ Industrial ☐ Both ☐ Proportion (D:I): Flow(s) Requested (MGD): **36, 44**
 Ecoregion: **45b – Southern Outer Piedmont**
 Additional Information: (history, special conditions, other facilities):
 Requested by: **Audra Dickson** Program: **WRP** Date: **9/13/2022**

Part II: Receiving Water Information

Receiving Water: **South River** Designated Use Classification: **Fishing**
 Integrated 305(b)/303(d) List: Yes ☒ No ☐ Supporting ☐ Not Supporting ☒ Criteria: **Fecal Coliform, Fish Tissue (PCBs)**
 Total Maximum Daily Load: Yes ☒ No ☐ Parameter(s) **FC, PCBs** WLA Complies with TMDL Yes ☒ No ☐

The 2002 TMDL for PCBs in South River specifies that a reasonable potential analysis shall be conducted for individual point source dischargers. The 2007 TMDL and TMDL Supplement for fecal coliform in South River requires current and future wastewater treatment facilities to have an end-of-pipe fecal coliform and/or E coli limits equivalent to the water quality standard of 200 counts/100mL and/or 126 counts/100 mL or less, respectively.

Part III: Water Quality Model Review Information

Model Type: Uncalibrated ☒ Calibrated ☐ Verified ☐ Cannot be Modeled ☐ Model Length (mi): **38.2**
 Field Data: None ☒ Fair ☐ Good ☐ Excellent ☐
 Model and Field Data Description: **Steady state dissolved oxygen Georgia DOSAG model**
 Critical Water Temperature (°C): **26** Drainage Area (mi²): **102** Mean annual streamflow at discharge (cfs): **180**
 7Q10 Yield (cfs/mi²): **0.06** Velocity (range fps): **0.17 – 0.57** 30Q3 streamflow at discharge (cfs): **16**
 Effluent Flow Rate (cfs): **56, 68** 7Q10 IWC (%): **90, 92** 7Q10 streamflow at discharge (cfs): **6**
 Slope (range - fpm): **3.1 – 20** K1: **0.1** K3: **0.3** K2: **1 – 17** 1Q10 streamflow at discharge (cfs): **4**
 SOD: **1.2** f-Ratio (BOD_u/BOD₅): **3** Escape Coef. (ft⁻¹): **0.08**
The predicted minimum dissolved oxygen concentration is 5.7 mg/L, occurring 21.2 miles downstream from the discharge.
The modeling parameters cited above are from the modeling analysis for the original waste load allocation.

Part IV: Recommended Permit Limitations and Conditions (mg/L as a monthly average except as noted)

Rationale:	Same as current <input checked="" type="checkbox"/> Revised <input type="checkbox"/> New <input type="checkbox"/>									
Location:	South River (33.662947° N, 84.21735° W)									
Period	Effluent Flow Rate ¹ (MGD)	BOD ₅	NH ₃ -N	DO (min.)	TRC ² (daily max.)	E. Coli (No./100ml)	pH (std. units)	Total P	Ortho-P	TKN, Nitrate–Nitrite, Organic N
Jan – Mar	36	20	3.5	6.0	0.01	126	6.0 – 8.5	0.30	Monitor	Monitor
Apr – Jun	36	15	1.2	6.0	0.01	126	6.0 – 8.5	0.30	Monitor	Monitor
Jul – Sep	36	10	0.8	6.0	0.01	126	6.0 – 8.5	0.30	Monitor	Monitor
Oct – Dec	36	15	1.1	6.0	0.01	126	6.0 – 8.5	0.30	Monitor	Monitor
Jan – Mar	44	16	3.2	6.0	0.01	126	6.0 – 8.5	0.25	Monitor	Monitor
Apr – Jun	44	12	1.1	6.0	0.01	126	6.0 – 8.5	0.25	Monitor	Monitor
Jul – Sep	44	8.0	0.7	6.0	0.01	126	6.0 – 8.5	0.25	Monitor	Monitor
Oct – Dec	44	12	1.0	6.0	0.01	126	6.0 – 8.5	0.25	Monitor	Monitor

Additional Comments:

¹The combined total discharge to the South River from the Polebridge Creek Advanced WTF (GA0026816) and the Snapfinger Creek Advanced WTF (GA0024147) shall not exceed 56 MGD as a monthly average.

²TRC limit applies only when chlorine is used at the facility.

- The current ammonia limits meet U.S. EPA's Aquatic Life Ambient Water Quality Criteria for Ammonia-Freshwater 2013 under the 30Q3 stream flow conditions.
- Priority pollutants permit limits, aquatic toxicity testing requirements, and other parameters required by categorical effluent guidelines or identified during review of permit application are to be determined by the Wastewater Regulatory Program.
- The permittee should continue effluent monitoring for ortho-p, TKN, nitrate-nitrite, and organic nitrogen. Total phosphorus and ortho-p should be analyzed from the same effluent sample; TKN, nitrate-nitrite, and NH₃ should be analyzed from the same effluent sample. Organic nitrogen should be calculated as TKN minus NH₃.
- The recommended E. coli limit meets the requirements of the bacteria TMDL and the water quality standards for bacteria in waters designated as "Fishing."

Prepared by: **Larry Guerra** *LCG* Date: **9/15/2022** Reviewed by: **Josh Welte** *JW* Date: **16.Sep.22**

Part V: Program Manager Comments

Elizabeth Booth

Elizabeth C. Booth

Date: **09/16/2022**

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Appendix B

**Snapfinger Creek Advanced Wastewater Treatment Facility
NPDES Permit No. GA0024147**

Reasonable Potential Analysis (RPA)

FACT SHEET

Appendix B

Snapfinger Creek AWWTF

NPDES Permit No. GA0024147

36 MGD

Stream Data (upstream of the discharge):

TSS:	10	mg/L
7Q10:	6.000	ft ³ /s
1Q10:	4.000	ft ³ /s
Mean flow:	180.00	ft ³ /s

Effluent Data:

Average Effluent TSS:	2.0	mg/L
Permitted Flow:	36,000,000	gal/day
Flow:	55.70	ft ³ /s

Stream data (downstream of the discharge):

Receiving Water Type:	Freshwater
Permit Type:	Municipal

Hardness:	12.0	mg/L
TSS (at 7Q10):	2.78	mg/L
Dilution factor (at mean annual flow):	4.2	
Dilution factor (at 7Q10):	1.11	
Dilution factor (at 1Q10):	1.07	

IWC (at mean annual flow):	24
IWC (at 7Q10):	90
IWC (at 1Q10):	93

Acute Water Quality Criteria (WQC_{Acute}) - Metals:

Metal	K _{PO}	α	f _D	Number of samples	Maximum effluent C _T (μg/L)	Instream C _D (μg/L)	WQC _{Acute} (μg/L)	WQC _{Acute} (adjusted) ⁽¹⁾ (μg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	3	0.0	0.0	340	170	no
Cadmium	4.00.E+06	-1.131	0.000	3	0.0	0.0	0.25	0.12	no
Chromium III	3.36.E+06	-0.930	0.00	3	0.0	0.0	100	50	no
Chromium VI	3.36.E+06	-0.930	0.00	3	0.0	0.0	16	8	no
Copper	1.04.E+06	-0.744	0.00	3	0.0	0.00	1.8	1	no
Lead	2.80.E+06	-0.800	0.00	3	0.0	0.0	6	3	no
Mercury	---	---	---	3	0.00322	0.0	1.4	1	no
Nickel	4.90.E+05	-0.572	0.00	3	0.0	0.0	78	39	no
Selenium	---	---	---	3	0.0	0.0	N/A	N/A	no
Zinc	1.25.E+06	-0.704	0.37	3	26.1	9.05	19	10	no

NOTES:

⁽¹⁾ The "adjusted" WQC is the WQC applicable to a pollutant based on the number of samples used in the analysis. In accordance with Georgia EPD's *NPDES Reasonable Potential Procedures*, January 2003, when less than 10 samples are used, the effluent concentration shall be compared to 50% of the acute WQC. The chronic WQC is always compared to 50% of the WQC.

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream} (mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$Instream C_D = \frac{Effluent C_T (mg/L) \times f_D}{DF} \quad mg/L$$

$$Dilution Factor = \frac{Q_{Stream} (ft^3/sec) + Q_{Effluent} (ft^3/sec)}{Q_{Effluent} (ft^3/sec)}$$

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Appendix B
Snapfinger Creek AWWTF
NPDES Permit No. GA0024147
36 MGD

Chronic Water Quality Criteria (WQC_{Chronic}) - Metals:

Metal	K _{PO}	α	f _D	Number of samples	Average effluent C _T (μg/L)	Instream C _D (μg/L)	WQC _{Chronic} (μg/L)	WQC _{Chronic} (adjusted) ⁽¹⁾ (μg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	3	0.0	0.0	150	75	no
Cadmium	4.00.E+06	-1.131	0.000	3	0.0	0.0	0.15	0	no
Chromium III	3.36.E+06	-0.930	0.00	3	0.0	0.0	13	7	no
Chromium VI	3.36.E+06	-0.930	0.00	3	0.0	0.0	11	6	no
Copper	1.04.E+06	-0.744	0.00	3	0.0	0.00	1.5	1	no
Lead	2.80.E+06	-0.800	0.00	3	0.0	0.0	0.2	0	no
Mercury	---	---	---	3	0.00303	0.0	0.012	0	no
Nickel	4.90.E+05	-0.572	0.00	3	0.0	0.0	9	4	no
Selenium	---	---	---	3	0.0	0.0	5.0	3	no
Zinc	1.25.E+06	-0.704	0.37	3	19.67	6.60	20	10	no

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{instream} (mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$Instream C_D = \frac{Effluent C_T (mg/L) \times f_D}{DF} \quad mg/L$$

Total Recoverable Metal Effluent Limit

Metal	C _s (μg/L)	Chronic C _T (μg/L)	Chronic C _T (lb/day)	Acute C _T (μg/L)	Acute C _T (lb/day)
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	N/A	N/A	N/A	N/A
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	N/A	N/A	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Selenium	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	N/A	N/A	N/A	N/A

NOTES:

- Chronic and acute total recoverable metal effluent concentration (C_T) from EPA 823-B-96-007, June 1996, page 33:

$$Chronic C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q_{10}) - (7Q_{10} \times C_s)}{Q_E} \quad Acute C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q_{10}) - (1Q_{10} \times C_s)}{Q_E}$$

⁽¹⁾ The "adjusted" WQC is the WQC applicable to a pollutant based on the number of samples used in the analysis. In accordance with Georgia EPD's *NPDES Reasonable Potential Procedures*, January 2003, when less than 10 samples are used, the effluent concentration shall be compared to 50% of the acute WQC. The chronic WQC is always compared to 50% of the WQC.

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Appendix B
Snapfinger Creek AWWTF
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36 MGD

Water Quality Criteria (WQC) - Non Metals and Other Toxic Priority Pollutants:

Pollutant	Effluent C_T ($\mu\text{g/L}$)	Instream Concentration ($\mu\text{g/L}$)	Number of samples	WQC ($\mu\text{g/L}$)	WQC ($\mu\text{g/L}$) (adjusted) ⁽¹⁾	Action needed?
Chloroform (Trichloromethane)	22.0	5.199	3	470.0000	235.0000	no

NOTES:

- Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.
- If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constituent will be considered not to be present at levels of concern.
- If the calculated instream concentration is greater than 50% of the instream water quality criteria, then additional monitoring may be required or a limit for that constituent may be included in the permit.

Non Metal and Other Toxic Priority Pollutants Effluent Limit

Non Metal	C_s ($\mu\text{g/L}$)	C_T ($\mu\text{g/L}$)	C_T (lb/day)
Chloroform (Trichloromethane)	0.0	N/A	N/A

NOTES:

- Chronic and acute effluent concentration (C_T) from **EPA 823-B-96-007, June 1996, page 33:**

$$\text{Chronic } C_T = \frac{WQC_{\text{Chronic}} \times (Q_E + 7Q_{10}) - (7Q_{10} \times C_s)}{Q_E}$$

$$\text{Acute } C_T = \frac{WQC_{\text{Acute}} \times (Q_E + 1Q_{10}) - (1Q_{10} \times C_s)}{Q_E}$$

⁽¹⁾ The "adjusted" WQC is the WQC applicable to a pollutant based on the number of samples used in the analysis. In accordance with Georgia EPD's *NPDES Reasonable Potential Procedures*, January 2003, when less than 10 samples are used, the effluent concentration shall be compared to 50% of the WQC.

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Appendix C

**Snapfinger Creek Advanced Wastewater Treatment Facility
NPDES Permit No. GA0024147**

Ammonia Toxicity Calculations

Ammonia Toxicity Analysis for Waste Load Allocation Development

Phase I (36 MGD)

Date: 6/7/21

Facility: Dekalb County - Snapfinger Creek WPCP

NPDES Permit Number: GA0024147

Receiving Stream: South River in the Ocmulgee River Basin

Engineer:

Comments: **January - March**

Background stream pH and NH3 based on data available at RV_04_836 South River at Flakes Mill Road

Stream and Facility Data:

Background Stream pH (standard units): 7.1

Effluent pH (standard units): 8.5

Final Stream pH (standard units): 7.33

Stream Temperature (Celsius): 13.0

30Q3 Streamflow (cfs): 76.5

Stream background concentration (Total NH3-N, mg/L): 0.12

Facility Discharge (MGD/cfs): 36 55.71

Total Combined Flow (cfs): 132.21

Effluent concentration (Total NH3-N, mg/L) = 5.8

If 5.8 is greater than 17.4 mg/L, use 17.4 mg/L in WLA modeling.

Chronic Criterion based on Villosa iris (Rainbow mussel):

Instream CCC = criterion continuous concentration (chronic criterion):

$$CCC = 0.8876 \times (0.0278 / (1 + 10^{(7.688 - pH)})) + 1.1994 / (1 + 10^{(pH - 7.688)}) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))})$$

Allowable instream concentration CCC (Total NH3-N, mg/l) = 2.50

Based on National Criterion For Ammonia In Fresh Water As Revised In Year 2013

Source: Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013, U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, EPA-822-R-13-001. April 2013. Washington, D.C.

Georgia Department of Natural Resources, Environmental Protection Division, Atlanta, Georgia

**Ammonia Toxicity Analysis
for
Waste Load Allocation Development

Phase I (36 MGD)**

Date: 6/7/21
Facility: Dekalb County - Snapfinger Creek WPCP
NPDES Permit Number: GA0024147
Receiving Stream: South River in the Ocmulgee River Basin
Engineer:
Comments: **April - June**

Background stream pH and NH₃ based on data available at RV_04_836 South River at Flakes Mill Road

Stream and Facility Data:

Background Stream pH (standard units): 7.1
Effluent pH (standard units): 8.5
Final Stream pH (standard units): 7.40
Stream Temperature (Celsius): 24.0
30Q3 Streamflow (cfs): 51.6
Stream background concentration (Total NH₃-N, mg/L): 0.12
Facility Discharge (MGD/cfs): 36 55.71
Total Combined Flow (cfs): 107.31

Effluent concentration (Total NH₃-N, mg/L) = 2.1

If 2.1 is greater than 17.4 mg/L, use 17.4 mg/L in WLA modeling.

Chronic Criterion based on Villosa iris (Rainbow mussel):

Instream CCC = criterion continuous concentration (chronic criterion):

$$CCC = 0.8876 \times (0.0278 / (1 + 10^{(7.688 - pH)})) + 1.1994 / (1 + 10^{(pH - 7.688)}) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))})$$

Allowable instream concentration CCC (Total NH₃-N, mg/l) = 1.17

Based on National Criterion For Ammonia In Fresh Water As Revised In Year 2013

Source: Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013, U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, EPA-822-R-13-001. April 2013. Washington, D.C.

Georgia Department of Natural Resources, Environmental Protection Division, Atlanta, Georgia

**Ammonia Toxicity Analysis
for
Waste Load Allocation Development

Phase I (36 MGD)**

Date: 6/7/21

Facility: Dekalb County - Snapfinger Creek WPCP

NPDES Permit Number: GA0024147

Receiving Stream: South River in the Ocmulgee River Basin

Engineer:

Comments: **July - September**

Background stream pH and NH3 based on data available at RV_04_836 South River at Flakes Mill Road

Stream and Facility Data:

Background Stream pH (standard units): 7.1

Effluent pH (standard units): 8.5

Final Stream pH (standard units): 7.58

Stream Temperature (Celsius): 26.0

30Q3 Streamflow (cfs): 24.3

Stream background concentration (Total NH3-N, mg/L): 0.12

Facility Discharge (MGD/cfs): 36 55.71

Total Combined Flow (cfs): 80.01

Effluent concentration (Total NH3-N, mg/L) = 1.2

If 1.2 is greater than 17.4 mg/L, use 17.4 mg/L in WLA modeling.

Chronic Criterion based on Villosa iris (Rainbow mussel):

Instream CCC = criterion continuous concentration (chronic criterion):

$$CCC = 0.8876 \times (0.0278 / (1 + 10^{(7.688 - pH)})) + 1.1994 / (1 + 10^{(pH - 7.688)}) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))})$$

Allowable instream concentration CCC (Total NH3-N, mg/l) = 0.88

Based on National Criterion For Ammonia In Fresh Water As Revised In Year 2013

Source: Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013, U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, EPA-822-R-13-001. April 2013. Washington, D.C.

**Ammonia Toxicity Analysis
for
Waste Load Allocation Development

Phase I (36 MGD)**

Date: 6/7/21
Facility: Dekalb County - Snapfinger Creek WPCP
NPDES Permit Number: GA0024147
Receiving Stream: South River in the Ocmulgee River Basin
Engineer:
Comments: **October - December**

Background stream pH and NH₃ based on data available at RV_04_836 South River at Flakes Mill Road

Stream and Facility Data:

Background Stream pH (standard units): 7.1
Effluent pH (standard units): 8.5
Final Stream pH (standard units): 7.68
Stream Temperature (Celsius): 19.0
30Q3 Streamflow (cfs): 16.9
Stream background concentration (Total NH₃-N, mg/L): 0.12
Facility Discharge (MGD/cfs): 36 55.71
Total Combined Flow (cfs): 72.61

Effluent concentration (Total NH₃-N, mg/L) = 1.6

If 1.6 is greater than 17.4 mg/L, use 17.4 mg/L in WLA modeling.

Chronic Criterion based on Villosa iris (Rainbow mussel):

Instream CCC = criterion continuous concentration (chronic criterion):

$$CCC = 0.8876 \times (0.0278 / (1 + 10^{(7.688 - pH)})) + 1.1994 / (1 + 10^{(pH - 7.688)}) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))})$$

Allowable instream concentration CCC (Total NH₃-N, mg/l) = 1.25

Based on National Criterion For Ammonia In Fresh Water As Revised In Year 2013

Source: Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013, U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, EPA-822-R-13-001. April 2013. Washington, D.C.

Georgia Department of Natural Resources, Environmental Protection Division, Atlanta, Georgia

**Ammonia Toxicity Analysis
for
Waste Load Allocation Development
Phase II (44 MGD)**

Date: 6/7/21
Facility: Dekalb County - Snapfinger Creek WPCP
NPDES Permit Number: GA0024147
Receiving Stream: South River in the Ocmulgee River Basin
Engineer:
Comments: **January - March**

Background stream pH and NH3 based on data available at RV_04_836 South River at Flakes Mill Road

Stream and Facility Data:

Background Stream pH (standard units): 7.1
Effluent pH (standard units): 8.5
Final Stream pH (standard units): 7.36
Stream Temperature (Celsius): 13.0
30Q3 Streamflow (cfs): 76.5
Stream background concentration (Total NH3-N, mg/L): 0.12
Facility Discharge (MGD/cfs): 44 68.09
Total Combined Flow (cfs): 144.59

Effluent concentration (Total NH3-N, mg/L) = 5.1

If 5.1 is greater than 17.4 mg/L, use 17.4 mg/L in WLA modeling.

Chronic Criterion based on Villosa iris (Rainbow mussel):

Instream CCC = criterion continuous concentration (chronic criterion):

$$CCC = 0.8876 \times (0.0278 / (1 + 10^{(7.688 - pH)})) + 1.1994 / (1 + 10^{(pH - 7.688)}) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))})$$

Allowable instream concentration CCC (Total NH3-N, mg/l) = 2.44

Based on National Criterion For Ammonia In Fresh Water As Revised In Year 2013

Source: Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013, U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, EPA-822-R-13-001. April 2013. Washington, D.C.

Georgia Department of Natural Resources, Environmental Protection Division, Atlanta, Georgia

**Ammonia Toxicity Analysis
for
Waste Load Allocation Development

Phase II (44 MGD)**

Date: 6/7/21
Facility: Dekalb County - Snapfinger Creek WPCP
NPDES Permit Number: GA0024147
Receiving Stream: South River in the Ocmulgee River Basin
Engineer:
Comments: **April - June**

Background stream pH and NH3 based on data available at RV_04_836 South River at Flakes Mill Road

Stream and Facility Data:

Background Stream pH (standard units): 7.1
Effluent pH (standard units): 8.5
Final Stream pH (standard units): 7.44
Stream Temperature (Celsius): 24.0
30Q3 Streamflow (cfs): 51.6
Stream background concentration (Total NH3-N, mg/L): 0.12
Facility Discharge (MGD/cfs): 44 68.09
Total Combined Flow (cfs): 119.69

Effluent concentration (Total NH3-N, mg/L) = 1.9

If 1.9 is greater than 17.4 mg/L, use 17.4 mg/L in WLA modeling.

Chronic Criterion based on Villosa iris (Rainbow mussel):

Instream CCC = criterion continuous concentration (chronic criterion):

$$CCC = 0.8876 \times (0.0278 / (1 + 10^{(7.688 - pH)})) + 1.1994 / (1 + 10^{(pH - 7.688)}) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))})$$

Allowable instream concentration CCC (Total NH3-N, mg/l) = 1.13

Based on National Criterion For Ammonia In Fresh Water As Revised In Year 2013

Source: Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013, U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, EPA-822-R-13-001. April 2013. Washington, D.C.

Georgia Department of Natural Resources, Environmental Protection Division, Atlanta, Georgia

**Ammonia Toxicity Analysis
for
Waste Load Allocation Development

Phase II (44 MGD)**

Date: 6/7/21
Facility: Dekalb County - Snapfinger Creek WPCP
NPDES Permit Number: GA0024147
Receiving Stream: South River in the Ocmulgee River Basin
Engineer:
Comments: **July - September**

Background stream pH and NH₃ based on data available at RV_04_836 South River at Flakes Mill Road

Stream and Facility Data:

Background Stream pH (standard units): 7.1
Effluent pH (standard units): 8.5
Final Stream pH (standard units): 7.63
Stream Temperature (Celsius): 26.0
30Q3 Streamflow (cfs): 24.3
Stream background concentration (Total NH₃-N, mg/L): 0.12
Facility Discharge (MGD/cfs): 44 68.09
Total Combined Flow (cfs): 92.39

Effluent concentration (Total NH₃-N, mg/L) = 1.1

If 1.1 is greater than 17.4 mg/L, use 17.4 mg/L in WLA modeling.

Chronic Criterion based on Villosa iris (Rainbow mussel):

Instream CCC = criterion continuous concentration (chronic criterion):

$$CCC = 0.8876 \times (0.0278 / (1 + 10^{(7.688 - pH)})) + 1.1994 / (1 + 10^{(pH - 7.688)}) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))})$$

Allowable instream concentration CCC (Total NH₃-N, mg/l) = 0.83

Based on National Criterion For Ammonia In Fresh Water As Revised In Year 2013

Source: Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013, U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, EPA-822-R-13-001. April 2013. Washington, D.C.

Georgia Department of Natural Resources, Environmental Protection Division, Atlanta, Georgia

**Ammonia Toxicity Analysis
for
Waste Load Allocation Development
Phase II (44 MGD)**

Date: 6/7/21
Facility: Dekalb County - Snapfinger Creek WPCP
NPDES Permit Number: GA0024147
Receiving Stream: South River in the Ocmulgee River Basin
Engineer:
Comments: **October - December**

Background stream pH and NH3 based on data available at RV_04_836 South River at Flakes Mill Road

Stream and Facility Data:

Background Stream pH (standard units): 7.1
Effluent pH (standard units): 8.5
Final Stream pH (standard units): 7.74
Stream Temperature (Celsius): 19.0
30Q3 Streamflow (cfs): 16.9
Stream background concentration (Total NH3-N, mg/L): 0.12
Facility Discharge (MGD/cfs): 44 68.09
Total Combined Flow (cfs): 84.99

Effluent concentration (Total NH3-N, mg/L) = 1.4

If 1.4 is greater than 17.4 mg/L, use 17.4 mg/L in WLA modeling.

Chronic Criterion based on Villosa iris (Rainbow mussel):

Instream CCC = criterion continuous concentration (chronic criterion):

$$CCC = 0.8876 \times (0.0278 / (1 + 10^{(7.688 - pH)})) + 1.1994 / (1 + 10^{(pH - 7.688)}) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))})$$

Allowable instream concentration CCC (Total NH3-N, mg/l) = 1.17

Based on National Criterion For Ammonia In Fresh Water As Revised In Year 2013

Source: Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013, U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, EPA-822-R-13-001. April 2013. Washington, D.C.

Georgia Department of Natural Resources, Environmental Protection Division, Atlanta, Georgia

FACT SHEET

Appendix D

**Snapfinger Creek Advanced Wastewater Treatment Facility
NPDES Permit No. GA0024147**

Percent Minimum Significant Difference (PMSD)

FACT SHEET

Appendix D

Dekalb County - Snapfinger Creek AWWTF NPDES Permit No. GA0024147

WET Test PMSD Values:

PMSD = Minimum Significant Data (MSD) / Control Mean x 100 %

WET Test #1

2017

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	7.37	22.90	32.2	Within
Fathead Minnow (P. promelas)	12-30	0.15	0.86	17.4	Within

WET Test #2

2018

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	4.57	24.40	18.7	Within
Fathead Minnow (P. promelas)	12-30	0.05	0.59	8.5	Within

WET Test #3

2019

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	6.52	22.80	28.6	Within
Fathead Minnow (P. promelas)	12-30	0.07	0.42	16.2	Within

WET Test #4

2020

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	4.71	24.40	19.3	Within
Fathead Minnow (P. promelas)	12-30	0.10	0.50	19.2	Within

WET Test #5

2021

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	8.01	30.20	26.5	Within
Fathead Minnow (P. promelas)	12-30	0.09	0.47	18.6	Within