GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

EPD Director's Office
2 Martin Luther King, Jr. Drive
Suite 1456, East Tower
Atlanta, Georgia 30334
404-656-4713

JUN 21 2019

Ms. Stacey Mathis, City Manager
City of Sylvania
104 South Main Street
Sylvania, GA 30467

RE: Permit Issuance
Sylvania Water Pollution Control Plant
NPDES Permit No. GA0021385
Screven County, Savannah River Basin

Dear Ms. Mathis

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 Environnemental Protection Division
East Central District
3525 Walton Way, Ext.
Augusta, Georgia 30909

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 Alyssa Thomson at 404-463-4946 or *alyssa.thomson@dnr.ga.gov*.

Sincerely,

Richard E. Dunn
Director

RED\aht
Attachment: NPDES Permit No. GA0021385, Fact Sheet
cc: Marcus Hobgood, EOM Operations (*mhobgood@eomworx.com*)
Charlie Heino, EOM Operations (*cheino@eomworx.com*)
Jeff Darley, East Central District (*jeff.darley@dnr.ga.gov*)
EPA Region IV Mailbox (*R4NPDESPermits@epa.gov*)

Permit No. GA0021385
Issuance Date: JUN 21 2019

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

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,

City of Sylvania
104 South Main Street
Sylvania, Georgia 30467

is authorized to discharge from a facility located at

Sylvania Water Pollution Control Plant
624 Friendship Road
Sylvania, Georgia 30467
(Screven County)

to receiving waters

Buck Creek
(Savannah 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 September 28, 2017, 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 July 1, 2019.

This permit and the authorization to discharge shall expire at midnight, June 30, 2024.

STATE OF GEORGIA CONSTITUTION 1776

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. MONITORING

The concentration of pollutants in the discharge will be limited as indicated by the table(s) labeled "Effluent Limitations and Monitoring Requirements."

a. The monthly average, other than for fecal coliform bacteria, is the arithmetic mean of values obtained for samples collected during a calendar month.

b. The weekly average, other than for fecal coliform bacteria, 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.

c. Fecal coliform bacteria will be reported as the geometric mean of the values for the samples collected during the time periods in I.A.1.a. and I.A.1.b.

d. Untreated wastewater influent samples required by I.B. shall be collected before any return or recycle flows. These flows include returned activated sludge, supernatants, centrates, filtrates, and backwash.

e. Effluent samples required by I.B. of this permit shall be collected after the final treatment process and before discharge to receiving waters. Composite samples may be collected before disinfection with written EPD approval.

f. A composite sample shall consist of a minimum of 5 subsamples collected at least once every 2 hours for at least 8 hours and shall be composited proportionately to flow.

g. 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 ± 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.

h. If secondary flow instruments malfunction or fail to maintain calibration as required in I.A.1.g., the flow shall be computed from manual measurements taken at the times specified for the collection of composite samples.

i. 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.

2. 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.

3. 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).

4. 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.

5. 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 Buck Creek - Outfall #001 (32.765944°, -81.614278°):

The discharge from the water pollution control plant shall be limited and monitored by the permittee as specified below starting on the effective date of the permit and continuing until completion of the compliance schedules:

Parameters	Discharge limitations in mg/L (kg/day) unless otherwise specified		Monitoring Requirements		
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type	Sample Location
Flow (MGD)	1.51	1.89	Seven Days/Week	Continuous Recording	Effluent
Five-Day Biochemical Oxygen Demand (1) (3)	30 (172)	45 (215)	Three Days/Week	Composite	Influent & Effluent
Total Suspended Solids (1) (3)	30 (172)	45 (215)	Three Days/Week	Composite	Influent & Effluent
Ammonia, as N (2) (4)	2.0 (11)	3.0 (14)	Three Days/Week	Composite	Effluent
Fecal Coliform Bacteria (#/100 mL)	200	400	Two Days/Week	Grab	Effluent
Total Recoverable Copper (µg/L) (3)	24 (0.140)	35 (0.203)	One Day/Month	Composite	Effluent

(1) Numeric limits only apply to the effluent.

(2) Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen must be analyzed or calculated from the same sample. Organic nitrogen, as N = TKN – ammonia, as N

(3) Refer to Part I.C.9. FIVE-DAY BIOCHEMICAL OXYGEN DEMAND (BOD_5), TOTAL SUSPENDED SOLIDS (TSS), DISSOLVED OXYGEN (DO), TOTAL RECOVERABLE ZINC, TOTAL CYANIDE and TOTAL RECOVERABLE COPPER COMPLIANCE SCHEDULE

(4) Refer to Part I.C.10. AMMONIA COMPLIANCE SCHEDULE

(Effluent limitations continued on the next page)

B.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

Discharge to Buck Creek - Outfall #001 (32.765944°, -81.614278°):

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, (Standard Unit), Daily Minimum – Daily Maximum	6.0 – 8.5	Seven Days/Week	Grab	Effluent
Dissolved Oxygen, Daily Minimum (2)	5.0	Seven Days/Week	Grab	Effluent
Total Residual Chlorine, Daily Maximum	0.011	Seven Days/Week	Grab	Effluent
Total Phosphorus, as P (3)	Report	One Day/Month	Composite	Effluent
Orthophosphate, as P (3)	Report	One Day/Month	Composite	Effluent
Organic Nitrogen, as N (4)	Report	One Day/Month	Composite	Effluent
Nitrate-Nitrite, as N (4)	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N (4)	Report	One Day/Month	Composite	Effluent
Total Recoverable Mercury (µg/L) (5)	Report	One Day/Month	Composite	Effluent
Total Recoverable Zinc (µg/L) (5)	Report	One Day/Month	Composite	Effluent
Total Cyanide (µg/L) (5)	Report	One Day/Month	Composite	Effluent
Bis(2-ethylhexyl)phthalate (µg/L) (5)	Report	One Day/Month	Composite	Effluent
Long-Term Biochemical Oxygen Demand (6)	See Below	See Below	Composite	Effluent
Chronic Whole Effluent Toxicity (%) (7)	NOEC ≥ 100	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) Refer to Part I.C.9. FIVE-DAY BIOCHEMICAL OXYGEN DEMAND (BOD_5), TOTAL SUSPENDED SOLIDS (TSS), DISSOLVED OXYGEN (DO), TOTAL RECOVERABLE ZINC, TOTAL CYANIDE and TOTAL RECOVERABLE COPPER COMPLIANCE SCHEDULE

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

(4) Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen must be analyzed or calculated from the same sample. Organic nitrogen, as N = TKN – ammonia, as N

(5) Refer to Part I.C.11. TOTAL RECOVERABLE MERCURY, TOTAL HARDNESS & BIS(2-ETHYLHEXEL)PHTHALATE MONITORING

(6) Refer to Part I.C.13. LONG-TERM BIOCHEMICAL OXYGEN DEMAND

(7) Refer to Part I.C.12. CHRONIC WHOLE EFFLUENT TOXICITY

B.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to Buck Creek - Outfall #001 (32.765944°, -81.614278°):

The discharge from the water pollution control plant shall be limited and monitored by the permittee as specified below upon completion of the compliance schedules:

Parameters	Discharge limitations in mg/L (kg/day) unless otherwise specified		Monitoring Requirements		
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type	Sample Location
Flow (MGD)	1.51	1.89	Seven Days/Week	Continuous Recording	Effluent
Five-Day Biochemical Oxygen Demand [1] [3]	5.0 (29)	7.5 (36)	Three Days/Week	Composite	Influent & Effluent
Total Suspended Solids [1] [3]	20 (114)	30 (143)	Three Days/Week	Composite	Influent & Effluent
Ammonia, as N [2] [4]	0.7 (4.0)	1.1 (5.0)	Three Days/Week	Composite	Effluent
Fecal Coliform Bacteria (#/100 mL)	200	400	Two Days/Week	Grab	Effluent
Total Recoverable Copper (µg/L) [3]	13.1 (0.075)	18.1 (0.104)	One Day/Month	Composite	Effluent
Total Recoverable Zinc (µg/L) [3]	209 (1.20)	209 (1.20)	One Day/Month	Composite	Effluent
Total Cyanide (µg/L) [3]	5.6 (0.032)	8.4 (0.040)	One Day/Month	Composite	Effluent

(1) Numeric limits only apply to the effluent.

(2) Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen must be analyzed or calculated from the same sample. Organic nitrogen, as N = TKN – ammonia, as N

(3) Refer to Part I.C.9. FIVE-DAY BIOCHEMICAL OXYGEN DEMAND (BOD_5), TOTAL SUSPENDED SOLIDS (TSS), DISSOLVED OXYGEN (DO), TOTAL RECOVERABLE ZINC, TOTAL CYANIDE and TOTAL RECOVERABLE COPPER COMPLIANCE SCHEDULE

(4) Refer to Part I.C.10. AMMONIA COMPLIANCE SCHEDULE

(Effluent limitations continued on the next page)

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

Discharge to Buck Creek - Outfall #001 (32.765944°, -81.614278°):

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
Dissolved Oxygen, Daily Minimum (2)	6.0	Seven Days/Week	Grab	Effluent
Total Residual Chlorine, Daily Maximum	0.011	Seven Days/Week	Grab	Effluent
Total Phosphorus, as P (3)	Report	One Day/Month	Composite	Effluent
Orthophosphate, as P (3)	Report	One Day/Month	Composite	Effluent
Organic Nitrogen, as N (4)	Report	One Day/Month	Composite	Effluent
Nitrate-Nitrite, as N (4)	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N (4)	Report	One Day/Month	Composite	Effluent
Long-Term Biochemical Oxygen Demand (5)	See Below	See Below	Composite	Effluent
Chronic Whole Effluent Toxicity (%) (6)	NOEC $\geq$ 100	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) Refer to Part I.C.9. FIVE-DAY BIOCHEMICAL OXYGEN DEMAND (BOD_5), TOTAL SUSPENDED SOLIDS (TSS), DISSOLVED OXYGEN (DO), TOTAL RECOVERABLE ZINC, TOTAL CYANIDE and TOTAL RECOVERABLE COPPER COMPLIANCE SCHEDULE

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

(4) Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen must be analyzed or calculated from the same sample. Organic nitrogen, as N = TKN – ammonia, as N

(5) Refer to Part I.C.13. LONG-TERM BIOCHEMICAL OXYGEN DEMAND

(6) Refer to Part I.C.12. CHRONIC WHOLE EFFLUENT TOXICITY

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

Upon the effective date of this permit, the permittee must conduct a Watershed Assessment and develop a Watershed Protection Plan for all the watersheds that are contained within the permittee's Assessment Area. The Assessment Area is defined as all basins or subbasins that are served by the facility and for the watersheds contained within the permittee's jurisdictional boundaries. The Watershed Assessment should include a study to document baseline water quality and identify stressors which affect the quality of the water resources in the area. The scope of the work for the watershed protection plan must include defining what steps will be necessary to improve and ultimately meet water quality standards.

a. Watershed Assessment

At a minimum, the Watershed Assessment should include the following:

i. Develop a plan for the monitoring and assessment of all streams in the assessment area. This should include parameters to be monitored, monitoring frequencies, and other data to be collected.

ii. Determine methods for identifying waters not supporting designated water uses.

iii. Identify water resource concerns and priority issues for the assessment area.

b. Watershed Protection Plan

The permittee must develop a Watershed Protection Plan that reflects the findings of the Watershed Assessment.

The Watershed Protection Plan will provide for the following:

i. The Watershed Protection Plan will apply to the assessment area as defined above. 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.

c. Compliance Schedule

The permittee shall complete its Watershed Assessment and develop its Watershed Protection Plan in accordance with the following schedule:

i. Submit a Watershed Monitoring Plan to EPD for review within 9 months of the effective date of this permit. The Watershed Monitoring Plan should include details on data collection efforts and sampling requirements to be used in preparation of the Watershed Assessment. The permittee must respond to EPD comments on the Watershed Monitoring Plan, if any, within 1 month of the date of the comment letter.

ii. Begin stream sampling within 2 month of receiving EPD approval of the Watershed Assessment Plan.

iii. Complete and submit the Watershed Assessment within 24 months of receiving EPD approval of the Watershed Monitoring Plan. The permittee must respond to EPD comments on the Watershed Assessment, if any, within 1 month of the date of the comment letter.

iv. Submit an approvable Watershed Protection Plan no later than 6 months of receiving EPD approval of the Watershed Assessment. The permittee must respond to EPD comments on the Watershed Protection Plan, if any, within 1 month of the date of the comment letter.

Beginning 15 months from the effective date of the permit and every 6 months thereafter until EPD approves the permittee's Watershed Protection Plan; the permittee is to submit a report to EPD regarding the progress it has made towards completing its Watershed Assessment and developing its Watershed Protection Plan. After EPD approval of the Watershed Assessment Plan, the progress reports should include a summary of what stream data has been collected the previous 6 months. This data should be sent in the form of an electronic spreadsheet developed in coordination with EPD. The report should also estimate what percentage of the Watershed Assessment is complete.

All reports 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 1152 East
Atlanta, Georgia 30334

d. Annual Report

Once the Watershed Protection Plan is approved, 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 annual 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 1152 East
Atlanta, Georgia 30334

9. FIVE-DAY BIOCHEMICAL OXYGEN DEMAND (BOD_5), TOTAL SUSPENDED SOLIDS (TSS), DISSOLVED OXYGEN (DO), TOTAL RECOVERABLE ZINC, TOTAL CYANIDE, AND TOTAL RECOVERABLE COPPER COMPLIANCE SCHEDULE

The permittee shall comply with the BOD_5, TSS, DO, total recoverable zinc, total cyanide, and total recoverable copper effluent limitations in Part I.B.2. of this permit in accordance with the following schedule:

a. Within 9 months of the effective date of the permit, the permittee shall submit a design development report (DDR) to EPD for any modifications needed at the facility that will allow the facility to meet the BOD_5, TSS, DO, total recoverable zinc, total cyanide, and total recoverable copper effluent limitations in Part I.B.2. of this permit.

b. Within 18 months of the effective date of the permit, the permittee shall submit plans and specifications for any modifications needed at the facility that will allow it to meet the BOD_5, TSS, DO, total recoverable zinc, total cyanide, and total recoverable copper effluent limitations in Part I.B.2. of this permit.

c. Within 27 months of the effective date of the permit, the permittee shall begin construction of any modifications needed at the facility to allow it to attain compliance with the BOD_5, TSS, DO, total recoverable zinc, total cyanide, and total recoverable copper effluent limitations in Part I.B.2. of this permit.

d. Within 36 months of the effective date of the permit, the permittee shall comply with the BOD_5, TSS, DO, total recoverable zinc, total cyanide, and total recoverable copper effluent limitations in Part I.B.2. of this permit.

If at any time during the compliance schedule the permittee believes that the facility will be able to consistently meet the BOD_5, TSS, DO, total recoverable zinc, total cyanide, and/or total recoverable copper effluent limitations without having to make any plant modifications, then the permittee may choose to write a letter to EPD stating this. The letter needs to include data supporting the permittee's position. Upon written notification by EPD, the permittee may be excused from completing any remaining items in the above compliance schedule. However, the permittee will also be subject to the BOD_5, TSS, DO, total recoverable zinc, total cyanide, and/or total recoverable copper effluent limitations from the date of EPD's letter and any future exceedance of those BOD_5, TSS, DO, total recoverable zinc, total cyanide, and/or total recoverable copper effluent limitations in Part I.B.2. will be considered to be a permit violation. If the permittee does not receive written notification from EPD releasing it from the compliance schedule, then the permittee is required to complete all items in the schedule by the dates indicated and will be required to attain compliance with the BOD_5, TSS, DO, total recoverable zinc, total cyanide, and total recoverable copper effluent limitations in Part I.B.2. within 36 months of the effective date of the permit.

10. AMMONIA COMPLIANCE SCHEDULE

a. Within 30 days of the effective date of this permit, the permittee shall submit to EPD a letter that notifies EPD of the permittee's chosen option that will enable the permittee to meet the ammonia effluent limits by utilizing the compliance schedule as outlined in either Section 10.c.1. or Section 10.c.2. below.

b. Beginning on the effective date of the permit, the permittee shall meet the ammonia effluent limitations and monitoring requirements as specified in Part I.B.1.

c.1. Option 1

The permittee shall comply with the ammonia effluent limitations in Part I.B.2. of this permit in accordance with the following schedule:

i. Within 9 months of the effective date of the permit, the permittee shall submit a design development report (DDR) to EPD for any modifications needed at the facility that will allow the facility to meet the ammonia effluent limitations in Part I.B.2. of this permit.

ii. Within 18 months of the effective date of the permit, the permittee shall submit plans and specifications for any modifications needed at the facility that will allow it to meet the ammonia effluent limitations in Part I.B.2. of this permit.

iii. Within 27 months of the effective date of the permit, the permittee shall begin construction of any modifications needed at the facility to allow it to attain compliance with the ammonia effluent limitations in Part I.B.2. of this permit.

iv. Within 36 months of the effective date of the permit, the permittee shall comply with the effluent limitations in Part I.B.2. of this permit.

If at any time during the compliance schedule the permittee believes that the facility will be able to consistently meet the ammonia effluent limitations without having to make any plant modifications, then the permittee may choose to write a letter to EPD stating this. The letter needs to include data supporting the permittee's position. Upon written notification by EPD, the permittee may be excused from completing any remaining items in the above compliance schedule. However, the permittee will also be subject to the ammonia effluent limitations from the date of EPD's letter and any future exceedance of those ammonia effluent limitations in Part I.B.2. will be considered to be a permit violation. If the permittee does not receive written notification from EPD releasing it from the compliance schedule, then the permittee is required to complete all items in the schedule by the dates indicated and will be required to attain compliance with the ammonia effluent limitations in Part I.B.2. within 36 months of the effective date of the permit.

OR:

c.2. Option 2

Develop site specific ammonia effluent limitations based on a recalculation procedure in accordance with the following schedule:

i. Within 3 months of the effective date of the permit, the permittee shall submit to EPD a study plan that defines the study objectives and outlines the specific recalculation procedure that the permittee intends to use to 1) delineate the site and define mussel presence or absence, 2) conduct a literature and database search to determine resident mussel species in the receiving stream or a nearby representative stream, 3) conduct field mussel surveys, if necessary, and 4) develop site specific ammonia effluent limitations using the recalculation procedure that is protective of water quality and aquatic life. Documents that may be helpful in developing the study plan include EPA's "Technical Support Document for Conducting and Reviewing Freshwater Mussel Occurrence Surveys for the Development of Site-specific Water Quality Criteria for Ammonia" (EPA 800-R-13-003) and "Revised Deletion Process for the Site-Specific Recalculation Procedure for Aquatic Life Criteria" (EPA-823-13-001).

ii. Within 6 months of the effective date of the permit, the permittee shall submit a report to EPD that outlines the progress towards completing the recalculation procedure as outlined above.

iii. Within 12 months of the effective date of the permit, the permittee shall submit to EPD the results of the recalculation procedure, the recommended site specific ammonia effluent limitations, and a request to EPD to modify the permit. Upon EPD's approval of the recommended ammonia site specific effluent limitations, EPD will move forward with the permit process for modifying the NPDES permit.

iv. If the site specific ammonia effluent limitations are not approved by EPD and this NPDES permit is not modified, the permittee will utilize the compliance schedule as outlined below:

A. Within 9 months of EPD's denial letter regarding the site specific ammonia effluent limitations, the permittee shall submit a design development report (DDR) to EPD for any modifications needed at the facility that will allow it to meet the ammonia effluent limitations in Part I.B.2. of this permit.

B. Within 18 months of EPD's denial letter regarding the site specific ammonia effluent limitations, the permittee shall submit plans and specifications for any modifications needed at the facility that will allow it to meet the ammonia effluent limitations in Part I.B.2. of this permit.

C. Within 27 months of EPD's denial letter regarding the site specific ammonia effluent limitations, the permittee shall begin construction of any modifications needed at the facility to allow it to attain compliance with the ammonia effluent limitations in Part I.B.2. of this permit.

D. Within 36 months of EPD's denial letter regarding the site specific ammonia effluent limitations, the permittee must comply with the effluent limitations in Part I.B.2. of this permit.

If at any time during the compliance schedule the permittee believes that the facility will be able to consistently meet the ammonia effluent limitations without having to make any plant modifications, then the permittee may choose to write a letter to EPD stating this. The letter needs to include data supporting the permittee's position. Upon written notification by EPD, the permittee may be excused from completing any remaining items in the above compliance schedule. However, the permittee will also be subject to the ammonia effluent limitations from the date of EPD's letter and any future exceedance of those ammonia effluent limitations in Part I.B.2. will be considered to be a permit violation. If the permittee does not receive written notification from EPD releasing it from the compliance schedule, then the permittee is required to complete all items in the schedule by the dates indicated and will be required to attain compliance with the ammonia effluent limitations in Part I.B.2.

11. TOTAL RECOVERABLE MERCURY AND BIS(2-ETHYLHEXEL)PHTHALATE MONITORING

Upon the effective date of the permit, the permittee shall collect and analyze one sample per month for total recoverable mercury and bis(2-ethylhexel)phthalate in the effluent. Total recoverable mercury must be sampled and analyzed using EPA Method 1631E. Monitoring for these parameters shall continue for a period of twelve months.

Within thirteen months of the effective date of the permit, the permittee shall submit a report to EPD that includes a summary of the effluent and stream 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 1152 East
Atlanta, Georgia 30334

Upon receipt of the report, EPD will conduct a reasonable potential evaluation. If it is determined that total recoverable mercury and/or bis(2-ethylhexel)phthalate are present in the effluent at levels of concern, EPD will reopen the permit to include a limit for the applicable pollutant.

12. CHRONIC WHOLE EFFLUENT TOXICITY (WET)

The permittee must conduct annual chronic Whole Effluent Toxicity (WET) tests. The testing must include 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*).

13. LONG-TERM BIOCHEMICAL OXYGEN DEMAND TESTING

The permittee shall perform a 120-day Long-Term BOD test once during the permit cycle. The test should be performed on an effluent sample collected during the critical period from June 1 through September 30. The results of this test shall be submitted to EPD at least 180 days prior to the permit expiration date to the following address:

Environmental Protection Division
Watershed Planning and Monitoring Program
2 Martin Luther King Jr. Drive SE
Suite 1152 East
Atlanta, Georgia 30334

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, 2020,** 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 II 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. Fecal Coliform 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

INDUSTRIAL PRETREATMENT PROGRAM FOR PUBLICLY OWNED TREATMENT WORKS (POTW)

1. The permittee may establish and operate an approved industrial pretreatment program.

2. If the EPD determines that the permittee is required to develop a local industrial pretreatment program, the permittee will be notified in writing. The permittee shall immediately begin development of an industrial pretreatment program and shall submit it to the EPD for approval no later than one year after the notification.

3. During the interim period between determination that a program is needed and approval of the program, all industrial pretreatment permits shall be issued by the EPD.

4. The permittee shall notify the EPD of all industrial users connected to the system or proposing to connect to the system from the date of issuance of this permit.

5. Implementation of the Pretreatment Program developed by the State can be delegated to the permittee following the fulfillment of requirements detailed in 391-3-6-.09 of the Rules and Regulations for Water Quality Control.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

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

Technical Contact:

Alyssa Thomson, Environmental Specialist
alyssa.thomson@dnr.ga.gov
404-463-4946

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

1. FACILITY INFORMATION

1.1 NPDES Permit No.: GA0021385

1.2 Name and Address of Owner/Applicant

City of Sylvania
104 South Main Street
Sylvania, Georgia 30467

1.3 Name and Address of Facility

Sylvania Water Pollution Control Plant
624 Friendship Road
Sylvania, Georgia 30467

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

Outfall #	Latitude (°)	Longitude (°)	Receiving Waterbody
001	32.765944	-81.614278	Buck Creek

1.5 Permitted Design Capacity

1.51 MGD

1.6 SIC Code & 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, biological treatment (activated sludge), chemical addition, secondary clarification, chlorine disinfection and dechlorination. Treated effluent is then discharged to Buck Creek.

Solids processing:

Sludge is pumped to a belt press and conditioned with polymer prior to being hauled to a landfill.

1.8 Type of Wastewater Discharge

☐	Process wastewater	☐	Stormwater
☒	Domestic wastewater	☐	Combined (Describe)
☐	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)	1.646	0.677
Five-Day Biochemical Oxygen Demand (mg/L)	31.0	9.09
Total Suspended Solids (mg/L)	41.0	10.3
Fecal Coliform Bacteria (#/100mL)	33	4
Ammonia, as N (mg/L)	1.5	0.41
Total Phosphorus, as P (mg/L)	1.1	0.99

NA – Not Available

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	Municipal Effluent Discharge	40 CFR 122 40 CFR 125 40 CFR 133
	Non-Process Water Discharges	40 CFR 122 40 CFR 125
	Municipal Sludge Use and Disposal	40 CFR 122 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 use classifications, numeric and or narrative water quality criteria and an anti-degradation policy. The use classification system designates the beneficial 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 beneficial use classification for each water body. The antidegradation policy represents an approach to maintain and to protect various levels of water quality and uses.

3.1 Receiving Waterbody Classification and Information – Buck Creek:

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

Fishing: Propagation of Fish, Shellfish, Game and Other Aquatic Life; secondary contact recreation in and on the water; 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. For the months of May through October, when water contact recreation activities are expected to occur, fecal coliform not to exceed a geometric mean of 200 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. Should water quality and sanitary studies show fecal coliform levels from non-human sources exceed 200/100 mL (geometric mean) occasionally, then the allowable geometric mean fecal coliform shall not exceed 300 per 100 mL in lakes and reservoirs and 500 per 100 mL in free flowing freshwater streams. For the months of November through April, fecal coliform not to exceed a geometric mean of 1,000 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 and not to exceed a maximum of 4,000 per 100 mL for any sample. 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.

2. 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	0.3	0.2	0.2	2.6	40 [(1)]	10 [(2)]

(1) Hardness value based on monitoring downstream of the discharge.

(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

Buck Creek	Downstream Sylvania WPCP to Savannah River	Savannah	Not Supporting	DO	12	4a	TMDLs completed DO 2005 (revised 2007), FC (2005), cyanide (1999), Zn (1999) & Toxicity (2000).
GAR030601090101	Screven	Fishing	10	M	Miles		

Buck Creek is listed on the 2016 305(b)/303(d) list as not supporting its designated use (fishing). TMDLs have been completed for the impacted parameters (Dissolved Oxygen, Fecal Coliform Bacteria, Toxicity, and Cyanide and Zinc).

3.4 Total Maximum Daily Loads (TMDLs)

Cyanide and Zinc (1999):

A TMDL evaluation for Buck Creek in the Savannah River Basin for cyanide and zinc was completed in 1999. The TMDL lists the Sylvania WPCP as the only potential point source of cyanide and zinc. The TMDL recommends a loading of 0.029 kg/day and 0.58 Kg/day for cyanide and zinc, respectively. These loadings were developed based on a 7Q10 of 0 ft^3/s and an assumed instream hardness of 100 mg/L. The TMDL also assumes a partition coefficient of 1.0 to calculate the allowable loading for zinc. The limits for cyanide and total recoverable zinc in the draft permit are based on updated stream data (7Q10, hardness) and a calculated partition coefficient of 0.28.

Toxicity (2000):

A TMDL evaluation for Buck Creek in the Savannah River Basin for toxicity was completed in 2000. The TMDL lists the City of Sylvania as the only potential cause of toxicity impairment to the stream segment. The City submitted the results of four WET tests with the permit application. The recommendation for TMDL implementation is a reduction in whole effluent toxicity (WET) for the Sylvania WPCP effluent to levels at which WET limits are protective of instream toxicity during 7Q10 low flow conditions. The WET limit to meet this objective has been determined to be 1.0 Chronic Toxicity Unit (NOEC = 100%) based on a 7Q10 of 0 ft^3/s. The proposed WET limits in the permit is in accordance with the TMDL requirements completed in 2000 for Buck Creek in the Savannah River Basin for toxicity.

Fecal Coliform Bacteria (2005):

A TMDL evaluation for thirty-two steam segments in the Savannah River Basis for fecal coliform bacteria was completed in 2005. The TMDL list City of Sylvania as a potential source of fecal coliform bacteria impairment to the stream. The TMDL recommends that all municipal facilities be given end-of-pipe limits equivalent to the water quality standard of 200 counts/100 mL. The proposed fecal limit in the permit meets the 2005 TMDL requirement.

Dissolved Oxygen (2007):

The City of Sylvania was named on a 2005 TMDL, revised in 2007, for three stream segments in the Savannah River for Dissolved Oxygen. The recommended limits for Five-Day Biochemical Oxygen Demand (BOD_5), ammonia, and dissolved oxygen in the TMDL were 5.0 mg/L, 1.0 mg/L, and 6.0 mg/L, respectively. The proposed BOD_5, ammonia, and dissolved oxygen limits in the draft permit are in compliance with the TMDL.

5R Plan:

EPA established a TMDL in 2006 for the Savannah Harbor segment spanning from SR 25 (Old US Hwy 17) to Elba Island Cut. On May 13, 2016, EPA approved the Subcategory 5R Documentation for Point Source Dissolved Oxygen Impaired Water in the Savannah River Basin in Georgia and South Carolina (5R). This document supersedes the 2006 TMDL.

The 5R Plan addresses tributary dischargers, such as the Sylvania WPCP, as "background," meaning that as long as the UOD load (herein referred to as load) from these tributary dischargers reaches background levels before reaching the Savannah River, they are considered *de minimis* or have no significant impact on dissolved oxygen levels in the Savannah Harbor. This is due to the understanding that most of tributary facilities have small discharges in terms of flow and their loads are thought to be assimilated upstream of the harbor; therefore, they have little impact on the dissolved oxygen levels in the harbor when compared to the main-stem discharges.

While initial modeling indicated that the distance to the main-stem of the river for each tributary is not sufficient to decrease the load due to the small decay rates, additional distance and travel time in the Savannah River is necessary to further assimilate the tributary discharge loads (current permitted loads from each tributary facility). Therefore, GA EPD has modeled the system to the Savannah River at Hardeeville and determined the *de minimis* impact at this location rather than the mouth of the tributary, since Hardeeville is the upstream modeling boundary of the Savannah Harbor.

Modeling indicates there are no dissolved oxygen impacts to the Savannah River upstream from Hardeeville and that Hardeeville is an appropriate location to look at the impact of background residual loads as the Harbor's upstream boundary. Therefore, tributary dischargers were not directly modeled as part of the development of the Savannah Harbor 5R.

The total background residual load from Georgia's tributary facilities at Hardeeville is 4,687 lbs/day as given in Georgia's Savannah River Tributary Discharge Strategy. As long as the background load at Hardeeville attributed to the tributary facilities remains the same, the load will be considered *de minimis* and have no significant impact on dissolved oxygen levels in the Savannah Harbor. Since the models account for the existing loads from the tributary wastewater dischargers as part of the background pollutant load to the Savannah River and Harbor, any future expansions and introduction of new facilities in tributaries that discharge to the River will have to meet a performance standard to demonstrate that the new discharge is equal to the background concentration at the point of entry to the main stem of the River.

Sylvania WPCP is located upstream from Hardeeville; therefore, the modeling indicates that this facility's current permit limits during the critical months has no dissolved oxygen impacts to the Savannah Harbor. The effluent limitations included in the permit are in accordance with the TMDL requirements.

3.5 Wasteload Allocation (WLA)

WLA for reissuance was issued on November 09, 2017. Refer to *Appendix A* of the Fact Sheet for a copy of the WLAs.

4. EFFLUENT LIMITS AND PERMIT CONDITIONS

4.1 Reasonable Potential Analysis (RP)

Title 40 of the Federal Code of Regulations, 40 CFR 122.44(d) requires delegated 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 criteria 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's Reasonable Potential Procedures are based on Georgia's Rules and Regulations for Water Quality Control (Rules), Chapter 391-3-6-.06(4)(d)5. The 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 Rules in the evaluation of a permit application and in the evaluation of the reasonable potential for an effluent to cause an exceedance in the numeric or narrative criteria.

Refer to Section 4.2 for reasonable potential analysis on effluent toxicity.

Refer to Section 4.6 for reasonable potential analysis on toxic and manmade pollutants.

4.2 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, *Ceriodaphnia dubia* Survival and Reproduction Test	reproduction	13	47
Method 1003.0, *Selenastrum capricornutum* 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).

PMSD must be calculated for each species tested as follows:

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

The effluent from the Sylvania WPCP will not be considered toxic if the No Observed Effect Concentration (NOEC) is greater than or equal to the Instream Wastewater Concentration (IWC) of 100%.

The permittee submitted the results of four 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 100%; therefore, effluent is not considered toxic. Refer to WET Test results summary in the table below.

Test	Sample Date	No Observed Effect Concentration (NOEC)			
		Ceriodaphnia dubia		*Pimephales promelas*	
		Survival (%)	Reproduction (%)	Survival (%)	Growth (%)
1	9/2017	100	100	100	100
2	8/2018	100	100	100	100
3	9/2018	100	100	100	100
4	10/2018	100	100	100	100

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.

A chronic WET limit of NOEC ≥ 100 has been included in the permit in accordance with the 2000 TMDL for Toxicity in Buck Creek in the Savannah River Basin. The facility can meet the proposed limit; therefore a compliance schedule has not been included.

4.3 Applicable Water Quality Based Effluent Limitations (WQBELs)

When drafting a National Pollutant Discharge Elimination System (NPDES) permit, a permit writer must consider the impact of the proposed discharge on the quality of the receiving water. Water quality goals for a waterbody are defined by state water quality standards. By analyzing the effect of a 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. 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 that water quality standards are met in the receiving water and downstream uses are protected. On the basis of the requirements of Title 40 of the *Code of Federal Regulations* (CFR) 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.

The term *pollutant* is defined in CWA section 502(6) and § 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 § 401.16 (BOD_5, 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 chlorine, ammonia, nitrogen, phosphorus, chemical oxygen demand (COD), and whole effluent toxicity (WET).

4.4 Conventional Pollutants

Pollutants of Concern	Basis
pH	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.
Five-Day Biochemical Oxygen Demand (BOD_5)	The monthly average BOD_5 limit was decreased from 30 mg/L to 5.0 mg/L in accordance with 2007 TMDL requirement. A compliance schedule to meet the reduced limit was included in the draft permit.
Total Suspended Solids (TSS)	The facility will be equipped with tertiary treatment units such as filters to meet the proposed monthly average BOD_5 limit of 5.0 mg/L; therefore, the monthly average TSS limit was decreased from 30 mg/L to 20 mg/L to reflect upgraded facility design. A compliance schedule to meet the reduced limit was included in the draft permit.
Fecal Coliform Bacteria (FCB)	The monthly average limit of 200 #/100mL is in accordance with the instream Water Quality Standards (Section 3.1). and 2005 TMDL

4.5 Nonconventional Pollutants

Pollutants of Concern	Basis
Total Residual Chlorine (TRC)	Chlorine is used for disinfection. A daily maximum TRC limit of 0.011 mg/L has been determined using the US EPA's chronic TRC criterion of 11µg/L in the receiving stream after dilution. Refer to Section 4.6.3 below for calculations.
Dissolved Oxygen (DO)	The daily minimum DO limit was increased from 5.0 mg/L to 6.0 mg/L in accordance with the 2007 TMDL requirements. A compliance schedule to meet the new limit was included in the draft permit.
Total Phosphorus (TP)	Total Phosphorus monitoring has been included in the draft permit in accordance with EPD's *Strategy for Addressing Phosphorus in NPDES Permitting*, 2011.
Orthophosphate, Total Kjeldahl Nitrogen (TKN), Organic Nitrogen, Nitrate-Nitrite	Orthophosphate, organic nitrogen, nitrate-nitrite, and TKN monitoring has been included in the draft permit. The data will be used to determine nutrient speciation and to quantify nutrient loadings in the Savannah River Basin.
Ammonia (NH_3)	The monthly average ammonia limit was decreased from 2.0 mg/L to 0.7 mg/L in accordance with EPD's *NPDES Permitting Strategy for Addressing Ammonia Toxicity*, 2017. A compliance schedule to meet the new limit or to develop site specific ammonia effluent limitations has been included in the draft permit. If the City decides to develop site specific ammonia effluent limitations, the limit may not exceed 1.0 mg/L as stated in the 2007 TMDL. The proposed limit also meets the 2007 TMDL requirement.

4.6 Toxics & Manmade Organic Compounds

The permittee submitted the results of three Priority Pollutant Scans (PPS) with the permit application. Total Recoverable Copper data from the Discharge Monitoring Reports (DMRs) was also evaluated:

Pollutants of Concern	Basis
	This parameter was evaluated and its instream concentration was found to be greater than 50% of the acute and chronic instream standards. Refer to *Appendix B* of the Fact Sheet for reasonable potential evaluation.
Total Recoverable Copper	In accordance with EPD reasonable potential procedures, total recoverable copper is considered a pollutant of concern. The monthly average limit was decreased from 24 µg/L to 13.1 µg/L based on a 7Q10 of 0.2 ft^3/s and a stream hardness of 40 mg/L. A compliance schedule to meet the proposed limit has been included in the draft permit.
Total Recoverable Zinc	The 1999 TMDL recommends that effluent limitations be included in the Sylvania WPCP permit; a monthly average limit of 209 µg/L has been included in the draft permit. The limit was developed based on an updated 7Q10 of 0.2 ft^3/s, a stream hardness of 40 mg/L, and a calculated partition coefficient of 0.28. A compliance schedule to meet the proposed limit has been included in the draft permit. Refer to Appendix B for total recoverable zinc limit calculations.
	This parameter was evaluated and its instream concentration was found to be greater than 50% of the chronic instream standard. Refer to *Appendix B* of the Fact Sheet for reasonable potential evaluation.
Total Recoverable Mercury	In accordance with EPD reasonable potential procedures, total recoverable mercury is considered a pollutant of concern and additional monitoring for this pollutant has been included in the draft permit.
	This parameter was evaluated and its instream concentration was found to be less than 50% of the acute and chronic instream water quality standards. Refer to *Appendix B* for reasonable potential evaluation.
Total Recoverable Nickel	In accordance with EPD reasonable potential procedures, total recoverable nickel is not considered a pollutant of concern and additional monitoring is not required.

Total Recoverable Arsenic	This parameter was evaluated and its instream concentration was found to be less than 50% of the acute and chronic instream water quality standards. Refer to *Appendix B* for reasonable potential evaluation. In accordance with EPD reasonable potential procedures, total recoverable arsenic is not considered a pollutant of concern and additional monitoring is not required.
Bis(2-ethylhexyl) phthalate	This parameter was evaluated and its instream concentration was found to be greater than 50% of the instream water quality standards. Refer to *Appendix B* for reasonable potential evaluation. In accordance with EPD reasonable potential procedures, bis(2-ethylhexyl)phthalate is considered a pollutant of concern and additional monitoring for this pollutant has been included in the draft permit
Chloroform	This parameter was evaluated and its instream concentration was found to be less than 50% of the instream water quality standards. Refer to *Appendix B* for reasonable potential evaluation. In accordance with EPD reasonable potential procedures, chloroform is not considered a pollutant of concern and additional monitoring is not required.
Dieldrin	This parameter was evaluated and its instream concentration was found to be less than 50% of the instream water quality standards. Refer to *Appendix B* for reasonable potential evaluation. In accordance with EPD reasonable potential procedures, dieldrin is not considered a pollutant of concern and additional monitoring is not required.
Total Cyanide	The 1999 TMDL recommends that effluent limitations for total cyanide be included in the Sylvania WPCP permit; a monthly average limit of 5.6 µg/L was developed based on updated stream data (7Q10). A compliance schedule to meet the proposed limit has been included in the draft permit. Refer to Section 4.7 for total cyanide limit calculations.

Dibromochloromethane	Georgia Rules and Regulations do not have an instream criteria concentration for dibromochloromethane. Instead, according to Section 391-3-6-.06(4)(d)5(iii), whole effluent biomonitoring will be used to develop either a site-specific criteria concentration or a whole effluent toxicity limit. The effluent did not exhibit any toxicity (Refer to Section 4.2); therefore, dibromochlormethane is not considered to be present at levels of concern and additional monitoring is not required.
Bromodichloromethane	Georgia Rules and Regulations do not have an instream criteria concentration for bromodichloromethane. Instead, according to Section 391-3-6-.06(4)(d)5(iii), whole effluent biomonitoring will be used to develop either a site-specific criteria concentration or a whole effluent toxicity limit. The effluent did not exhibit any toxicity (Refer to Section 4.2); therefore, bromodichloromethane is not considered to be present at levels of concern and additional monitoring is not required.
Delta-BHC	Georgia Rules and Regulations do not have an instream criteria concentration for Delta-BHC. Instead, according to Section 391-3-6-.06(4)(d)5(iii), whole effluent biomonitoring will be used to develop either a site-specific criteria concentration or a whole effluent toxicity limit. The effluent did not exhibit any toxicity (Refer to Section 4.2); therefore, Delta-BHC is not considered to be present at levels of concern and additional monitoring is not required.
2,4-Dichlorophenoxyacetic acid (2,4-D)	This parameter was evaluated and its instream concentration was found to be less than 50% of the instream water quality standards. Refer to *Appendix B* for reasonable potential evaluation. In accordance with EPD reasonable potential procedures, 2,4-D is not considered a pollutant of concern and additional monitoring is not required.

4.7 Calculations for Effluent Limits

4.7.1 Instream Waste Concentration (IWC):

Q = Flow
C = Concentration
M = Mass

$$IWC = \frac{Q_{Effluent}\,(ft^3/sec)}{Q_{Effluent}\,(ft^3/sec) + 7Q10\,(ft^3/sec)} \times 100\ \%$$

$$= \frac{2.34}{2.34+0.2}$$

$$= 92\ \%$$

4.7.2 Flow:

- *Weekly Average Flow:*

$$Q_{Weekly} = Q_{Monthly}\,(MGD) \times 1.25$$

$$= 1.51 \times 1.25$$

$$= 1.89\ MGD$$

4.7.3 Five-Day Biochemical Oxygen Demand:

- *Weekly Average Concentration:*

$$[C]_{Weekly} = [C]_{Monthly}\,(mg/L) \times 1.5$$

$$= 5.0 \times 1.5$$

$$= 7.5\ mg/L$$

- *Monthly Average Mass Loading:*

$$M_{Monthly} = \frac{Q_{Monthly}\,(MGD) \times [C]_{Monthly}\,(mg/L \text{ or } ppm) \times 8.34\,(lbs/gal)}{2.2\,(lbs/Kg)}$$

$$= \frac{1.51 \times 5 \times 8.34}{2.2}$$

$$= 29\ kg/day$$

- *Weekly Average Mass Loading:*

$$M_{Weekly} = \frac{Q_{Weekly}\,(MGD) \times [C]_{Monthly}\,(mg/L \text{ or } ppm) \times 8.34\,(lbs/gal)}{2.2\,(lbs/Kg)}$$

$$= \frac{1.89 \times 5 \times 8.34}{2.2}$$

$$= 36 \text{ kg/day}$$

4.7.4 Total Suspended Solids:

- *Weekly Average Concentration:*

$[C]_{\text{Weekly}} = [C]_{\text{Monthly}}\ (\text{mg/L}) \times 1.5$

$= 20 \times 1.5$

$= 30 \text{ mg/L}$

- *Monthly Average Mass Loading:*

$$M_{\text{Monthly}} = \frac{Q_{\text{Monthly}}\ (\text{MGD}) \times [C]_{\text{Monthly}}\ (\text{mg/L or ppm}) \times 8.34\ (\text{lbs/gal})}{2.2\ (\text{lbs/Kg})}$$

$$= \frac{1.51 \times 20 \times 8.34}{2.2}$$

$$= 114 \text{ kg/day}$$

- *Weekly Average Mass Loading:*

$$M_{\text{Weekly}} = \frac{Q_{\text{Weekly}}\ (\text{MGD}) \times [C]_{\text{Monthly}}\ (\text{mg/L or ppm}) \times 8.34\ (\text{lbs/gal})}{2.2\ (\text{lbs/Kg})}$$

$$= \frac{1.89 \times 20 \times 8.34}{2.2}$$

$$= 143 \text{ kg/day}$$

4.7.5 Fecal Coliform Bacteria:

- *Weekly Average/Daily Maximum concentration:*

$C_{\text{Weekly/Max}} = C_{\text{Monthly}}\ (\#/100\ \text{mL}) \times 2$

$= 200 \times 2$

$= 400\ \#/100\ \text{mL}$

4.7.6. Total Residual Chlorine (TRC):

- *Daily Maximum Concentration:*

$$[TRC]_{Effluent} = \frac{[Q_{Effluent}(ft^3/sec) + 7Q10(ft^3/sec)] \times [TRC]_{Stream}(mg/L)}{Q_{Effluent}(ft^3/sec)}$$

$$= \frac{(2.34 + 0.2) \times 0.011}{2.34}$$

$$= 0.011 \text{ mg/L}$$

4.7.7 Ammonia Toxicity Analysis:

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

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

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:

$$[NH_3]_{Effluent} =$$

$$\frac{\left(Q_{Effluent}(ft^3/sec) + 30Q3(ft^3/sec)\right) \times CCC(mg/L) - 30Q3(ft^3/sec) \times [NH_3]_{Stream\ Background}(mg/L)}{Q_{Effluent}(ft^3/sec)}$$

Refer to *Appendix C* for detailed calculations.

4.7.8 Total Recoverable Zinc

Refer to *Appendix B* for metal limit calculations.

4.7.9. Total Cyanide:

- *Monthly Average Concentration:*

$$[Cyanide]_{Effluent} = \frac{(QEffluent + 7Q10) \times [Cyanide]Stream}{Q\ Effluent}$$

$$= \frac{(2.34 + 0.2) \times 5.2}{2.34}$$

$$= 5.6\ \mu g/L$$

- *Weekly Average Concentration:*

$$[C]_{Weekly} = [C]_{Monthly}(\mu g/L) \times 1.5$$

$$= 5.6 \times 1.5$$

$= 8.4\ \mu g/L$

- *Monthly Average Mass Loading:*

$$M_{Monthly} = \frac{Q_{Monthly}\,(MGD) \times [C]_{Monthly}\,(mg/L \text{ or } ppm) \times 8.34\,(lbs/gal)}{2.2\,(lbs/Kg)}$$

$$= \frac{1.51 \times 5.6 \times 8.34}{2.2}$$

$$= 0.032\ kg/day$$

- *Weekly Average Mass Loading:*

$$M_{Weekly} = \frac{Q_{Weekly}\,(MGD) \times [C]_{Monthly}\,(mg/L \text{ or } ppm) \times 8.34\,(lbs/gal)}{2.2\,(lbs/Kg)}$$

$$= \frac{1.89 \times 8.4 \times 8.34}{2.2}$$

$$= 0.040\ kg/day$$

4.8 Applicable Technology Based Effluent Limits (TBELS)

Technology-based effluent limitations 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 United States. TBELs are developed independently of the potential impact of a discharge on the receiving water, which is addressed through water quality standards and water quality-based effluent limitations. The NPDES regulations at Title 40 of the Code of Federal Regulations 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 indicates that permit writers must include in permits additional or more stringent effluent limitations and conditions, including those necessary to protect water quality.
For pollutants not specifically regulated by Federal Effluent Limit Guidelines, the permit writer must identify any needed Technology-based effluent limitations and utilizes best professional judgment to establish technology-based limits or determine other appropriate means to control its discharge.

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 (BOD_5), 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.	

4.9 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:

Parameter	WQBELS [1]	TBELS [1]
	Monthly Average	*Monthly Average*
Five-Day Biochemical Oxygen Demand (mg/L)	**5.0**	30.0
Total Suspended Solids (mg/L)	**None**	20.0
Ammonia (mg/L)	**0.7**	None
Fecal Coliform Bacteria (#/100 mL)	**200**	None
Dissolved Oxygen (mg/L), Daily Minimum	**6.0**	None
Total Recoverable Zinc (µg/L)	**13.1**	None
Total Recoverable Zinc (µg/L)	**209**	None
Total Cyanide (µg/L)	**5.6**	None
Total Residual Chlorine (mg/L), Daily Maximum	**0.011**	None
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, 4.6, 4.7, and 4.8 above for more information.

5. OTHER PERMIT REQUIREMENTS AND CONSIDERATIONS

5.1 Instream Monitoring

Stream monitoring requirements for dissolved oxygen, temperature, and pH has been removed in the draft permit. It has been determined that enough data has been collected during the last permit cycle.

5.2 Chemical Oxygen Demand Monitoring

Effluent monitoring requirements for chemical oxygen demand has been removed in the draft permit. It has been determined that enough data has been collected during the last permit cycle.

5.3 Long-Term BOD (LTBOD) Test

For facilities with a capacity of 1.0 MGD or greater, a 120-day long-term BOD test should be performed on an effluent sample collected during the critical period from June 1 through September 30; therefore, requirement for long term BOD testing has been included in the draft permit.

5.4 Industrial Pre-treatment Program (IPP)

The City of Sylvania does not have an approved IPP; therefore, language for establishing an IPP, if necessary, has been included in the draft permit.

5.5 Sludge Management Plan (SMP)

Sludge is disposed of in a landfill; therefore, a SMP is not required.

5.6 Watershed Protection Plan (WPP)

Facilities with a capacity of 1.0 MGD or greater must conduct a Watershed Assessment and develop a Watershed Protection Plan (WPP) for all the watersheds that are contained within the permittee's Assessment Area. The City does not have an approved WPP; therefore language has been included in the draft permit.

5.7 Service Delivery Strategy

The City of Sylvania is in compliance with the Department of Community Affairs approved Service Delivery Strategy for Screven County.

5.8 Compliance Schedules

A 36-month compliance schedule to meet the reduced limitation for BOD_5, TSS, ammonia, total recoverable zinc, total cyanide and total recoverable copper has been included in the draft permit. Based on best professional judgment, the proposed compliance schedule represents the shortest reasonable period of time to allow the permittee to upgrade the treatment process and test new equipment before the limit becomes effective. Language has also been included in the permit for the reduced

limitation to become effective prior to the end of the schedule if the permittee can consistently meet the reduced limitation. All other 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.

6. REPORTING

6.1 Compliance Office

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

Georgia Environnemental Protection Division
East Central District
3525 Walton Way, Ext.
Augusta, Georgia 30909

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 1152 East, Atlanta, Georgia 30334, between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday. 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

Sylvania Water Pollution Control Plant
NPDES Permit No. GA0021385

Waste Load Allocation (WLA)

National Pollutant Discharge Elimination System
Waste Load Allocation Form

Part I: Background Information

WLA Request Type: Reissuance ☒ Modification ☐ Relocation ☐ Expansion ☐ New Discharge ☐

Facility Name: Sylvania WPCP | County: Screven | WQMU: 0114

NPDES Permit No.: GA0031305 | Expiration Date: July 30, 2008 (Extended) | Outfall Number: 001

Receiving Water: Buck Creek | River Basin: Savannah | 10-Digit HUC: 0306010602

Discharge Type: Domestic ☒ Industrial ☐ Both ☐ | Proportion (D:I): | Flow(s) Requested (MGD): 1.51

Industrial Contributions Type(s):

Treatment Process Description:

Additional Information: (history, special conditions, other facilities):

Requested by: Hwan Cho | Title: Environmental Engineer | Program: Wastewater Regulatory Program

Telephone: | Date: October 18, 2017

Part II: Receiving Water Information

Receiving Water: Buck Creek | Designated Use Classification: Fishing

Integrated 305(b)/303(d) List: Yes ☒ No ☐ | Support: ☐ | Not Support: ☒ | Criteria: Dissolved Oxygen (DO)

Total Maximum Daily Load: Yes ☒ No ☐ | Parameter(s) DO, Fecal Coliform | WLA Complies with TMDL Yes ☒ No ☐

The WLA and recommended permit limits comply with the Subcategory 5R Documentation For Point Source Dissolved Oxygen Impaired Water in the Savannah River Basin, Georgia and South Carolina, and the tributary discharge strategy developed according to it. The recommended permit limits have been revised from the existing permit limits to comply with the 2007 Dissolved Oxygen TMDL for Buck Creek.

Part III: Water Quality Model Review Information

Model Type: Uncalibrated ☐ Calibrated ☒ Verified ☐ Cannot be Modeled ☐ | Model Length (mi): 13.75

Field Data: None ☐ Fair ☒ Good ☐ Excellent ☐

Model and Field Data Description: Steady-state dissolved oxygen model, QADOSAG.

Critical Water Temperature:(°C):	27			Drainage Area (mi²):	3.21			Mean annual streamflow at discharge (cfs):	2.6
7Q10 Yield (cfs/mi²):	0.0763			Velocity (range fps):	0.18 – 0.31			30Q3 streamflow at discharge (cfs):	0.3
Effluent Flow Rate (cfs):	2.34			W/C (%):	92			7Q10 streamflow at discharge (cfs):	0.2
Slope (range - fpm):	3.8 - 31	K1:	0.1	K3:	0.25	K2 :	1.8 - 11	1Q10 streamflow at discharge (cfs):	0.2
SOD: 1.36	Escape Coef. (ft^{-1}):		0.054	1-Ratio BOD_u/BOD_5):	3.0			Background Hardness (as $CaCO_3$)(mg/L):	40

The WLA and modeling parameters cited above were based on the September 2007 Dissolved Oxygen TMDL, except where new information is available. The WLA and corresponding effluent limits are based on EPA Dissolved Oxygen Criteria, which states that if the natural dissolved oxygen is less than the standard, then only a 10 percent reduction in the natural condition is allowed. The target instream concentrations are defined as 90 percent of the naturally occurring dissolved oxygen concentration at critical conditions.

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

The recommended permit limits have been revised from the existing permit limits to comply with the 2007 Dissolved Oxygen TMDL for Buck Creek.

Rationale: Same as current ☐ Revised ☒ New ☐

Location: Buck Creek (existing)

Effluent Flow Rate (MGD)	BOD_5	NH_3-N	DO (min)	TRC (daily max.)	TSS	Fecal Coliform (No./100ml)	pH (std. units)	Total -P	Ortho -P	TKN	NO_2	Org -N	COD
1.51	5.0	0.7	6.0	0.011	20	200	6.0 – 8.5	Mon	Mon	Mon	Mon	Mon	Mon

Receiving Stream DO	Receiving Stream Temp	Receiving Stream pH
Mon	Mon	Mon

Additional Comments:

- Priority pollutant permit limits, aquatic toxicity testing requirements, and other parameters required by categorical effluent guidelines are to be determined by the Wastewater Regulatory Program.
- The recommended ammonia permit limit is in accordance with the U.S. Environmental Protection Agency's 2013 ammonia toxicity criteria using the 30Q3 streamflow rate.
- Effluent nutrient monitoring is recommended in accordance with the State of Georgia's nutrient management strategy to identify and quantify nutrient loadings to the Savannah River and Harbor. Phosphorus and nitrogen constituents should be analyzed from the same sample for the respective nutrient group.

Mon = Monitor

Prepared by: Paul Lamarre | Date: October 30, 2017 | Reviewed by: Josh Watts | Date: 6 NOV 17

Part V: Program Manager Comments

Elizabeth Booth | Date: 11/9/17

FACT SHEET

Appendix B

Sylvania WPCP
NPDES Permit No. GA0021385

Stream Data (upstream of the discharge):

TSS:	10	mg/L
7Q10:	0.20	ft^3/s
1Q10:	0.20	ft^3/s
Mean flow:	2.60	ft^3/s

Effluent Data:

TSS:	11.5	mg/L
Flow:	1,510,000	gal/day
Flow:	2.34	ft^3/s

Stream data (downstream of the discharge):

Hardness (at 7Q10):	40.0	mg/L		
TSS (at 7Q10):	11.38	mg/L		
Dilution factor (at average flow):	2.1		IWC (at average flow):	47
Dilution factor (at 7Q10):	1.09		IWC (at 7Q10):	92
Dilution factor (at 1Q10):	1.09		IWC (at 1Q10):	92

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

Metal	K_{PO}	a	f_D	Maximum effluent C_T (µg/L)	Instream C_D (µg/L)	WQC_{Acute} (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.52	2.74	1.3	340.00	no
Cadmium	4.00.E+06	-1.131	0.000		0.0	0.83	no
Chromium III	3.36.E+06	-0.930	0.00		0.0	269.02	no
Chromium VI	3.36.E+06	-0.930	0.00		0.0	16.00	no
Copper	1.04.E+06	-0.744	0.34	20.0	6.27	5.67	yes
Lead	2.80.E+06	-0.800	0.00		0.0	23.51	no
Mercury	2.91.E+06	-1.136	0.32	0.0218	0.0201	1.40	no
Nickel	4.90.E+05	-0.572	0.42	3.82	1.2	215.68	no
Zinc	1.25.E+06	-0.704	0.28	136.0	35.10	53.91	yes

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+a)} \times 10^{-6}} \qquad \text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \text{ mg/L}$$

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

FACT SHEET

Appendix B

Sylvania WPCP
NPDES Permit No. GA0021385

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

Metal	K_{PO}	α	f_D	Average effluent C_T (µg/L)	Instream C_D (µg/L)	$WQC_{Chronic}$ (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.52	1.76	0.8	150.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.0	0.0	0.13	no
Chromium III	3.36.E+06	-0.930	0.00	0.0	0.0	34.99	no
Chromium VI	3.36.E+06	-0.930	0.00	0.0	0.0	11.00	no
Copper	1.04.E+06	-0.744	0.34	12.00	3.76	4.09	yes
Lead	2.80.E+06	-0.800	0.00	0.0	0.0	0.92	no
Mercury	NA	NA	NA	0.0218	0.0201	0.012	yes
Nickel	4.90.E+05	-0.572	0.42	1.72	0.7	23.96	no
Zinc	1.25.E+06	-0.704	0.28	71.3	18.40	54.35	yes

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

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

Water Quality Criteria (WQC) - Non Metals:

Pollutant	Effluent C_T (µg/L)	Instream Concentration (µg/L)	WQC (µg/L)	WQC/2 (µg/L)	Action needed?
Cyanide	6.5	6.0	5.200	2.600	yes
Dieldrin	0.0032	0.0015	0.056	0.028	no
Chloroform	20.2	9.56	470.00	235	no
2,4-D	0.34	0.31	70.00	35	no
Bis(2-ethylhe	7.9	3.74	2.20	1.1	yes

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 permit limit for that constituent may be included in the permit.

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Appendix B

Sylvania WPCP
NPDES Permit No. GA0021385

Total Recoverable Metal Effluent Limit

Metal	C_s (µg/L)	Chronic C_T (µg/L)	Chronic C_T (Kg/day)	Acute C_T (µg/L)	Acute C_T (Kg/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	13.1	0.075	18.1	0.104
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
Zinc [1]	0.0	211	1.21	209	1.20

NOTES:

[1] **The acute limit is more stringent than the chronic limit; therefore, the acute limit is to be applied as the monthly and weekly average limit in the permit.**

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

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10) - (7Q10 \times C_s)}{Q_E} \qquad \text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10) - (1Q10 \times C_s)}{Q_E}$$

 # Assuming background dissolved metal concentration (C_s) in the stream is 0 µg/L, equations above become:

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10)}{Q_E} \qquad \text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10)}{Q_E}$$

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Appendix C

City of Sylvania - WPCP
NPDES Permit No. GA0021385

WET Test PMSD Values:

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

WET Test #1 — **September 2017**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**18.00**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**11.50**	Lower

WET Test #2 — **August 2018**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**21.3**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**16.4**	Within

WET Test #3 — **September 2018**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**25.5**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**24.9**	Within

WET Test #4 — **October 2018**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**16.8**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**17.0**	Within

FACT SHEET

Appendix D

Sylvania Water Pollution Control Plant
NPDES Permit No. GA0021385

Ammonia Toxicity Analysis

Ammonia Toxicity Analysis
for
Waste Load Allocation Development (Updated 2013)

Date: 25.Oct.17
Facility: Sylvania WPCP
NPDES Permit Number: GA0021385
Receiving Stream: Buck Creek
Engineer: Paul Lamarre
Comments:

Stream and Facility Data:

Background Stream pH (standard units): 7.0
Effluent pH (standard units): 8.5
Final Stream pH (standard units): 7.85
Stream Temperature (Celsius): 27.0
Streamflow (cfs): 0.30
Stream background concentration (Total NH3-N, mg/L): 0.13
Facility Discharge (MGD/cfs): 1.51 2.34
Total Combined Flow (cfs): 2.64

Effluent concentration (Total NH3-N, mg/L) = 0.67

If 0.67 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):
$CCC = 0.8876 \times (0.0278 / (1 + 10^{(7.688 - pH)}) + 1.1994 / (1 + 10^{(pH - 7.688)})) \times (2.126 \times 10^{0.028 \times (20 - MAX(T,7))})$

Allowable instream concentration CCC (Total NH3-N, mg/l) = 0.61

Acute Criterion when Oncorhynchus salmonid species are present:
Instream Criterion Maximum Concentration (CMC) = same as acute criterion:
$Instream\ CMC = Min((0.275 / (1 + 10^{(7.204 - pH)})) + (39.0 / (1 + 10^{(pH - 7.204)})), 0.7249 \times (0.0114/(1 + 10^{(7.204 - pH)}) + 1.6181 / (1 + 10^{(pH - 7.204)})) \times (23.12 \times 10^{(0.036 \times (20 - T))})$

Allowable instream concentration CMC, (Total NH3-N mg/l) = 2.89

Acute Criterion when Oncorhynchus salmonid species are absent:
$Instream\ CMC = 0.7249 \times (0.0114/(1 + 10^{(7.204 - pH)}) + 1.6181 / (1 + 10^{(pH - 7.204)})) \times MIN(51.93, 23.12 \times 10^{(0.036 \times (20 - T))})$

Allowable instream concentration CMC, (Total NH3-N mg/l) = 2.89

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.