GRIFFIN/SPALDING COUNTY WASTEWATER MANAGEMENT PLAN

2020 – 2040

PREPARED FOR:

CITY OF GRIFFIN AND SPALDING COUNTY

Griffin Growing, TOGETHER

SCWSFA

PREPARED BY:

PARAGON CONSULTING GROUP

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SECTION ONE: INTRODUCTION

1.1 Background

In the early 1900's, the City of Griffin began installation of a public sewer system. Since that beginning, the system has been improved and extended to serve all but a few isolated areas within the City limits of Griffin. In many instances when no other viable wastewater alternatives exist, the sewer system has been extended beyond the City limits to provide wastewater service to adjacent areas of unincorporated Spalding County. However, a large portion of unincorporated Spalding County remains unserved by a public wastewater system due to either the lack of demand or the infeasibility of developing a system. However, continued growth in recent years, both in the City and in the unincorporated area of Spalding County, has highlighted the need for a plan to provide wastewater service to meet future growth of the area.

The current wastewater management plan for the Griffin-Spalding County area was completed in July 1995 and updated in August 2005, April 2010, and September 2011, and the current revision was completed in 2023. For the past 28 years, this plan has served as a guide for expansion and development of the wastewater system. With the slowed growth within the City and County, and the expansion of the County's wastewater system, it is necessary to update the Wastewater Management Plan to meet the future needs of the area. The plan for wastewater management will affect many other decisions and areas of government such as water supply planning, land use planning, industrial development, and residential development.

Wastewater facilities, by their nature, must be planned to fit the lay of the land, not to match invisible political boundaries. Therefore, it must be emphasized that successful implementation of any plan will depend upon the exercise of good leadership by local government officials. In this case, that responsibility will rest primarily with the City of Griffin and with Spalding County. After the engineering aspects of the plan are accepted it will be imperative that Griffin and Spalding County decide upon their respective roles for the implementation of the plan. These roles must be based on a cooperative approach that avoids duplication of services, ensures efficiency and is generally based upon doing what is best for the citizens of the community.

1.2 Scope, Purpose and Goal of the Wastewater Management Plan

The purpose of this plan is to provide a long-range master plan for the orderly development of wastewater facilities in the Griffin and Spalding County area over the next twenty years. The plan will serve as a tool for setting of priorities and schedules for construction of the various facilities that make up the wastewater system.

This study focuses mainly on the technical and engineering aspects of wastewater planning, which involves the following general steps:

1. Estimating the future need for wastewater treatment with respect to population, industrial and commercial development, areas to be served, volume of wastewater, etc.
2. Preparing an inventory of major existing wastewater facilities.
3. Evaluation of natural features related to wastewater planning such as topography, drainage basin configuration, location and characteristics of streams in the area, etc.
4. Evaluation of regulatory constraints that affect wastewater planning for this area.
5. Application of engineering techniques to develop and prepare preliminary plans and alternatives for wastewater facilities.
6. Screening of alternatives and preparation of preliminary cost estimates for construction and operation; evaluation of other factors related to feasibility of alternatives.

Topography in Spalding County is such that the county can be divided into 42 separate, natural drainage basins as shown on Figure 1-1. Each of these basins form a natural unit which may be considered individually with regard to design of sewers. Presently, only nine (9) of these basins have access to the City's wastewater system. Two (2) basins have access to a privately developed or the County's wastewater system. This study projects that over the next 20 years the wastewater system within the 9 basins served by the City will be expanded to meet the growth and provide improved wastewater service to the area. The basins served by the wastewater system are highlighted on Figure 1-1. The other areas of the County which may need wastewater treatment include future commercial centers, industrial areas and other large developed areas. The commercial centers are intended to be pedestrian-friendly neighborhood commercial centers. This plan identifies the major facilities (treatment facilities, pump stations and outfall sewers) that will be needed over the next 20 years. This plan does not attempt to identify collector sewers that may be needed to serve individual neighborhoods.

1.3 Previous Studies and Reports

Previous reports used as references for this report include:

1. Griffin-Spalding County Facilities Plan, Griffin Engineering Company, January 1977.
2. Water Resources Management Study, South Metropolitan Atlanta Region, Documentation Report, U.S. Army Corps of Engineers, September 1989.
3. Engineering Report for 1993 Bond Issue, Welker & Associates, Inc. Engineers, October 12, 1993.
4. Concept Study for a County-Wide Sewerage System for Spalding County, Southern Engineering, December 1992.
5. Census Report, Office of Planning and Budget, 2000.
6. Spalding County 1994 - 2014 Comprehensive Plan, Final Draft, Precision Planning, Inc.
7. City of Griffin 2024 Comprehensive Plan, JJ&G, Inc.
8. Spalding County 2024 Comprehensive Plan, JJ&G, Inc.
9. Wastewater Management Plan 1995 – 2015, Welker and Associates, Inc.
10. Wastewater Management Master Plan 2000 – 2015, Engineering Strategies, Inc., and HDR/WL Jorden
11. Griffin/Spalding County Wastewater Management Plan 2005 – 2025, Engineering Strategies, Inc. and Paragon Consulting Group
12. Griffin/Spalding County Wastewater Management Plan 2010-2030, Engineering Strategies, Inc. and Paragon Consulting Group

These reports were used as sources of information for demographics, land use planning, economics, water and wastewater service demands and the comparison of the actual to projected population and growth trends.

1.4 Planning Period

Since passage of the Federal Water Pollution Control Act Amendments of 1972, the general practice has been to limit the planning period for water and wastewater facilities to 20 years. The period selected for this Plan is the 20-year period from 2020 to 2040 (added 10 years).

1.5 Local Governmental Coordination

This study has been a joint effort by the City and the County and has been funded by both governments. The City's and County's engineer worked together in the preparation of this study, Paragon Consulting Group, Inc. serves as consultant to the City of Griffin and Spalding County, respectively. Findings of the study will be presented for review by each local government unit.

SECTION TWO: EXISTING WASTEWATER SYSTEM

2.1 Introduction

Griffin's wastewater system serves the vast majority of the municipal sewer users in Spalding County. There are several privately-owned treatment facilities located in the county, as well as, the County owned Springs WWTP. At the time of the revisions to this, report the Spalding County Water and Sewerage Authority has a contract to demolish the facility. The sewerage flow to the plant was diverted earlier this year. These facilities are listed in sections 2.5 and 2.7 of this report. However, the private systems were specifically created to serve an individual need. It is unlikely these systems will contribute significantly to any public system which evolves. Further, it is expected as the public system becomes available, these private systems will be taken out of service.

2.2 City of Griffin Existing Wastewater Facilities

Griffin's wastewater system consists of over 220 miles of sewers, 21 lift (pumping) stations and three wastewater treatment plants as shown in Figure 2-1. The Shoal Creek and the Potato Creek plants are located in the Flint River basin and the Cabin Creek plant is located in the Lower Ocmulgee River basin. Each of the drainage areas and treatment facilities are described in detail below.

2.2.1 Shoal Creek Wastewater Drainage Area

The Shoal Creek drainage area is primarily located to the west of the City of Griffin. This drainage area includes four sub-basins; CRV-1, HDC-2, SHC-1, and WAC-1 and small portions of two other sub-basins; TRS-2 and TRS-3. Wastewater collected in the Crestview Heights (CRV-1), Heads Creek (HDC-2), and Troublesome Creek (TRS-2 and 3) areas northwest of the City is pumped into the Shoal Creek collection system. Similarly, the wastewater collected in the Wasp Creek (WAC-1) area southwest of the City is also pumped into the Shoal Creek collection system. There are a total of eight (8) pump stations that transfer flow within the Shoal Creek service area and ultimately into the Shoal Creek (SHC-1) collection system from outside of the (SHC-1) sub-basin. Lift Station 7 pumps the sewerage from the sub-basins north of SHC-1 into SHC-1 at a manhole in Club Estates and Lift Station 18 that serves the Phase 2 section of Club Estates also discharges into this manhole. Lift Station 8 was modified to pump to a conveyance system leading to Shoal

Creek WWTP to accommodate the discharge from 1888 Mills facility. This lift station was originally constructed to serve the Nacom facility (now 1888 Mills) and the sewerage was pumped to Lift Station 13 on Airport Road that is in the Potato Creek Basin. A new 4-inch force main was constructed leading west of the lift station to a manhole west of Highway19/41.

The wastewater collected within the Shoal Creek Drainage Area is treated at the Shoal Creek Wastewater Treatment Plant. The Shoal Creek plant was constructed in 1986; at that time, the old plant located further upstream on Shoal Creek was abandoned. The existing plant is located on Shoal Creek about 6.5 miles west of the City. Wastewater treatment is accomplished with aerated lagoons and aerobic ponds followed by land application of the effluent. See Figure 2-2 for a flow schematic of the Shoal Creek WWTP. Sludge generated in this plant accumulates in the aerated lagoons and in the aerobic ponds and must be pumped out or dredged periodically, generally every 8 to 10 years. A modification to the plant in 2019 added a sludge settling pond in the upper end of polishing pond 3 so that the accumulation of sludge can be pumped periodically to a tanker truck for land application disposal. The new central sludge drying facility due to start up in August of 2022 has a screw press in the facility and the sludge from the settling basin will be pumped directly to the press.

In 1998, an expansion of the facility to 2.25 MGD was completed. With this expansion, a new land application site was developed approximately five miles away on Blanton's Mill Road. The existing land application site adjacent to the treatment facility was removed from service and is currently idle. All pre-application treatment continues to be performed at the Shoal Creek site. In 2017, the LAS permit was renewed by EPD and has the limits shown below.

SHOAL CREEK WWTP – BLANTON MILLS LAS CURRENT LAS PERMIT PARAMETERS	
Parameter	**Monthly Average**
Flow, MGD	2.25
Biochemical Oxygen Demand (5-day), mg/L	50
Suspended Solids, mg/L	90
pH shall be not less than 6.0 nor greater than 9.0	

In 2007 the City requested and received a waste load allocation (WLA) for discharge of up to 1.25 MGD and 2.5 MGD of treated effluent to Shoal Creek to allow for expansion of the Shoal Creek WWTP. Based on this WLA, a Design Development Report (DDR) was prepared and approved by EPD for an expansion of the existing treatment facility to a total capacity of 3.5 MGD (2.25 MGD to the existing LAS and 1.25 MGD discharge to Shoal Creek).

In 2008, the City applied for an NPDES permit for discharge to Shoal Creek to allow for expansion of the existing treatment facility to a total capacity of 3.5 MGD. In 2009, EPD issued a new permit for the Shoal Creek WWTP for discharge to Shoal Creek. This permit expired in 2019 and the City of Griffin chose not to renew the permit based on the new need to build a plant with a NPDES permit to include the daily flow currently being land applied at the Blanton Mill facility and planned increase in the flow to the plant. The city currently has contracted to design a process modification to the two aeration ponds that will increase the capacity to 5.0 MGD. A design for the remaining process and subsequent DDR to be submitted to the EPD to obtain an NPDES permit to Shoal Creek will occur in late 2023 or early 2024.

Current flow into the plant averages 1.87 MGD (average January 2020 through December 2021), or 83 percent of the design capacity of 2.25 MGD, as shown in Figure 2-3. However, as can be seen, the influent flow has steadily declined throughout both years, especially in 2020, which is likely an indication of infiltration and inflow (I/I) in the collection system. Figures 2-4 and 2-5 show monthly average effluent BOD_5 and suspended solids results as compared to permit limits. As seen in these figures, this is a well operated plant with no instances where permit limit was not exceeded in the past two years. Effluent data from January 2020 through December 2021 has been tabulated and is included in the figures section.

Figures 2-6 and 2-7 present recent trends in influent BOD_5 concentration and organic (BOD_5) loading into the plant. Currently, the average organic loading of approximately 4,642 pounds of BOD_5 per day is 23 percent over the capacity used for design of the plant of 3,750 lb/day. The BOD_5 loading is a higher percentage of the design value than the influent flow because the influent BOD_5 averages 297 mg/L compared to the design value of 200 mg/L. A possible reason for the increased BOD_5 concentration that was noted in the last report was water conservation efforts during the drought which resulted in less water usage and subsequently higher constituent concentrations. There hasn't been a change in the basin related to industrial flow except for the increase in flow from 1888 Mills after they relocated and expanded their plant.

2.2.2 Potato Creek Wastewater Drainage Area

The Potato Creek drainage area is located to the south and southeast of the City of Griffin. It consists of four sub-drainage basins; BUC-1, HBC-1, POT-1, and ORH-1. The majority of the existing wastewater infrastructure is located in the Potato Creek (POT-1) sub-basin. Wastewater collected in the Buck Creek basin (BUC-1) is transferred to the Potato Creek collection system via a pump station and force main. These facilities were constructed and placed into operation in 1998. The force main was installed such that it can be converted to a gravity sewer in the future to provide collection of a significant portion of the BUC-1 wastewater flows.

Currently, a small portion of the Honey Bee Creek (HBC-1) sub-basin is served by the wastewater collection system. The wastewater collected in these areas is pumped into the collection system of the Potato Creek sub-basin. Similarly, a small portion of the core downtown area of the City that is located in the Cabin Creek sub-basin (CAC-1) also has its wastewater transferred to the Potato Creek basin for treatment and disposal. In total, there are 9 pump stations that transfer wastewater into the Potato Creek collection system from outside of POT-1. In addition to these areas that the City of Griffin maintains, the City of Griffin now owns and operated the City of Orchard Hill lift station that pumps its wastewater to the Potato Creek WWTP for treatment and disposal.

The wastewater collected within the Potato Creek drainage area is treated at the Potato Creek wastewater treatment plant. The Potato Creek plant is located on Potato Creek at the Spalding/Lamar County line about 4 miles southeast of the City. The original plant was constructed in 1976 and upgraded in 1988 to comply with more stringent discharge limits. The original plant was a trickling filter/solids contact facility with a design capacity of 2.0 MGD and treatment consists of primary clarification, trickling filters, aeration, secondary clarification, and sludge digestion.

Similar to the Shoal Creek WWTP, a WLA for discharge of up to 3.0 MGD of treated effluent to Potato Creek was obtained for the expansion of the Potato Creek WWTP in 2015. Based on this WLA, a DDR and construction plans were prepared and approved by EPD for the expansion of the existing facility to 3.0 MGD in 2016. The following tables show the discharge limits for both sets of permit limits. Construction on the new 3.0 MGD SBR facility was started in 2016 and it went in production late in 2018.

Due to the low flow to the plant, the EPD phased the permit and shown in the tables below. The plant is currently under the Phase I limits until the time when the flow increases the EPD will require that the plant transition to the Phase II limits as shown in the Phase ii table below.

POTATO CREEK WWTP CURRENT NPDES PERMIT PARAMETERS – PHASE I		
Discharge to Potato Creek		
Parameter	**Monthly Average**	**Weekly Average**
Flow, MGD	2.0	2.5
Five-Day Biochemical Oxygen Demand, mg/L	10	15
Suspended Solids, mg/L	30	45
Total Phosphorus, mg/L	Report	NA
Total Recoverable Zinc, mg/L	Report	Report
Total Recoverable Copper, mg/L	0.156	0.22
Fecal Coliform, per 100 mL	200	400
Seasonal Permit Limits		
Month	**Ammonia**	
	Monthly Average, mg/L	**Weekly Average, mg/L**
February	4.8	7.2
March - May	3.0	4.5
June - November	1.0	1.5
December	4.8	7.2
pH shall be not less than 6.0 nor greater than 9.0. Total Residual Chlorine shall be less than 0.011 mg/L. Chronic Whole Effluent Toxicity testing: The No Observed Effect Concentration (NOEC) shall be greater than or equal to the Instream Wastewater Concentration (IWC) of 92%. Effluent Dissolved Oxygen shall not be less than 2.0 mg/L from December through April and 6.0 mg/L from May through November.		

POTATO CREEK WWTP FUTURE NPDES PERMIT PARAMETERS – PHASE II		
Discharge to Potato Creek		
Parameter	**Monthly Average**	**Weekly Average**
Flow, MGD	3.0	3.75
Five-Day Biochemical Oxygen Demand, mg/L		
January – February	2.2	3.3
March – May	1.2	1.8
June – November	0.7	1.1
December	2.2	3.3
Suspended Solids, mg/L	20	30
Total Phosphorus, mg/L	1.0	1.5
Priority Pollutants, mg/L	Report	NA
Whole Effluent Toxicity (WET) Testing	Report NOEC	NA
Fecal Coliform, per 100 mL	200	400
Seasonal Permit Limits		
Month	**Ammonia**	
	Monthly Average, mg/L	**Weekly Average, mg/L**
January - February	2.2	3.3
March - May	1.2	1.8
June - November	0.7	1.1
December	2.2	3.3
pH shall be not less than 6.0 nor greater than 8.5. The minimum effluent Dissolved Oxygen shall 6.0 mg/L or higher.		

Current flow into the plant averages 1.13 MGD (average January 2020 through December 2021), or 37 percent of the design capacity of 3.0 MGD, as shown in Figure 2-9. Figures 2-10, 2-11 and 2-12 show monthly average effluent BOD_5, suspended solids and ammonia nitrogen results as compared to permit limits. The new Potato Creek plant is well maintained and operated, as can be seen with its permit compliance over the past several years. Effluent data from January 2020 through December 2021 has been tabulated and is included in the Figures section.

Figures 2-13 and 2-14 present recent trends in influent BOD_5 concentration and organic (BOD_5) loading into the plant. Currently, the average organic loading of 3,084 pounds of BOD_5 per day is 75 percent of the capacity used for design of the plant of 4,082 lb/day. The influent BOD_5 averages 144 mg/l compared to the design value of 163 mg/l. The inflow BOD value is up from the previous update of the Wastewater Management Plan. The higher influent BOD_5 into the Potato Creek plant is likely a result of the increase of industrial plants that have come online in the Green Valley Industrial Park since the last report.

2.2.3 Cabin Creek Wastewater Drainage Area

The Cabin Creek drainage area is the smallest of the existing wastewater service basins. The entire service area is located within the upper reaches of the Cabin Creek basin (CAC-CL). The collection system is primarily confined to the City limits in this drainage area. There are three (3) pump stations within the collection system to transfer the collected wastewater to the treatment plant.

The Cabin Creek wastewater treatment plant treats all the wastewater collected in the Cabin Creek drainage area. The original plant was constructed in 1936 and the plant was demolished in 2019 after the completion of the new Cabin Creek WRRF in August of 2019. See Figure 2-15 for the flow schematic of the new Cabin Creek WRRF completed in 2019.

In 2016, EPD renewed the NPDES permit for the facility, which allows the discharge of 1.5 MGD of treated wastewater into Cabin Creek near North Hill Street. The table below is a tabulation of the current discharge limits.

CABIN CREEK WWTP CURRENT NPDES PERMIT PARAMETERS		
Discharge to Cabin Creek		
Parameter	**Monthly Average**	**Weekly Average**
Flow, MGD	1.5	1.88
Biochemical Oxygen Demand (5-day), mg/L		
January - April	15.0	22.5
May - October	13.0	19.5
November - December	15.0	22.5
Suspended Solids, mg/L	20	30
Fecal Coliform, per 100 mL	200	400
Total Phosphorus, mg/L	1.0	1.5
Ortho-Phosphorus	Report	Report
Whole Effluent Toxicity (WET) Testing	Report NOEC	NA
Seasonal Monthly Ammonia Permit Limits		
Month	**Monthly Average, mg/L**	
January	2.15	
February - April	2.11	
May - July	1.12	
August - October	0.87	
November - December	2.15	
pH shall be not less than 6.0 nor greater than 9.0. The minimum effluent dissolved oxygen shall be 5.0 mg/L or higher.		

Current flow into the plant averages 0.63 MGD (average January 2020 through December 2021), or 42 percent of the design capacity, as shown in Figure 2-16. Figures 2-17, 2-18, 2-19, and 2-20 show monthly average effluent BOD_5, suspended solids, ammonia nitrogen, and total phosphorus results as compared to permit limits. In general, this is also a well operated plant, as can be seen from its permit compliance over the four years. Effluent data from January 2020 through December 2021 has been tabulated and is included in the Figures section.

Figures 2-21 and 2-22 present recent trends in influent BOD_5 concentration and organic (BOD_5) loading into the plant. Currently, the average organic loading of approximately 1,045 lb BOD_5/day is 37 percent of the capacity used for design of the plant of 2,816 lb/day. The influent BOD_5 averages 198 mg/l compared to the design value shown in the Design Development Report for the plant expansion of 250 mg/l.

2.3 Spalding County Existing Wastewater Facilities

Since the previous update of the Wastewater Management Plan, Spalding County purchased the Springs Global US, Inc. WWTP when Springs Global US, Inc. closed. The SCWSFA operated the plant from 2012 to early 2022 when a new gravity sewer outfall main was constructed to convey the sewerage flow to the plant to Cabin Creek WWRF. At the time of this report the SCWSFA contracted to demolish Plant No. 1 and close out the permit. The plant has been demolished except for two of the basins and the old lagoon. These structures are slated for a future recreational facility related to skateboard competitions.

2.3.1 Highland Mills Treatment Plant

Highland Mills package WWTP was decommissioned and demolished as part of the Highland Mills Lift station project in 2012. The Highland Mills lift station has been pumping the sewer flow that went to the Highland Mills plant to the Springs / SCWSFA Plant No. 1 for processing. Since the closure of Plant No. 1, the sewer flow enters the newly constructed outfall main that conveys the flow to an interceptor discharging into the cabin Creek WWTP. The City of Griffin has obtained ownership of the lift station and the Mill Village gravity infrastructure.

2.3.2 Springs Treatment Plant

As noted in section 2.3 the SCWSFA is closing the plant and most of the plant structures have been demolished per EPD guidelines. The SCWSFA has obtained permission to leave the main aeration basin, initial process basin and the aeration lagoon in place for future use by the Spalding County Parks and Recreation Department for a future recreational venue. A drain system was installed so that rain and groundwater would not accumulate in the structures. A chain link fence was installed around the aeration basin and the initial process basin for added safety as requested by the EPD.

2.4 Sun City Peachtree Land Application System

Community Services, LLLP acquired a Land Application System Permit (LAS) to treat wastewater from the 1726.60 acre mixed used development, Sun City Peachtree. The Sun City Peachtree drainage area is located north of the City of Griffin. This drainage area includes two (2) sub-basins; TRS-1 and TRS-2. In addition, the wastewater treatment facility provides sewage treatment outside of the Sun City development in Spalding County. This area of service is outlined in Figure 2-24 and will treat approximately 1025 acres at a net development density of 1 unit per acre. Although the treatment plant is privately owned, there will be coordination with the County regarding development upstream to satisfy land use, zoning, and development issues. The treatment plant will ultimately treat to a capacity of 0.550 MGD.

SUN CITY PEACHTREE PREAPPLICATION TREATMENT PLANT (INITIAL) CURRENT LAS PERMIT PARAMETERS	
Parameter	**Weekly Average**
Flow, MGD	0.275
Biochemical Oxygen Demand (5-day), mg/L	5
Fecal Coliform Bacteria (#/100ml)	23
Turbidity (NTU)	3
Suspended Solids, mg/L	5
pH shall be not less than 6.0 nor greater than 9.0	

SUN CITY PEACHTREE PREAPPLICATION TREATMENT PLANT (FUTURE UPGRADE) CURRENT LAS PERMIT PARAMETERS	
Parameter	**Weekly Average**
Flow, MGD	0.550
Biochemical Oxygen Demand (5-day), mg/L	5
Fecal Coliform Bacteria (#/100ml)	23
Turbidity (NTU)	3
Suspended Solids, mg/L	5
pH shall be not less than 6.0 nor greater than 9.0	

2.5 Plant Permit

Plant permits are issued by EPD for a period of 5 years from the effective date of issuance. Listed below are the permit numbers and expiration dates. After which the State will review the treatment facilities and receiving streams before renewal:

CITY PERMITS

TREATMENT PLANT	PERMIT NO.	EXPIRATION
Blanton Mills LAS	GAJ020036	December 31, 2023
Potato Creek	GA0030791	June 30, 2024
Cabin Creek	GA0020214	April 30, 2023

COUNTY PERMITS

TREATMENT PLANT	PERMIT NO.	EXPIRATION
SCSWA Plant No. 1	GA0003409	Closed Plant

OTHER/PRIVATE PERMITS

TREATMENT PLANT	PERMIT NO.	EXPIRATION
Sun City NPDES	GA0050274	July 31, 2023
Sun City Peachtree Land Appl	GAJ030905	November 30, 2022

Copies of these permits are included in Appendix B of this report.

2.6 Lift Stations

As previously mentioned, there are currently 22 lift stations in the wastewater system. The location of these is shown in Figure 2-1 where the lift station numbers correspond to the following list:

Number	Location	Capacity (gpm)	Capacity (MGD)	Receiving WWTP
1	Odell Rd.	50	0.072	Shoal Creek
2	Stallings St.	100	0.144	Potato Creek
3	Jackson Rd.	450	0.648	Potato Creek
4	Riley Heights	340	0.4896	Cabin Creek
5	Westmoreland Rd.	750	1.08	Shoal Creek

6	Tuskegee Ave.	30	0.0432	Cabin Creek
7	W. McIntosh Rd.	800	1.152	Shoal Creek
8	1475 Airport Rd. (at 1888 Mill)	150	0.216	Shoal Creek
9	Dewey St.	50	0.072	Potato Creek
10	Maddoxwood Dr.	160	0.2304	Potato Creek
11	Griffin Crossing, (W. McIntosh Rd.)	180	0.2592	Shoal Creek
12	1st Assembly of God (W. McIntosh Rd.)	130	0.1872	Shoal Creek
13	117 Airport Rd.	172	0.2477	Potato Creek
14	Wasp Creek (Carver Rd.)	310	0.4464	Shoal Creek
15	Honey Bee Creek Dr.	200	0.288	Potato Creek
16	Buck Creek at Rehoboth Rd.	600	0.864	Potato Creek
	Pecan Dr. (Demolished) (#17)	000	000	
18	Club Estates Phase 3 (Ellis Rd.)	30	0.0432	Shoal Creek
19	Orchard Hill	150	0.936	Potato Creek
20	Flint Mills Estate	109	0.157	Potato Creek
21	Lexington	100	0.001	Shoal Creek
22	Highland Mills	N/A	N/A	Cabin Creek
23	Chestnut	2340	3.37	Cabin Creek
24	Potato Influent Station	3125	4.5	
25	Shoal Creek Influent Station	2340	3.37	

Total of 22 Lift Stations and 2 Influent Stations (note LS #17 is unassigned)

2.7 Sewer System Evaluation and Rehabilitation

Since 1993, the City has been conducting a comprehensive evaluation of the wastewater collection system. More recently the City had sewer evaluations done on each of the three sewer plant basins. Also in 2021, the City contracted with Redzone Robotics to camera and evaluate the lower section of the Potato Creek basin interceptor sewer main. The purpose of the evaluation is to reduce infiltration and inflow of rain and ground water into the sewer system and to prevent wastewater overflows from manholes and lift stations. Extensive sewer rehabilitation work has been completed and is expected to continue for several years. More work is in the design stage for late 2022 and 2023. A more detailed discussion of this work is included in Section 10.

2. 8 Treatment Facilities in Spalding County Owned by Others

The following table is a list of other permitted treatment facilities in Spalding County. It is expected that most of these will continue in operation until wastewater collection and treatment services are made available by the City or County.

OTHER WASTEWATER TREATMENT FACILITIES IN SPALDING COUNTY

Facility Name	Sub-Basin	Plant Location	Permit No.	Plant Capacity (MGD)
Timber Creek MHP	Heads Creek, Flint River	Pomona	GAG550146	NA
South Hampton MHP	Thompson Creek, Towaliga River	Sunny Side	GA0025305	0.053
Beaverbrook School	Heads Creek, Flint River	Sunny Side	GAG550107	NA
Griffin Family Moose	Wasp Creek, Flint River	Griffin	GAG550057	NA
TOTAL				**0.053**

SECTION THREE: SERVICE AREA AND FLOW PROJECTIONS

3.1 Introduction

One of the first steps in the preparation of a wastewater management plan is to determine the wastewater flows for which the system is to be planned. This design flow rate will dictate the physical size and cost of the system components. To define these sewer capacities in a long-range planning effort, it is necessary to extrapolate population and land use growth trends and subsequent wastewater generation rates from historic growth data and future land use plans. It is also necessary to identify the area to be served by the wastewater system. This area is generally defined by logical drainage boundaries and the need for a wastewater system. Once the service area is defined and flow estimates are prepared, the collection and treatment facilities necessary to serve that area can be planned.

3.2 Description of Planning Area

Spalding County is made up of approximately 127,000 acres bordered on the west by the Flint River and Line Creek. Elevations in the County vary from about 660 feet above mean sea level (MSL) near the Towaliga River to about 1,000 feet MSL near the City of Griffin. Approximately 55,000 acres, 43 percent of the total County area, drain to the east into tributaries of the Ocmulgee River and Altamaha River basins. Approximately 73,000 acres drain to the west into tributaries of the Flint River. The City of Griffin encompasses approximately 8,700 acres on a plateau where the terrain slopes radially away in all directions. Streams and channels to the northeast and east of the City drain into the Ocmulgee River basin and those streams west and south of the City drain into the Flint River basin.

3.3 Selection of Service Area

Figure 1-1 shows Spalding County divided into 42 distinct drainage basins. Trunk sewers in these drainage basins would typically follow the alignment of creeks and rely on gravity flow as the primary means of conveyance. Lift stations can then be limited to those necessary to overcome specific topographic problems or transfer flows to another drainage basin to facilitate the management plan. The increase in collection system costs due to the installation, operation, and maintenance of lift stations makes the delineation of these natural drainage basins a fundamental requirement. The drainage basin abbreviations, names, and corresponding areas shown on the map are provided below:

Drainage Basin Information

Descriptor	Drainage Basin Name	Drainage Basin Area (Acres)
BRC	Bear Creek	3,950
BUC	Buck Creek	13,090
CAC	Cabin Creek	16,931
CRV	Crestview Heights (in Heads Creek Basin)	1,916
ELC	Elkins Creek	1,868
FLT	Flint River	24,132
HBC	Honey Bee Creek	2,687
HDC	Heads Creek	8,568
LNC	Line Creek	4,770
POT	Potato Creek	5,960
ORH	Orchard Hill	1,123
SHC	Shoal Creek	12,413
SUN	Sunny Side (in Heads Creek Basin)	1,988
TOW	Towaliga River	13,893
TRS	Troublesome Creek	10,977
WAC	Wasp Creek	2,754
SUMMARY		**127,020**

Of the 42 drainage basins, twelve (12) basins within the City's service area were analyzed for growth potential and the need for wastewater management within the planning period. The drainage basins within the City of Griffin's service area are shown below.

Drainage Basins within the City of Griffin Service Area

Name of Basin	Basin Area	Descriptor	Treatment Plant
Cabin Creek	1,812	CAC-CL	Cabin Creek Water Pollution Control Plant
Cabin Creek	1,271	CAC-1-AP	Cabin Creek Water Pollution Control Plant
Buck Creek	3,814	BUC-1	Potato Creek Water Pollution Control Plant
Honey Bee Creek	2,665	HBC-1	Potato Creek Water Pollution Control Plant
Orchard Hill	1,123	ORH-1	Potato Creek Water Pollution Control Plant
Potato Creek	5,939	POT-1	Potato Creek Water Pollution Control Plant
Crestview Heights	1,916	CRV-1	Shoal Creek Water Pollution Control Plant
Heads Creek	2,174	HDC-2	Shoal Creek Water Pollution Control Plant
Shoal Creek	12,413	SCH-1	Shoal Creek Water Pollution Control Plant
Troublesome Creek	62	TRS-2 (SC)	Shoal Creek Water Pollution Control Plant
Troublesome Creek	16	TRS-3 (SC)	Shoal Creek Water Pollution Control Plant
Wasp Creek	2,739	WAC-1	Shoal Creek Water Pollution Control Plant
SUMMARY	**35,944**	**12**	

These basins were reviewed for development potential mainly by evaluating the future land use plans for Spalding County and the City of Griffin. The geographic location and topography of each basin was also considered in deciding which areas would most likely have need for, and a reasonable chance for providing access to sewers during the planning period.

Initially, the future land use plans for Spalding County and Griffin were compared to the existing conditions to identify areas of projected growth. Those basins where land development is expected to change significantly, or where development densities are projected to increase during the planning period were included in the service area. Once the growth areas were identified, the logical drainage areas, as defined by the individual basins, were selected.

The 31 basins within the County's service area were not analyzed due to the County's decisions to plan around village nodes, which were identified in the Spalding County 2024 Comprehensive Plan except for the additional 8 sub-basins defined to flow into the Springs WWTP. At the time of this report, the City of Griffin and Spalding County have adopted an Intergovernmental Agreement that would transfer ownership of all existing sewer infrastructure within the Springs basin to the City of Griffin. The exact date of ownership transfer is tied to the successful completion of the SCWSFA Plant #1 Outfall Sewer project. The SCWSFA Plant #1 Outfall Sewer construction project should be completed by 12/31/2021. At the time of owner transfer, the eight (8) sub-basins flowing to the Springs WWTP will be treated at the Cabin Creek WPCP.

The village node concept assumes growth within the unincorporated areas of the County will occur in the designated village and commercial centers as identified in the future land use map. This results in concentrated wastewater in six (6) areas as indicated below.

Village Node[1]	**Sub-Basins**	**Total Area (Acres)**	**Estimated Households**
Vaughn/Rio	FLT-2, FLT-3	41.97	189
Rover	ELC-1	20.86	94
Heron Bay[2]	TOW-2, TOW-3	36.39	465
Towaliga[3]	TBD	46.68	210
SunnySide	SUN-1, TOW-1, BRC-1, TRS-1	81.32	366
155 Future Node[3]	TBD	64.08	288
TOTAL		**291.30**	**1311**

Treatment Plant	Sub-Basins Served	Total Area (Acres)	2030 Projected Average Daily WW Flow (MGD)
Cabin Creek WPCP	NE-1, NE-2, NE-3, NE-4, NE-5	800	0.593 MGD

3.3.1 Projected Service Area

The proposed service area for the wastewater system has increased slightly in size from the previous version of the Griffin – Spalding County Wastewater Management Plan. This is primarily due to the acquisition of the Springs Industries WWTP by the County. As previously stated, with the completion of the SCWSFA Plant #1 Outfall Sewer construction project the Springs Industries WWTP service area will become part of the City of Griffin's service area. This facility provides sewer service to a small area to the northeast of the City. Similarly, the planned location of the new airport in the southern portion of the CAC-1 sub-basin will be served by the City. Figure 3-1 shows the wastewater service area for the City and the County's Springs WWTP. Figures 3-1.1 through 3.10 show a more detailed view of the common lines separating the City and County service areas.

The majority of Spalding County is designated with an agriculture or low-density residential land use and housing densities in the agriculture and low-density residential areas generally do not support the need for a public wastewater system. However, the Springs WWTP will allow for some high-density areas that are currently on septic systems to be connected to public sewer and flow to the Springs WWTP. Based on this, basins expected to be served by sewers to some extent by the year 2040, total approximately 37 percent of the County area.

These basins are shown in Figure 2-25 and Figure 3-1 and are further described as:

CAC-CL: Upper Cabin Creek basin extending from Highway 41 in North Griffin to the northeast city limits.

BUC-1: Unnamed tributary of Buck Creek between East Griffin and east of McDonough Road.

POT-1: Potato Creek basin between Downtown Griffin and the south Spalding County line.

HBC-1: Honey Bee Creek basin between the City of Griffin and Spalding County line.

WAC-1: Wasp Creek basin between Highway 362 and Spalding County line.

SHC-1: Shoal Creek basin upstream of the existing treatment facility.

CRV-1: Crestview Heights basin - Unnamed tributary to Heads Creek watershed north of the City of Griffin.

HDC-2: Tributary of Heads Creek Reservoir from south of Highway 92 to the Crestview Heights basin.

ORH-1: Area around Orchard Hill between POT-1 and Spalding County line.

SUN-1: Eastern portion along the Hwy. 19/41 corridor.

TRS-1: Area east of Jordan Hill Road and south of TOW-2.

TRS-2: Eastern most portion between Jordan Hill Road and TRS-1.

TRS-3: The southernmost corner of the TRS-3 just west of Old Atlanta Highway.

HM-1: Highland Mill Village.

HS-1: East side of North Hill Street south of McIntosh Road.

SP-1: Springs/Dundee Village.

NE-1: North Expressway from Manley Drive to Glenwood.

NE-2: North Expressway from Glenwood to Manley Road.

NE-3: North Expressway from Manley Road to Birdie Crossroads.

NE-4: East side North Expressway from Birdie Crossroads to Pomona Road

NE-5: North Expressway from Mobley Road to Spalding/Henry County line.

HS-2: Pinetree Hill subdivision and surrounding area.

HS-3: North Hill corridor from East McIntosh to Dobbins Mill Road.

HS-4: Area west of North Hill south of Dobbins Mill east to Pineview Road.

SP-2: Springs/Dundee Village including commercial along Experiment Street.

IND-1: Reserved for existing facilities formerly known as Springs Industries.

Inclusion of a basin in the service area does not mean that the basin will be completely sewered by 2040. As discussed later in this section, the basins are expected to be sewered to differing degrees during the planning period. This plan outlines the projected alignment of the interceptor sewers and provides only preliminary consideration to the installation of lateral lines to connect existing developments to these interceptors. The decision as to the extent of the sewer system to be installed will necessarily be based on the desires of the community and the financial impacts of the sewer expansion. Such decisions will not likely be finalized until development in a specific area has begun and can be more precisely defined. These detailed analyses are beyond the scope of this planning effort. Similarly, some areas may not realize the expected growth during the planning period and may not require sewer service as anticipated. If such is the case, the community may re-evaluate its priorities and delay or forego installation of sewers in those areas.

Several basins in Spalding County are located in or near water supply watersheds. A water supply watershed is the land that drains into a stream, lake or reservoir which is used as a source of drinking water. Georgia EPD regulations impose certain restrictions on land usage near water supply sources. In general, these regulations require maintenance of vegetative buffers along stream corridors and adjacent to water supply reservoirs and place maximum limits on the percentage of land that can be developed within the watershed. Generally, suburban residential development would meet the watershed protection requirements with little change from normal standards. Spalding County has a zoning ordinance in place restricting the type and extent of development in water supply watersheds. It was assumed in this study that the Henry County Water Intake watershed in the Towaliga River basin will also be protected by Spalding County. Protected water supply watersheds for Griffin's Heads Creek Reservoir and Flint River Intake and for Henry County's intake and reservoir near Steele's Mill are shown in Figure 3-2.

Areas near the Flint River and the Heads Creek Reservoir were not considered to have great potential for development of sewers within the planning period and, subsequently, were not included in the projected 20-year sewer service area. Other areas considered outside the 20-year service area are those in northeast Spalding in the Towaliga River basin and southeast in the Lower Buck Creek Basin, as well as, areas in far southwest Spalding County.

Of the basins in the City of Griffin's service area, those that drain into the Flint River are:

Drainage Basins within the Flint River Watershed

Name of Basin	Basin Area	Descriptor
Crestview Heights	1,916	CRV-1
Heads Creek	2,174	HDC-2
Honey Bee Creek	2,665	HBC-1
Orchard Hill	1,123	ORH-1
Potato Creek	5,939	POT-1
Shoal Creek	12,413	SCH-1
Troublesome Creek	62	TRS-2 (SC)
Troublesome Creek	16	TRS-3 (SC)
Sunny Side	1,988	SUN-1
Wasp Creek	2,739	WAC-1
SUMMARY	**31,035**	

Existing wastewater treatment facilities which treat wastewater from these basins are currently located in the Shoal Creek and Potato Creek basins.

Drainage basins east of the City and in the eastern part of the County within the City of Griffin's service area which flow into the Ocmulgee River are:

Drainage Basins within the Ocmulgee Watershed

Name of Basin	Basin Area	Descriptor
Cabin Creek	1,812	CAC-CL
Buck Creek	3,814	BUC-1
SUMMARY	**5,626**	

Existing wastewater treatment facilities which treat wastewater from these basins are currently located in the Cabin Creek and Troublesome Creek basins.

The permitted facilities do not collect and treat all of the wastewater generated from these drainage areas. Most areas outside of Griffin do not have access to sanitary sewers and rely on individual septic systems for wastewater management.

3.4 Flow Projection Methodology

For the purpose of developing a workable wastewater management plan it is necessary to identify both the short-term and long-term needs. Because of this, flow projections were developed using multiple approaches to create an anticipated range for the growth of the wastewater flows within the service areas. The methods used for projecting the future wastewater flows include population trends and future land use data. A more detailed description of each method is provided in the following sections.

The flow projection used, assumes that sewer lines will be installed to serve mostly future growth in the unincorporated areas of the county. Areas inside the corporate limits of Griffin are already served by sewer with only a few exceptions where it has not been economically feasible to install sewer lines. It is projected that it will not be feasible to install sewer lines in unincorporated areas of the county where the population density is low. As will be explained later in this section, important assumptions were made as to the percentage of the existing population that will be served, future growth in each basin, and the percentage of existing and future developments that will be served.

3.5 Short-Term Projections

Since the preparation of the 2010 – 2030 Wastewater Management Plan the flows within two (2) of the City's three (3) service areas have declined. This is believed to be due to a combination of various factors. First is the reduction in water usage due to the conservation measures implemented in response to the extreme droughts throughout Georgia over the past fifteen (15) years. The second factor is the poor economic conditions that have resulted in the closing of multiple commercial and industrial businesses which discharged to the wastewater system. Finally, the City has gotten aggressive in tearing down dilapidated vacant houses within the city limits. The following table shows the historical wastewater flows to the City's three (3) treatment facilities over the past fifteen (15) years.

Historical City of Griffin Treatment Flows

Treatment Facility	ADF Wastewater Flows (MGD)				
	2005	2010	2015	2020	2005 - 2020 % Change
Cabin Creek WWTP	1.00	0.77	0.72	0.75	-25%
Potato Creek WWTP	1.64	1.27	1.35	1.41	-14%
Shoal Creek WWTP	1.79	1.62	1.65	2.04	14%

This reduction in flow provides a slight level of cushion in the available treatment capacity within two (2) of the three (3) City's wastewater systems, which helps to handle future short-term flow increases that may occur in the next few years.

In the previous Wastewater Management Plan, the short-term wastewater projections were developed using building permit application data for Griffin and Spalding County. The housing starts over the last fifteen (15) years is provided below.

Historical Housing Starts

Years	City of Griffin	Spalding County	Total Housing Starts (City + County)	YoY % Change
2005	94	395	489	
2006	104	229	333	-31.90%
2007	42	313	355	6.61%
2008	33	333	366	3.10%
2009	5	371	376	2.73%
2010	3	219	222	-40.96%
2011	0	207	207	-6.76%
2012	0	187	187	-9.66%
2013	0	204	204	9.09%
2014	22	235	257	25.98%
2015	7	284	291	13.23%
2016	7	287	294	1.03%

2017	27	335	362	23.13%
2018	91	379	470	29.83%
2019	81	435	516	9.79%
2020	167	379	546	5.81%
SUMMARY	**683**	**4,792**	**5,475**	

The most likely source of a significant increase in short-term wastewater flows is a new industrial user within the service area. Currently, the City has an agreement with the Spalding County Industrial Development Authority (IDA) to provide up to 500,000 gpd of treatment capacity to the industrial park, which discharges to the Potato Creek WWTP. At the time of this report, the Industrial Park is 80% built out and producing an estimated average daily wastewater flow of 125,000 gallons per day.

To accommodate potential short-term wastewater flow increases, in 2015 the City expanded the capacity of the Potato Creek WWTP to a capacity of 3.0 MGD, with a discharge to Potato Creek. Regarding the Shoal Creek WWTP, the ADF flow is getting close to the treatment plants permitted capacity of 2.25 MGD. Therefore, the City should begin the process to upgrade the plant's capacity or actively address the I/I within the service area. The City has an approved DDR and completed construction plans and specifications for the Shoal Creek WWTP for a capacity expansion to 3.5 MGD.

Similar conditions exist within the County's service area as related to the short-term flow projections. As previously stated, the County has two (2) wastewater treatment facilities, which serve relatively small areas adjacent to each facility. The Sun City Peachtree WWTP, which is privately owned and operated, serves the Sun City Peachtree development. Currently, the Sun City Peachtree WWTP is looking at adding sewer service to adjacent properties in the northeast part of the County. Over the last thirteen (13) years, growth within the Sun City Peachtree development has counted for roughly 37% of all Spalding County's growth.

Sun City Peachtree Development Housing Starts

Year	Sun City Peachtree	Spalding County	Sun City Housing Starts %
2007	103	210	33%
2008	123	210	37%
2009	160	211	43%
2010	87	132	40%
2011	83	124	40%
2012	71	116	38%
2013	91	113	45%
2014	107	128	46%

2015	109	175	38%
2016	110	177	38%
2017	104	231	31%
2018	118	261	31%
2019	161	274	37%
2020	98	281	26%
SUMMARY	**1,525**	**2,643**	**37%**

Assuming growth within the Sun City Peachtree development maintains its current levels, the development will be fully built out in 2037.

Since the 2010 – 2030 update, the Highland Mills WWTP has been decommissioned and the wastewater is now pumped to the Springs WWTP for treatment. The service area for the Springs WWTP is primarily located to the north of the City of Griffin along the Hwy. 19/41 corridor. As previously stated, with the adoption of the City of Griffin and Spalding County Intergovernmental Agreement, the existing sewer infrastructure currently being served by the Springs WWTP will be transferred to the City of Griffin. After the ownership transfer takes place Spalding County will retain the Springs WWTP service area along the Hwy. 19/14 corridor north of Dobbins Mill Road. It is anticipated, the wastewater flows generated within this service area will be approximately 0.396 million gallons per day (MGD). Figure 2-25 shows the planned service being retained by Spalding County and the anticipated wastewater flows from each area.

3.6 Long-term Projections

As previously stated, the long-term wastewater flow projections are based on both the anticipated population growth and future land use plan within the service area. Data regarding the population and land use plans was obtained from the State Water Plan and the most recent City and County Land Use Plans, respectively. Additionally, information on current water use for residential and commercial customers within the City and County was used in developing wastewater contribution rates for the projection calculations.

There are several reasons for using the two (2) different methods to calculate the long-term wastewater flows. The land use projection method is more conservative than the population projection method and is typically more accurate in forecasting the long-term wastewater flows for a drainage basin. This is primarily because the population projection method does not incorporate non-residential growth as easily as the land use method. However, the land use method does not incorporate a rate of growth. The advantages of using both methods in this study are as follows:

- Using the two (2) methods provides a reasonable check of each method's accuracy and provides a range of projected wastewater flows.
- Because the land use method includes a location aspect, it can be used to size infrastructure within the collection system.
- The population method helps in predicting the rate of growth over time for the area, which provides a timing component to the necessary improvements.

3.6.1 Population Projections

Population data and growth projections were obtained from the Georgia State Water Plan population projection data prepared by the Georgia Office of Planning and Budget, in 2020. These projections were based on the previous projections prepared in 2010, the southeast regional population projections, and migration data. The use of the population data from the State Water Plan helps Griffin/Spalding County's Wastewater Management Plan to coincide with the overall State plan for water resources.

The analysis of the population data as related to the proposed service area required breaking the population projection data into the individual census tracts within the County. Census tract data can be used to determine the average population density per acre in each respective census tract. The 2020 census tract population density data is presented in Table 3-1. Using this data along with the State Water Plan Population projections, it was possible to estimate the projected population of each drainage basin for each plan year (2025, 2030, 2035, 2040,), which is presented in Tables 3-2 through 3-5.

3.6.1.1 Flow Projection in Each Basin

It is necessary to project the wastewater flows in each basin to size the sewer lines, pump stations, and force mains. Additionally, by identifying which basins will flow to each treatment plant, it is possible to identify the required future treatment capacity at each treatment plant. Table 3-6 shows the projected wastewater flow increase for each drainage basin in the City's wastewater service area for plan year 2040. The following paragraphs detail the methods for calculating the values shown in these tables.

Column 2 – Estimated 2025 Population in Basin

The population data for each sub-basin is pulled from the data in Tables 3-2 through 3-6. These tables were developed by using the census tract data from the 2020 census to determine the average density for each census tract. This average population density was then adjusted for each plan year using the projections from the Governor's Office of Planning and Budget, series 2020 to develop the population density for each census tract. The sub-basins were then overlaid on the census tract map to determine the percent of each sub-basin in each census tract. The overlapping areas of the sub-basins and census tracts were then multiplied by the respective population density and summed for each sub-basin to provide an estimate of the population in each sub-basin.

Column 3 - Percent of Existing Population Added to Sewer

Generally, it is estimated that only 5 to 20 percent of the existing population will be served by new sewers in the next 20 years, primarily due to population densities or cost limitations. However, basins HBC-1, ORH-1, and WAC-1 have higher population densities or commercial development potential that will allow existing population to be served. Therefore, a higher percentage of the existing population is expected to be added to the sewer system.

Column 4 – Flow Increase from Existing Population

Column 2 multiplied by 100 gallons per person per day and by Column 3 (in decimals). The figure of 100 gallons per person per day is typically used for new sewers and includes infiltration and inflow. Griffin's average contribution per person on a system wide basis is approximately 85 gallons per person per day. This is lower than typical planning values, therefore, the 100 gallon per person per day value will be used to provide a conservative estimate.

Column 5 – Population Growth

As previously stated, the population growth data from the Governor's Office of Planning and Budget, series 2020 was used for this study. The 20-year increase in population is estimated to be 17.14 percent or 0.9 percent per year.

Column 6 – 2025 Projected Population in Basin

This is simply the existing population in the basin (Column 2) plus the projected growth (Column 5).

Column 7 – Percent of Population Growth Served

This was assumed to be 90 percent for all basins. Some areas will be developed with lots larger than one acre, which will not be economically feasible to provide sewer service.

Column 8 – Projected Flow form Population Growth

This equals the projected population growth (Column 5) multiplied by the percentage of new growth served (Column 7 in decimals) and multiplied by 100 gallons per person per day.

Column 9 – Projected Flow from Commercial Growth

This is estimated based on the current ratio of residential wastewater flows to commercial wastewater flows. The historical data for the breakdown in wastewater flows shows that the commercial flow is approximately 60 percent of the residential flow. Because much of the existing commercial developments will also serve new development, the additional commercial growth will be lower than the current ratio. It is estimated that future commercial wastewater flow will be 25 percent of the residential flow. Therefore, the projected flow from commercial growth is equal to the projected flow from population growth (Column 8) multiplied by 0.25.

Column 10 – Projected Flow from Industrial Growth

Similar to Column 9, the projected flow from industrial growth is calculated as a percentage of the residential and commercial flow. Based on the industrial flow records, the historical industrial flow is approximately 10 percent of the residential and commercial flow. It is estimated that the future industrial contribution will be 5 percent of the combined residential and commercial flow.

Column 11 – Projected Flow Increase 2010-2030

This column is the sum of all of the projected flow increases (Columns 4, 8, 9, and 10). The total is the projected average daily increase in flow to all of the treatment facilities for each plan year. For the Buck Creek sub-basin, an additional 500,000 gpd has been added to account for the City's guarantee to provide up to 500,000 gpd of treatment capacity for the industrial park.

3.6.1.2 Total Projected Flow in Each Treatment Basin

Table 3-7 shows the total flow projection for each treatment basin for the years 2025, 2030, 2035, and 2040. These projections also include the existing flow to each treatment plant. The values for the years 2025, 2030, and 2035 flow increase were calculated in the same manner as those for 2040, as shown in Table 3-6. Table 3-7 helps to show the impact of the future projected growth on the treatment capacities for each plant. The 2040 wastewater flow projections, based on population growth, to each treatment basin are as follows:

Treatment Basin	**Projected Monthly Average Daily Flow (MGD)** (based on Population Projection Method)
Cabin Creek	0.845
Potato Creek	2.47
Shoal Creek	2.97

3.6.2 Land Use Projections

The second methodology used to determine the long-term wastewater flows for the proposed service area was an evaluation of the future land use plans. This method is based on calculating the area of each different land use within a drainage basin and multiplying it by its corresponding wastewater flow contribution value on a per acre basis. The wastewater flow contribution value is developed by knowing the type of development and density allowed for each land use and having an understanding of typical wastewater flow values for those conditions.

Because the proposed service area is comprised of areas both inside and outside the City limits, it was necessary to evaluate the future land use plan for both the City of Griffin and Spalding County. Utilizing the most recent land use plans provided by the City and County zoning ordinances, it was possible to develop the per acre wastewater flow contribution for each land use category. The following chart shows the wastewater flows for each land use category.

City Land Use Classification	WW Flow Cont. (gpd/Ac.)	County Land Use Classification	WW Flow Cont. (gpd/Ac.)
Low Density Residential - A	230	Agricultural/Residential	70
Low Density Residential - B	460	Rural Reserve	230
Low Density Residential - C	690	Single Family Residential - 1	460
Medium Density Residential	920	Single Family Residential - 2	690
High Density Residential - A	2,000	Single Family Residential - 3	920
High Density Residential - BA	2,400	Single Family Residential - 4	920
Central Business District	1,100	Multi-Family Residential	1,600
Planned Commercial District	1,500	Planned Residential Community	2,000
Planned Industrial District	1,000	Highway Commercial	1,000
Planned Residential District	2,100	Neighborhood Commercial	800

Public/Institutional	200	Heavy Commercial	800
Parks/Recreation/Conservation	50	Manufacturing, Light	1,000
Transportation/Utilities	10	Manufacturing	1,000
Vacant/Undeveloped	0	Planned Development District	1,5000
		Office/Institutional	200
		Transportation/Utilities	10
		Vacant/Undeveloped	0

These values were used in calculating the wastewater flow rate for the individual drainage basins. They are calculated by applying a typical wastewater flow rate in gallons per day (gpd) to each unit that contributes flow. For the purposes of this study, a unit is defined as a residential lot, an individual apartment in a multi-family development, a commercial property, or an industrial facility. The typical wastewater flow rate was estimated using published design values in common professional texts.

3.6.2.1 Land Use Area Calculation

The land use areas within each drainage basin were calculated in a similar method as to the basin area in each census tract. Utilizing the GIS data provided by the City and County, it was possible to overlay each specific land use category with each drainage basin to calculate the area of each category within the basins. Table 3-8 shows the land use area for each basin for both the City and the County. A few of the drainage basins have little or no City land use within them. This is because the existing City limits either do not or minimally overlap into the respective drainage basins.

As can be seen, the vast majority of the County's land use within the proposed service area is for Agricultural and Rural Reserve (Estate and Low Density Residential). These two categories have relatively low wastewater contribution rates as compared to other developed categories. Significant variance from these categories in development activity may result in the future wastewater facilities being undersized. Because of this, it is critical that the City and County communicate with each other as to variances from the planned land uses within the service area so that the appropriate adjustments to this plan can be made.

3.6.2.2 Flow Projections in Each Basin

The flow projections for the land use method were calculated by multiplying the land area for each land use category by the wastewater flow contribution and the percent developed. The critical component of these calculations is the percent developed value. The land area is constant, as is the wastewater contribution rate for each category. Therefore, the percent developed is the variable factor that causes the total wastewater flow to increase.

The initial percent developed values (2020) were estimated based on aerial photography, existing sewer system maps, and field investigations. Using the projected population data, development trends, and historical records the percent developed values were increased on an annual basis to predict the growth in wastewater flow within each drainage basin. The growth within the service area was not projected uniformly for each basin. Each basin's growth was projected based on the types of land use, proximity to major transportation corridors, and the percent currently developed.

Once the growth rates were estimated, the projected wastewater flow for each drainage basin was calculated for plan years 2025, 2030, 2035, and 2040. The results of these calculations are presented in Table 3-9. It should be noted an additional 500,000 gpd was included in the Buck Creek sub-basin to account for the City's guarantee to provide up to 500,000 gpd of capacity for the industrial park. Table 3-9 is also segregated into the total flow for the respective treatment basins; Cabin Creek, Potato Creek, and Shoal Creek. The 2040 wastewater flow projections, based on land use, to each treatment basin are as follows:

Treatment Basin	Projected Monthly Average Daily Flow (MGD) (based on Land Use Method)
Cabin Creek	1.17
Potato Creek	3.64
Shoal Creek	4.43

3.6.2.3 Flow Projections for Future Nodes

The County has several future village and commercial nodes outlined in their future land use plan. These villages and commercial nodes will be served by privately owned and operated treatment plants. The following charts were constructed based on the areas of these villages and commercial areas. The village node areas were calculated and then multiplied by the units per acre (4.5 units), the average persons per unit (2.64), and the assumption that the average person would produce

100 gallons of wastewater a day. Twenty percent of the total household flow of each village node was calculated to estimate daily flow from the commercial areas serving the village node. For the commercial nodes the rate of 1,500 gallons per acre was applied.

Village Node[1]	Estimated Households	Estimated Household WW Flow	Estimated Commercial WW Flow	2025 Projected Average Daily WW Flow (MGD)
Vaughn/Rio	189	0.050	0.010	0.060
Rover	94	0.025	0.005	0.030
Heron Bay	164	0.043	0.009	0.052
Towaliga[2]	210	0.055	0.011	0.066
SunnySide	366	0.097	0.019	0.116
155 Future Node[2]	288	0.076	0.0152	0.091
TOTAL	**1311**	**0.346**	**0.069**	**0.415**

1 Orchard Hills is served by the Potato Creek WWTP.

2 The location to be determined.

Commercial Node[1]	Total Area (Acres)	2030 Projected Average Daily WW Flow (MGD)
Vineyard Road and 19/41	64.95	0.0974
Sunnyside	50.18	0.0753
East Griffin	199.7	0.2996
TOTAL	**314.83**	**0.4723**

Other Developed Areas

Developed Area	Serviced Area (Acres)	2030 Projected Average Daily WW Flow (MGD)
Springs WWTP	1,748.30	0.989
Sun City Peachtree	1,544	1.35
Highland Mills	32	0.016
TOTAL	1,576	1.366

3.7 Potential Airport Relocation

Recently, the City of Griffin and Spalding County have conducted a study to determine the future improvements to the existing airport. The study included evaluation of expanding the existing airport and relocating the airport to a new site. Currently, the existing airport is located in the Potato Creek sub-basin along the ridgeline with the Honey Bee Creek sub-basin. All of the wastewater flows from the airport go to the Potato Creek WWTP for treatment and disposal. If the airport remains at its current location and is expanded, there will be little impact on the wastewater flows in the Potato Creek basin. However, if the airport is relocated, there is a potential for significant impact on the projected wastewater flows within the County. The Site Selection Study prepared for the potential airport relocation and subsequent decision by the City and County resulted in the proposed new airport being located to the east of the City of Griffin between Jackson Road and High Falls Road. This site is in the Cabin Creek 1 (CAC-1) sub-basin just north of the Buck Creek 1 (BUC-1) sub-basin. Currently, there is no wastewater service within this sub-basin, which is within the County's service area. However, as mentioned above, the portion of the basin where the airport is located, now referred to as CAC-1-AP, will become part of the City's service area. With this location, it will be relatively simple to have flows from the proposed airport go to the Buck Creek 1 sub-basin for transmission to and treatment at the Potato Creek WWTP. Since the existing airport is within the Potato Creek Basin, there would be little, if any, impact on the projected wastewater flows for the basin.

3.8 Flow Projection Summary

As shown with the different methods of flow projections, the future wastewater flow to each facility may vary depending on how the growth in the service area occurs. Figures 3-4, 3-5, 3-6 and 3-7 graphically show the projected wastewater flows through the planning period for the Cabin Creek, Potato Creek, Shoal Creek and Springs facilities, respectively. As can be seen, there is a significant difference in the flow projections from the population method and the land use method. Based on the population growth data, the total flow in each basin is projected to be less than when calculated using the land use method. For the purposes of planning the system needs, it is recommended to use the land use projections for the long-term planning period. This is a more conservative approach that provides the security of being able to manage the higher flows. The lower predicted wastewater flows from the population method should be considered primarily in regards to analyzing the wastewater system under potential low flow conditions. This provides a lower boundary for checking the impact of low loadings on facilities designed based on the land use method flow projections.

SECTION FOUR: SEPTAGE MANAGEMENT

4.1 Introduction

An increasing concern with wastewater systems is the handling of septage. Septage is generally defined as the sludge produced in individual on-site wastewater disposal systems, principally septic tanks and cesspools. The problem associated with septage is the high strength (pollutant concentrations) compared to typical domestic wastewater. Typically, septage has the following characteristics:

	Septage Concentration (mg/L)		
Constituent	Range	Typical	Typical Domestic Wastewater (mg/L)
Total Solids (TS)	5,000 – 100,000	40,000	720
Suspended Solids (SS)	4,000 – 100,000	15,000	220
Volatile Suspended Solids (VSS)	1,200 – 14,000	7,000	165
5-day Biochemical Oxygen Demand (BOD_5)	2,000 – 30,000	6,000	220
Chemical Oxygen Demand (COD)	5,000 – 80,000	30,000	500
Total Kjeldhal Nitrogen (TKN as N)	100 – 1,600	700	40
Ammonia (NH_3 as N)	100 – 800	400	25
Total Phosphorus (as P)	50 – 800	250	8
Heavy Metals	100 – 1,000	300	Trace Amounts

If managed correctly, septage can be received and effectively treated at a wastewater treatment plant. The key factor is having the proper facilities to receive the septage and gradually dose it to the treatment facility so that there are no shock loads placed on the treatment process. In order to accommodate this, it is necessary to have an understanding of the potential septage loads to a receiving facility.

4.2 Septage Loads

The primary source of septage in Spalding County is the pumping of septic tanks in the unsewered areas of the county. Septage haulers generally carry the septage pumped from a septic tank to a wastewater treatment plant, which accepts septage, for discharge into the treatment process. It is important for the receiving facility to have the proper systems and equipment for receiving septage so that it can be dosed into the treatment process to minimize the risk of a process upset. If a large septage load is suddenly introduced to a treatment process the high constituent loads could cause a process upset, which may result in a permit violation. Therefore, it is important to understand the potential septage loads to receiving facilities and have the systems to manage the septage handling.

The City of Griffin had been accepting septage at the new Potato Creek WWTP facility since its completion in 2018. The City has since ceased accepting septage at the Potato Creek Plant and they do not plan to allow septage to be discharged at any other plant.

4.3 Septage Handling Options

The City of Griffin is no longer accepting septage at the plant and currently, there are no options for a municipal septic disposal facility in Spalding County.

4.4 Private Septage Handling Facility

At the time of this revision to the Wastewater Management Plan, a private company has acquired property to build a septage processing facility on Rehoboth Road in Spalding County. The facility will discharge into a 12” interceptor sewer that serves the Green Valley Industrial Park located on Green Valley Road and other adjacent industrial facilities. This interceptor sewer discharges into Lift Station sixteen in the Potato Creek Wastewater plant basin.

The pretreatment process for the facility is currently being designed. The process will have an initial screening component to remove trash and debris similar to a wastewater plant screening mechanism. The primary screening will not have as fine of a screening capability as most plate screens in wastewater plants. The screened septage will gravity flow to a process that will take the sludge out of the septage. The solids percentage (TSS) will be reduced from estimated levels at 0.50 percent (5,000 mg/L) down to 0.05 percent (500mg/L). The sludge will be removed utilizing a DAF process where the solids will float to the top of the DAF tank where the blanket will be removed and sent to a dewatering press for processing the sludge for disposal in a landfill. The resultant facility effluent entering the public sewer system will have TSS levels in the range of 250-500mg/L (0.025% to 0.05%).

This facility will not only serve the needs of the company developing the facility but local septic tank servicing companies as well. The development of this facility will relieve the cost of modifications to any of the City of Griffin wastewater plants to accommodate septage in the future should the City see the need to do so.

SECTION FIVE: SHOAL CREEK WWTP DRAINAGE AREA

WASTEWATER MANAGEMENT ALTERNATIVES

5.1 Introduction

After flow projections were made for each basin, alternative plans were devised to collect and treat the wastewater generated. This section focuses on the needs of the Shoal Creek WWTP Drainage Area. This area is comprised of four sub-basins, including CRV-1, HDC-2, SHC-1, and WAC-1 and small portions of the two (2) other sub-basins; TRS-2 and TRS-3. The future flow projections for this drainage area were calculated in Section 3 and are summarized below (utilizing land use)

Plan Year	Projected Monthly ADF (MGD)	Projected Max. Month Flow (MGD)
2025	2.52	3.27
2030	2.99	3.88
2035	3.61	4.69
2040	4.42	5.74

The existing Shoal Creek WWTP, which currently serves this drainage area has a permitted capacity of 2.25 MGD. The wastewater undergoes preliminary treatment at the Shoal Creek site and is pumped to the Blanton's Mill land application site for effluent disposal.

As noted in the previous report, construction documents were prepared for the expansion of the existing treatment facility to a capacity of 3.5 MGD. The expansion would have left the existing 2.25 MGD lagoon system and Blanton's Mill LAS site in operation and added a new mechanical treatment plant with a capacity of 1.25 MGD and effluent discharge to

Shoal Creek. Since the previous report, the City made the decision not to renew the permit for the 1.25 MGD plant, in the anticipation of construction a completely new plant that would have the capacity to treat the 2.25 MGD flow currently sent to the Blanton Mill spray field plus the additional 1.25 MGD. The preliminary plans are to close the Blanton Mill spray field operation and obtain a new NPDES permit to discharge at the Shoal Creek WWTP location. The Blanton Mill spray fields have reached their life span and the City is planning to close the operation once a NPDES permit and plant modifications are made at the Shoal Creek plant. With growing concerns about water quality in the Flint River watershed, the closure of the Blanton Mill LAS facility will decrease concerns related to wastewater disposal in the Flint watershed.

5.2 <u>Wastewater Treatment Needs</u>

The wastewater treatment needs are primarily driven by two (2) factors; the projected wastewater flow and the method for disposing of the treated effluent. These two (2) factors are related in that the volume of water to be treated impacts the effluent disposal method. As the flow increases, it becomes more cost prohibitive to utilize certain disposal methods such as, land application. As noted previously, the Blanton Mill land application facility has reached its useful life. The City of Griffin is currently evaluating a process upgrade for the two aeration basins at the Shoal Creek WWTP facility. The new biological process will give the plant a capacity of 5.0 MGD.

Modifications to handle the sludge from the new process will be designed and the existing sludge settling basin will no longer be utilized. A new method to dewater the sludge before it is pumped to the new screw press facility at the plant will designed as a component of the plant upgrade.

The primary process at the Shoal Creek plant will not need to be upgraded. The upgrade to the Shoal Creek plant in 2018 included a new headworks with two (2) plate screens rated at 6 MGD each and a manual bypass screen. The headworks also has a vortex type grit separator that conveys the grit to a dumpster. This new headworks is similar to the headworks at the new Potato Creek WWTP.

The City will apply for a new NPDES permit to have a direct discharge to Shoal Creek at the existing plant. A preliminary design report (DDR) will be produced as the first step to designing the new modifications to the plant. Once the DDR is approved by the EPD, the design process will begin to produce construction documents for bidding the modifications.

The completion of the Shoal Creek plant modifications to 5.0 MGD will allow the City to proceed with decommissioning the Blanton Mill LAS facility.

5.2.1 Treatment Capacity Needs

The projected wastewater flows to the Shoal Creek WWTP are presented above. These projections and how they were derived are discussed in detail in Section 3. As can be seen from the projections based on land use, the plant should be over its capacity currently in the 2025 year. The population method also indicates that the plant will be over its capacity in the 2025 year. EPD recommends planning for expansion to wastewater treatment plants to begin when the average daily flow reaches 80 percent of the permitted capacity. For the Shoal Creek WWTP, 80 percent of the permitted capacity is 1.8 MGD. The current average daily flow for 2022 is approximately 1.8 MGD, therefore the plant is at 80 percent of its design capacity. It is anticipated the maximum monthly average daily flow will exceed the current permitted capacity between 2024 and 2025, based on the land use and population projection methodology (See Tables 3-7 and 3-9 in Section 3).

As noted previously, the City has started the preliminary design for modifications to the existing aeration basins at the Shoal Creek WWTP. The design of the plant modifications and expansion are scheduled to start in early 2024 and be completed in February of 2025. Estimating the bid and construction duration to be 18 months, the plant could be operational in June of 2025. The estimate for the cost of the expansion is shown in Table 10-1.

5.3 Collection and Transmission System

In addition to the treatment and disposal needs within the Shoal Creek drainage basin, there are various collection and transmission system needs. The previous report noted four (4) interceptor sewer needs that are not currently feasible or have been constructed. One need noted was constructing two (2) new interceptor sewers in the Heads Creek Sub-basin (HDC-2). The interceptor sewers would be constructed along two (2) tributaries to the Heads Creek Reservoir and would terminate at a new lift station. This lift station would pump the sewerage directly to the Shoal Creek plant. This new lift station would have eliminated the need for lift stations number five (5) and seven (7). The recent replacement of lift stations number five (5) and number seven (7) eliminated the feasibility for the City to fund the new inceptor and lift station project. If development in the Heads Creek Reservoir area were to occur, developers would be responsible for the design and construction costs of this infrastructure.

Two (2) interceptor sewers in the Wasp Creek Sub-basin (WAC-1) were proposed in the previous report. Interceptor mains have been constructed by developers of several subdivisions in the WAC-1 basin. At the time of this report there is interest in commercial and residential development in the WAC-1 basin and the Tri-County area along US 19 and US 41. The sewer improvements for these developments will be paid for by the developers.

The previous report noted that there were no major improvements required in the Crestview Heights sub-basin (CRV-1). This sub-basin is essentially built out as related to the major infrastructure and should only require smaller sewers that can be installed by developers as development progresses. This is still the case in this sub-basin.

Improvements to the Shoal Creek sub-basin (SHC-1) in the previous report consisted of installation of interceptor sewers and paralleling the main Shoal 21-inch interceptor sewer. At the time of this report the City of Griffin does not have any plans to construct any new interceptor sewers. The 21-inch interceptor main is being studied in the current ADS project and the ADS data will be utilized to update the basin sewer model that was completed in 2018. The City of Griffin has recently contracted to have the Shoal Creek model updated with the ADS data. The previous report recommended constructing interceptors along two (2) tributaries to Shoal Creek. The first would be installed from Oak Grove Rd. northwest across Hwy. 16 to Shoal Creek. The second would run from east of Maloy Road to the northwest across Hwy. 16 to Shoal Creek. Both of these interceptors are planned for later in the planning period as development begins to occur in the area. The construction of the interceptors would be paid for by developers. The City does not have any funds budgeted for these sewer mains.

5.4 Schedule

An implementation schedule for the Shoal Creek Basin improvements has been developed to allow the City to plan and allocate their resources accordingly. This schedule is broken into four (4) categories; immediate, short-term, intermediate, and long-term. The following is a discussion of the reasoning for each improvement's designation to a specific category.

5.4.1 Immediate Needs

The immediate needs include improvements that are required to meet or solve pressing issues within the drainage basin. The primary improvement that could be considered an immediate need would be the expansion of the Shoal Creek WWTP. As stated above, if the land use projections are used, the facility needs to be expanded by 2025. The population projections indicate the expansion is necessary until around 2025. Another immediate need is the implementation of a program to decrease RDI&I in the basin. Currently the City has a contract with ADS to study I&I in the basin and identify areas of concern. The presentation of the data will be presented during the final review of this report and will be added at a later time. The data will also be utilized in Section Eleven (11) of this report, Infiltration and Inflow Program.

5.4.2 Short-Term Needs

The short-term needs represent the improvements that are recommended to be completed by the City within the next five (5) years. The primary short-term needs are the upgrade of the Shoal Creek WWTP to a 5.0 MGD capacity, the study of the main interceptor sewer, and the entire system by updating the sewer model. These task areas are currently being addressed by the City.

5.4.3 Intermediate Needs

The intermediate needs consist of improvements that are anticipated to be required between plan years 5 and 10 (2025 and 2030). The primary need during this time frame may be the paralleling of the existing Shoal Creek Interceptor with a relief interceptor. This is required because the existing sewer may not have the capacity that will be required in the future. With the completion of the ADS study and the Sewer Model update, the City can plan for the needed construction of the improvements. Although there are no current planned developments in the Shoal Creek basins, further development along the Highway 19 corridor through the WAC-1 sub-basin is expected to generate additional wastewater flows which also discharged into this portion of the Shoal Creek interceptor. With the developments expected in the WAC-1 sub-basin, capacity needs could be required within the Shoal Creek interceptor sewer.

Based on the preliminary projections, it is anticipated that the sewer will have sufficient capacity for at least the next five (5) years. However, to minimize the risk of future wastewater spills, the previous report recommended that a detailed study be conducted on the existing interceptor to determine the remaining capacity and how the planned developments will impact it. As noted previously, the City is currently studying the entire

Shoal Creek Basin sewer system. A more accurate timeline can be prepared for the needed parallel sewer and other possible improvements once the study and updated model are completed.

The other anticipated intermediate need is the upgrade of the Wasp Creek Pump Station. The station capacity can be upgraded by the addition of a third pump. The station was designed for the addition of a third pump, so the required piping is in place. The noted interest in commercial development in the US 19 area could generate flows that would require the addition of the third pump. A recent draw down test at the station indicated there is still adequate capacity in the station for development in the area.

Lastly, it is anticipated the lagoons at the Shoal Creek WWTP will require cleaning during this time period. In 2018 Pond three (3) had sludge removed as part of the Shoal Creek Influent station and headworks upgrade project. It will have been 10 years since the lagoons were last cleaned in 2018. The cleaning process removes the inert solids that build up in the bottom of the lagoons. Generally, the lagoon cleaning is required every 10 to 12 years, depending on the loadings to the facility.

5.4.4 Long-Term Needs

The long-term needs include projects that are not anticipated to be required until beyond plan year 10 or 2030. These projects include the following:

- Interceptor from Maloy Road to Shoal Creek
- Interceptor from Oak Grove Road to Shoal Creek

Because these are located in more remote locations within the service area, the need for wastewater service is not expected until late in the planning period. Because of this, these improvements can be postponed until growth and development activity require them. As noted previously, the City doesn't have plans at the time of this study to pay for these interceptors and developers will be required to install these sewers.

SECTION SIX: POTATO CREEK WWTP DRAINAGE AREA

WASTEWATER MANAGEMENT ALTERNATIVES

6.1 Introduction

Similar to the Shoal Creek Drainage Area, the Potato Creek Drainage Area has several needs that must be addressed to continue to provide adequate wastewater service to the citizens within the City and County. Using the flow projections previously developed for each basin, alternative plans were devised to collect and treat the wastewater generated. This section focuses on the needs of the Potato Creek WWTP Drainage Area. This area is comprised of four (4) sub-basins, including BUC-1, HBC-1, ORH-1, and POT-1. The future flow projections for this drainage area were calculated in Section 3 and are summarized below. (Derived from land use projections)

Plan Year	Projected Monthly ADF (MGD)	Projected Max. Month Flow (MGD)
2020	*n/a*	*n/a*
2025	2.69	3.49
2030	2.95	3.83
2035	3.26	4.24
2040	3.64	4.73

The existing Potato Creek WWTP, which currently serves this drainage area has a permitted capacity of 3.0 MGD. Wastewater treated at the Potato Creek WWTP is discharged to Potato Creek, a tributary of the Flint River.

In the previously Wastewater Management Plan for 2010 to 2030, plans for the expansion of the Potato Creek WWTP to a capacity of 3.0 MGD were outlined. Since the last report, the plant has been expanded by to 3.0 MGD by means of the construction of a completely new plant. The old plant was demolished as part of the construction project for the new plant.

The new plant has a modern headworks that utilizes dual plate screens with 6.0 MGD capacity each and a manual screen and related channel was incorporated in the headworks. A vortex type grit removal component was incorporated in the headworks. Both the plate screens and grit removal components have an auger system to convey the waste to dumpsters for disposal.

The biological section of the plant is a three (3) chamber SBR that utilizes aeration and mixing before a settling and decanting phase is implemented to end the cycle. Sludge is removed from the SBR chambers and conveyed to two (2) aerobic digesters. The digested sludge is pumped to a sludge thickener to increase the solids percentage before being loaded on trucks for land application. Currently the City of Griffin has completed a sludge drying project that involved the construction of a facility to house a screw press at Potato Creek for dewatering the sludge pulled from the thickener. The dewatered sludge cake is now being transported by roll off container to the new sludge drying facility recently put into production (September 2022) at Shoal Creek WWTP.

The decanted flow is piped to a post equalization basin where the discharge is pumped mechanically by VFD controlled pumps to the cloth filter system. From the filters the effluent is disinfected utilizing UV light. The final process after the flow is measured utilizing a Parshall flume is a step aeration to increase the oxygen level before discharging into Potato Creek. A process flow diagram for the new facility is included in Figure 2-8.

This section will discuss improvements to the major infrastructure for collection, transmission, and treatment of wastewater. These alternatives were prepared with consideration given to the population projections and land use plans, the number and locations of major lift stations needed to accommodate adverse topography, the need to serve areas of high projected growth, and the limitations of the existing facilities to meet short-term and long-term projected needs.

6.2 <u>Wastewater Treatment Needs</u>

Evaluation of the wastewater treatment needs in the Potato Creek Drainage Basin are less involved than for in the Shoal Creek Basin. This is primarily due to the fact that a decision as to the means of effluent disposal is not necessary. The Potato Creek WWTP effluent is currently discharged to Potato Creek from the new plant, unchanged from the old plant. Additionally, the EPD has issued the facility's new permit for discharge of up to 3.0 MGD of treated effluent to Potato Creek. The new permit is based on the allowable TMDL for Potato Creek. If the discharge volume from the new plant constructed in 2016 increases to over 3.0 MGD, a revised permit with lower effluent concentrations will be required and modifications will have to be made to the new plant. The new plant design took into consideration the lower levels for copper and zinc.

The projected wastewater flows to the Potato Creek WWTP were developed in Section 3 and are summarized above. As can be seen from the projections, the maximum monthly average daily flow is expected to exceed the existing permitted flow between 2025 and 2030. It should be noted that significant inflow and infiltration (I&I) studies and repairs are being conducted in the Potato Creek basin. This work is expected to help reduce the flows to the plant and provide more time for the need for a future expansion.

6.3 Zinc and Copper Issues

Zinc and copper are metals that can be found in wastewater in high concentrations typically due to some type of manufacturing/industrial process. Typically, the concentration of the zinc and copper are below the level of concern and do not require any special consideration. However, in the past, zinc and copper concentrations in the effluent from the Potato Creek WWTP have caused permit violations. In recent years, the zinc concentration in the effluent has decreased and subsequently, EPD removed the limits from the current NPDES permit and now the City only has to report the concentration in the effluent. However, there is still a copper limit of 0.021 mg/L. Because of this, it is important for the City to identify the source of the copper and try to minimize its discharge into the wastewater collection system.

Zinc and copper entering the wastewater system from manufacturing and industrial sources is regulated under the City's Industrial Pretreatment Program (IPP). It is possible that this is a source of the high zinc and copper concentrations, however, because these sources are monitored, it would mean there is a new industry that is not being monitored or an existing industry is illegally violating its discharge limits. This is addressed further in Section 11 of this report.

Another possible source is from storm water runoff. Metals deposited on streets and parking lots from automobiles are likely to contain relatively high concentrations of zinc and copper. During rain events, these metals are washed off the paved surfaces and into the storm water drainage system. Due to the known I/I problems within the collection system, the storm water containing the zinc and copper is able to enter the sewer system and ultimately the effluent from the treatment plant. This makes it even more critical to identify and correct I/I issues within the collection system, as much as possible. Further discussion of this issue is provided in Section 10 of this report.

6.4 Collection and Transmission System

There are several collection and transmission system needs within the Potato Creek WWTP Drainage Basin that need to be considered. These needs include installation of new interceptor sewers for providing wastewater collection within the basin, one (1) new pump station and force main are required, and upgrade of the existing Buck Creek Pump Station. Figure 6-2 shows the proposed facilities for the Potato Creek WWTP Drainage Basin.

In the previous report, no capital improvement work was recommended in the Orchard Hill sub-basin (ORH-1) in the previous report. This is because the Orchard Hill community is a small and the existing collection and transmission system already serves the majority of the potential users. It was noted that future work would be related to system extensions to pick up new customers, which would be paid for by the developer.

The lift station and gravity mains were upgraded in 2010 and paid for by a CDBG grant. The lift station and sewer mains have been deeded to the City of Griffin and are currently owned and maintained by the City.

Additionally, no infrastructure improvements are required in the Potato Creek sub-basin (POT-1) because the primary infrastructure for serving this sub-basin is in place and only smaller collection sewers are likely to be required during this planning period.

In the Honey Bee Creek sub-basin (HBC-1), the previous report proposed to install an interceptor sewer along Honey Bee Creek from Airport Road to the County Line. A new pump station and force main would be installed near Honey Bee Creek and County Line Road to transfer the collected wastewater to the Potato Creek WWTP. This interceptor would essentially allow the entire sub-basin to be served with no other major infrastructure required. This proposed interceptor is still an option as it would lessen the flow on the main Potato interceptor and provide sewer in undeveloped areas south to County Line Road. The proposed interceptor would not be extended to the Airport Road Lift Station allowing it to be decommissioned because the flow from this station was diverted to the Shoal Creek Basin by means of a new force main running west on

Airport Road to a manhole west of Highway 19/41. This change was due to the Nacom building being purchased by 1888 Mills. It may only be necessary to move forward with the proposed Honey Bee Creek Interceptor and Pump Station if residential development in the southern portion of the Honey Bee Creek basin were to be developed.

In the Buck Creek sub-basin (BUC-1), it was proposed in the previous report to install interceptor sewers along a tributary to Buck Creek that parallels Futral Road. An interceptor would also have to be constructed along the Buck Creek Lift Station Force main to tie to the existing outfall interceptor to the lift station. Due to the lack of proposed development in this area of the County, it is unlikely that this project will be constructed in the next 10-year period.

The estimated cost for the proposed improvements is presented in Table 10-1. These costs were developed in the same manner as the cost for the Shoal Creek Basin with all assumptions regarding sizing and pricing being the same.

6.5 Schedule

An implementation schedule for the Potato Creek Basin improvements has been developed to allow the City to plan and allocate their resources accordingly. This schedule is broken down into four (4) categories; immediate, short-term, intermediate, and long-term. The following is a discussion of the reasoning for each improvement's designation to a specific category.

6.5.1 Immediate Needs

Immediate needs are those improvements that require action to be taken within the next year. Based on the evaluation of the existing infrastructure, the immediate need within the Potato Creek WWTP Drainage Basin is to decrease Rainfall Derived Infiltration and Inflow (RDII) to the Potato Creek Plant. Plans are underway to study the primary interceptor mains in the basin. Continued lining of existing manholes and evaluation of the existing mains and manholes will continue over the next five (5) years.

6.5.2 Short Term Needs

Short term needs are those improvements that are needed to be completed in the next five (5) years. The short-term needs are the same as the immediate needs. The continued identification of RDII sources and the subsequent repairs will be needed for the aging infrastructure.

6.5.3 Intermediate Needs

The intermediate needs consist of improvements that are anticipated to be required between plan years 5 and 10 (2025 and 2030). The intermediate to long term need is in the HBC-1 sub-basin. However, depending on the rate of development activity, this work may be moved to the long-term category. This work will include the installation of the interceptor along Honey Bee Creek from an undeveloped area west of Etheridge Mill Road that will follow Honey Bee Creek down to County Line Road, plus the construction of the Honey Bee Creek pump station and force main. If this interceptor and pump station are not constructed, then each new development will likely require a pump station to transfer the wastewater to the existing collection system in the POT-1 sub-basin. This would increase the cost of operation and maintenance of the collection system. If the City moves forward with the interceptor and pump station, it may be possible to have the developers pay for the majority of the work since they would no longer need to install the individual pump stations and force mains.

6.5.4 Intermediate to Long Term Needs

The intermediate needs consist of improvements that are anticipated to be required between plan years 10 and 15 (2030 and 2035). Based on the current growth projections and known development activity, there are no intermediate needs for the Potato Creek Basin. However, this could change if land within the BUC-1 sub-basin begins to develop, or the industrial park expands. Additionally, the widening of Highway 16 will likely spur faster growth, which may move some of the long-term projects into the intermediate category.

6.5.5 Long-Term Needs

The long-term needs include projects that are not anticipated to be required until beyond plan year 15 (2035). These projects include the following:

- Installation of an interceptor along tributary to Buck Creek parallel to Futral Road
- Installation of an interceptor along Buck Creek force main alignment

- Expansion of Buck Creek Pump Station

All of these projects are located within the BUC-1 sub-basin. There is very little development taking place in this basin with minimal projected during in the study period. Because of this, these improvements can be pushed out until growth and development activity require them. In doing so, it may be possible to have developers install portions of the system.

SECTION SEVEN: CABIN CREEK WWTP DRAINAGE AREA WASTEWATER MANAGEMENT ALTERNATIVES

7.1 Introduction

The Cabin Creek WWTP Drainage Area is the smallest of the three (3) drainage areas within the City's overall wastewater service area. The area is nearly entirely contained within the City limits. This service area consisted of only of the CAC-CL sub-basin I the previous report, but with the decommissioning of the SCWSFA Plant No. One, a portion of TRS-3 basin now is included. This additional basin area is due to the Highland Mill lift station pumping sewerage from the Highland Mills residential area Cabin Creek Plant. As with the Shoal Creek and Potato Creek basins, future flow projections were developed for this basin in Section 3. The following table summarizes the projected flows for the 20-year planning period.

Plan Year	Projected Monthly ADF (MGD)	Projected Max. Month ADF (MGD)
2020	0.75	0.97
2025	0.80	1.04
2030	0.82	1.06
2035	0.83	1.08
2040	0.84	1.09

The Cabin Creek WWTP currently serves the CAC-CL area and the additional small section of the TRS-3 basing as noted and has a permitted capacity of 1.5 MGD. The wastewater treated at the Cabin Creek WWTP is discharged to Cabin Creek, a tributary to the Ocmulgee River basin. Because the effluent is discharge to the Ocmulgee River basin there is an inter-basin transfer of water. This results when water is withdrawn from one basin (the Flint River Basin in the case of the City of Griffin) and discharged to another basin. In the last several years, EPD has worked to minimize the inter basin transfers in the state. This is due to several reasons, though primarily to prevent one area of the state with limited water supply from pulling water from another area. In the case of Griffin, this is a minor concern as EPD has generally accepted the practice for communities that are located on basin divides, as is Griffin. However, if the communities below Griffin along the Flint River begin to make an issue regarding the inter-basin transfer, EPD may require the City to pump the treated effluent back to the Flint River basin. If this occurs, the required discharge limits are likely to change as well. The previous report discussed the potential cost of modifying the Cabin Creek system to send either raw wastewater to another treatment basin or treated effluent to discharge in the Flint River Basin. Pumping raw wastewater is not an option now since the plant was replaced with a new plant in 2019. The only option now would be to pump effluent to a tributary of the Flint River.

This section will discuss the concerns in the Cabin Creek WWTP Drainage Basin as related to the infrastructure and future needs. Because the basin is nearly built out in regards to land use, there are minimal infrastructure needs. The primary concern is with the potential for discharge permit changes and maintenance of the collection system.

7.2 Wastewater Treatment Needs

As can be seen from the flow projections, the monthly average daily flow and maximum month flow are not projected to exceed the new facility’s permitted capacity within the planning period. Additionally, the Cabin Creek basin is included the current ADS infiltration and inflow study that has just been completed on June 1, 2023, which are expected to help maintain the flow projections below the facilities current permit limit. Since the projected flow does not approach the current capacity, treatment capacity improvements are not expected to be required over the next 20 years within the Cabin Creek drainage basin.

7.3 Collection and Transmission System

As previously mentioned, the Cabin Creek basin is essentially built out with only small parcels remaining to be developed. Because of this, there is no need for major new infrastructure for the collection and transmission system. New sewers required to serve future development are expected to be in smaller sizes and should be installed by the developers.

As part of the decommissioning of the SCWSFA Plant No. One, the city was given the associated infrastructure that provided sewerage flow to the plant. This included the Highland Mills pump station and the Chestnut lift station that served one of the the Springs facilities (formally Dundee Plant No. 1) This lift station has 7 homes connected to it and it runs approximately 2 minutes per day. The station was sized for process water from the mill, and it oversized for the existing sewer load. The adjacent mill building pad area could be re-developed in the future and the flow to the station would increase. This station is a dry pump type that has the pumps in a small vault adjacent to the well. At some point in the future the city may need to replace this station with a submerged pump station meeting the City of Griffin specifications and sized to serve the small basin if development should occur.

The more critical issue for the Cabin Creek basin is the collection system that primarily serves the original city limits of Griffin and has some of the oldest sewer piping and manholes in the system. Because of this, there are I/I issues with the system. The I/I problems are currently being investigated as noted above and the City has plans to continue locating and correcting these problems. It is important to continue the I/I work because if the problems are left unchecked, they will likely worsen overtime and create a greater risk for spills and capacity issues within the basin. Therefore, it is recommended to make repairs to the system that will be recommended in the ADS study that has been completed.

7.4 <u>Inter-basin Transfer</u>

As mentioned above, EPD may require the City to eliminate the inter-basin transfer resulting from the discharge of the Cabin Creek WWTP effluent into the Ocmulgee River Basin, when the source of the water is the Flint River Basin. If this occurs, the City will either be required to have the wastewater collected in the CAC-CL basin sent to a tributary of the Flint River. The previous report discussed pumping the raw sewerage to either the Potato Creek or Shoal Creek WWTP for treatment and disposal or pump the treated effluent from the Cabin Creek WWTP to a suitable stream in the Flint River Basin for discharge. Pumping raw sewerage to either plant is not an option now since a new Cabin Creek plant has been constructed. The only option to be discussed is pumping the treated effluent from the Cabin Creek Plant to a tributary of the Flint River.

7.4.1 <u>Receiving Basin Options</u>

The treated wastewater from the Cabin Creek basin can be transferred to a tributary of the Flint River that can handle the additional flow and is also relatively close to the Cabin Creek Plant. There also needs to be consideration related to the route of the force main related to easements, stream crossings and adequate right of way for the installation of the force main. An estimate was produced by PCG in 2015 to pump the effluent for Cabin Creek to Shoal Creek at a location where Lyndon Avenue and Melrose Avenue converge.

7.4.2 Anticipated Costs

Preliminary capital costs were developed to provide a general estimate of the costs associated with transferring raw wastewater from the Cabin Creek basin to the Shoal Creek basin. Table 7-1 has been updated with 2022 costs for the infrastructure to pump the effluent to the Melrose and Lyndon Avenue location. The cost for the project is estimated to be $9.4 million dollars.

The City of Griffin has recently received information from the EPD that at this time they want the flow to remain in the Ocmulgee basin so the construction estimate is not included in the financial section future costs. This decision could be changed by the EPD in the future, so the narrative is included in this report.

SECTION EIGHT: SPALDING COUNTY WATER AND SEWERAGE FACILITIES AUTHORITY PLANT NUMBER ONE

8.1 Introduction

In 2009 the Spalding County Water and Sewerage Authority (SCWSFA) acquired the Springs Industrial Wastewater Treatment Plant (Springs WWTP) for Springs Global, Inc. This acquisition enabled SCWSFA to begin planning and concept design for providing sewerage services to northern Spalding County. The Springs industrial NPDES permit was transferred to SCWSFA.

Since the last report, the SCWSFA recently made the decision to close and decommission the facility noted as SCWSFA Plant No. One. A new outfall sewer main was constructed in 2022 to convey the sewer flow from the Highland Mills lift station, the Chestnut lift station and the new gravity system installed in a portion of the adjacent neighborhood to an interceptor main serving the Cabin Creek WWTP.

A demolition plan was designed and approved by the EPD in early 2022. The project was bid in late 2022 and completed in June of 2023 at the time of the completion of this report. The facility has been slated to be utilized in the future to be modified as a recreation facility utilizing the lagoon, racetrack process structure and the primary aeration basin that were left intact as part of the demolition plan.

As of June 22, 2023, NPDES permit GA0035947 was officially terminated by the EPD.

SECTION NINE: SLUDGE MANAGEMENT PLAN

9.1 Introduction

A critical issue in operating a wastewater system is how to deal with the sludge or biosolids produced in the treatment of the wastewater. Currently, the City has three (3) treatment plants where sludge is produced from the biological treatment of the wastewater. The following is an overview of the current sludge process at the three (3) wastewater treatment plants. All three (3) plants have a different process than the ones discussed in the 2010 Wastewater Management Plan.

- At the Shoal Creek WWTP, the sludge produced within the lagoon system accumulates on the bottom of the lagoon where the organic matter will decompose over time. The inert material in the sludge will accumulate and eventually must be removed. Accumulated sludge was removed from the lagoons and the aerobic ponds at the Shoal Creek WWTP in 2005. As part of the construction project to build a new influent lift station and headworks in 2018, sludge was removed in Pond #3 in the area of the new lined sludge settling basin. Additional sludge in pond #3 was removed to reduce the overall quantity in and beyond the settling area. In 2021 91,000 gallons of sludge was pumped from the settling area by the City's private sludge hauler, Synagro, and land applied on the farms permitted for land application of the sludge. The sludge was removed utilizing the piping system and diesel pump constructed as part of the 2018 plan upgrade.

- At the Cabin Creek WWTP, the waste sludge is digested in an aerobic digester that was constructed utilizing one of the old clarifiers in the old plant. The conversion was part of the project to build a complete new plant in 2016. The clarifier was retrofitted with an aeration system and pumps to transfer the sludge to a new screw press for dewatering. Sludge digestion is intended to stabilize the sludge by significantly reducing the organic material within the sludge. The stabilized sludge is then pumped to a new screw press for the final dewatering process. The dewatered sludge cake has been disposed of in a permitted landfill. The City had a contract with a private company, Synagro, to provide the hauling and disposal of this sludge. The sludge cake is now being dried in the City's new Shoal Creek Centralized Sludge Drying facility as of September 2022.

- At the Potato Creek WWTP, the sludge from the SBR chambers is pumped to the two (2) aerobic basins where they are aerated for a minimum of 61 days. The digested sludge is then transferred to a 40-foot diameter sludge thickener where the percentage of solids is increased to the range of 3 to 3.5 percent. From the thickener, the sludge has been pumped to trucks for land application on hay fields permitted with the EPD for land application. This process is currently stopped in July of 2022 when the Synagro contract expired and was not renewed. The new screw press facility was functional at this time and the dewatered sludge cake was hauled to Pineview landfill in cake form until the drying facility was finished and made functional. The Shoal Creek Centralized Drying Facility began drying sludge in September of 2022 and the dewatered sludge is now being dried and hauled to the same landfill in a dried form. A building to house a screw press was constructed as part of the project and the thickened sludge from the thickener will be pumped to the screw press for dewatered to approximately 20% solids. The dewatered sludge will be transferred to the new Shoal Creek Centralized Sludge Drying facility.

9.2 <u>Sludge Production</u>

Currently sludge that must be managed on a daily basis is generated only at the Cabin Creek and Potato Creek WWTPs. However, sludge is now settled out in a new chambered basin at the Shoal Creek WWTP that was part of the plant upgrade competed in 2018. The lined settling basin was created in the upper section of polishing pond 3. The sludge will have to be removed and managed several times per year. Therefore, sludge production for all three (3) treatment plants was evaluated to obtain an estimate of the quantities that must be managed on a daily or monthly basis.

The actual sludge production for the Cabin Creek and Potato Creek WWTPs for the twelve (12) month period from January 2021 through December 2021 is shown in Table 9-1. The estimates for sludge from all three (3) facilities that were utilized for the drying and press facilities design is shown in the table below.

TABLE **SOLID PROJECTIONS**

WWTP BIOSOLIDS								
	PC		CC		SC		Total WWTP Biosolids	
	Design Max	Daily Yr Avg	Design Max	Daily Yr Avg	Design Max	Daily Yr Avg	Design Max	Daily Yr Avg
Daily Flow (MGD)	3	1.5	1.5	0.7	2.25	1.8	6.75	4
Dry Solids (lbs)	670,000	335,000	428,571	200,000	251,250	201,000	1,349,821	736,000
(tons)	335	168	214	100	126	101	675	368
Wet Cake (tons)								
18%	1,861	931	1,190	556	698	558	3,750	2,044
20%	1,675	838	1,071	500	628	503	3,375	1,840
22%	1,523	761	974	455	571	457	3,068	1,673
24%	1,396	698	893	417	523	419	2,812	1,533
Dried Cake (tons)								
80%	419	209	268	125	157	126	844	460
90%	372	186	238	111	140	112	750	409

9.3 Existing Sludge Facilities

In developing a sludge management plan, it is necessary to have an understanding of what facilities currently exist to manage the sludge produced. The City's existing sludge management facilities are located at the Cabin Creek WWTP, Potato Creek WWTP and Shoal Creek WWTP. The existing facilities are discussed below for both the Cabin Creek and Potato Creek WWTPs.

9.3.1 Cabin Creek Sludge Management Facilities

The sludge facilities at the new Cabin Creek WWTP completed and operating in 2019, consist of one (1) aerobic digester constructed from a converted clarifier that was not demolished (volume of 112,000 gallons). The two (2) anaerobic digesters were demolished with the demolition of the original plant. The waste sludge from the biological treatment pulled from the bottom of the secondary clarifiers is stabilized in the aerobic digester.

The new facility also has a screw press that dewaters the sludge wasted from the clarifier. The dewatered sludge cake has been transported to Pine Ridge Landfill for disposal since 2019 up until the opening of the new sludge drying facility in September of 2022.

Based on the new facility and the 2040 projected flows based on the land use and population-based estimates, the plant will not reach the permitted flows in 2040. Based on this data the sludge facilities at the plant will be sufficient to process and dewater the sludge produced at the plant. The design of the sludge drying facility was based on the plant reaching full capacity (see chart in this section).

The digested sludge as noted has been periodically removed each month from the sludge press facility after it has been dewatered utilizing the screw press. The sludge cake produced from the screw press has been collected in a truck and hauled to the Pine Ridge landfill by Synagro. The City of Griffin was designing and seeking contractors to construct a centralized sludge drying facility to be located at the Shoal Creek WWTP during the period that the dewatered sludge was being disposed of at the landfill by Synagro. The dewatered sludge has been sent to the sludge drying facility since September of 2022.

9.3.2 <u>Potato Creek Sludge Management Facilities</u>

Similar to the Cabin Creek WWTP, the waste sludge from the biological treatment process is sent to the aerobic digester for stabilization. The measured depth in the digesters is utilized for the daily flow and timed sample volumes are utilized to check the pump flow rates. measure the sludge flow to the aerobic digester.

The Potato Creek WWTP sludge facilities consist of two (2) aerobic digesters each with a volume of 480,660 gallons (18-foot depth) and a sludge thickener. The aerobic digesters receive sludge from the SBR basins at the end of each cycle. Based on the average daily pumped flow of 37,302 gpd to the digesters for the 2021 year, there is a detention time of 25.7 days. This is well below the design detention time of 61 days. The average daily sludge hauled from the plant is 4,530 gpd for the 2021 year. This rate results in a detention time of 212 days, well above the required minimum of 61 days. Note that currently the plant is operating on two of the three SBR chambers. When flows increase to the plant to a level that requires the third basin to be put in operation, the sludge wasting to the digesters will increase.

Now that the dewatered sludge is being dried to meet Class A requirements, the pathogen reduction factor is not as important as with disposal by land application. With an average temperature of 84° F, the sludge from the digester has been meeting the Class B requirement for pathogen reduction during the land application period before the change to the dewatering process.

The new sludge thickener was incorporated into the design to thicken the aerobic digester sludge prior to hauling to the land application sites. The thickener does not provide any stabilization or treatment of the sludge, it only reduces the amount of water hauled, which helped in reducing the cost of hauling. The thickener is still utilized in the process since the higher the percent solids in the sludge sent to the new screw press, the higher the percent solids are in the dewatered cake.

9.4 Shoal Creek Sludge Management Facilities

The Shoal Creek WWTP was updated with a new influent lift station and headworks that was completed in 2020. As part of this project, a lined sludge settling basin was constructed in the first polishing pond (#3) to provide a location for sludge to settle and have means of removal. The floor of the settling basin is sloped to a sump with a pipe system that will be utilized to allow the sludge to be removed by pumping.

As part of the sludge drying facility project, a new permanent pump was installed to replace the existing standpipes installed during the plant upgrade project to be utilized with the portable pump. The new double disc pump transfers the settled sludge from the sump to the new screw press at the drying facility. The screw press discharge is conveyed directly into the hopper that distributes the sludge cake to the conveyors leading to the sludge dryer. This system eliminates the need to transport of the sludge to the press and from the press to the hopper as is required with the other two (2) plants.

9.5 WWTP Sludge Management Plan for 2022

As previously stated, the main concern with the sludge handling process prior to the construction of the central drying facility and the construction of the screw press facilities at the plant, there was no redundancy within the system. Specifically, if land were to become unavailable for land application or the sludge fails to meet the Class B requirements, the City had no permanent option for disposing of the sludge. The previous contract with Synagro helped to minimize this risk by making Synagro responsible for obtaining suitable sites for land application of the sludge. However, the City still had to produce Class B sludge to allow it to be land applied.

During the early preparation of the 2020 Update of this Wastewater Management Plan, it was decided the City would start the preliminary design of a central sludge drying facility to be located at the Shoal Creek WWTP facility. Dewatered sludge from Cabin Creek WWTP, Potato

WWTP and Shoal creek WWTP would be dried and meet Class A requirements for biological sludge. The dried sludge could be land applied or disposed of in a landfill. The City of Griffin chose to dispose of the sludge in a landfill vs land applying the dried sludge material. If opportunities to land apply or compost the dried sludge were to arise in the future the City would be open to these options.

In March of 2021 the plans for the City of Griffin's central sludge drying facility and four (4) dewatering facilities were completed and advertised for bid. The project has been awarded and construction began in May of 2021 and progressed through August of 2022. A GEFA loan was secured by the City of Griffin for the project in 2020. The total construction cost for the project is $15,500,000. This includes the central drying facility and the four (4) screw press dewatering facilities (two are for the water plants). The central drying facility located at Shoal Creek WWTP will also process alum sludge from Simmons water plant and Still Branch water plant. Each of these facilities will have a screw press facility to dewater the sludge (thus the need for four presses as noted).

The dewatered sludge from Cabin Creek Wastewater Plant and Potato Creek Wastewater plant was planned be transported to the Shoal Central Drying Facility by trailers pulled by dual wheeled pickup trucks or roll off containers. The City chose roll of containers due to less liability on travel and the need for one (1) truck to haul the sludge. The sludge from Shoal will be pumped directly from the settling basins constructed in 2019 as part of the influent station and headworks project to the screw press. The screw press facility at Shoal will is located in a section of the sludge drying facility dedicated to the press. As noted previously, the dewatered sludge cake is transferred directly to the sludge hopper in the facility by a conveyor from the screw press. Since the sludge cake is conveyed directly to the press, there is no need for vehicle and trailer transport to the hopper for the Shoal Creek sludge cake.

The dried sludge exiting the dryer will be conveyed to standard roll off containers and stored until it is transported to a landfill. The City of Griffin has contracted with Republic Services Pine Ridge landfill for disposal of the dried sludge.

The two (2) FKC sludge presses are Model BHX-1100 x 6000L model rated at 500 or 200 pounds per hour depending on the location. Cabin Creek utilizes a Process Wastewater

Technologies (PWTECH) press and plant that has a capacity to produce 750 pounds of dry weight per hour.

The processing rates for each of the wastewater facilities based on the equipment are listed below:

Potato Creek – 500 lbs of dry weight per hour
Shoal Creek – 200 lbs of dry weight per hour
Cabin Creek - 750 lbs of dry weight per hour

At the time of the completion of this report, the Shoal Creek Central Sludge Drying facility has been completed and began drying dewatered sludge in September of 2022. As the sludge production data becomes available over the next year, an amendment will be produced for this section of the manual after actual volumes and weights of dried sludge is transported to the landfill.

SECTION TEN: FINANCIAL PLANNING

10.1 Introduction

A key component of a wastewater system management plan is developing a plan for financing the needed capital improvements. Without a sound financial plan, capital improvements to a wastewater system may not be possible to implement, which could lead to system problems and moratoriums on new development.

Previous sections of this plan have identified the recommended expenditures over the next 20 years. This section focuses on options for financing the improvements. Table 10-1 identifies the recommended improvements for each basin over the 20-year planning period. The costs shown in this table are all presented in 2023 dollars. Improvements that are projected to be completed beyond 2021 have their costs shown in the year at the beginning of each five-year period.

One item that must be considered when planning for these improvements and how to fund them is that many of the interceptor sewers may be installed by the developers of the properties served by the sewers. Since the last report, other needs have become more important to the city than constructing interceptor sewers for development. Sewer extension to developments will be paid for by developers if areas of basins see the demand increase for development. The focus of Capital expenditures for his planning period is the reduction of I/I and the expansion of capacity at the Shoal Creek WWTP.

10.2 Financing Options

There are two (2) primary means for the City to finance the recommended system improvements, in addition to utilizing retained earnings from system revenues and capital cost recovery fees. The means are through issuing revenue bonds or obtaining loans. The City is familiar with the use of both. Revenue bonds were used in 1993, 1996, 1997, and 2002 for water and sewer projects including Still Branch water supply reservoir, water treatment plant and transmission mains, as well as various sewer projects.

Loans can be obtained from numerous institutions, but one of the most common for wastewater projects is through the State Revolving Fund managed by the Georgia Environmental Finance

Authority (GEFA). GEFA issues low interest loans for public facilities primarily related to water and wastewater systems. Obtaining a GEFA loan is a function of the available funding provided to GEFA and the number of projects applying for funding each year. Other loan and grant programs are available from the state and federal government, but these typically have low income participation requirements. These types of programs would be better suited for the infiltration and inflow work in specific areas of the city where there are concentrated areas of low income households.

Over the past eight (8) years the City of Griffin has secured six (6) GEFA loans for water and wastewater facility upgrades and complete new water and wastewater facilities and upgrades to wastewater plants. The waster GEFA loans and the amounts are shown in the charts below.

Georgia Environmental Finance Authority (GEFA) - Current Wastewater Loans		
Basin	**Year Built/Loan**	**Loan Amount**
Cabin Creek Basin - Plant	**2019**	**$16,000,000**
Potato Creek Basin - Plant	**2016**	**11,500,000**
Shoal Creek Basin - Updates	**2018**	**$8,000,000**
Sludge Drying Facilities	**2021**	**$11,267,000**
	Total	**$35,267,000**

Georgia Environmental Finance Authority (GEFA) - Future Wastewater Loans		
Basin	**Year Build/Loan**	**Loan Amount**
Shoal Creek Process - NPDES Discharge and Expansion to 5.0 MGD	**2026**	**$32,000,000**

Whether bonds or loans are used to finance the improvements, the City must have sufficient income to cover the debt service for the financing, as well as the other operating costs of the system. The remainder of this section will discuss the income requirements for funding the recommended capital improvements in terms of capital cost recovery fees.

10.3 <u>Capital Cost Recovery Fee</u>

A capital cost recovery fee (CCRF) is used by utilities to pay for the cost of system expansion due to the use of capacity within the collection and treatment system. These fees can be used for the extension of sewers, rehabilitation of sewers and manholes, installation of pump stations and force mains and expansion of treatment plants. Primarily, CCRFs are intended to cover the cost of capital improvements and not the cost of operation and maintenance of a system.

Many water and sewer systems in Georgia charge fees that are intended to recover the cost of the incremental portion of the wastewater treatment plant and trunk sewer lines used by new customers. These fees are paid for new connections to the system. In most cases, the other utilities (water) refer to these fees as Tap-on Fees (TF). For most new developments, the TF is included in the cost of the lot or new residential or commercial unit. The term TF will not be utilized for sewer connections as recommended in the previous Wastewater Management Plan.

A CCRF is usually based on a common factor that can be used to measure the capacity utilized by a new customer of the wastewater system. In the past, the City of Griffin has set the CCRF based on the projected average wastewater flow of a residential unit. To determine the fee required from non-residential units (schools, stores, offices, restaurants, etc.) a conversion factor was created based on equivalent residential units (ERU). Based on typical design values, one residential unit contributes a wastewater flow of 400 gpd. This number was recently increased from the 260 gpd that has been utilized for over 10 years to 400 gpd. Using this factor, it is possible to determine the number of ERUs for non-residential developments. The ERU is calculated by dividing the total anticipated wastewater flow from the development by 400 gpd. Once the number of ERUs is known, the total CCRF can be calculated by multiplying the number of ERUs by the rate for one residential unit.

The CCRF is reflective of the cost to provide wastewater collection and treatment service to the customers served by the facilities. Because of this, the CCRF was developed based on the cost to provide service in each drainage basin. Each of the three treatment basins within the City's service area will be analyzed separately.

10.3.1 <u>Cabin Creek Basin</u>

The Cabin Creek basin does not require capital improvements related to capacity and growth issues. This is primarily due to the basin being nearly built out with little additional land available for development. Also, the Cabin Creek WWTP was replaced with a completely new plant in 2019. There are capital projects recommended to meet the needs of the system and help in reducing I & I flow to the new plant.

The City had a sewer study completed in 2015 for the Cabin basin. The report indicated the areas where RDI&I was surcharging the system, mainly in the outfall mains. Currently there is interest in several residential developments in the basin that could generate revenue and funds from the CCRF to be utilized for reducing I/I in the basin.

The city has also contracted with ADS to complete a study in the Cabin basin as well as the other two sewer basins to identify areas where the highest rate of RDI&I is occurring. The report was completed June 1, 2023 and now the flow monitors will be relocated to further identify the worst areas based on the initial six month flow study. Another six (6) months will be monitored, and the study will be updated. An amendment to this study can be added after the monitoring exercise is complete.

The population and development projections indicate that over the next 20 years, there will be between 240 and 300 new customers (ERUs) added to the Cabin Creek service area. It is projected that the wastewater flow increase form this development will be approximately 94,970 gpd. Currently the average flow to the Cabin Creek Plant is 0.75 MGD. The plant is rated for 1.5 MGD so there is capacity for additional flow to the plant. Note that I/I needs to be addressed to reduce the current peak flow resulting from the I/I issues.

10.3.2 <u>Potato Creek Basin</u>

The Potato Creek WWTP was completely rebuilt and put online in 2016. The plant capacity was increased from 2.0 MGD to 3.0 MGD for the new plant. The plant was partially funded by $5,000,000 contributed for the CCRF at the Lakes at Green Valley Industrial Park. The remainder of the 16.5 million dollar construction cost was financed through a GEFA loan.

The city had a sewer study completed in 2017 for the Potato basin. The report indicated the areas where RDI&I was surcharging the system, mainly in the outfall mains. Currently there is a residential development in the basin that will generate revenue and funds from the CCRF to be utilized for reducing I/I in the basin.

Currently the average flow to the plant is 1.41 MGD. The plant is rated for 3.0 MGD so there is capacity for additional flow to the plant. Note that I&I needs to be addressed to reduce the current peak flow resulting from the I/I issues.

As noted, the main issue that needs to be addressed in the Potato Creek basin is I/I. The Plant inflow recently reached 3.37 MGD during a heavy rain event and the excess flow it stored in two lined equalization ponds constructed as part of the new plant. The City of Griffin has contracted with a company to study the conditions outfall mains and manholes in the lower section of the 24-inch interceptor. This data will be utilized to develop a plan to reduce I/I and budget to address the aging outfall mains feeding the plant.

As noted in the Cabin Creek section above, the city has also contracted with ADS to complete a study in the Potato basin to identify areas where the highest rate of RDI&I is occurring. The report was completed June 1, 2023 and now the flow monitors will be relocated to further identify the worst areas based on the initial six month flow study. Another six (6) months will be monitored, and the study will be updated. An amendment to this study can be added after the monitoring exercise is complete.

The population and development projections indicate that over the next 20 years, there will be between 4,649 new customers (ERUs) added to the Potato Creek service area. It is projected that the wastewater flow increase form this development will be approximately 1.059 MGD. Currently the average flow to the Potato Creek Plant is 1.41 MGD. The plant is rated for 3.0 MGD so the plant will be reaching its capacity and there will be a need for an expansion to the plant. Note that I&I needs to be addressed to reduce the current peak flow resulting from the I/I issues.

10.3.3 Shoal Creek Basin

The Shoal Creek basin is the largest of the three service areas. It also contains the highest percentage of undeveloped land. Because of this, it is projected to receive the most growth and require the most capital improvement projects. The estimated total for the capital improvement projects is approximately $45 million over the next 20 years. However, similar to the improvements in the Potato Creek basin, developers will have to install and fund the interceptor sewers needed for developing areas. The city does not have any money budgeted for interceptor sewers in the 20-year planning period.

A new influent lift station at the Shoal Creek facility was designed and constructed in 2018 and was put into use in 2019. As part of this project, a new modern headworks was constructed. The headworks included a plate screen with a dewatering chute and a grit removal vortex system. The headworks is similar to the one constructed at Potato Creek WWTP as part of the complete plant reconstruction. Each plate screen has a capacity of 6 MGD and there is a central manual screen and bypass channel. The funding for this upgrade was through an 8.5 million GEFA loan.

As with the other two basins, the city had a sewer modeling study done in 2018 for the Shoal basin. The results of this study indicated that there were areas of surcharge throughout the sewer system during rainfall events.

As noted in the previous basin sections, the City has contracted with ADS to complete a study in the Shoal basin to identify areas where the highest rate of RDI&I is occurring. This basin has the largest number of monitors due to its size and the need to study the RDI&I issues closely. The report was completed June 1, 2023 and now the flow monitors will be relocated to further identify the worst areas based on the initial six month flow study. Another six months will be monitored, and the study will be updated. An amendment to this study can be added after the monitoring exercise is complete.

As with the other two basins, RDI&I is reducing the plant capacity due to high flows during heavy rain events.

10.4 System Rates

A critical component of the success of a utility is having the rates for service set so they adequately cover administrative, operation and maintenance costs, the cost for renewal and replacement of system components, and the debt service for the system. The City of Griffin board of commissioners adopted a resolution in 2007 to utilize the Municipal Cost Index (MCI) to raise rates annually. The rate of increase was 2.1 percent in 2007 and currently is at 5 percent.

It can be expected that operation and maintenance cost will continue to increase each year due to several reasons including, inflation, growth, environmental regulations, and the age of the system. The average inflation rate has historically been between 1.5 and 3 percent. Because of this, many utilities automatically increase their rates each year relative to cost-of-living or inflation indices to avoid making large increases at less frequent intervals. Currently the inflation rate has risen to 9 percent plus and this may have a detrimental impact on the cost of personnel, maintenance and operational costs for the wastewater plants.

Environmental regulations can have a significant impact on operation and maintenance costs. Generally, environmental regulations become more stringent over time and as technology improves, which result in increased costs to utilities. For a collection system, the environmental regulations can change due to system problems or simply with the adoption of new policies by regulatory agencies. An example is the requirements for development and implementation of a Capacity, Management, Operation and Maintenance (CMOM) program.

The age of a wastewater system has a significant impact on operation and maintenance costs. In general, as equipment becomes older, the cost to maintain it increases due to the need for more frequent repairs and the loss of efficiency. Two (2) of the wastewater plants are new and improvements have been made to Shoal Creek WWTP. The maintenance at these facilities has been reduced related to equipment failure and replacement due to the plant and equipment age.

Similarly, piping systems may begin to fail and leak as they age, especially with certain older types of pipe. When this occurs, it is necessary to repair or replace the pipe. If maintenance and rehabilitation of the piping system is not performed, water from ground and surface sources may enter the collection system, increasing the cost of treatment due to the increased volume of water.

In summary, it is important for the management of a wastewater system to have a sound understanding of the expenses for operating the system and the level of revenue required from operations. In general, operating revenues should cover administrative, maintenance and operating costs, while CCRF and other sources of capital funds should be used for capital improvements to the system.

10.5 Recommendations

In the previous wastewater management report a recommendation was made for the City to adopt Capital Cost Recovery Fees for each treatment basin. The City implemented the CCRF fees and recently increased the fees in each of the three basins. The revised CCRF fees are as shown in the table below.

Treatment Basin	Current CCRF
Cabin Creek	$3,500
Potato Creek	$3,500
Shoal Creek	$3,500

These fees are in line with the average of $3,950 for systems in the surrounding area. These fees are within the range calculated above and are expected to be adequate for producing the funding required for the major capital improvements that are needed within each basin.

Currently the fees from a residential development in the Shoal Basin has provided $540,000 that is being utilized for reducing I/I in the basin. Another residential development in the Potato Basin noted previously will provide be being utilized to replace segment of the outfall main and other improvements to reduce I/I and pipe capacity issues in the Potato Basin.

SECTION ELEVEN: INFILTRATION AND INFLOW PROGRAM

11.1 Introduction

Infiltration and Inflow (I/I) is the introduction of non-wastewater sources into a sewer system. Infiltration is water that leaks into a sewer system through cracks or broken joints in piping and manholes. Inflow is generally considered to be water entering the sewer system through an improper connection such as a storm drain or downspout. Both of these sources of excess water create problems for wastewater systems.

Due to the age of the City's wastewater collection system, especially in the original City limits, there are numerous locations of I/I. Much of the older system was constructed using clay pipe, which becomes brittle over time and cracks allowing groundwater to seep into the system. Pipe joints used in older piping systems also tend to fail over time and often become locations where tree roots and other debris can enter the pipe and create blockages. Similar problems exist with cracked manholes or manhole lids that become flooded during rain events.

The primary concern with I/I in sanitary sewer systems is the problems it creates with system capacity. If there is excessive I/I, the sewer lines may become full and no longer have sufficient capacity to transport sewage to the treatment plants. This may result in spills that violate environmental regulations and have to be reported to EPD. The water that reaches the treatment plant creates additional cost for treating the wastewater.

11.2 Previous Infiltration and Inflow Work

The previous report noted numerous projects completed to help reduce I/I in the sewer systems located in all three (3) basins. The work consisted of replacing manholes and sewer mains in numerous locations. Other tasks were related to the cleaning and de-rooting of mains. The work was broken into four (4) phases that were completed in 2007.

11.3 Current Infiltration and Inflow Work

More recently, the City started a manhole rehabilitation program that has lined 216 manholes over the past five (5) years. The subcontractor hired to line the manholes has been working in all of the basins to reduce inflow in older manholes, especially ones constructed with brick. The budgets for I/I shown in Table 10-1 includes funds for continuing the lining program for the duration of this planning period.

Inspection work in the past has included visually looking at the condition of manholes and televising sewer lines to locate clogs, pipe failures and leaks. Testing includes smoke testing, dye testing and flow monitoring.

The City contracted with ADS late in 2022 to produce a study that would identify areas of high I&I with the sewer main systems of all three sewer basins. The flow monitor locations were determined with the aid or City personnel. These strategic locations were mainly in junctions of sub-basins and at the main interceptors close to the wastewater plants (see figures 11-1 and 11-2).

To obtain data to be utilized in the report, substantial rainfall events have to occur in the basins during the duration of the period they are deployed. The early part of 2023 provided substantial rainfall events for sufficient data to be utilized. The period ended in May and the report was produced and submitted to the City on June 2, 2023. The report identified areas that need to be studied further and the flow monitors will be relocated to these areas for another five-to-six-month period. After this data during this period is collected and analyzed, the report will be updated with the new data and the City will have a more detailed map of the areas that will need further detailed testing such as video camera work and smoke testing. Once this work is completed the City can develop the plans for rehabilitation and replacement of failed system components.

11.4 Future I/I Work

The nature of I/I work is essentially an ongoing process in a wastewater system because new sources of I/I may develop as old sources are repaired. This is one of the reasons for the regulations requiring systems to develop Capacity, Management, Operations and Maintenance

(CMOM) programs. These CMOM programs are intended to reduce Sanitary Sewer Overflows and to help utilities focus on the needs of the system through ongoing programs. A well-prepared CMOM program helps to predict where problems may occur in the future so that solutions can be developed prior to any negative impacts. The goal of the City should be to have the I/I program develop into a comprehensive CMOM program. To assist in this effort, the City has purchased new software, Pipeline Observation System Management (POSM), which is used to organize the data collected from the sewer infrastructure investigations. The POSM software links with the City's existing geographic information system (GIS) and allows the City to quickly categorize the problem areas found for prioritizing the areas in most need of repair.

In the short-term, the I/I program should continue and rehabilitation projects identified from the ADS monitoring study should move forward along with investigations of other sewer areas. The manhole rehabilitation work that the City is funding on an annual basis should also continue. As more and more of the sources of I/I are found and eliminated, the benefits will become more apparent at the treatment plants through reduced peak flows during storm events, recovery of capacity and lower operating costs.

SECTION TWELVE: INDUSTRIAL PRETREATMENT PROGRAM

12.1 Introduction

The Industrial Pretreatment Program (IPP) is a Federal mandate which requires municipalities and other providers of publicly-owned wastewater collection and treatment services to regulate industries that discharge to the public sewer system. This regulation of industrial discharges, codified in 40 CFR Part 403, is intended to serve three main purposes:

- To prevent the introduction of pollutants into publicly owned treatment works (POTW) which will interfere with the operation of a POTW, including interference with its use or disposal of municipal sludge.
- To prevent the introduction of pollutants into POTWs which will pass through the treatment works or otherwise be incompatible with such works.
- To improve opportunities to recycle and reclaim municipal and industrial wastewaters and sludges.

The Georgia EPD approved the City of Griffin's IPP on September 29, 2000, and subsequently revised the wastewater treatment plant permits to include the provisions of the IPP. Since then, Griffin has been managing the program, including reviewing reports submitted by industrial users, sampling and testing each permitted industrial user at least once every year, reviewing local limits annually or as needed, preparing and submitting an annual report to EPD, and enforcing the program through the Enforcement Response Plan and the Sewer Use Ordinance.

The program has been successful in limiting the pollutants discharged into the sewer system by the most significant industrial users. Several users have improved their pretreatment systems and, as in the case of one user, have constructed brand-new pretreatment facilities.

It is recommended to sample all permitted industrial users and test for copper to verify the information submitted in their self-monitoring reports. In addition, it may be necessary to track the sources of copper in the collection system to determine if non-industrial sources may be discharging significant amounts of the metal.

12.2 Recommended Procedure to Track Sources of Copper

If monitoring of industrial users fails to reveal significant concentrations of copper, samples should be taken from key manholes in the collection system as well as from the Potato Creek WWTP influent (before any return streams) to determine if the source of copper originates from industrial or non-industrial areas. Once a general area is identified, sampling in the collection system should proceed upstream until the main sources of copper are found. This effort will be complicated by the fact that high copper concentrations occur in the Potato Creek WWTP effluent sporadically.

The following guidelines should be followed during this sampling effort:

- Composite samples should be collected by taking grab samples hourly or every two hours during an 8-hour period.
- The samples should be tested for lead, zinc and copper since the sample collection effort will be much greater than the cost of testing for all three metals.
- Sampling should be repeated several times to obtain representative data (for example, once a week for four weeks or similar).
- Samples should be analyzed to the following detection limits:

Copper	5 microgram/liter
Lead	1 microgram/liter
Zinc	10 microgram/liter

- The laboratory should be consulted for any special sampling requirements such as use of talc-free gloves, special bottles, etc. to meet these detection limits.

12.3 Future Need to Monitor PFAS

The future of PFAS sampling is unknown but is mentioned in this report because of the increased concern and potential financial ramifications of future regulations.

SECTION THIRTEEN: REGULATORY ISSUES

13.1 Introduction

The State of Georgia, through the Department of Natural Resources, Environmental Protection Division (EPD) regulates public and private wastewater systems. The regulatory process is intended to protect the public health and the environment from harm due to the release of pollutants. EPD develops standards, regulations, and procedures for wastewater utilities to follow in the planning and operation of their systems. Areas of EPD's regulatory control as related to wastewater systems include the following:

- NPDES and LAS permitting and compliance monitoring.
- Plan review for treatment plants, gravity sewers and pump stations.
- Sanitary Sewer Overflow (SSO) monitoring and control.
- Review and approval of Industrial Pretreatment Programs.
- Sludge management and disposal.

Each of these areas of regulatory review impacts the implementation of this wastewater management plan. This section will briefly describe the issues related with each regulatory area. For additional information, the Appendix contains copies of relevant EPD documents or regulations can be reviewed on EPD's website at www.dnr.state.ga.us/dnr/environ/.

13.2 NPDES and LAS Permitting and Compliance Monitoring

All public wastewater treatment systems require a permit from EPD for either a discharge to a receiving water body or for land application of treated effluent. These permits are intended to give the State the ability to enforce the Water Quality Standards for the water of the state. The City of Griffin has permits for both direct discharge and land application. The Cabin Creek and Potato Creek WWTPs have NPDES permits for effluent discharge into Cabin and Potato, respectively. The Shoal Creek WWTP also has a LAS permit for the Blanton's Mill site. These permits are renewed every five years. During the permit coverage period, the City is required to submit monthly operating reports for determination of compliance with the permit requirements. Additionally, EPD attempts to perform annual audits/inspections of permitted facilities to ensure the facilities are being maintained in accordance with permit requirements. If there are repeated permit violations or the facility is in a state of disrepair, EPD can issue Consent Orders and fines to require the City to bring the facilities back into compliance with their permits.

The permit limits are generally based on the required water quality standards set by EPA and EPD. Limits are determined by calculating the Total Maximum Daily Load (TMDL) of specific pollutants that a water body can receive without becoming degraded. EPD sets the TMDL based on both the point source and non-point source loads to a water body. This means that if the non-point source load to a water body that a city wants to discharge treated wastewater to is too high, EPD may not allow the discharge or will set the discharge limits very low. Because of this, it is necessary for local governments to adopt policies that help reduce non-point source loads. The primary source of non-point source loads is storm water runoff. Runoff from agricultural land and pasture land is typically high in nutrients and BOD. Similarly, runoff from streets can contain petroleum products and other pollutants that cause streams to be impaired. To enforce these requirements, EPD requires entities seeking a discharge permit to have a watershed protection plan in place that identifies potential sources of non-point source loads and how they will be controlled.

13.3 Plan Review for Treatment Plants, Gravity Sewers and Pump Stations

Related to the permitting issues of EPD, their Engineering and Technical Support Branch performs plan reviews for wastewater facilities. These reviews are intended to verify compliance with minimum standards and environmental regulations.

With the implementation of this wastewater management plan and the development of the future infrastructure, several plan reviews will be required. Specifically, EPD will review and approve construction plans for treatment plant expansions and upgrades, gravity sewers and pump stations and force mains. With each of these, different levels of documentation are required such as Environmental Information Documents (EID), Design Development Reports (DDR), sizing calculations, and construction plans and specifications. The EID and DDR were approved for both the Potato Creek and Cabin Creek WWTP Expansions (complete new plants) that have been constructed since the last update of this report. The construction plans for these two plant projects were also approved by EPD.

13.4 Sanitary Sewer Overflow (SSO) Monitoring and Control

Related to wastewater collection systems, EPD enforces EPA regulations related to overflows of sanitary sewers. A wastewater utility is required to report any spill of wastewater that is over 10,000 gallons. If there are numerous spills reported in a relatively short period of time, EPD can issue a consent order for the utility to repair their collection system to prevent future spills.

SSO are usually caused by several collection system problems such as clogged sewers from excess oil and grease, broken sewer mains, excessive I/I, and undersized sewers. The main issue of concern to the City is the I/I problems. To help minimize SSO issues, the City has undertaken an aggressive I/I program to identify and repair locations where groundwater and storm water can enter the sewer system.

13.5 Review and Approval of Industrial Pretreatment Programs

For systems that receive wastewater flow from industrial processes, EPD recommends the utility develop an Industrial Pretreatment Program (IPP). Griffin has an IPP in place, which was previously discussed in Section Twelve. The IPP is intended to identify sources of potential hazardous pollutants and limit the loadings placed on public treatment systems from high concentration waste flows. EPD reviews and approves IPPs to ensure minimum requirements of the program are met. When changes are made to existing IPPs, it is necessary to submit the revised plan to EPD for approval.

13.6 Sludge Management and Disposal

The level of EPD's regulatory review of sludge management practices depends on the method of disposal of sludge. If sludge is disposed of at a landfill, EPD has little regulatory control over the sludge management process. However, if the sludge is disposed of through land application or sold as fertilizer, EPD's review becomes significantly more involved. The primary reason for the greater involvement is for land application of sludge it is necessary to meet Class A or B requirements as defined in Part 503 of 40 CFR. These requirements define minimum levels of stabilization to be met to be considered Class A or B sludge. Because of this, EPD reviews the process by which the sludge will be stabilized to verify if it is capable of producing the required sludge class.

Additionally, for Class B sludge land application it is necessary to obtain a permit for the site where the sludge will be applied. The permit is generally used to track the quantity of pollutants applied to the site each year. Utilities that land apply sludge are required to submit an annual report to EPD identifying the volume of sludge applied and the mass of specific pollutants applied to the site. This report also has to identify the life-time accumulation of these pollutants on the site, which will determine when the site can no longer accept additional sludge. Since Griffin utilized land application of liquid sludge they were required to comply with these requirements until they ceased land application on June first, 2022, when their contract with their sludge disposal company ran out and was not renewed. The city will no longer permit the current fields for land application.

The sludge section of this report outlines the new centralized sludge drying facility and related new screw press facilities at Potato Creek WWTP and Shoal WWTP. The dryer facility has been in operation since September first, 2022. The dryer is producing Class A sludge that is being disposed of in a landfill. The sludge cake from Cabin Creek WWTP sludge press that was put in production ins 2019 has been disposed of in a landfill by the sludge disposal company. The city of Griffin has been hauling the cake to the landfill since the first of June when the hauling contract ran out. The Cabin Creek sludge cake is now being dried at the new central drying facility since the start up in September 2022. The city will look at additional disposal means such as placement on agricultural fields after the facility has been functional for several months.

Table 3-1: 2020 Population Breakdown by Drainage Basin

	Census Tract Number																	Total Acres	Avg. 2020 Population Density (person/acre)	2020 Basin Population
Descriptor	**1601.01**	**1601.02**	**1602.01**	**1602.02**	**1603**	**1604.01**	**1604.02**	**1605**	**1606**	**1607.01**	**1607.02**	**1608**	**1609**	**1610**	**1611**	**1612.01**	**1612.02**			
Person/Acre	0.34	0.42	0.22	0.72	0.72	1.66	2.61	0.85	0.14	3.46	0.33	2.63	1.08	0.28	1.43	0.78	1.47			
	Acres in each Census Tract																			
CAC-CL	0	0	0	0	0	0	0	0	0	0	0	0	230	3,584	0	0	0	3,814	0.33	1,265
CAC-1-AP	0	0	0	0	9	0	0	0	0	0	0	346	715	201	0	0	0	1,271	1.37	1,745
BUC-1	0	0	0	0	529	275	461	0	0	0	0	321	226	0	0	0	0	1,812	1.73	3,127
HBC-1	0	0	0	0	0	272	182	1,462	0	0	0	0	0	0	0	0	0	1,916	1.14	2,175
ORH-1	0	0	0	0	0	0	0	0	0	0	6	0	0	0	39	964	1,656	2,665	1.22	3,243
POT-1	198	0	0	0	0	0	0	1,372	604	0	0	0	0	0	0	0	0	2,174	0.61	1,324
CRV-1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,123	0	0	0	1,123	0.28	319
HDC-2	0	0	0	0	0	0	0	0	0	18	0	7	449	874	2,798	0	1,793	5,939	1.25	7,448
SCH-1	0	0	0	0	0	0	213	4,457	1,276	1,435	4,489	489	0	0	0	0	54	12,413	1.00	12,360
TRS-2 (SC)	0	0	0	0	5	0	0	57	0	0	0	0	0	0	0	0	0	62	0.84	53
TRS-3 (SC)	0	0	0	0	0	14	0	2	0	0	0	0	0	0	0	0	0	16	1.56	25
WAC-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,739	0	2,739	0.78	2,136
SUMMARY	**198**	**0**	**0**	**0**	**543**	**561**	**856**	**7,350**	**1,880**	**1,453**	**4,495**	**1,163**	**1,620**	**5,782**	**2,837**	**3,703**	**3,503**	**35,944**	**1.01**	**35,220**

Table 3-2: 2025 Population Breakdown by Drainage Basin

	Census Tract Number																	Total Acres	Avg. 2025 Population Density (person/acre)	2025 Basin Population
Descriptor	**1601.01**	**1601.02**	**1602.01**	**1602.02**	**1603**	**1604.01**	**1604.02**	**1605**	**1606**	**1607.01**	**1607.02**	**1608**	**1609**	**1610**	**1611**	**1612.01**	**1612.02**			
Person/Acre	0.34	0.45	0.23	0.79	0.77	1.73	2.71	0.92	0.15	3.59	0.35	2.84	1.17	0.31	1.54	0.81	1.53			
	Acres in each Census Tract																			
CAC-CL	0	0	0	0	0	0	0	0	0	0	0	0	230	3,584	0	0	0	3,814	0.36	1,367
CAC-1-AP	0	0	0	0	9	0	0	0	0	0	0	346	715	201	0	0	0	1,271	1.48	1,885
BUC-1	0	0	0	0	529	275	461	0	0	0	0	321	226	0	0	0	0	1,812	1.83	3,311
HBC-1	0	0	0	0	0	272	182	1,462	0	0	0	0	0	0	0	0	0	1,916	1.21	2,312
ORH-1	0	0	0	0	0	0	0	0	0	0	6	0	0	0	39	964	1,656	2,665	1.27	3,375
POT-1	198	0	0	0	0	0	0	1,372	604	0	0	0	0	0	0	0	0	2,174	0.66	1,425
CRV-1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,123	0	0	0	1,123	0.31	345
HDC-2	0	0	0	0	0	0	0	0	0	18	0	7	449	874	2,798	0	1,793	5,939	1.34	7,936
SCH-1	0	0	0	0	0	0	213	4,457	1,276	1,435	4,489	489	0	0	0	0	54	12,413	1.05	13,064
TRS-2 (SC)	0	0	0	0	5	0	0	57	0	0	0	0	0	0	0	0	0	62	0.91	57
TRS-3 (SC)	0	0	0	0	0	14	0	2	0	0	0	0	0	0	0	0	0	16	1.63	27
WAC-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,739	0	2,739	0.81	2,222
SUMMARY	**198**	**0**	**0**	**0**	**543**	**561**	**856**	**7,350**	**1,880**	**1,453**	**4,495**	**1,163**	**1,620**	**5,782**	**2,837**	**3,703**	**3,503**	**35,944**	**1.07**	**37,326**

Table 3-3: 2030 Population Breakdown by Drainage Basin

	Census Tract Number																	Total Acres	Avg. 2030 Population Density (person/acre)	2030 Basin Population
Descriptor	**1601.01**	**1601.02**	**1602.01**	**1602.02**	**1603**	**1604.01**	**1604.02**	**1605**	**1606**	**1607.01**	**1607.02**	**1608**	**1609**	**1610**	**1611**	**1612.01**	**1612.02**			
Person/Acre	0.35	0.47	0.23	0.87	0.83	1.80	2.82	1.00	0.17	3.74	0.36	3.07	1.26	0.33	1.67	0.84	1.59			
	Acres in each Census Tract																			
CAC-CL	0	0	0	0	0	0	0	0	0	0	0	0	230	3,584	0	0	0	3,814	0.39	1,476
CAC-1-AP	0	0	0	0	9	0	0	0	0	0	0	346	715	201	0	0	0	1,271	1.60	2,036
BUC-1	0	0	0	0	529	275	461	0	0	0	0	321	226	0	0	0	0	1,812	1.93	3,502
HBC-1	0	0	0	0	0	272	182	1,462	0	0	0	0	0	0	0	0	0	1,916	1.28	2,459
ORH-1	0	0	0	0	0	0	0	0	0	0	6	0	0	0	39	964	1,656	2,665	1.32	3,512
POT-1	198	0	0	0	0	0	0	1,372	604	0	0	0	0	0	0	0	0	2,174	0.71	1,538
CRV-1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,123	0	0	0	1,123	0.33	372
HDC-2	0	0	0	0	0	0	0	0	0	18	0	7	449	874	2,798	0	1,793	5,939	1.42	8,459
SCH-1	0	0	0	0	0	0	213	4,457	1,276	1,435	4,489	489	0	0	0	0	54	12,413	1.11	13,820
TRS-2 (SC)	0	0	0	0	5	0	0	57	0	0	0	0	0	0	0	0	0	62	0.98	61
TRS-3 (SC)	0	0	0	0	0	14	0	2	0	0	0	0	0	0	0	0	0	16	1.70	28
WAC-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,739	0	2,739	0.84	2,310
SUMMARY	**198**	**0**	**0**	**0**	**543**	**561**	**856**	**7,350**	**1,880**	**1,453**	**4,495**	**1,163**	**1,620**	**5,782**	**2,837**	**3,703**	**3,503**	**35,944**	**1.13**	**39,573**

Table 3-4: 2035 Population Breakdown by Drainage Basin

	Census Tract Number																	Total Acres	Avg. 2035 Population Density (person/acre)	2035 Basin Population
Descriptor	**1601.01**	**1601.02**	**1602.01**	**1602.02**	**1603**	**1604.01**	**1604.02**	**1605**	**1606**	**1607.01**	**1607.02**	**1608**	**1609**	**1610**	**1611**	**1612.01**	**1612.02**			
Person/Acre	0.36	0.50	0.23	0.94	0.89	1.87	2.93	1.08	0.19	3.89	0.37	3.31	1.36	0.36	1.80	0.88	1.65			
	Acres in each Census Tract																			
CAC-CL	0	0	0	0	0	0	0	0	0	0	0	0	230	3,584	0	0	0	3,814	0.42	1,594
CAC-1-AP	0	0	0	0	9	0	0	0	0	0	0	346	715	201	0	0	0	1,271	1.73	2,198
BUC-1	0	0	0	0	529	275	461	0	0	0	0	321	226	0	0	0	0	1,812	2.05	3,706
HBC-1	0	0	0	0	0	272	182	1,462	0	0	0	0	0	0	0	0	0	1,916	1.36	2,615
ORH-1	0	0	0	0	0	0	0	0	0	0	6	0	0	0	39	964	1,656	2,665	1.37	3,655
POT-1	198	0	0	0	0	0	0	1,372	604	0	0	0	0	0	0	0	0	2,174	0.76	1,660
CRV-1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,123	0	0	0	1,123	0.36	402
HDC-2	0	0	0	0	0	0	0	0	0	18	0	7	449	874	2,798	0	1,793	5,939	1.52	9,018
SCH-1	0	0	0	0	0	0	213	4,457	1,276	1,435	4,489	489	0	0	0	0	54	12,413	1.18	14,625
TRS-2 (SC)	0	0	0	0	5	0	0	57	0	0	0	0	0	0	0	0	0	62	1.06	66
TRS-3 (SC)	0	0	0	0	0	14	0	2	0	0	0	0	0	0	0	0	0	16	1.77	29
WAC-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,739	0	2,739	0.88	2,403
SUMMARY	**198**	**0**	**0**	**0**	**543**	**561**	**856**	**7,350**	**1,880**	**1,453**	**4,495**	**1,163**	**1,620**	**5,782**	**2,837**	**3,703**	**3,503**	**35,944**	**1.20**	**41,971**

Table 3-5: 2040 Population Breakdown by Drainage Basin

	Census Tract Number																	Total Acres	Avg. 2040 Population Density (person/acre)	2040 Basin Population
Descriptor	**1601.01**	**1601.02**	**1602.01**	**1602.02**	**1603**	**1604.01**	**1604.02**	**1605**	**1606**	**1607.01**	**1607.02**	**1608**	**1609**	**1610**	**1611**	**1612.01**	**1612.02**			
Person/Acre	0.37	0.53	0.24	1.02	0.95	1.94	3.05	1.16	0.21	4.04	0.39	3.58	1.47	0.39	1.94	0.91	1.72			
	Acres in each Census Tract																			
CAC-CL	0	0	0	0	0	0	0	0	0	0	0	0	230	3,584	0	0	0	3,814	0.45	1,721
CAC-1-AP	0	0	0	0	9	0	0	0	0	0	0	346	715	201	0	0	0	1,271	1.87	2,374
BUC-1	0	0	0	0	529	275	461	0	0	0	0	321	226	0	0	0	0	1,812	2.17	3,924
HBC-1	0	0	0	0	0	272	182	1,462	0	0	0	0	0	0	0	0	0	1,916	1.45	2,783
ORH-1	0	0	0	0	0	0	0	0	0	0	6	0	0	0	39	964	1,656	2,665	1.43	3,805
POT-1	198	0	0	0	0	0	0	1,372	604	0	0	0	0	0	0	0	0	2,174	0.82	1,792
CRV-1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,123	0	0	0	1,123	0.39	434
HDC-2	0	0	0	0	0	0	0	0	0	18	0	7	449	874	2,798	0	1,793	5,939	1.62	9,619
SCH-1	0	0	0	0	0	0	213	4,457	1,276	1,435	4,489	489	0	0	0	0	54	12,413	1.25	15,483
TRS-2 (SC)	0	0	0	0	5	0	0	57	0	0	0	0	0	0	0	0	0	62	1.14	71
TRS-3 (SC)	0	0	0	0	0	14	0	2	0	0	0	0	0	0	0	0	0	16	1.85	30
WAC-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,739	0	2,739	0.91	2,499
SUMMARY	**198**	**0**	**0**	**0**	**543**	**561**	**856**	**7,350**	**1,880**	**1,453**	**4,495**	**1,163**	**1,620**	**5,782**	**2,837**	**3,703**	**3,503**	**35,944**	**1.28**	**44,535**

Table 3-6 :2020 - 2040 PROJECTION OF FLOW INCREASE IN SUB-BASINS										
Column 1 Sub-Basin Descriptor	***Column 2*** 2020 Population	***Column 3*** % of Exist. Population Added to Sewer	***Column 4*** Flow Increase from Exist. Population Growth (GPD)	***Column 5*** Population Growth % (17.14%)	***Column 6*** 2040 Projected Population	***Column 7*** % of Population Growth Sewered	***Column 8*** Projected Flow from Population Growth (GPD)	***Column 9*** Projected Flow from Commercial Growth (GPD)	***Column 10*** Projected Flow from Industrial Growth (GPD)	***Column 11*** Projected Flow Increase 2020-2040 (GPD)
CAC-CL	1,265	20%	25,300	217	1,482	90%	19,515	4,879	1,220	50,913
CAC-1-AP	1,745	5%	8,725	299	2,044	90%	26,920	6,730	1,682	44,057
BUC-1	3,127	20%	62,540	536	3,663	90%	48,240	12,060	3,015	625,855
HBC-1	2,175	50%	108,750	373	2,548	90%	33,553	8,388	2,097	152,789
ORH-1	3,243	50%	162,150	556	3,799	90%	50,029	12,507	3,127	227,813
POT-1	1,324	20%	26,480	227	1,551	90%	20,425	5,106	1,277	53,288
CRV-1	319	20%	6,380	55	374	90%	4,921	1,230	308	12,839
HDC-2	7,448	15%	111,720	1,277	8,725	90%	114,899	28,725	7,181	262,525
SCH-1	12,360	20%	247,200	2,119	14,479	90%	190,676	47,669	11,917	497,462
TRS-2 (SC)	53	50%	2,650	9	62	90%	818	204	51	3,723
TRS-3 (SC)	25	50%	1,250	4	29	90%	386	96	24	1,756
WAC-1	2,136	50%	106,800	366	2,502	90%	32,952	8,238	2,059	150,049
SUMMARY	**35,220**		**869,945**	**6,037**	**41,257**		**543,334**	**135,833**	**33,958**	**2,083,070**

Notes:

1. *Population Growth % taken from population data obtained from the Governor's Office of Planning and Budget, series 2020*
2. *Commercial flow projection is based on 25% of Residential flow.*
3. *Industrial flow projection is based on 5% of Residential and Commercial flow.*
4. *See Section 3.6.1.1 for detailed description of table calculations.*
5. *500,000 GPD added to sub-basin BUC-1 to account for the City's guarantee to provide 500,000 GPD of treatment capacity for the Industrial Park.*

Table 3-7: Total Projected Flow in Treatment Basins (Population Basis)
Average Daily Projected Flows (GPD)

	Cabin Creek WWTP Basin				Potato Creek WWTP Basin				Shoal Creek WWTP Basin			
Sub-Basin Descriptor	**2025**	**2030**	**2035**	**2040**	**2025**	**2030**	**2035**	**2040**	**2025**	**2030**	**2035**	**2040**
Existing Flow (2020)	750,167	750,167	750,167	750,167	1,411,417	1,411,417	1,411,417	1,411,417	2,041,000	2,041,000	2,041,000	2,041,000
CAC-CL	33,232	40,162	46,115	50,913								
CAC-1-AP	19,667	29,226	37,439	44,057								
BUC-1					582,147	599,277	613,995	625,855				
HBC-1					122,388	134,302	144,539	152,789				
ORH-1					182,485	200,250	215,513	227,813				
POT-1					34,782	42,035	48,266	53,288				
CRV-1									8,380	10,128	11,629	12,839
HDC-2									158,421	199,221	234,276	262,525
SCH-1									324,701	392,408	450,583	497,462
TRS-2 (SC)									2,982	3,273	3,522	3,723
TRS-3 (SC)									1,407	1,544	1,661	1,756
WAC-1									120,193	131,894	141,948	150,049
SUMMARY	**803,065**	**819,554**	**833,721**	**845,137**	**2,333,218**	**2,387,280**	**2,433,730**	**2,471,162**	**2,657,085**	**2,779,467**	**2,884,619**	**2,969,355**

Table 3-8: Summary of Land Use Areas Per Drainage Basin

Land Use Category	WW Flow Contribution (gpd/ac)	Sub-basin Acreage										
		BUC-1	CAC-CL	CRV-1	HDC-2	HBC-1	ORH-1	POT-1	SHC-1	WAC-1	TRS-2-SC	TRS-3-SC
City Zoning												
CBD	1,100	0	46.8	0	0	0	0	60.4	17.2	0	0	0
HDR-A	2,000	0	129	0	0	0	0	49.5	52.1	0	0	0
HDR-B	2,400	0	42.5	45.8	0	0	0	9.5	112.6	0	0	0
INST	200	0	61.7	0	0	45.7	0	478	446.4	0	0	0
LDR-A	230	0	0	0	4.2	0	0	330	549.3	0	0	0
LDR-B	460	0	66.2	35.6	0	176.9	0	1358	603.4	0	0	0
LDR-C	690	0	0	0	0	0	0	0	5.8	0	0	0
MDR	920	0	552	68.1	0	0	0	34	262.8	0	0	0
PCD	1,100	2.7	20.5	153.8	0	16.9	0	337.1	407.5	0.3	0	0
PID	1,000	11.8	110.9	11.8	0	232.5	0	252.2	76.4	78.2	0	0
PRD	2,100	0	29.5	0	0	0	0	78.3	189.5	1.4	0	0
City Total		**14.5**	**1,059.1**	**315.1**	**4.2**	**472.0**	**0.0**	**2,987.0**	**2,723.0**	**79.9**	**0.0**	**0.0**
County Zoning												
AR-1	70	2,752.7	56.4	14.4	511.9	0.0	891.7	981.4	7,615.3	534.0	0.0	0.0
AR-2	230	0.0	0.0	0.0	0.0	12.3	0.0	0.0	0.0	1.5	0.0	0.0
C-1	1,000	0.0	1.8	95.7	40.1	34.7	0.0	30.1	55.1	331.2	0.4	55.7
C-1A	800	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	2.5	0.0	0.0
C-1B	800	0.0	0.0	15.0	0.0	11.3	0.0	0.0	4.9	5.5	0.0	0.0
C-1C	1,000	0.0	0.0	0.0	0.0	0.0	0.0	71.7	0.0	0.0	0.0	0.0
C-2	1,000	590.8	91.3	0.0	29.1	31.1	0.0	79.6	155.6	481.7	0.0	0.0
O-1	200	2.7	8.3	0.2	2.4	0.0	0.0	9.2	0.5	0.0	0.0	0.0
PDD	1,500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.6	0.0	0.0
R-1	460	40.8	318.4	310.0	610.3	1,918.5	63.8	1,007.4	159.8	878.5	15.7	0.0
R-2	690	184.3	7.2	904.1	901.8	1.4	8.6	41.5	603.4	32.6	0.0	0.0
R-2A	690	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
R-3	920	0.0	67.1	10.1	0.0	0.0	0.0	29.4	2.5	0.0	0.0	0.0
R-4	690	38.4	0.5	103.1	10.0	0.0	0.0	177.1	338.1	115.0	0.0	0.0
R-5	920	0.0	0.1	0.0	0.0	63.7	0.0	0.0	68.6	0.0	0.0	0.0
R-6	2,000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.1	0.0	0.0
County Total		**3,609.7**	**551.1**	**1,453.0**	**2,105.6**	**2,073.0**	**964.1**	**2,430.2**	**9,003.8**	**2,483.2**	**16.1**	**55.7**

Table 3-9: Total Projected Flow in Treatment Basins (Land Use Basis)
Average Daily Projected Flows (GPD)

	Cabin Creek WWTP Basin				Potato Creek WWTP Basin				Shoal Creek WWTP Basin			
Sub-Basin Descriptor	**2025**	**2030**	**2035**	**2040**	**2025**	**2030**	**2035**	**2040**	**2025**	**2030**	**2035**	**2040**
BUC-1					906,983	989,584	1,089,368	1,210,135				
BUC-2												
CAC-CL	1,095,930	1,118,512	1,141,754	1,165,680								
CRV-1									516,871	576,206	643,165	718,818
HDC-2									148,298	162,995	179,155	196,924
HBC-1					324,544	365,117	415,752	479,604				
ORH-1					78,004	101,405	131,827	171,375				
POT-1					1,386,270	1,496,042	1,625,415	1,779,432				
SHC-1									1,378,725	1,595,439	1,875,404	2,242,281
WAC-1									482,977	663,736	915,929	1,268,067
SUMMARY	**1,095,930**	**1,118,512**	**1,141,754**	**1,165,680**	**2,695,802**	**2,952,149**	**3,262,362**	**3,640,546**	**2,526,871**	**2,998,376**	**3,613,652**	**4,426,090**

Notes:

1. 500,000 GPD added to sub-basin BUC-1 to account for the City's guarantee to provide 500,000 GPD of treatment capacity for the Industrial Park.

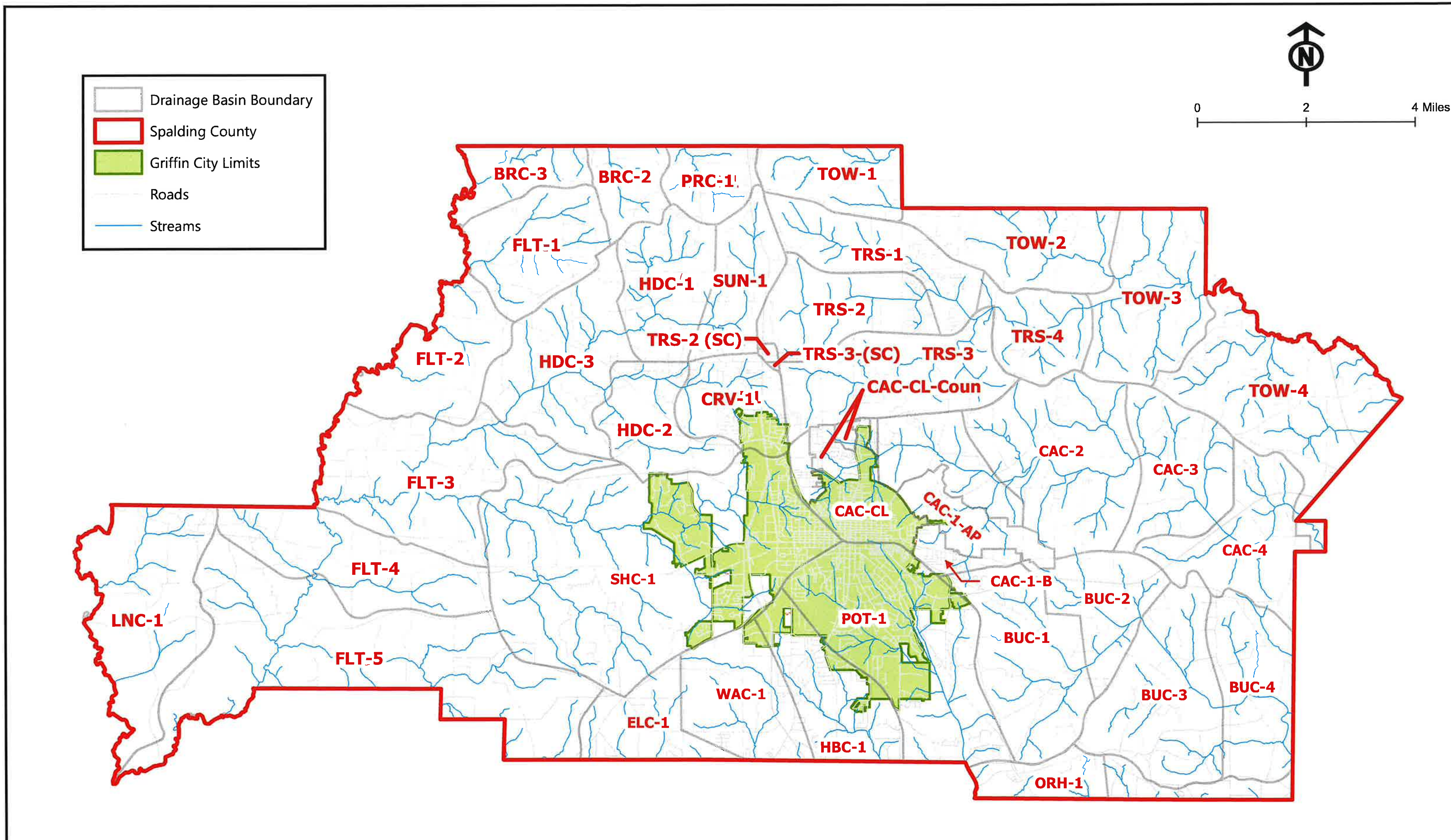
TABLE 7-1: INTERBASIN TRANSFER COST ESTIMATE PUMP TREATED EFFLUENT TO CREEK AT LYNDON/MELROSE AVENUE					
ITEM	**DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE**	**ITEM TOTAL**
	GENERAL				
1.	GENERAL CONDITIONS (5%)	LS	1	$305,900.00	$305,900.00
2.	PAYMENT & PERFORMANCE BONDS (3%)	LS	1	$183,540.00	$183,540.00
				GENERAL SUBTOTAL =	***$489,440.00***
	PIPING				
3.	16" CLASS 350 DIP - FROM CABIN CREEK WPCP TO MELROSE AVENUE	LF	16,500	$175.00	$2,887,500.00
4.	JACK & BORE 24" STEEL ENCASEMENT (CITY ROADS)	LF	430	$700.00	$301,000.00
5.	JACK & BORE 24" STEEL ENCASEMENT (RAILROAD ROW)	LF	200	$1,000.00	$200,000.00
6.	CABIN CREEK CROSSING	LF	100	$1,500.00	$150,000.00
7.	AIR & VACUUM RELEASE VALVES	EA	5	$20,000.00	$100,000.00
8.	DRIVEWAY CUT & REPAIR	EA	33	$3,000.00	$99,000.00
				PIPING SUBTOTAL =	***$3,737,500.00***
	PUMP STATION / PLANT				
9.	PUMPS & RELATED COMPONENTS	LS	1	$475,000.00	$475,000.00
10.	VALVE BOX COMPLETE	LS	1	$235,000.00	$235,000.00
11.	TESTING	LS	1	$60,000.00	$60,000.00
12.	WET WELL & TOP	LS	1	$175,000.00	$175,000.00
13.	ELECTRICAL SERVICE	LS	1	$300,000.00	$300,000.00
14.	EMERGENCY GENERATOR	EA	1	$200,000.00	$200,000.00
15.	OVERFLOW / STORAGE WELL	LS	1	$100,000.00	$100,000.00
16.	SCADA	LS	1	$175,000.00	$175,000.00
17.	TRENCH ROCK (BLAST IN TRENCH)	CY	750	$200.00	$150,000.00
				PUMP STATION / PLANT SUBTOTAL =	***$1,870,000.00***
	EROSION CONTROL AND TESTING				
18.	PRESSURE TESTING	LS	1	$30,000.00	$30,000.00
19.	TRAFFIC CONTROL	LS	1	$65,000.00	$65,000.00

20.	MISCELLANEOUS ITEMS (MAILBOXES, LANDSCAPING, FENCING)	LS	1	$7,500.00	$7,500.00
21.	CONSTRUCTION EXIT	EA	4	$3,500.00	$14,000.00
22.	TYPE 'C' SILT FENCE	LF	5,000	$5.00	$25,000.00
23.	PERMANENT GRASSING WITH MULCH	AC	29	$6,000.00	$174,000.00
				EROSION CONTROL AND TESTING SUBTOTAL =	***$315,500.00***
	MISCELLANEOUS				
24.	EASEMENTS, LAND ACQUISITION, AND PERMITTING	LS	1	$150,000.00	$150,000.00
25.	SURVEY STAKING & RECORD DRAWINGS	LS	1	$45,000.00	$45,000.00
				MISCELLANEOUS SUBTOTAL =	***$195,000.00***
				CONSTRUCTION ESTIMATE SUBTOTAL =	***$2,968,940.00***
26.	CONTINGENCY (25% OF CONSTRUCTION SUBTOTAL)				$742,235.00
				CONSTRUCTION ESTIMATE TOTAL =	***$3,711,175.00***
27.	ENGINEERING, BID SERVICES, AND CONSTRUCTION MANAGEMENT (15% OF CONSTRUCTION TOTAL)				$556,676.25
				PROJECT TOTAL =	***$4,267,851.25***

TABLE 9-1: SLUDGE REMOVAL DATA		
Cabin Creek		
Month	**Wet Tons**	**X**
January 2021	44.05	-
February 2021	60.19	-
March 2021	67.56	-
April 2021	43.71	-
May 2021	41.63	-
June 2021	21.77	-
July 2021	41.64	-
August 2021	21.09	-
September 2021	43.91	-
October 2021	21.53	-
November 2021	43.07	-
December 2021	No Data	-
Total	**450.15**	-
Avg.:	**37.51**	-
Potato Creek		
Month	**Gallons**	**Dry Lbs**
January 2021	136,500	43,421
February 2021	159,250	34,820
March 2021	133,250	27,682
April 2021	295,750	39,484
May 2021	156,000	27,682
June 2021	146,250	126,705
July 2021	91,000	16,486
August 2021	120,250	22,006
September 2021	81,250	11,900
October 2021	55,250	17,882
November 2021	165,750	32,246
December 2021	91,000	19,267
Total	**1,631,500.00**	**419,581**
Avg.:	**135,958.33**	**34,965**

TABLE 10-1: CAPITAL EXPENDITURES					
Cabin Creek Basin					
	Year				
Item	**2020-2024**	**2025-2029**	**2030-2034**	**2035-2039**	**2040**
Sewer Model Update	$50,000				
I&I Reduction/Sewer Capacity	$0	$1,500,000	$1,000,000		$2,500,000
Lift Station No. 23 Replacement		$285,000			
Basin Total	**$50,000**	**$1,785,000**	**$1,000,000**	**$0**	**$2,500,000**
Potato Creek Basin					
	Year				
Item	**2020-2024**	**2025-2029**	**2030-2034**	**2035-2039**	**2040**
Sewer Model Update	$50,000				
I&I Reduction/Sewer Capacity	$1,000,000	$1,000,000	$2,000,000	$2,000,000	$2,000,000
Honey Bee Creek interceptor and pump station		$3,173,000			
Buck Creek interceptor and pump station improvements			$4,107,000		
Plant expansion to 4.0 MGD				$8,203,000	
Basin Total	**$1,050,000**	**$4,173,000**	**$6,107,000**	**$10,203,000**	**$2,000,000**
Shoal Creek Basin					
	Year				
Item	**2020-2024**	**2025-2029**	**2030-2034**	**2035-2039**	**2040**
Engineering Sewer Model Updates	$50,000				
Plant expansion to 5.0 MGD		$32,800,000			
I&I Reduction/Sewer Capacity	$2,000,000	$6,000,000	$6,000,000		
LS5 Screening		$150,000			
Basin Total	**$2,050,000**	**$38,950,000**	**$6,000,000**	**$0**	**$0**
System Total	**$3,150,000**	**$44,908,000**	**$13,107,000**	**$10,203,000**	**$4,500,000**

Note: All cost are shown in 2023 dollars



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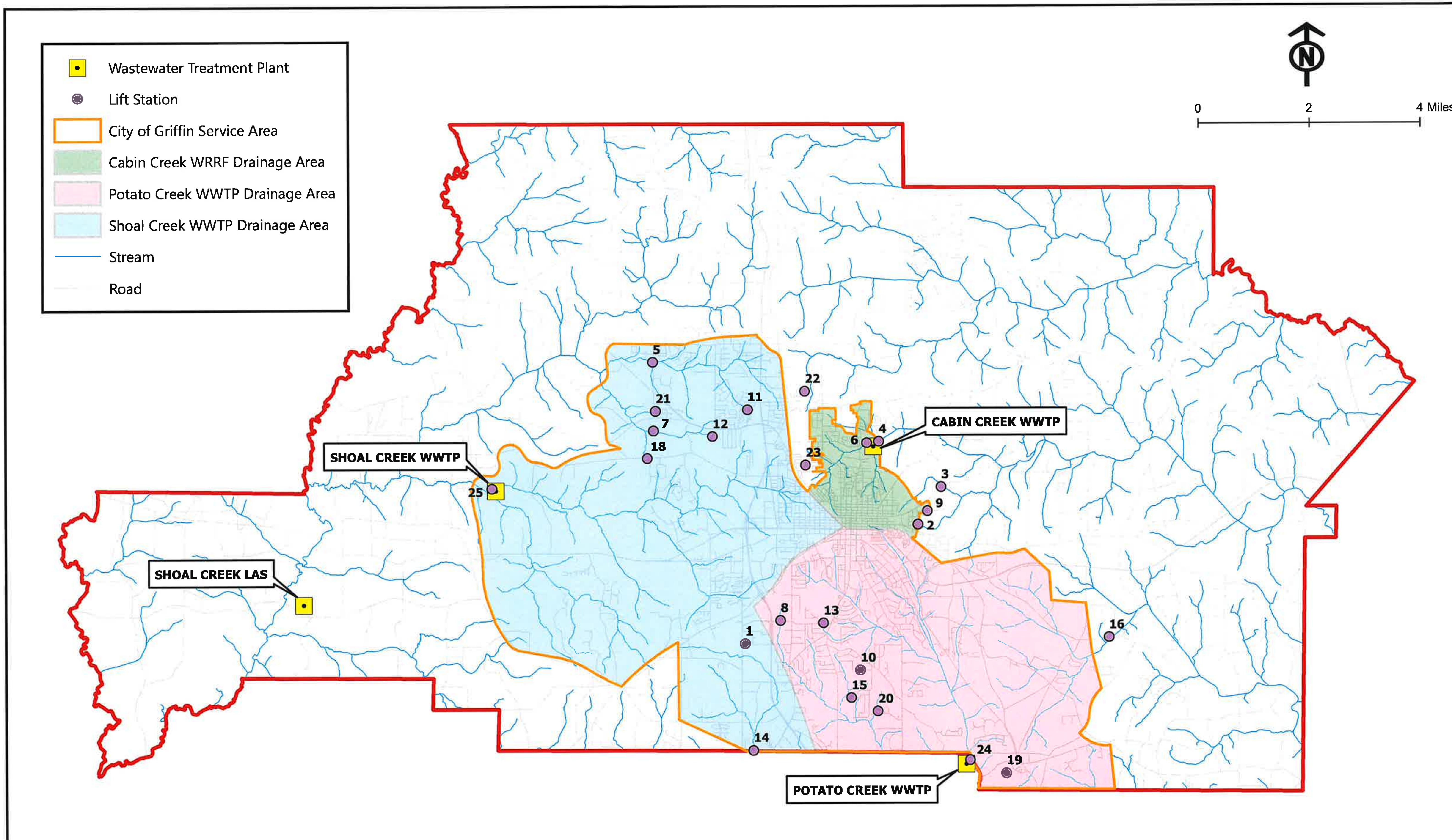
350 Airport Road | Griffin, GA 30224 | 770.412.7700 (p) | 770.412.7744 (f)

GRIFFIN - SPALDING COUNTY DRAINAGE BASIN MAP

Issue Date: DEC 2022

FIGURE NO. 1-1



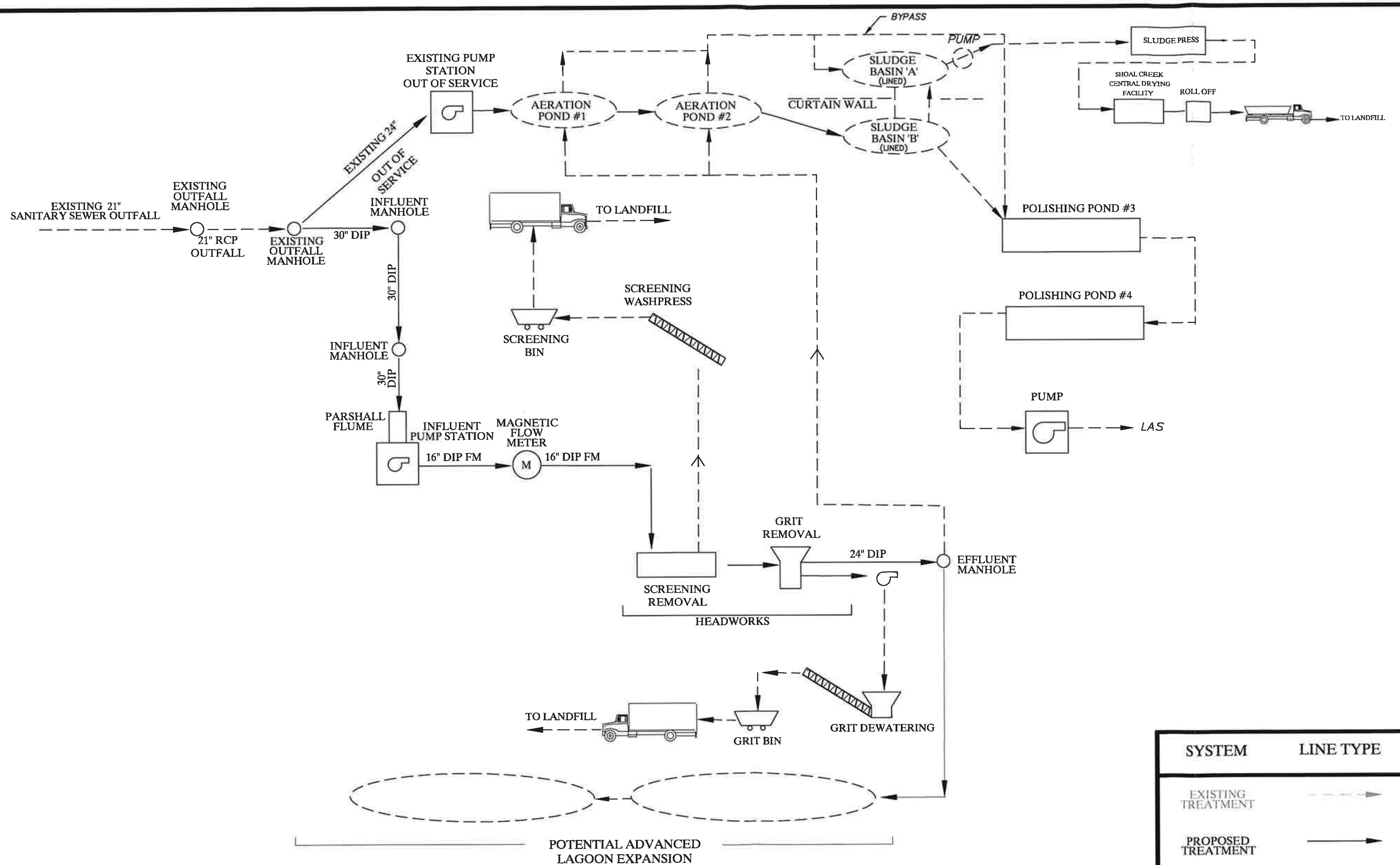
PARAGON CONSULTING GROUP

350 Airport Road | Griffin, GA 30224 | 770.412.7700 (p) | 770.412.7744 (f)

CITY OF GRIFFIN EXISTING FACILITIES MAP

Issue Date: DEC 2022

FIGURE NO. 2-1



PROCESS FLOW DIAGRAM

N.T.S..

SYSTEM	LINE TYPE
EXISTING TREATMENT	- - - →
PROPOSED TREATMENT	——→
SOLIDS REMOVAL	- - - →
PUMP	

PARAGON CONSULTING GROUP

SHOAL CREEK WWTP
NEW HEADWORKS AND PUMP STATION

FIGURE NO.
2-2

Figure 2-3
Shoal Creek WWTP
Monthly Average Daily Influent Flow

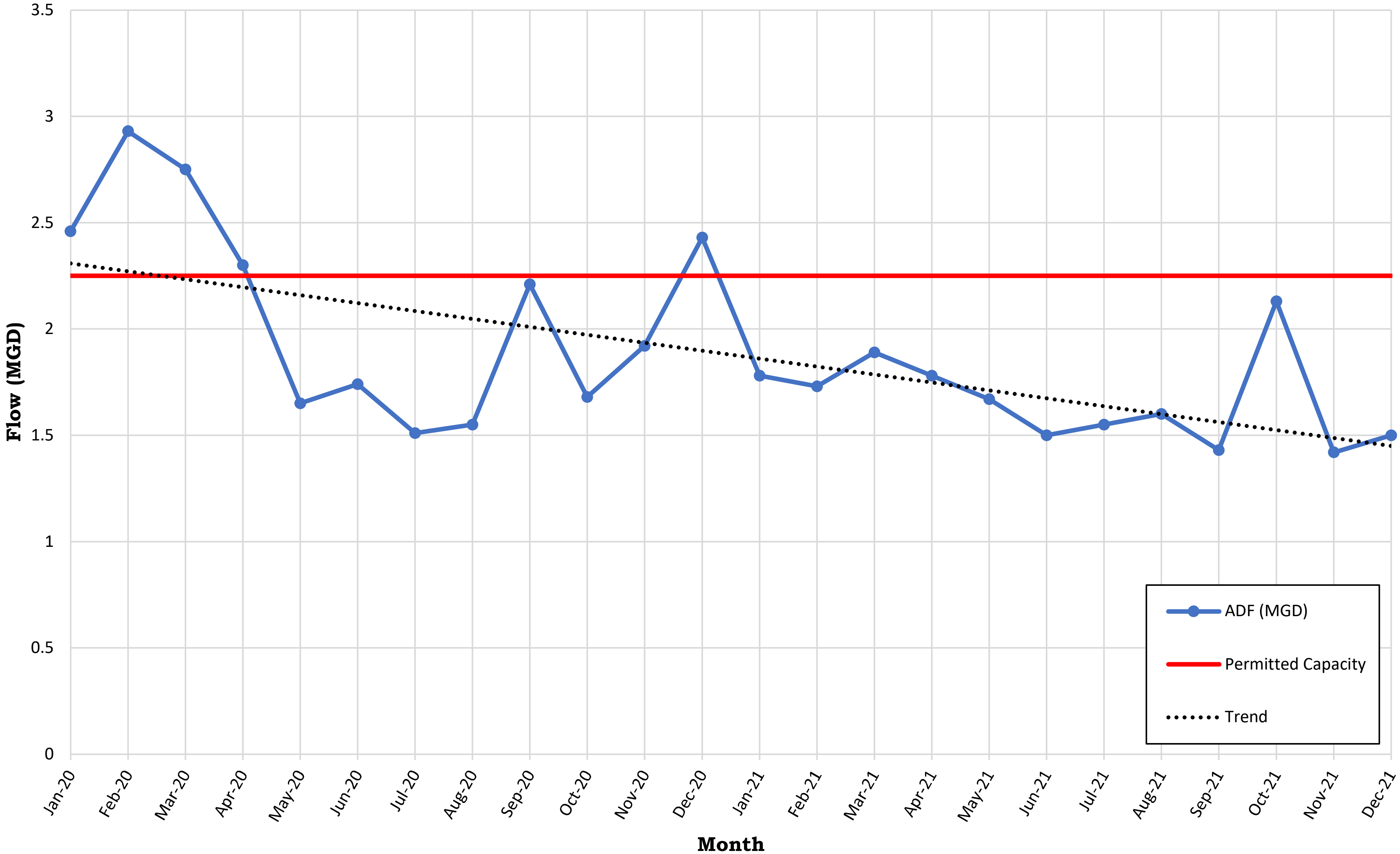


Figure 2-4
Shoal Creek WWTP
Average Effluent BOD Concentration

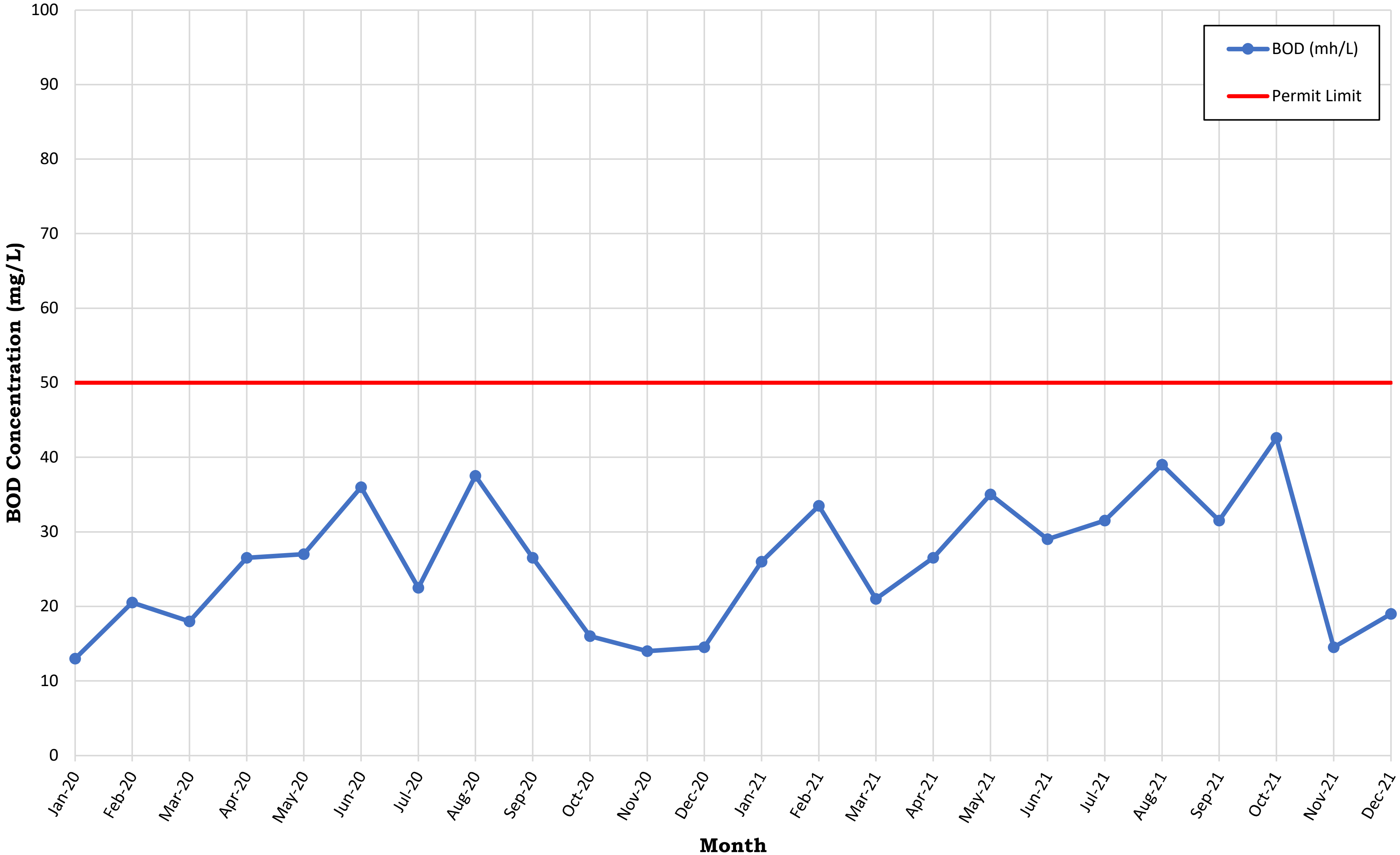


Figure 2-5
Shoal Creek WWTP
Average Effluent TSS Concentration

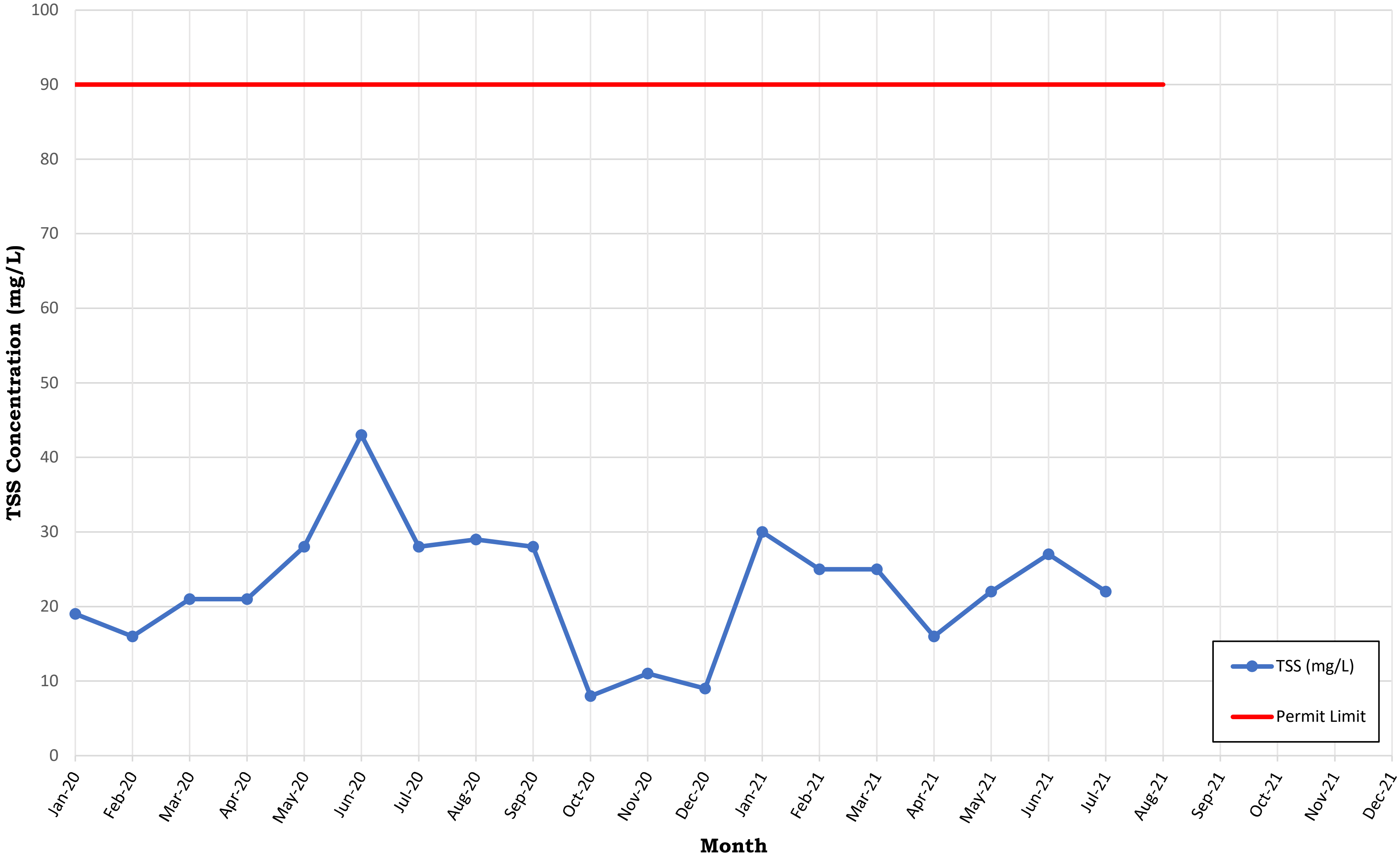
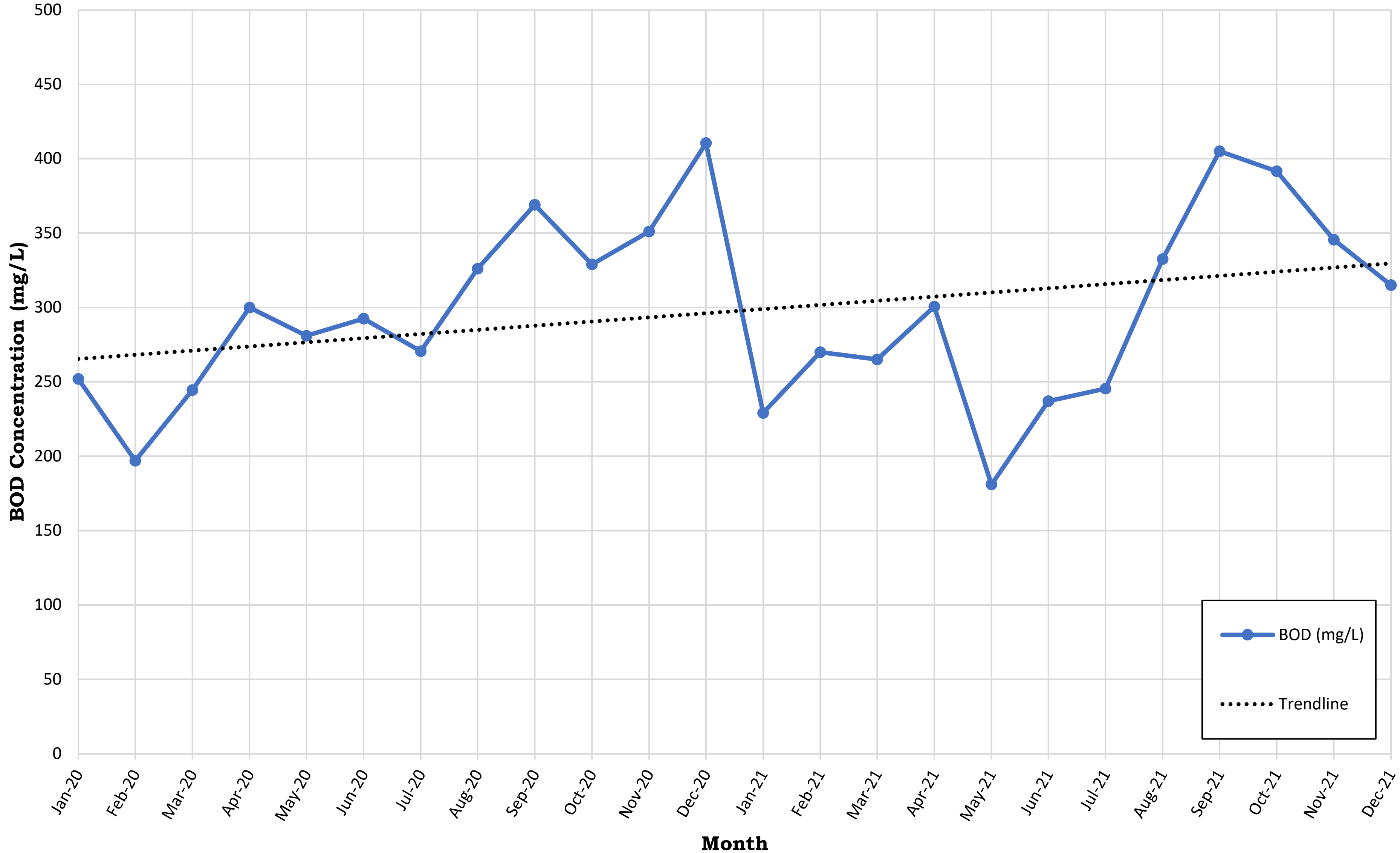


Figure 2-6
Shoal Creek WWTP
Average Influent BOD Concentration



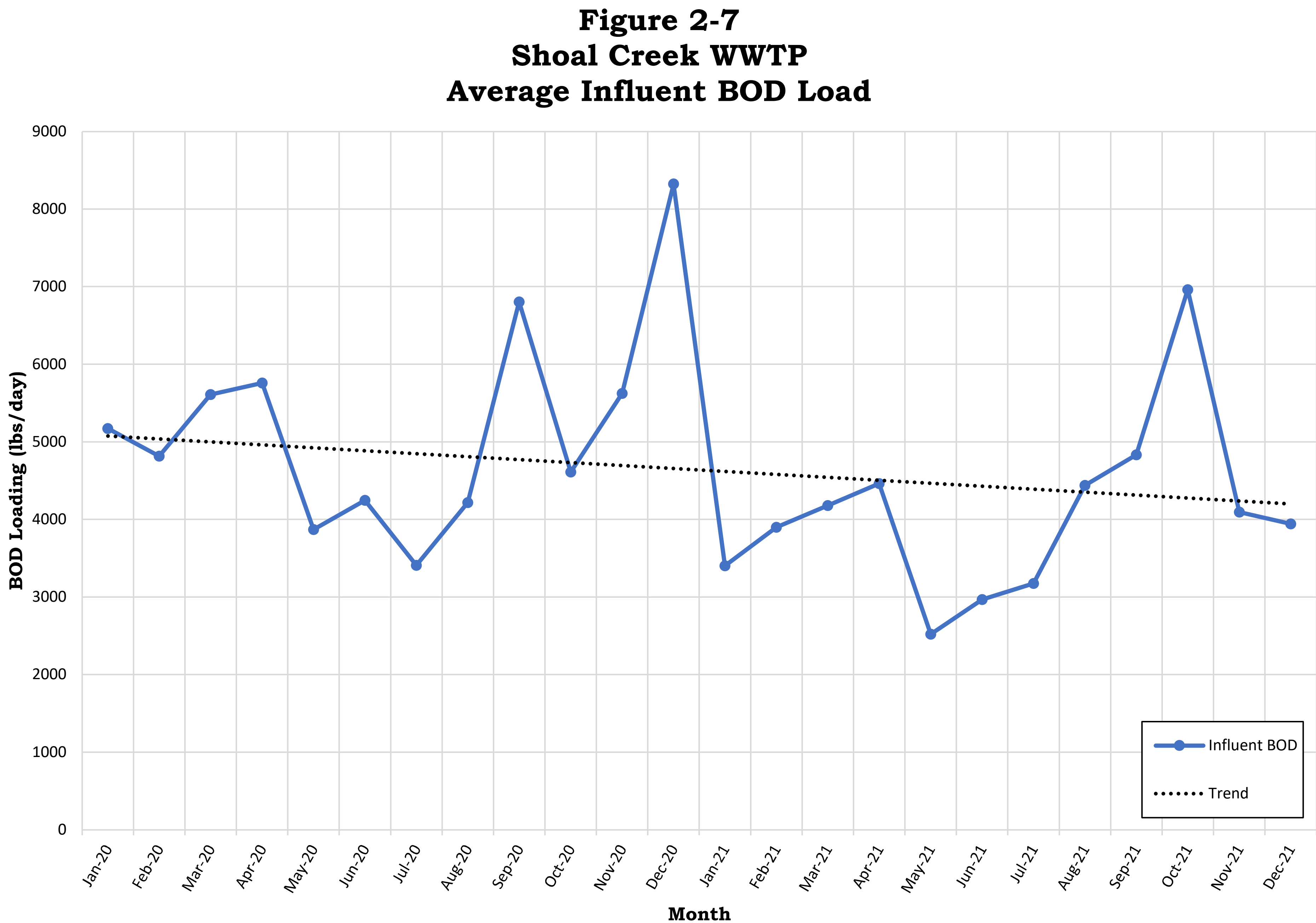
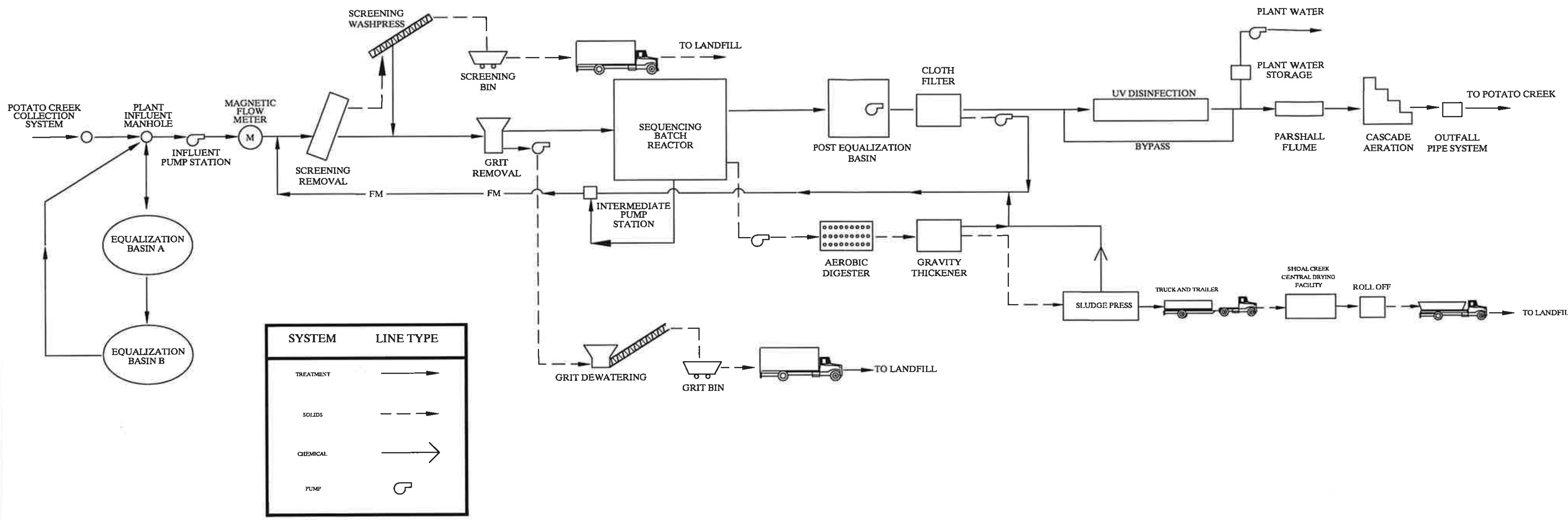


Figure 2-7
Shoal Creek WWTP
Average Influent BOD Load
BOD Loading (lbs/day)
Month
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Jan-20
Feb-20
Mar-20
Apr-20
May-20
Jun-20
Jul-20
Aug-20
Sep-20
Oct-20
Nov-20
Dec-20
Jan-21
Feb-21
Mar-21
Apr-21
May-21
Jun-21
Jul-21
Aug-21
Sep-21
Oct-21
Nov-21
Dec-21
Influent BOD
Trend



EXISTING PROCESS FLOW DIAGRAM

N.T.S..

PARAGON
CONSULTING GROUP
350 Airport Road | Griffin, GA 30224 | 770.412.7700 (p) | 770.412.7744 (f)

POTATO CREEK WPTP EXPANSION FROM 2.0 TO 3.0 MGD

FIGURE NO.
2-8

Figure 2-9
Potato Creek WWTP
Monthly Average Daily Influent Flow

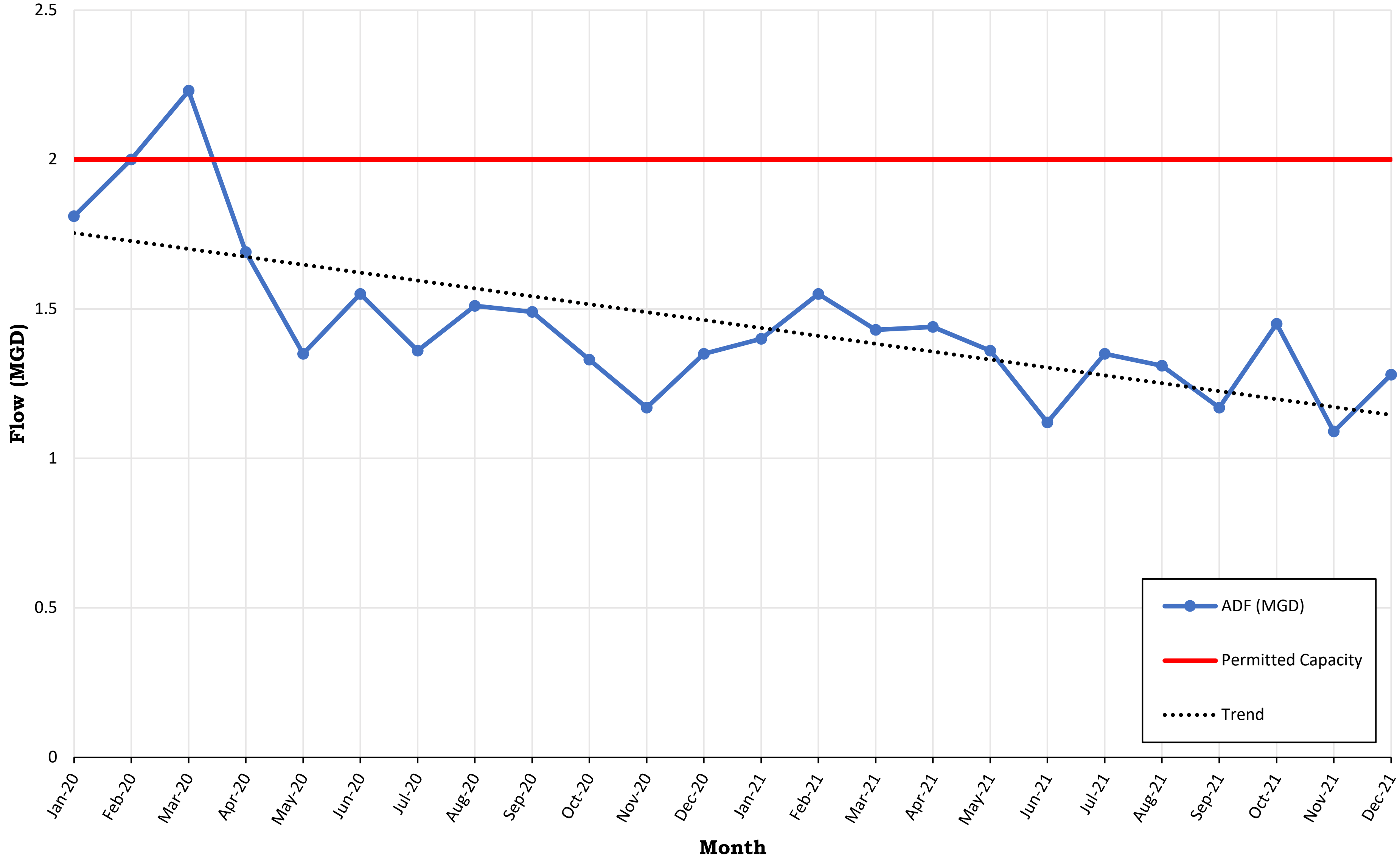
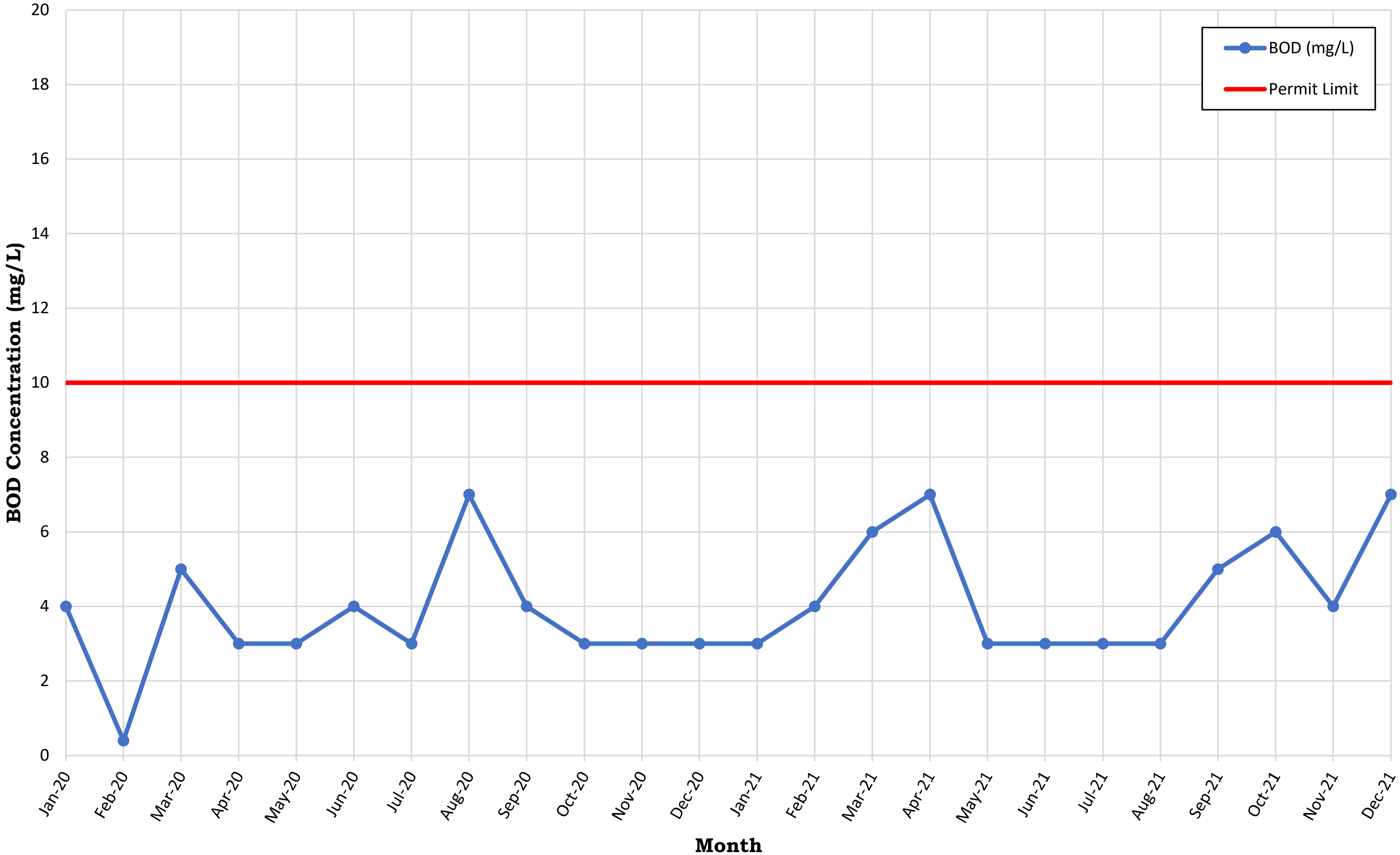


Figure 2-10
Potato Creek WWTP
Average Effluent BOD Concentration



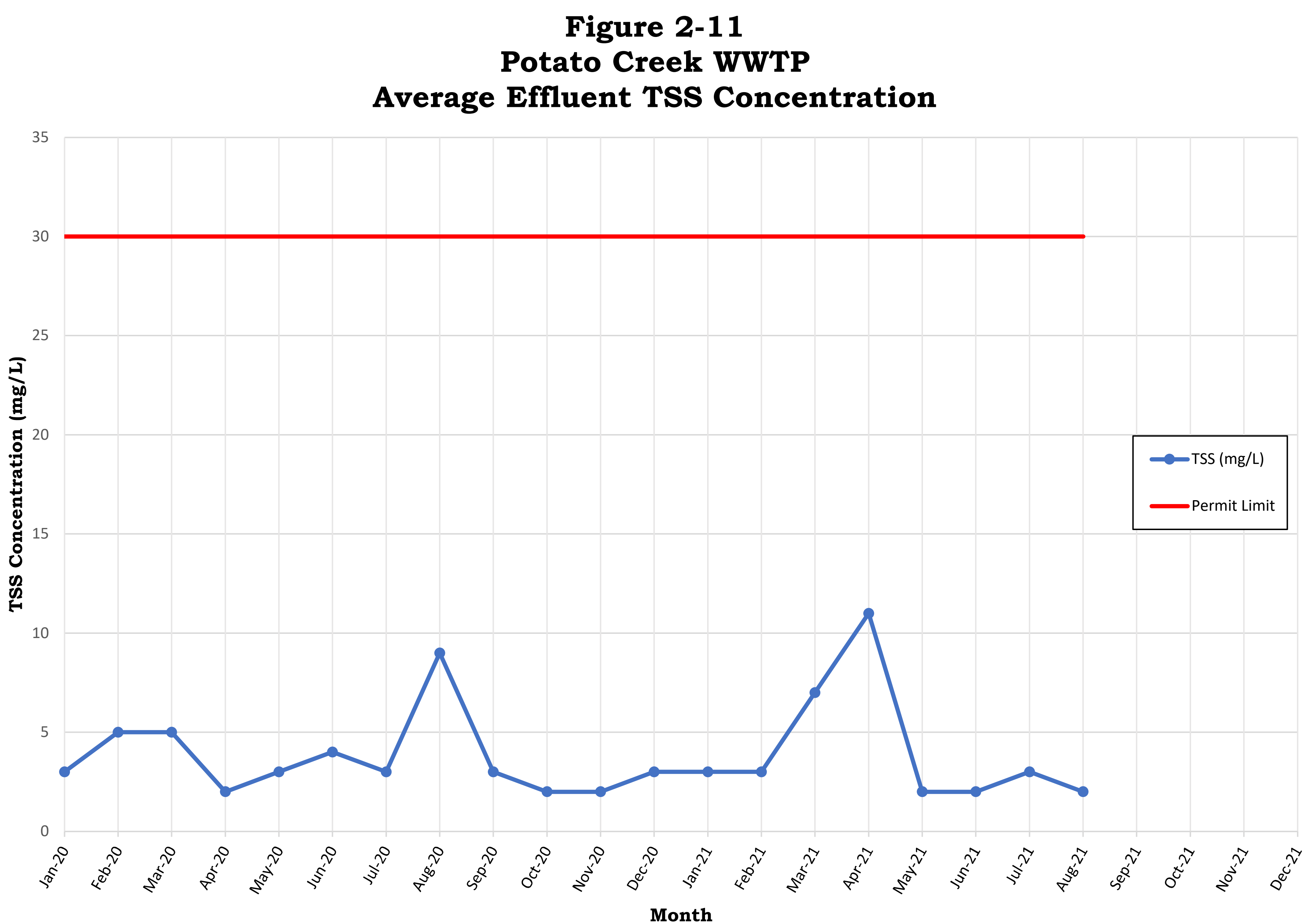


Figure 2-11
Potato Creek WWTP
Average Effluent TSS Concentration
TSS Concentration (mg/L)
35
30
25
20
15
10
5
0
Jan-20
Feb-20
Mar-20
Apr-20
May-20
Jun-20
Jul-20
Aug-20
Sep-20
Oct-20
Nov-20
Dec-20
Jan-21
Feb-21
Mar-21
Apr-21
May-21
Jun-21
Jul-21
Aug-21
Sep-21
Oct-21
Nov-21
Dec-21
Month
TSS (mg/L)
Permit Limit

Figure 2-12
Potato Creek WWTP
Average Effluent NH_4-N Concentration

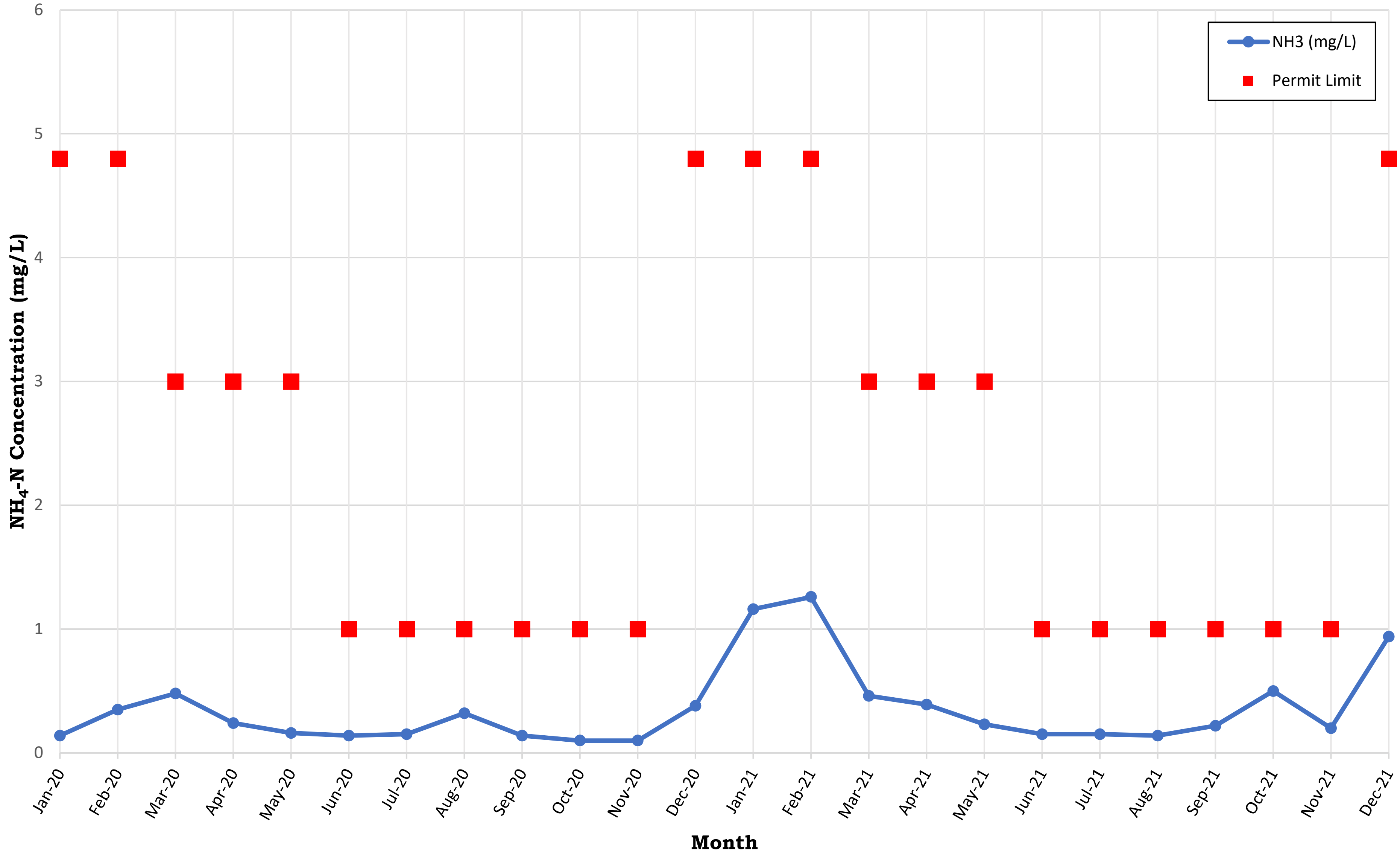
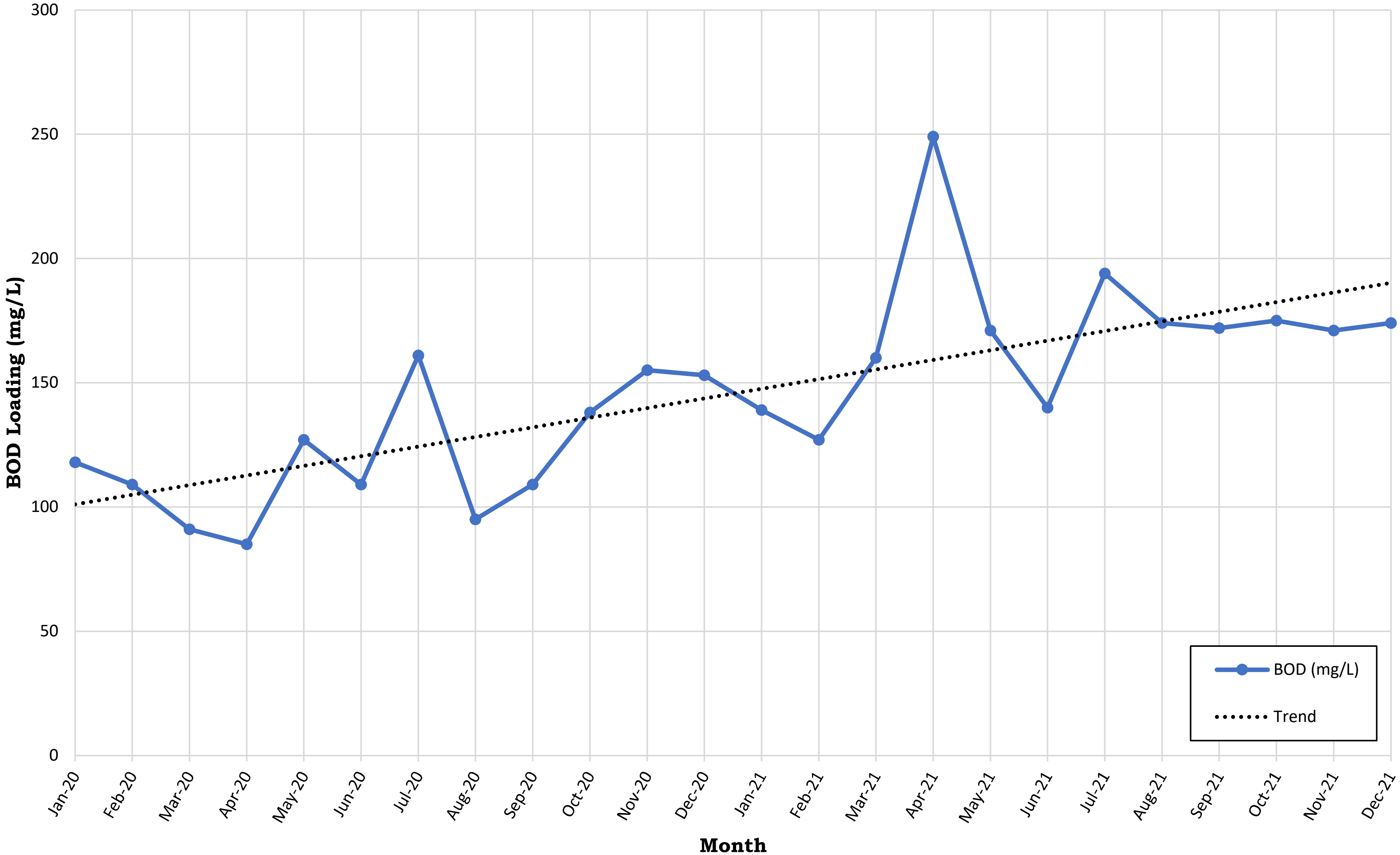


Figure 2-13
Potato Creek WWTP
Average Influent BOD Concentraction



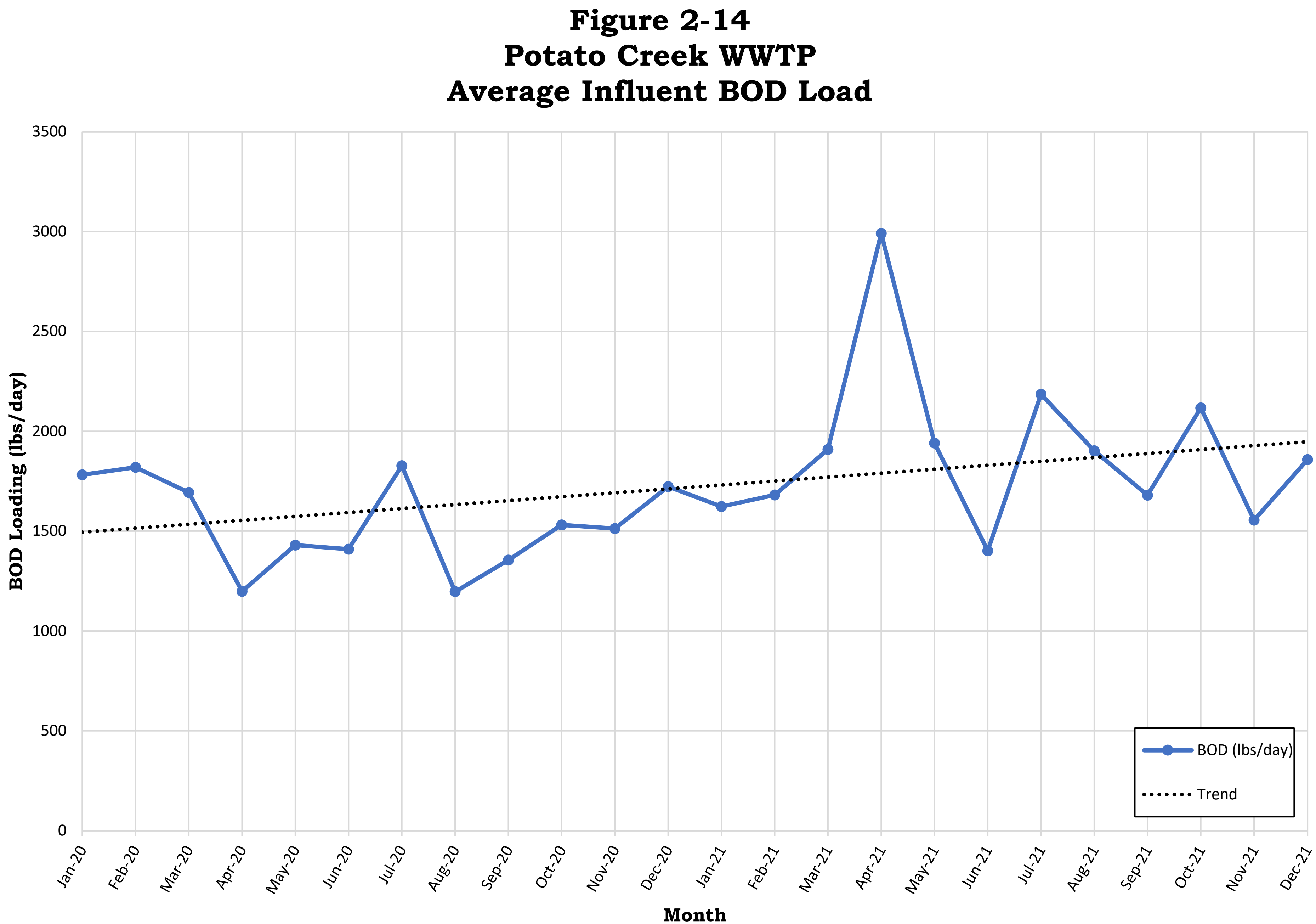
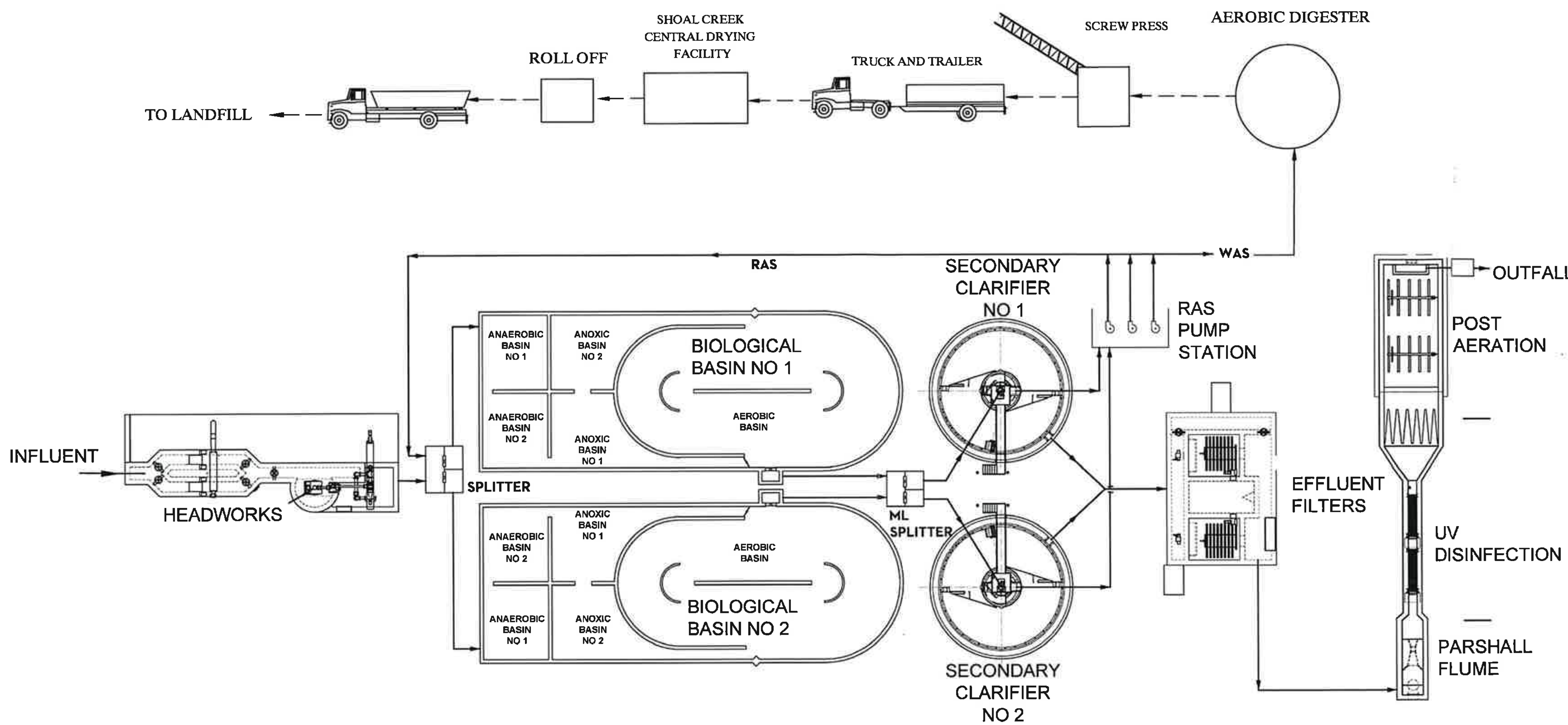


Figure 2-14
Potato Creek WWTP
Average Influent BOD Load
BOD Loading (lbs/day)
3500
3000
2500
2000
1500
1000
500
0
Jan-20
Feb-20
Mar-20
Apr-20
May-20
Jun-20
Jul-20
Aug-20
Sep-20
Oct-20
Nov-20
Dec-20
Jan-21
Feb-21
Mar-21
Apr-21
May-21
Jun-21
Jul-21
Aug-21
Sep-21
Oct-21
Nov-21
Dec-21
Month
BOD (lbs/day)
Trend



CABIN CREEK WRRF PROCESS DIAGRAM

N.T.S..

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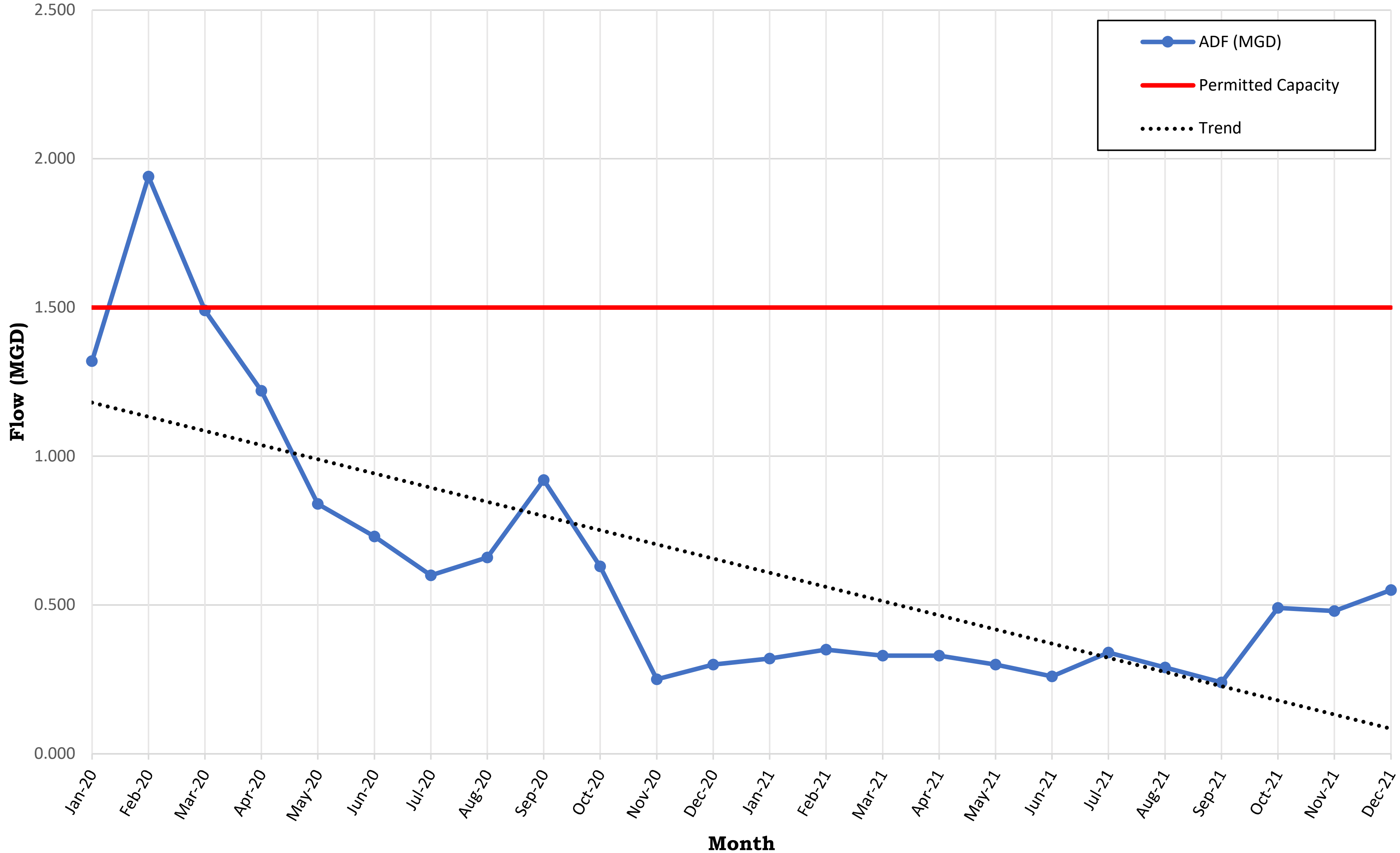
CABIN CREEK WRRF PROCESS DIAGRAM

FIGURE NO.
2-15

Figure 2-16
Cabin Creek WWTP
Monthly Average Daily Influent Flow



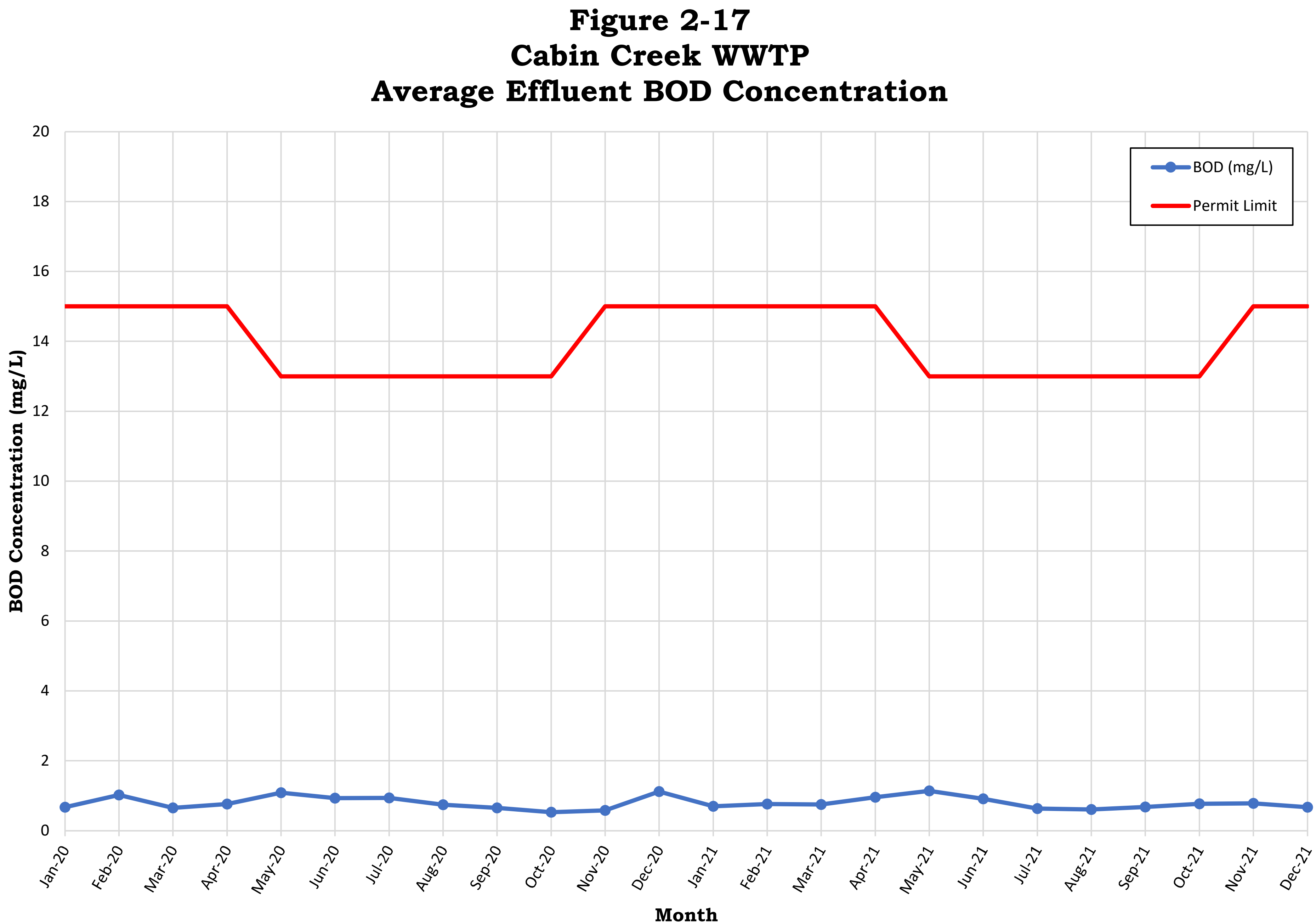


Figure 2-17
Cabin Creek WWTP
Average Effluent BOD Concentration
BOD (mg/L)
Permit Limit
BOD Concentration (mg/L)
0
2
4
6
8
10
12
14
16
18
20
Jan-20
Feb-20
Mar-20
Apr-20
May-20
Jun-20
Jul-20
Aug-20
Sep-20
Oct-20
Nov-20
Dec-20
Jan-21
Feb-21
Mar-21
Apr-21
May-21
Jun-21
Jul-21
Aug-21
Sep-21
Oct-21
Nov-21
Dec-21
Month

Figure 2-18
Cabin Creek WWTP
Average Effluent TSS Concentration

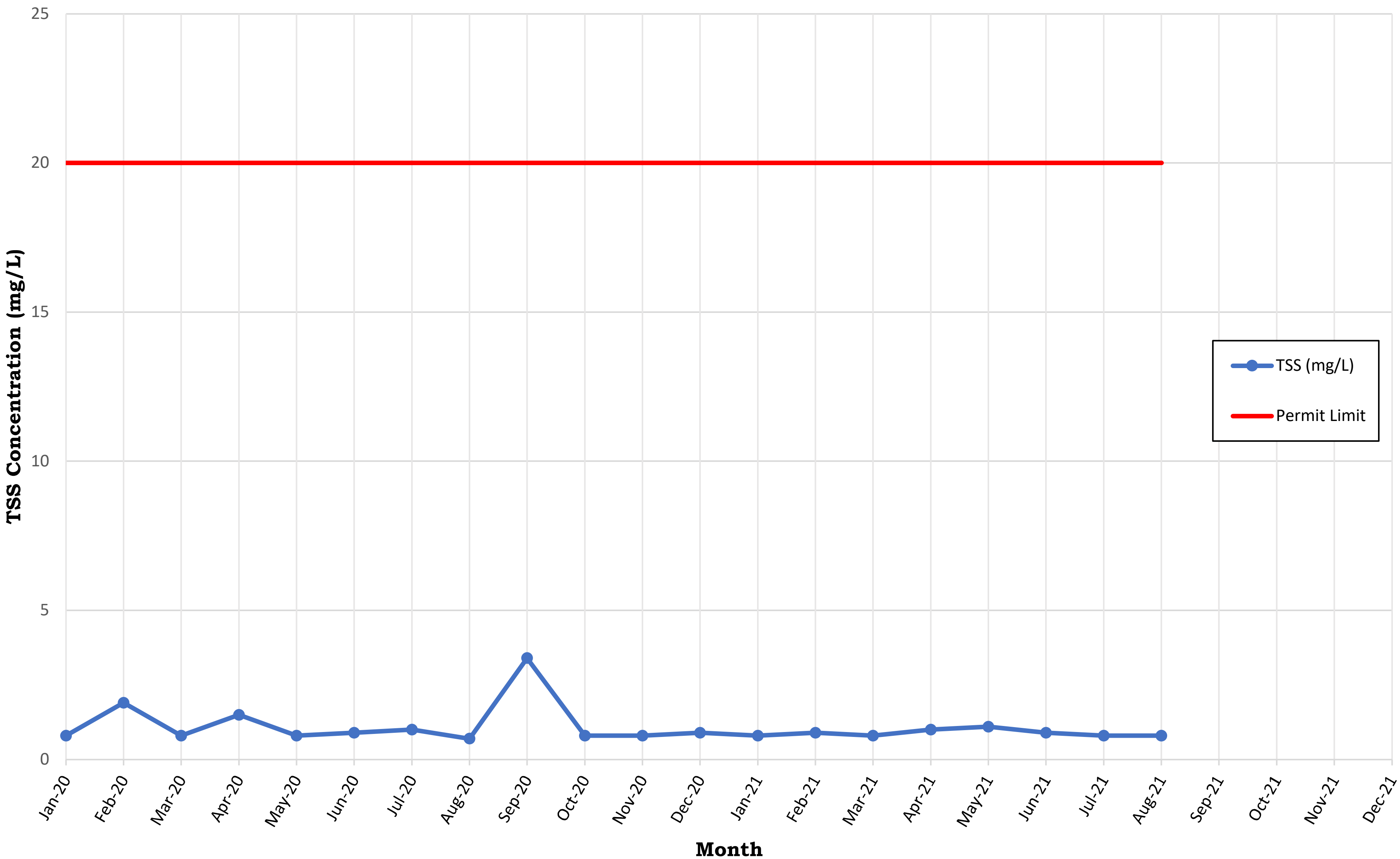


Figure 2-19
Cabin Creek WWTP
Average Effluent NH_4-N Concentration

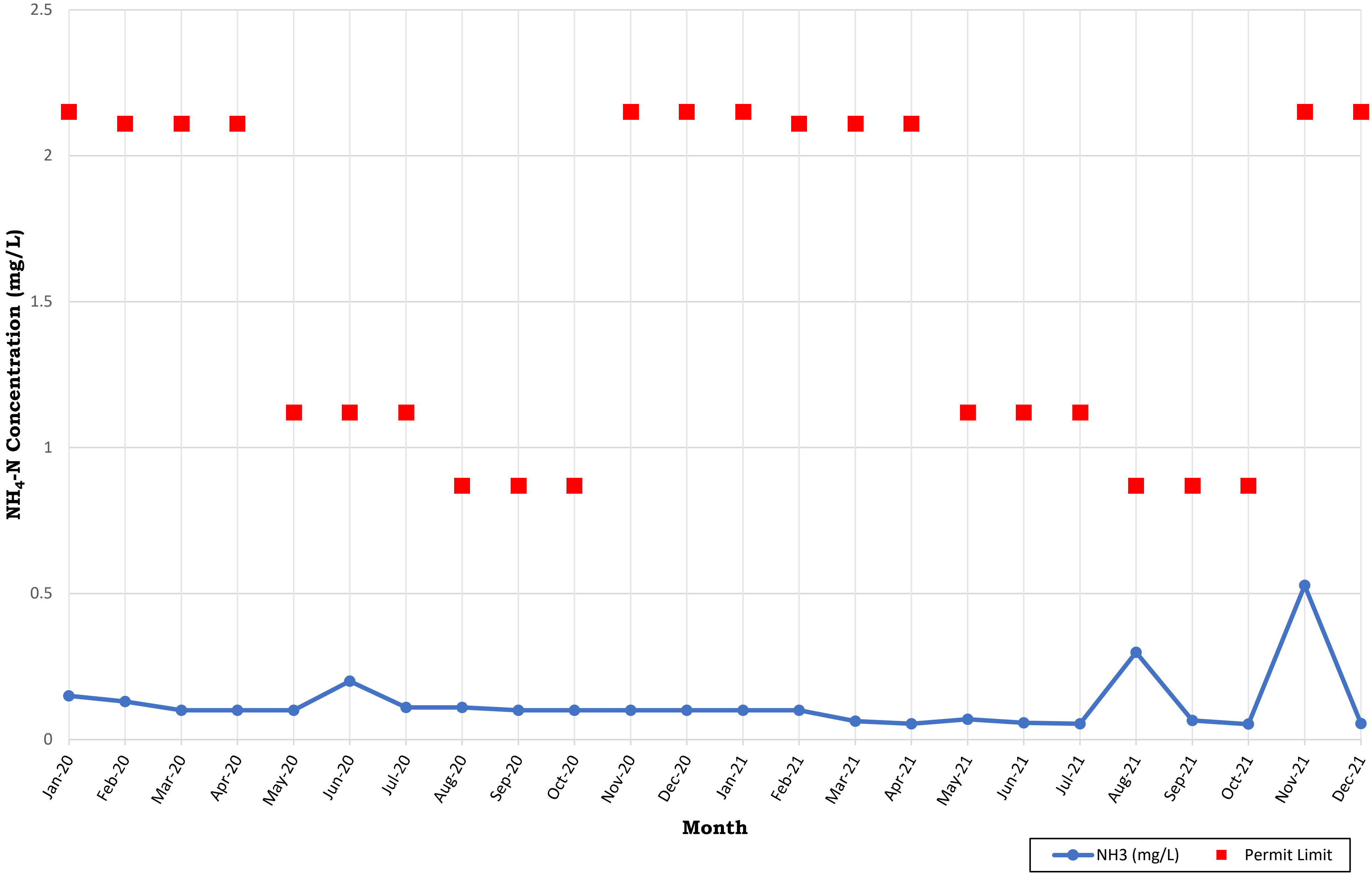


Figure 2-20
Cabin Creek WWTP
Average Effluent Phosphorus Concentration

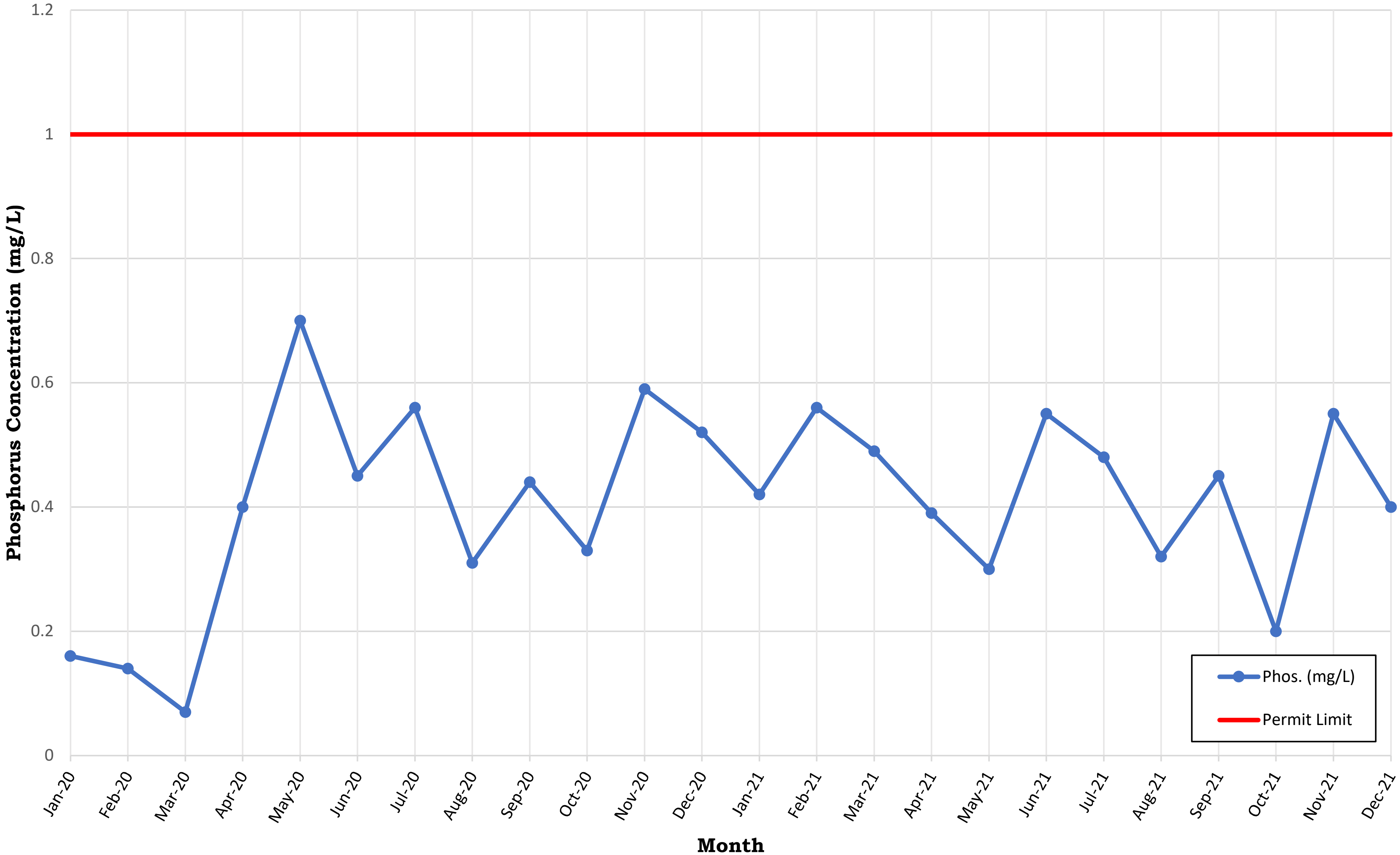


Figure 2-21
Cabin Creek WWTP
Average Influent BOD Concentration

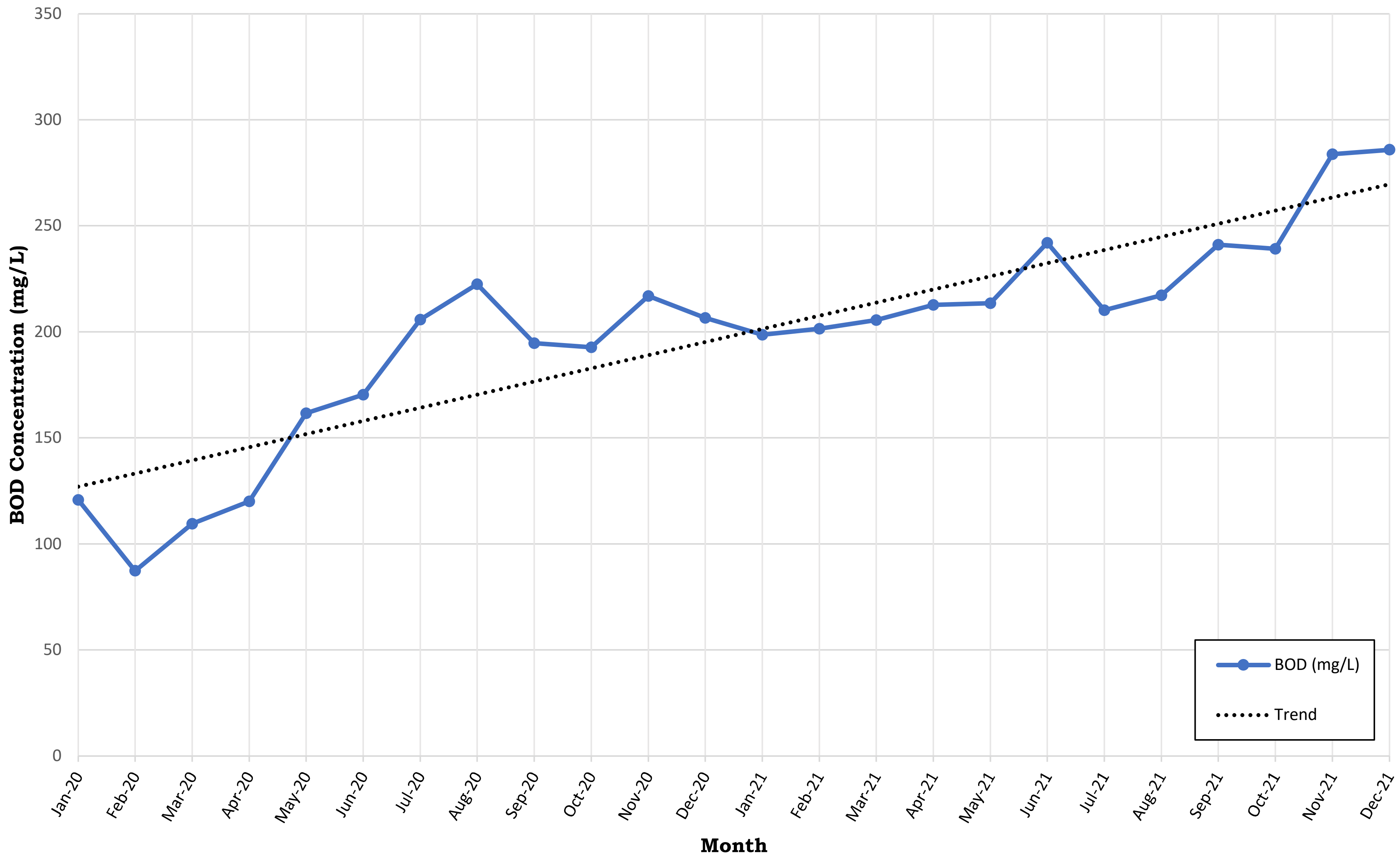
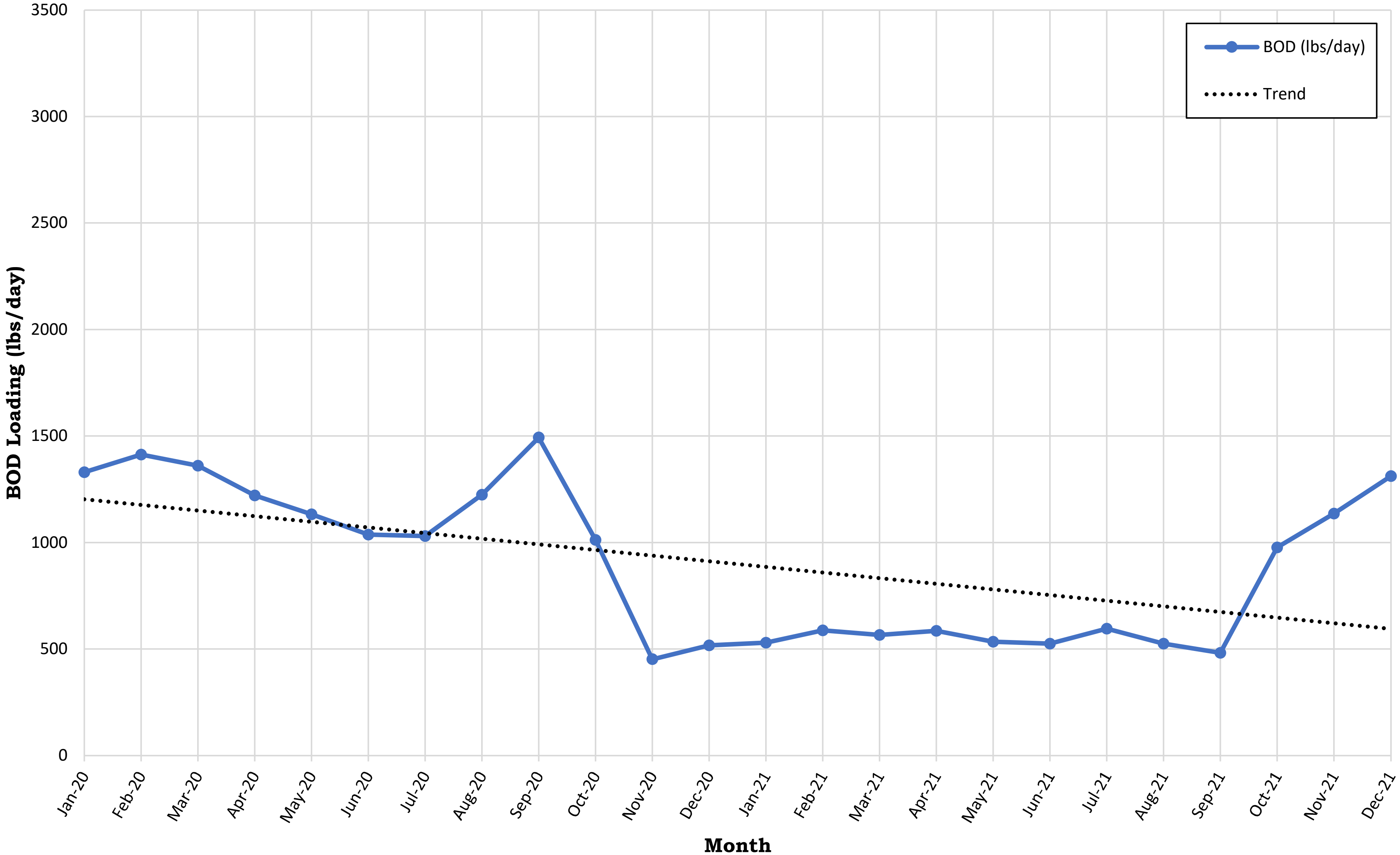
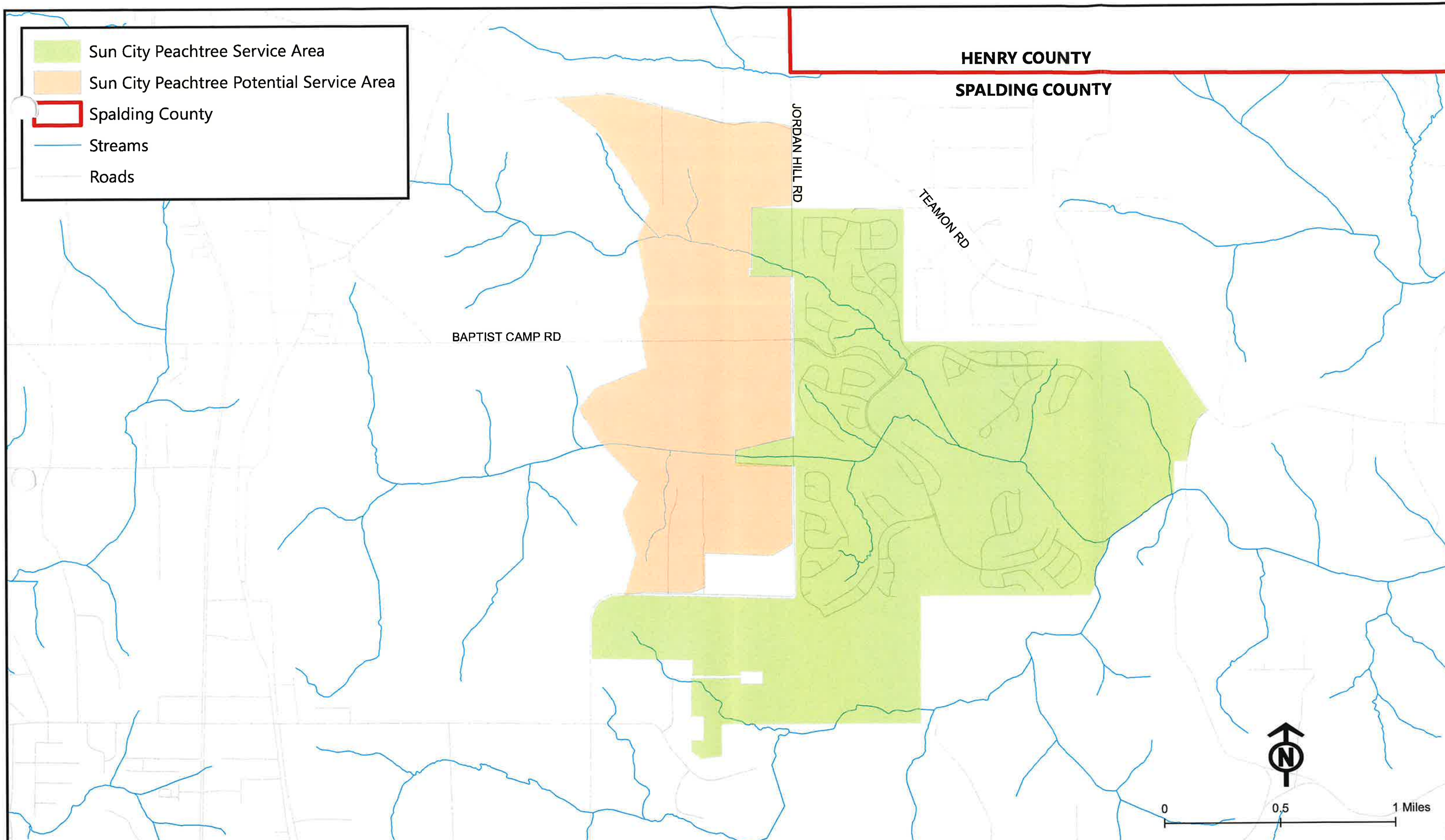


Figure 2-22
Cabin Creek WWTP
Average Influent BOD Load





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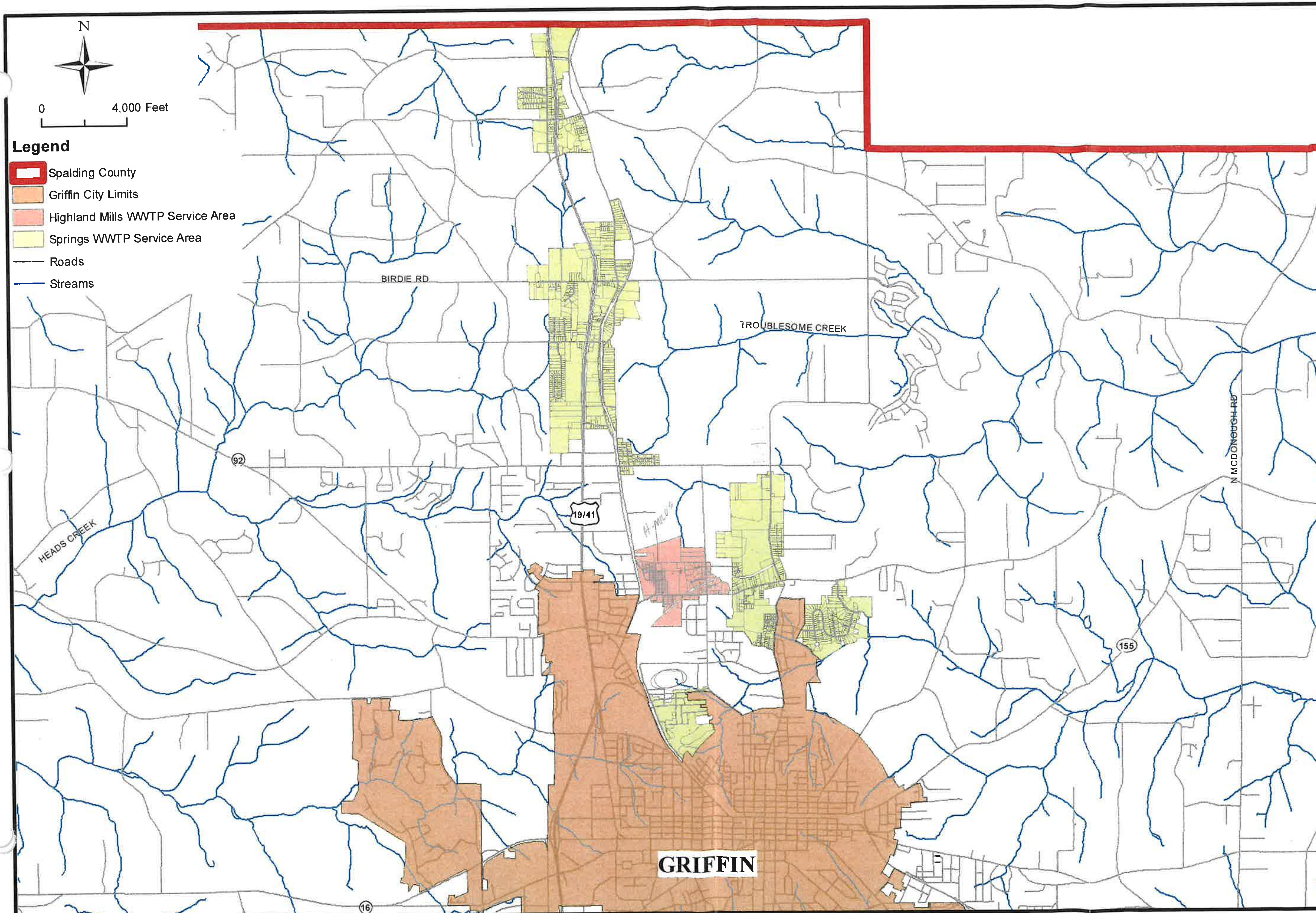
SUN CITY PEACHTREE SERVICE AREA

Issue Date: AUG 2022

FIGURE NO. 2-24



CONSULTING ENGINEER:
ESI
ENGINEERING STRATEGIES, INC.
Marietta, Georgia
Phone: (770)-429-0001

SPRINGS WWTP SERVICE AREA MAP

FIGURE NO.
2-24

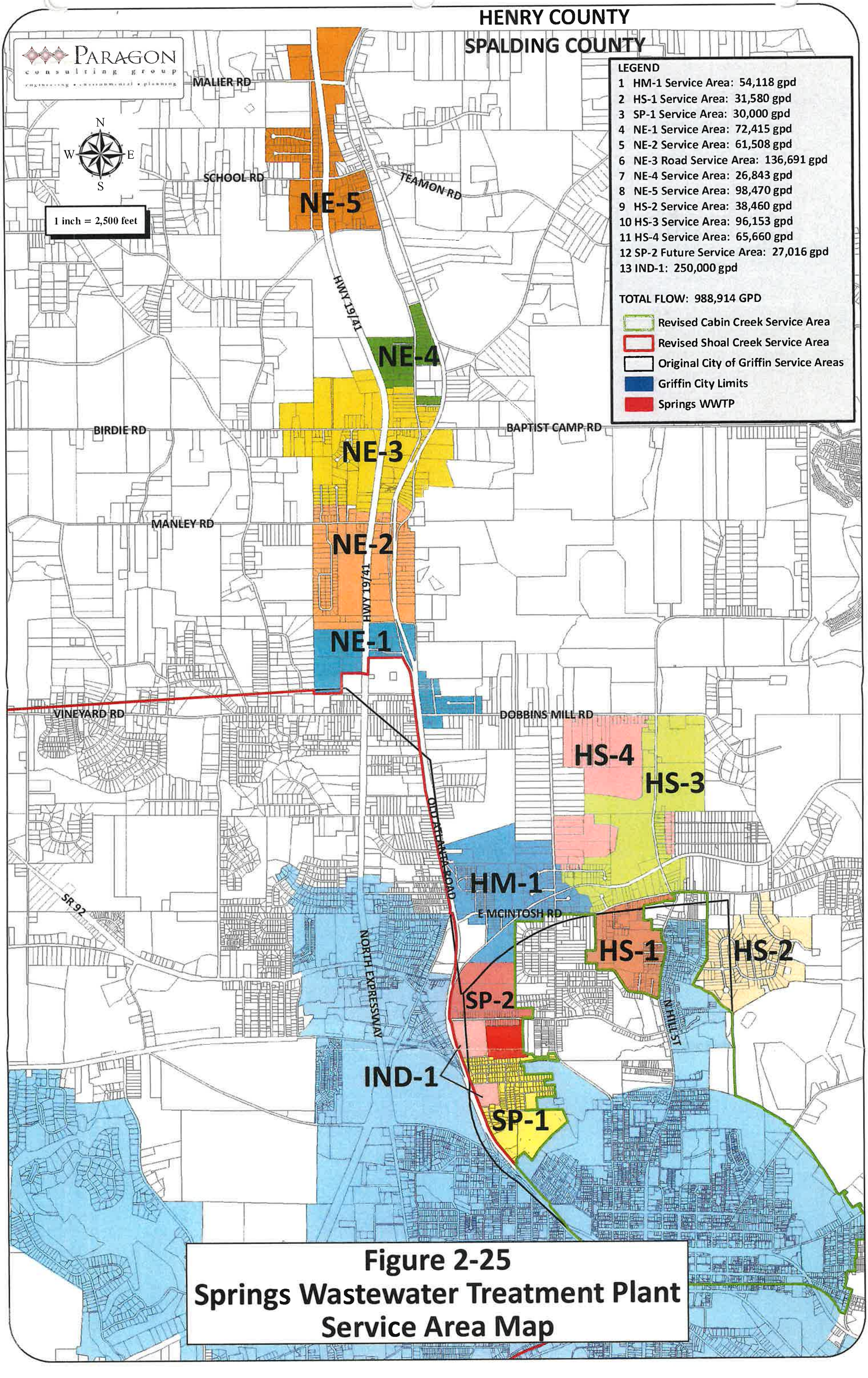
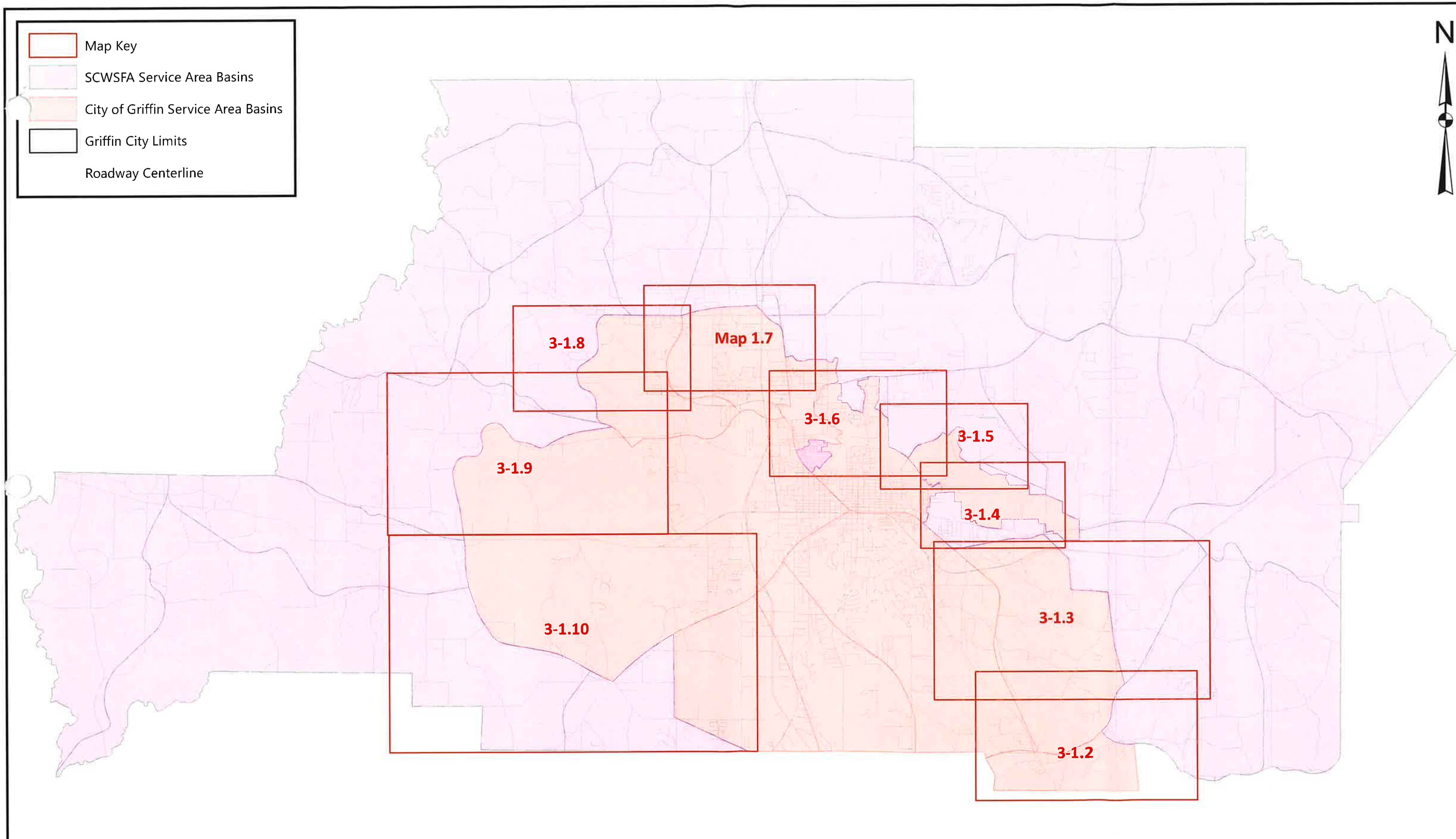


Figure 2-25
Springs Wastewater Treatment Plant
Service Area Map



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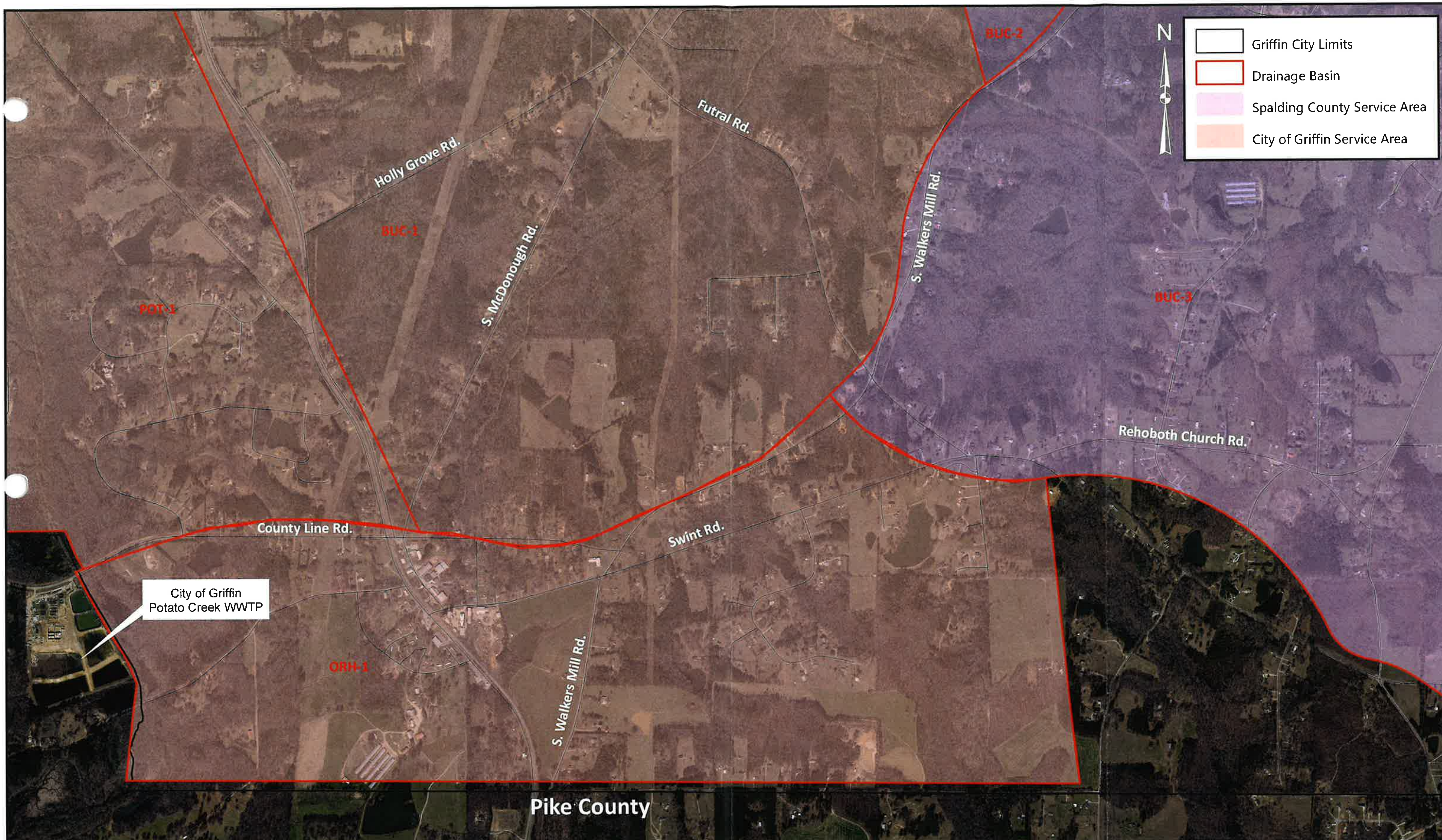
GRIFFIN - SPALDING COUNTY SERVICE AREA DRAINAGE BASIN MAP

Project No. 19010.00

Issue Date: DEC 2022

3-1.1



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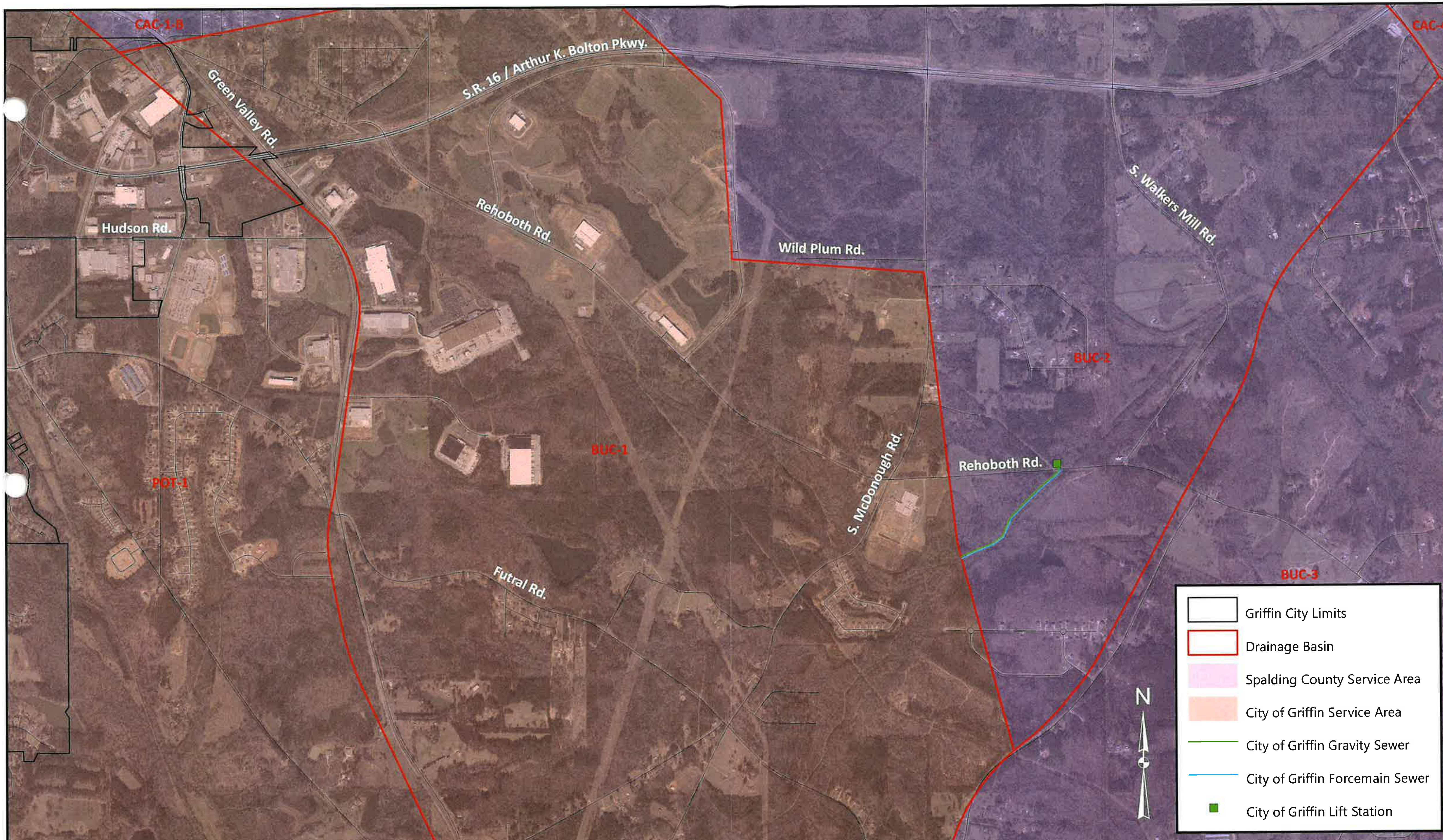
GRIFFIN-SPALDING COUNTY SERVICE AREA
DRAINAGE BASIN MAP

Project No. 19020.00

Issue Date: DEC 2022

3-1.2



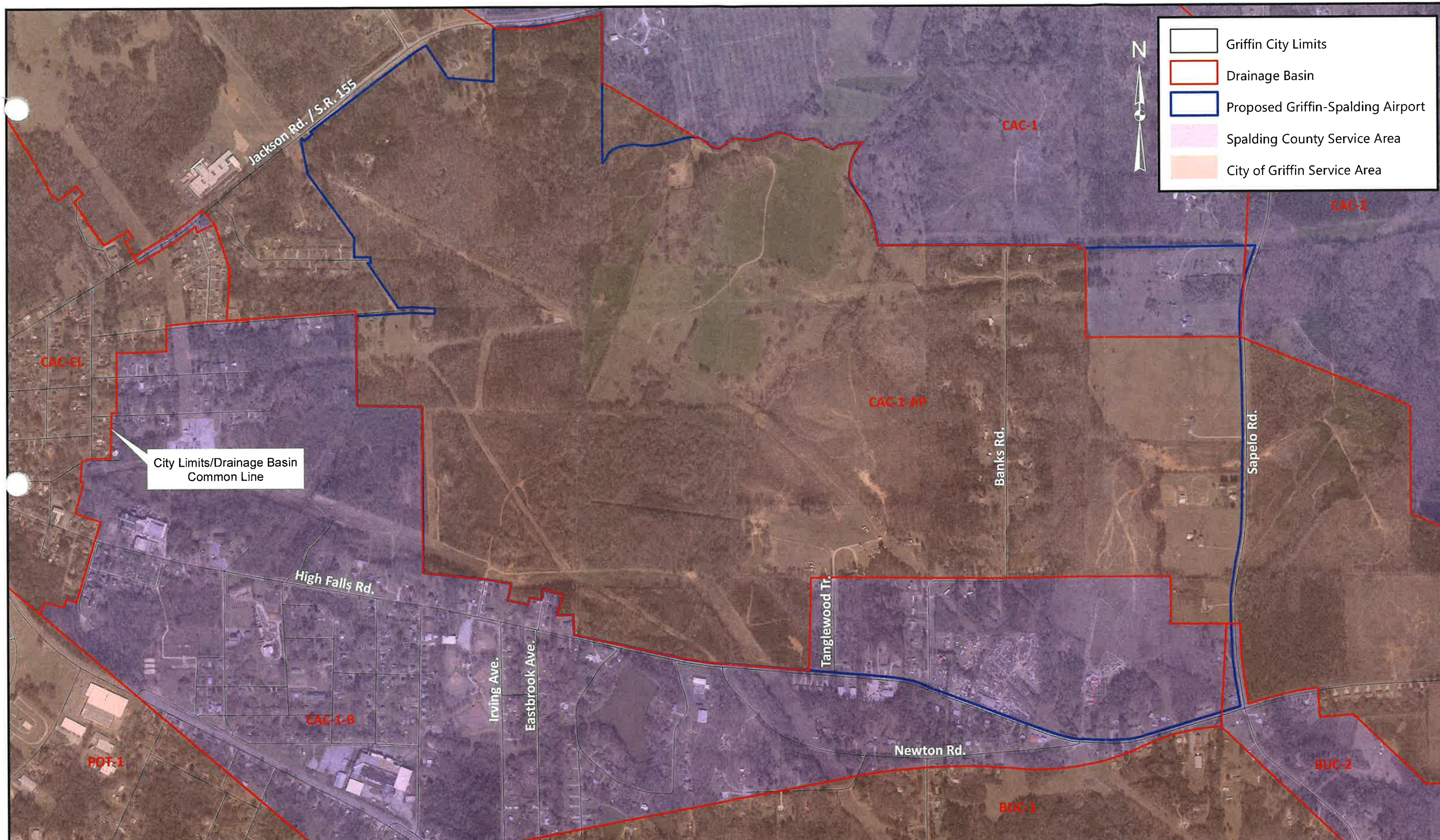
PARAGON CONSULTING GROUP
350 Airport Road | Griffin, GA 30224 | 770.412.7700 (p) | 770.412.7744 (f)

GRIFFIN - SPALDING COUNTY SERVICE AREA DRAINAGE BASIN MAP

Project No. 19020.00

Issue Date: DEC 2022

3-1.3



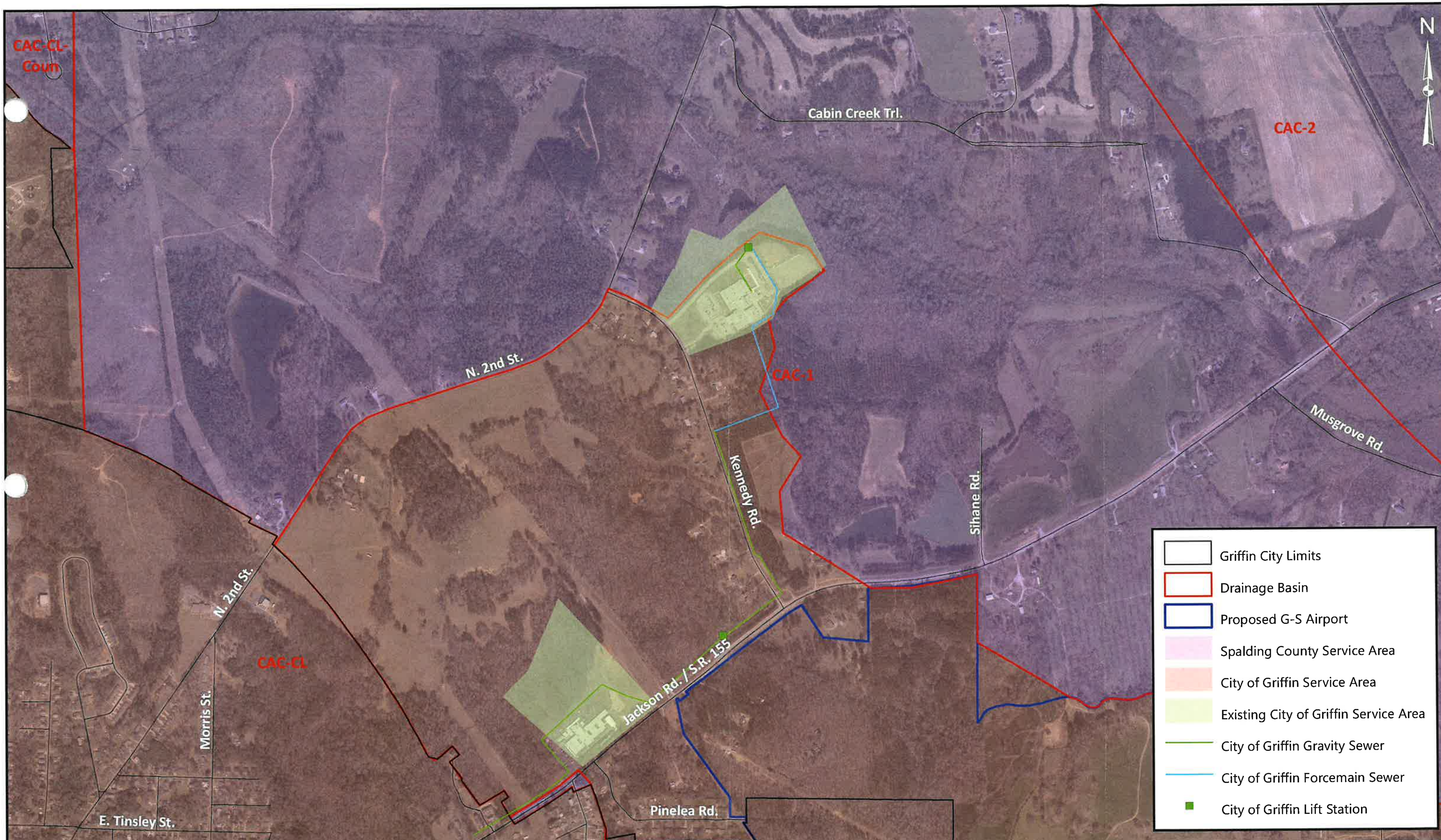
PARAGON
CONSULTING GROUP
350 Airport Road | Griffin, GA 30224 | 770.412.7700 (p) | 770.412.7744 (f)

GRIFFIN-SPALDING COUNTY SERVICE AREA
DRAINAGE BASIN MAP

Project No.
19020.00

Issue Date:
DEC 2022

3-1.4



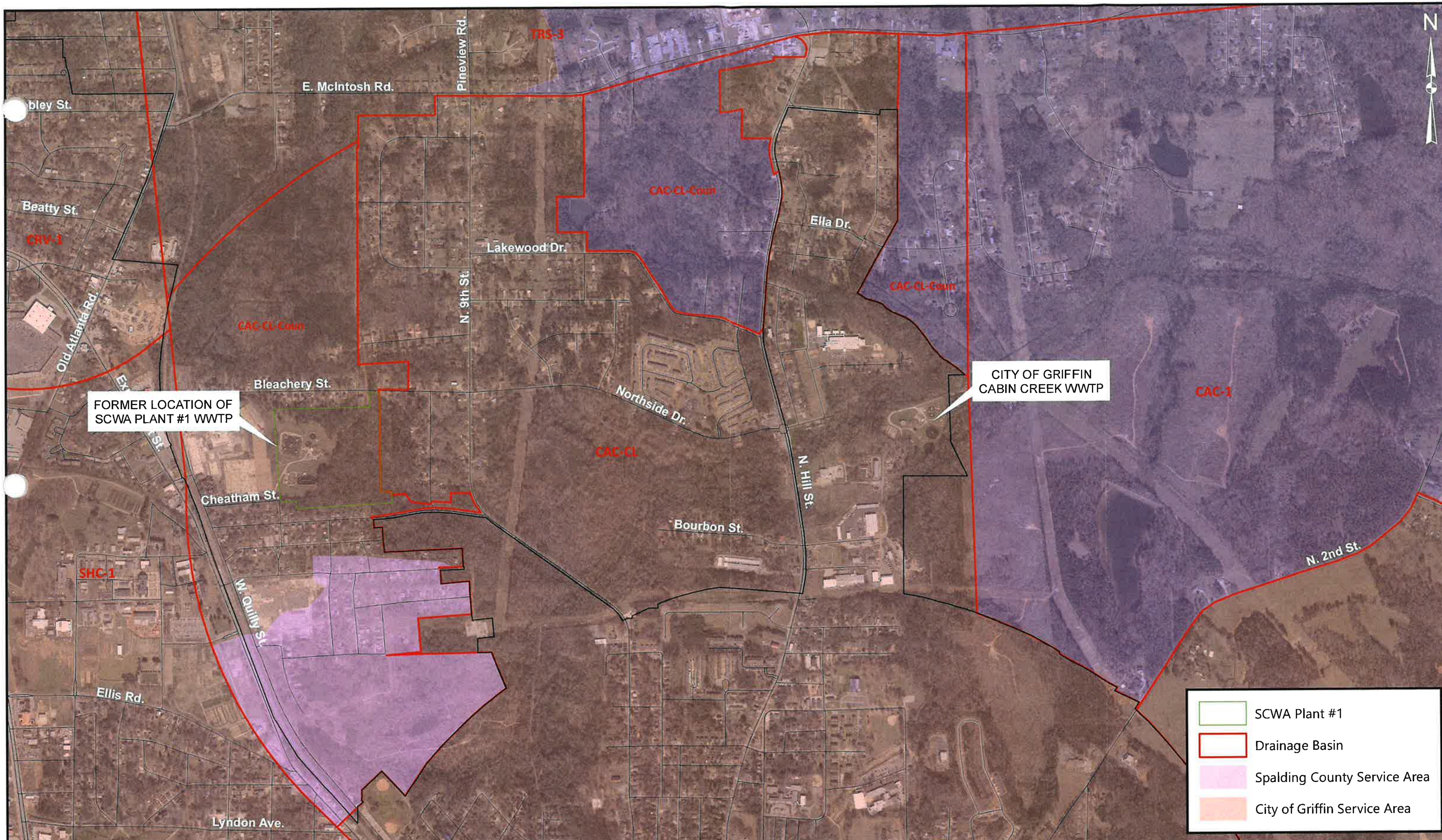
PARAGON CONSULTING GROUP
350 Airport Road | Griffin, GA 30224 | 770.412.7700 (p) | 770.412.7744 (f)

GRIFFIN - SPALDING COUNTY SERVICE AREA DRAINAGE BASIN MAP

Project No. 19020.00

Issue Date: DEC 2022

3-1.5



PARAGON CONSULTING GROUP

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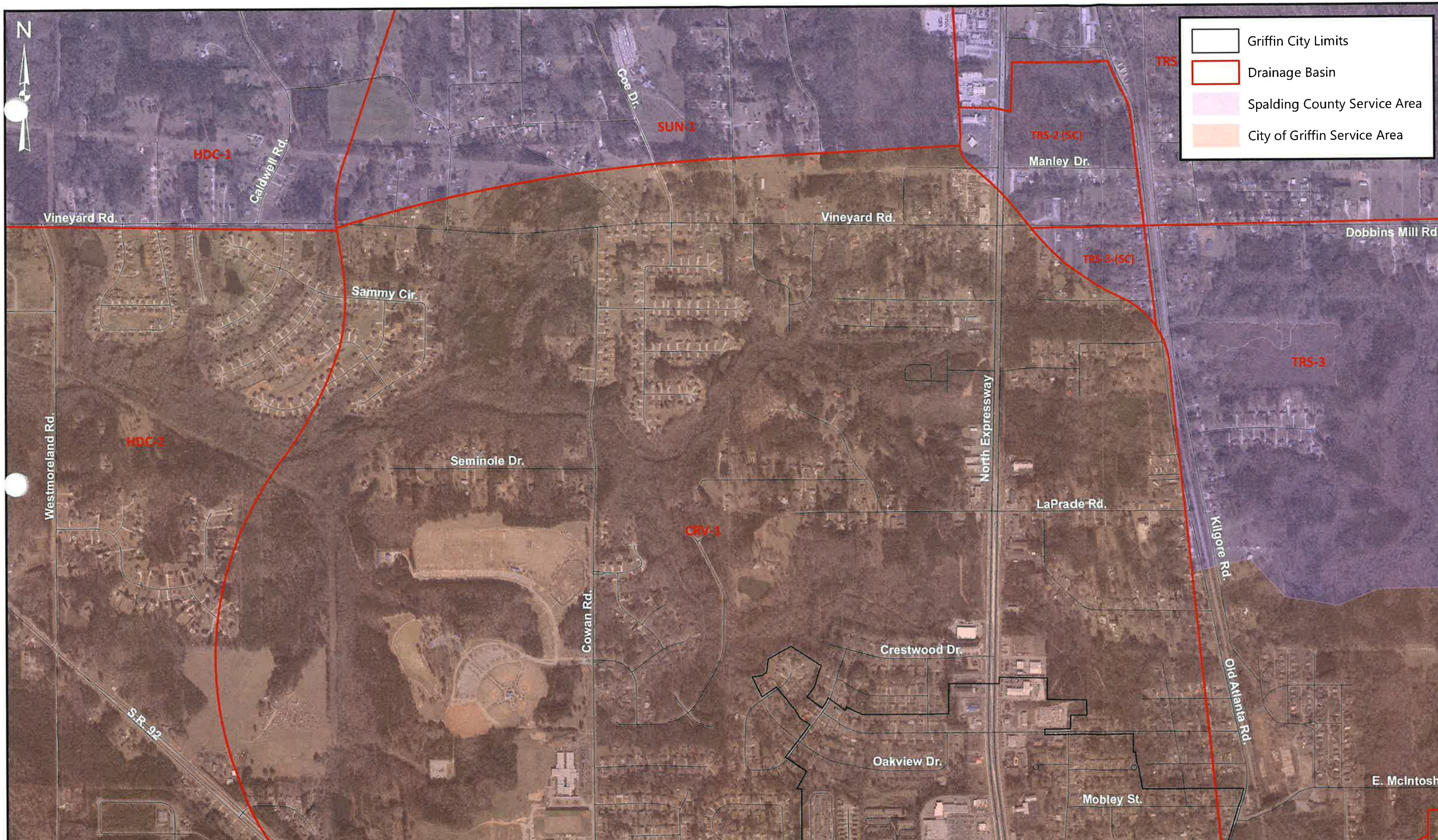
GRIFFIN - SPALDING COUNTY SERVICE AREA DRAINAGE BASIN MAP

Project No. 19020.00

Issue Date: DEC 2022

3-1.6



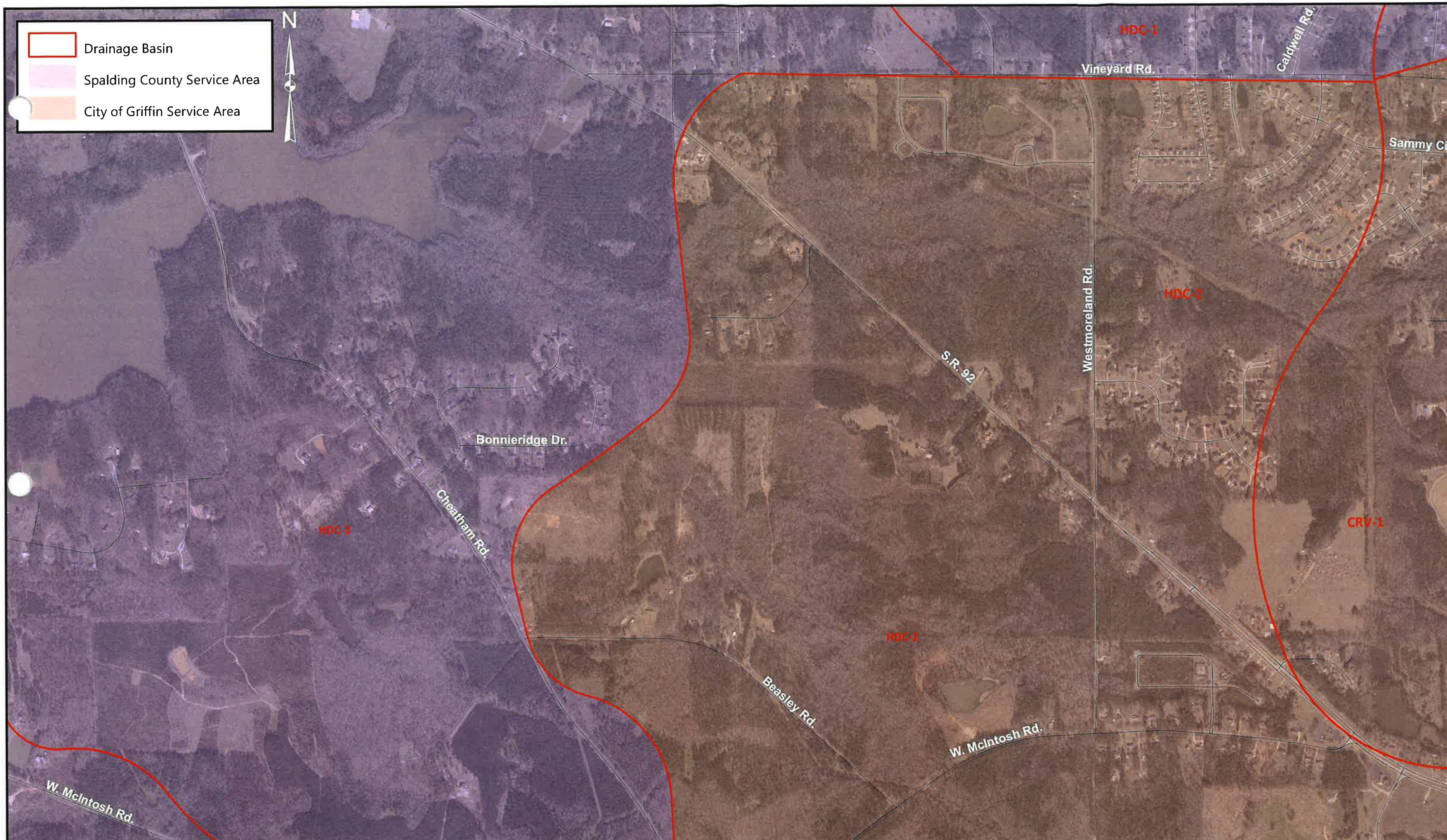
PARAGON CONSULTING GROUP
350 Airport Road | Griffin, GA 30224 | 770.412.7700 (p) | 770.412.7744 (f)

GRIFFIN - SPALDING COUNTY SERVICE AREA DRAINAGE BASIN MAP

Project No. 19020.00

Issue Date: DEC 2022

3-1.7



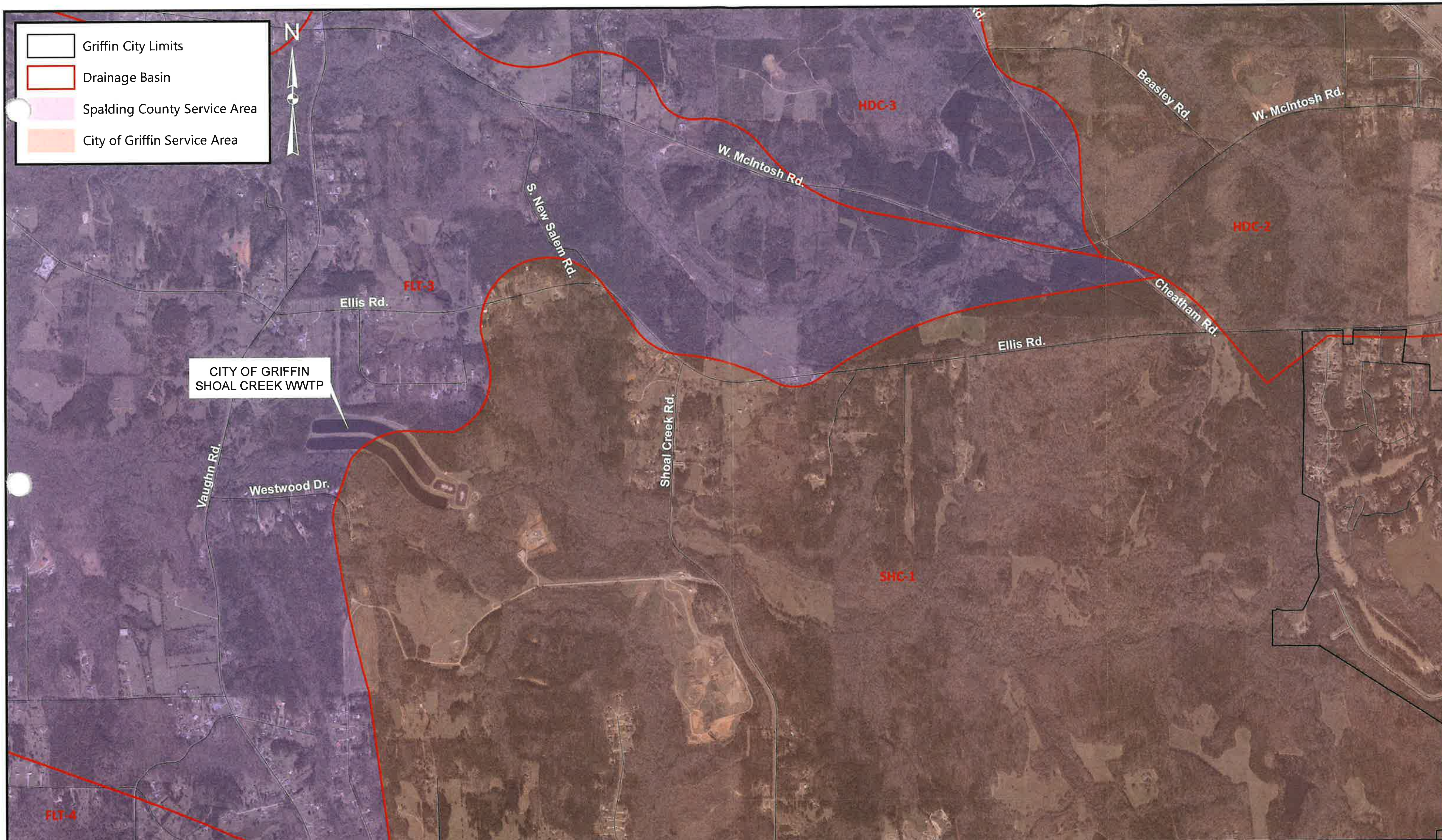
PARAGON
CONSULTING GROUP
350 Airport Road | Griffin, GA 30224 | 770.412.7700 (p) | 770.412.7744 (f)

GRIFFIN - SPALDING COUNTY SERVICE AREA
DRAINAGE BASIN MAP

Project No. 19020.00

Issue Date: DEC 2022

3-1.8



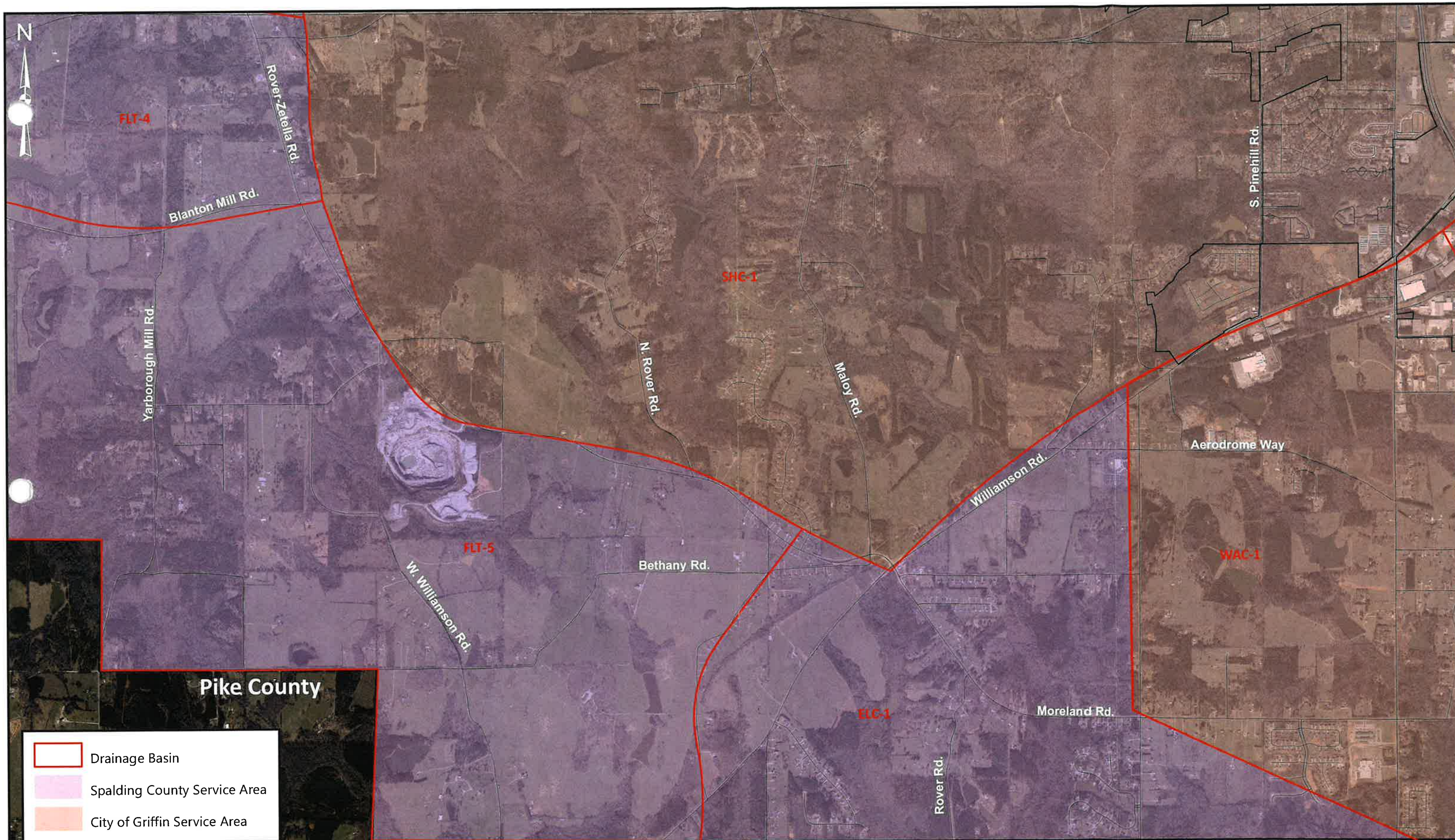
PARAGON
CONSULTING GROUP
350 Airport Road | Griffin, GA 30224 | 770.412.7700 (p) | 770.412.7744 (f)

GRIFFIN - SPALDING COUNTY SERVICE AREA
DRAINAGE BASIN MAP

Project No.
19020.00

Issue Date:
DEC 2022

3-1.9



PARAGON CONSULTING GROUP

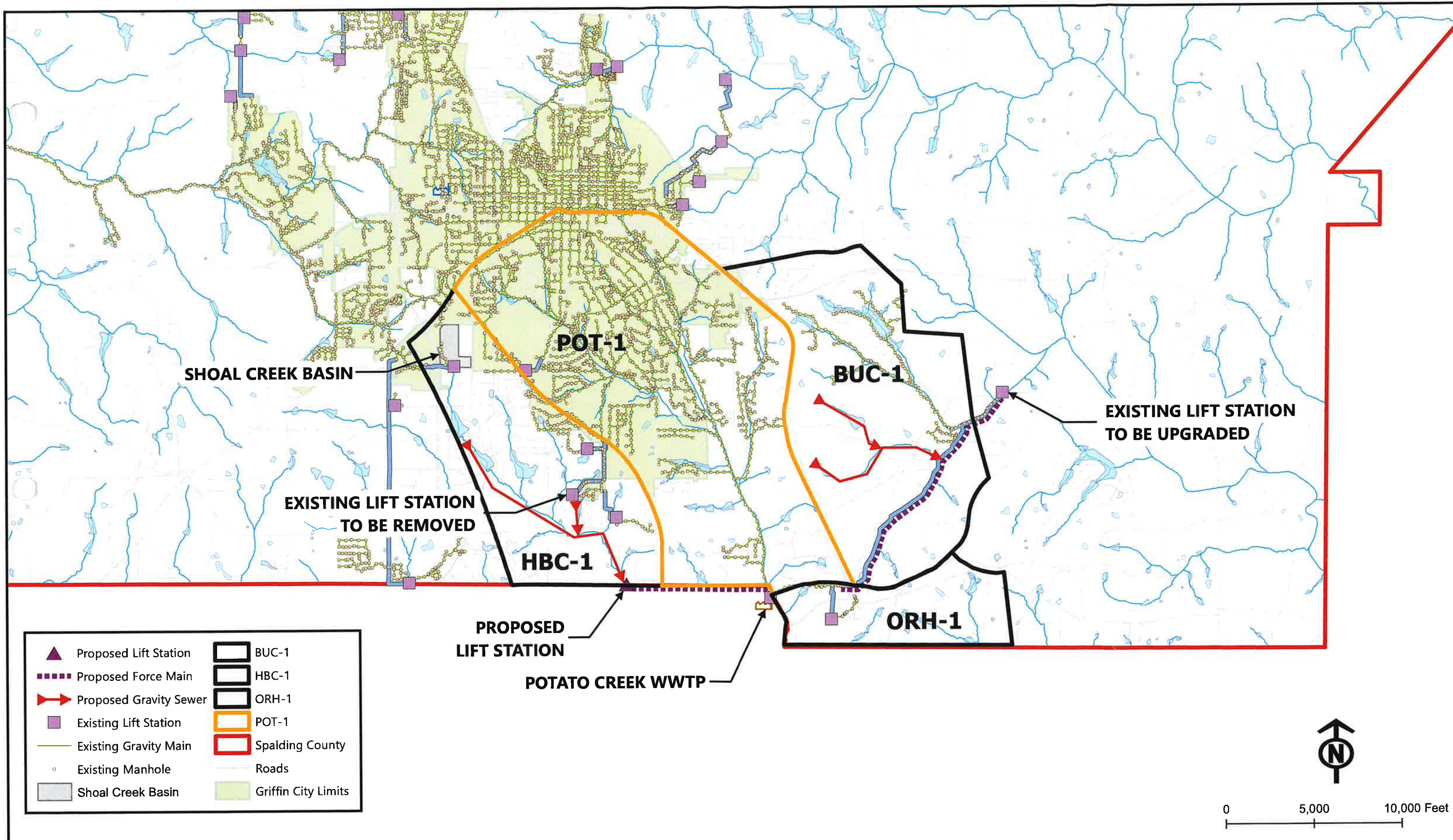
350 Airport Road | Griffin, GA 30224 | 770.412.7700 (p) | 770.412.7744 (f)

GRIFFIN - SPALDING COUNTY SERVICE AREA
DRAINAGE BASIN MAP

Project No. 19020.00

Issue Date: DEC 2022

3-1.10



PARAGON CONSULTING GROUP
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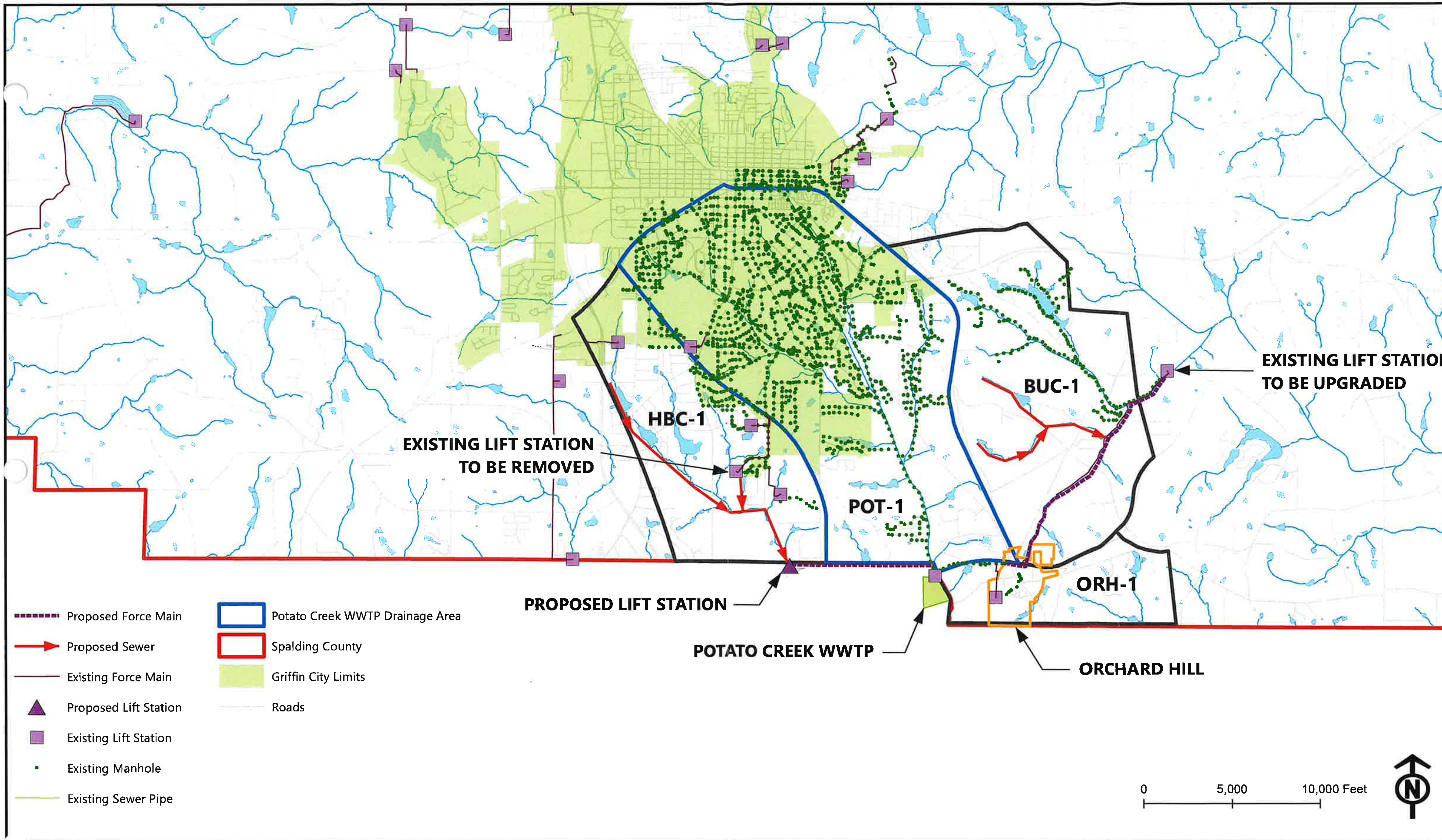
POTATO CREEK DRAINAGE BASIN IMPROVEMENTS

Issue Date: DEC 2022

FIGURE NO. 6-2



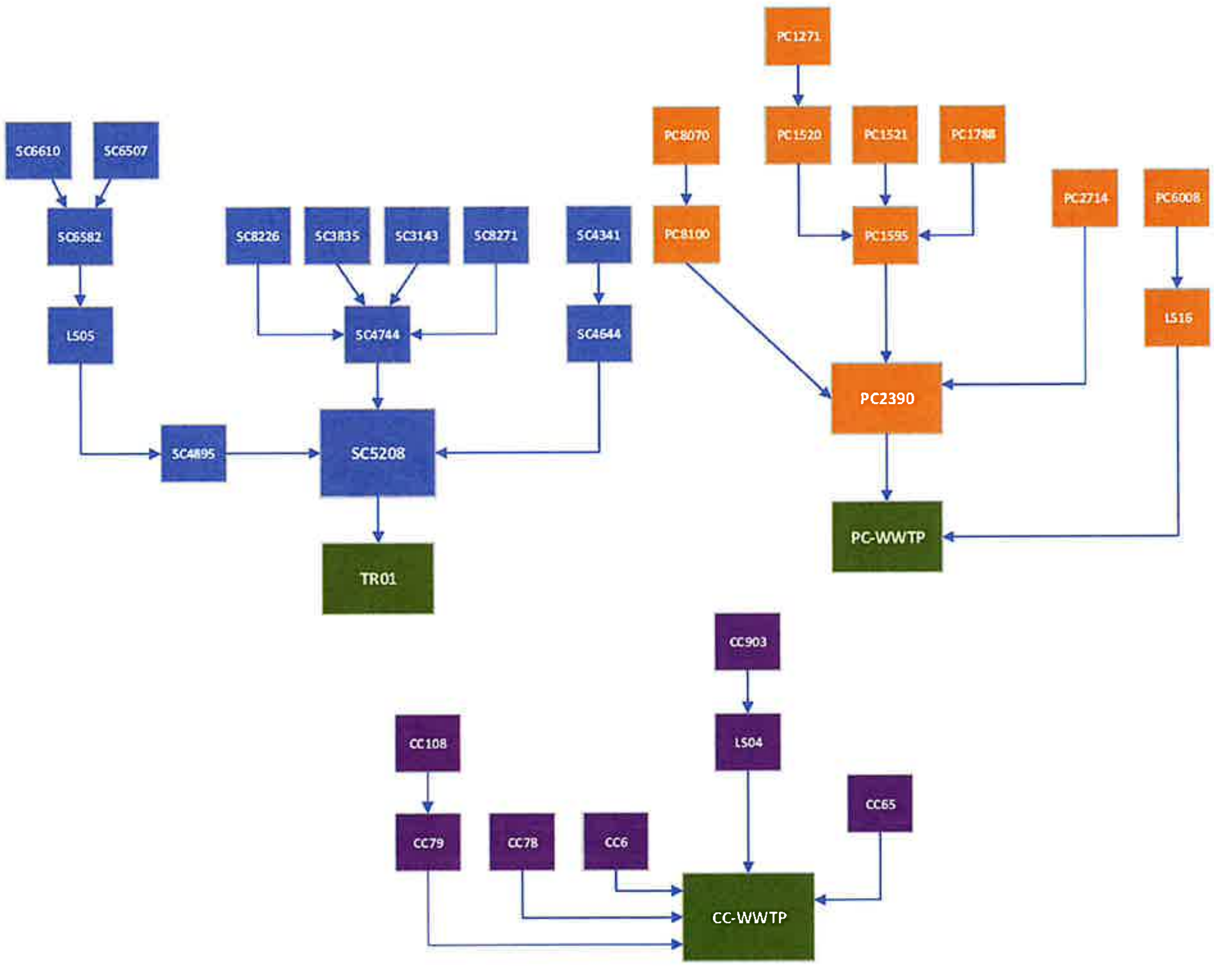
PARAGON CONSULTING GROUP

POTATO CREEK DRAINAGE BASIN MAP

Issue Date: SEPT 2022

FIGURE NO. 6-2

Figure 1: Flow Monitor Schematic



Each monitor deployed is summarized in Table 1. Diameters reported in the table are based upon field measurements by ADS personnel. Basin pipe lengths were provided by the City.

Table 1: Flow Monitors Deployed

Flow Meter	Diameter (in)	Total Temporary Meter Upstream Trace LF	Upstream FM
CC108	12	42902.13	
CC6	15	26280.57	
CC65	12	50702.48	
CC78	8	7726.19	
CC79	12	37960.09	CC108
CC903	8	9605.2	
PC1271	12	49609.91	
PC1520	12	31904.93	PC1271
PC1521	12	15376.39	
PC1595	24	32565.23	PC1271, PC1521, PC1788
PC1788	12	41880.09	
PC2390	24	145001.42	PC1595, PC8100, PC2714
PC2714	8	24622.14	
PC6008	18	39790.83	
PC8070	16	78929.08	
PC8100	16	31036.98	PC8070
SC3143	12	55136.44	
SC3835	18	25129.91	
SC4341	10	59109.09	
SC4644	12	62570.14	SC4341
SC4744	21	35574.67	SC8226, SC3835, SC3143, SC8271
SC4895	12	30753.94	SC6582
SC5208	21	51851.86	SC4895, SC4744, SC4644
SC6507	10	35256.23	
SC6582	12	37857.82	SC6507, SC6610
SC6610	8	42975.79	
SC8226	12	24840.85	
SC8271	10	25805.47	

Site installation reports with more detailed location information for each flow monitor are provided in Appendix A.

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

APR 20 2018

Dr. Brant D. Keller, Director
City of Griffin Public Works & Utilities
P.O. Box T
Griffin, Georgia 30224

RE: Permit Issuance
Cabin Creek
Water Pollution Control Plant (WPCP)
NPDES Permit No. GA0020214
Spalding County, Ocmulgee River Basin

Dear Dr. Keller:

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 permit for the above referenced facility.

Your facility has been assigned to the following EPD office for reporting and compliance. Signed copies of all required reports shall be submitted to the following address:

Georgia Environmental Protection Division
Watershed Compliance Program
2 Martin Luther King, Jr. Drive, S.E.
Sutie 1152, East Tower
Atlanta, GA 30334

Please be advised that on and after the effective date indicated in the permit, the permittee must comply with all the terms, conditions and limitations of the permit. If you have questions concerning this correspondence, please contact Kim Hembree at 404-463-4937 or *Kim.Hembree@dnr.ga.gov*.

Sincerely,

Richard E. Dunn
Director

RD/kbh

Attachment: Permit, Fact Sheet

cc: Mr. Ibn Shakir, Superintendent, City of Griffin. (*ishakir@cityofgriffin.com*)
Marzieh Shahbazaz, EPD (Marzieh.Shahbazaz@dnr.ga.gov)
Hsin-Sheng Yeh, EPD (Hsin-Sheng.Yeh@dnr.ga.gov)

Permit No. GA0020214
Issuance Date: APR 20 2018

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 Griffin
Post Office Box T
Griffin, Georgia 30224

is authorized to discharge from a facility located at

Cabin Creek Water Pollution Control Plant
1140 North Hill Street
Griffin, Georgia 30224
(Spalding County)

to receiving waters

Cabin Creek in the Ocmulgee River Basin

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

This permit is issued in reliance upon the permit application signed on February 10, 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 May 1, 2018. This permit and the authorization to discharge shall expire at midnight, April 30, 2023.

STATE OF GEORGIA 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." The effluent shall meet the requirements in the table(s) or the condition in paragraph I.A.1.a., whichever yields the higher quality effluent.

a. For 5 day biochemical oxygen demand (BOD_5) and total suspended solids (TSS), the arithmetic mean of the values of the effluent samples collected during a month shall not exceed 15 percent of the arithmetic mean of values for influent samples collected at approximately the same times (85 percent removal). In accordance with Chapter 391-3-6-.06(4)(d) 2., of the State Rules, under certain conditions the 85 percent removal requirement may not be applicable, as specified in 40 CFR 133.

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

c. 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 I.D. of this permit, a week that starts in one month and ends in another month shall be considered part of the second month. The permittee may calculate and report the weekly average as a 7 day moving average.

d. 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.b. and I.A.1.c.

e. 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.

f. 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.

g. 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.

h. Flow measurements shall be conducted using the flow measuring device(s) in accordance with the approved design of the facility. If instantaneous measurements are required, then the permittee shall have a primary flow measuring device that is correctly installed and maintained. If continuous recording measurements are required, then flow measurements must be made using continuous recording equipment. Calibration shall be maintained of the continuous recording instrumentation to ± 10% of the actual flow.

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

Records of the calibration checks shall be maintained.

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

j. Some parameters must be analyzed to the detection limits specified by the EPD. These 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.C.2. 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

Outfall #001 (Latitude-Longitude: 33.269680°, -84.256159°):

The discharge from the water pollution control plant shall be limited and monitored by the permittee as specified below beginning on the effective date of the permit and continuing until completion of the compliance schedule [1]:

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	1.5	1.88	Seven Days/Week	Continuous Recording	Effluent
Five-Day Biochemical Oxygen Demand [2]			Three Days/Week	Composite	Influent & Effluent
November – April	15.0 (85.3)	22.5 (107)			
May – October	13.0 (73.9)	19.5 (92.4)			
Total Suspended Solids [2]	20 (114)	30 (142)	Three Days/Week	Composite	Influent & Effluent
Ammonia, as N [1]			Three Days/Week	Composite	Effluent
January	7.3 (41.5)	11.0 (51.9)			
February	8.4 (47.8)	12.6 (59.7)			
March	9.2 (52.3)	13.8 (65.4)			
April	6.2 (35.3)	9.3 (44.1)			
May	3.2 (18.2)	4.8 (22.7)			
June	2.5 (14.2)	3.8 (17.8)			
July	2.3 (13.1)	3.5 (16.3)			
August	2.1 (11.9)	3.2 (14.9)			
September	2.1 (11.9)	3.2 (14.9)			
October	3.0 (17.1)	4.5 (21.3)			
November	4.7 (26.7)	7.1 (33.4)			
December	6.0 (34.1)	9.0 (42.6)			

[1] Refer to Part I.C.9. AMMONIA COMPLIANCE SCHEDULE.

[2] The numerical limitations for Five-Day Biochemical Oxygen Demand and Total Suspended Solids only apply to the effluent.

(Effluent limitations continued on the next page)

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

Parameters	Discharge limitations in mg/L (kg/day) unless otherwise specified		Monitoring Requirements		
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type	Sample Location
Total Phosphorus, as P	1.0 (5.6)	1.5 (7.1)	Three Days/Week	Composite	Effluent
Fecal Coliform Bacteria (#/100 mL)	200	400	Two Days/Week	Grab	Effluent

Parameters	Discharge limitations in mg/L unless otherwise specified	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
pH, Minimum – Maximum (Standard Unit)	6.0 – 8.0	Seven Days/Week	Grab	Effluent
Dissolved Oxygen, Minimum	5.0	Seven Days/Week	Grab	Effluent
Total Residual Chlorine, Maximum	0.01	Seven Days/Week	Grab	Effluent
Chronic Whole Effluent Toxicity (WET) [1]	NOEC $\geq$ IWC (92%)	Annually	Composite	Effluent
Organic Nitrogen, as N [2]	Report	One Day/Month	Composite	Effluent
Nitrate-Nitrite, as N [2]	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N [2]	Report	One Day/Month	Composite	Effluent
Ortho-Phosphate, as P [3]	Report	One Day/Month	Composite	Effluent
Bis(2-ethylhexyl)phthalate [4]	Report	One Day/Month	Composite	Effluent

[1] Refer to Part I.C.10. CHRONIC WHOLE EFFLUENT TOXICITY

[2] Ammonia, Organic Nitrogen, Nitrate-Nitrite, and Total Kjeldahl Nitrogen must be analyzed or calculated from the same sample.

[3] Total Phosphorus and Ortho-Phosphate must be analyzed from the same sample.

[4] Refer to Part I.C.11. BIS(2-ETHYLHEXYL)PHTHALATE

B.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall #001 (Latitude-Longitude: 33.269680°, -84.256159°):

The discharge from the water pollution control plant shall be limited and monitored by the permittee as specified below upon completion of compliance schedule [1] and continuing until the expiration of the permit:

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	1.5	1.88	Seven Days/Week	Continuous Recording	Effluent
Five-Day Biochemical Oxygen Demand [2]			Three Days/Week	Composite	Influent & Effluent
January – April	15.0 (85.3)	22.5 (107)			
May – October	13.0 (73.9)	19.5 (92.4)			
November - December	15.0 (85.3)	22.5 (107)			
Total Suspended Solids [2]	20 (114)	30 (142)	Three Days/Week	Composite	Influent & Effluent
Ammonia, as N [1]			Three Days/Week	Composite	Effluent
January	2.15 (12.2)	3.2 (15.3)			
February – April	2.11 (12.0)	3.2 (15.3)			
May – July	1.12 (6.4)	1.7 (8.0)			
August – October	0.87 (4.9)	1.3 (6.2)			
November – December	2.15 (12.2)	3.2 (15.3)			
Fecal Coliform Bacteria (#/100 mL)	200	400	Two Days/Week	Grab	Effluent
Total Phosphorus, as P	1.0 (5.6)	1.5 (7.1)	Three Days/Week	Composite	Effluent

[1] Refer to Part I.C.9. AMMONIA COMPLIANCE SCHEDULE.

[2] The numerical limitations for Five-Day Biochemical Oxygen Demand and Total Suspended Solids only apply to the effluent.

(Effluent limitations continued on the next page)

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

Parameters	Discharge limitations in mg/L unless otherwise specified	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
pH, Minimum – Maximum, Standard Unit	6.0 – 8.0	Seven Days/Week	Grab	Effluent
Dissolved Oxygen, Minimum	5.0	Seven Days/Week	Grab	Effluent
Chronic Whole Effluent Toxicity (WET) [1]	NOEC $\geq$ IWC (92%)	Annually	Composite	Effluent
Organic Nitrogen, as N [2]	Report	One Day/Month	Composite	Effluent
Nitrate-Nitrite, as N [2]	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N [2]	Report	One Day/Month	Composite	Effluent
Ortho-Phosphate, as P [3]	Report	One Day/Month	Composite	Effluent
Bis(2-ethylhexyl)phthalate [4]	Report	One Day/Month	Composite	Effluent
Long Term Biochemical Oxygen Demand [5]	Report	See Below	Composite	Effluent

[1] Refer to Part I.C.10. CHRONIC WHOLE EFFLUENT TOXICITY

[2] Ammonia, Organic Nitrogen, Nitrate-Nitrite, and Total Kjeldahl Nitrogen must be analyzed or calculated from the same sample.

[3] Total Phosphorus and Ortho-Phosphate must be analyzed from the same sample.

[4] Refer to Part I.C.11. BIS(2-ETHYLHEXYL)PHTHALATE

[5] Refer to Part I.C.12. LONG TERM BIOCHEMICAL OXYGEN DEMAND

C. MONITORING AND REPORTING

1. REPRESENTATIVE SAMPLING

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

2. SAMPLING PERIOD

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

b. Unless otherwise specified in this permit, semiannual samples shall be taken during the periods January-June and July-December.

c. Unless otherwise specified in this permit, annual samples shall be taken during the period of January-December.

3. MONITORING PROCEDURES

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

4. RECORDING OF RESULTS

For each required parameter analyzed, the permittee shall record:

a. The exact place, date, and time of sampling, and the person(s) collecting the sample. For flow proportioned composite samples, this shall include the instantaneous flow and the corresponding volume of each sample aliquot, and other information relevant to document flow proportioning of composite samples;

b. The dates and times the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical procedures or methods used; and

e. The results of all required analyses.

5. ADDITIONAL MONITORING BY PERMITTEE

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

6. RECORDS RETENTION

The permittee shall retain records of:

a. All laboratory analyses performed including sample data, quality control data, and standard curves;

b. Calibration and maintenance records of laboratory instruments;

c. Calibration and maintenance records and recordings from continuous recording instruments;

d. Process control monitoring records;

e. Facility operation and maintenance records;

f. Copies of all reports required by this permit;

g. All data and information used to complete the permit application; and

h. All monitoring data related to sludge use and disposal.

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

7. PENALTIES

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

8. WATERSHED PROTECTION PLAN

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

Each June 30th the permittee is to submit the following to EPD:

a. 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."

b. 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.

c. 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.

9. AMMONIA COMPLIANCE SCHEDULE

a. Within thirty days (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 9.c.1 or Section 9.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 already has an approved Design Development Report and Plans and Specifications for the modifications needed at the facility to meet the ammonia effluent limits in Part I.B.2 of this permit. Therefore, 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 nine (9) 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.

ii. Within eighteen (18) months of the effective date of the permit, the permittee shall submit a report to EPD that outlines the progress towards completing construction of the facility modifications. The report shall include an estimate of what percentage of the construction is complete and describe what work remains to be completed in order to meet the ammonia effluent limitations in Part I.B.2 of this permit.

iii. Within twenty-seven (27) 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 three (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 six (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 twelve (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 nine (9) 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.

B. Within eighteen (18) months of EPD's denial letter regarding the site specific ammonia effluent limitations, the permittee shall submit a report to EPD that outlines the progress towards completing construction of the facility modifications. The report shall include an estimate of what percentage of the construction is complete and is to describe what work remains to be completed in order to meet the ammonia effluent limitations in Part I.B.2 of this permit.

C. Within twenty-seven (27) 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.

10. B.1 AND B.2 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*). The testing must include a dilution equal to 92%.

EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. An effluent discharge will not be considered toxic if the No Observed Effect Concentration (NOEC) is greater than or equal to the Instream Wastewater Concentration (IWC) of 92%. If the test results indicate effluent toxicity, the permittee may be required to perform additional WET tests, and/or to submit a toxicity reduction evaluation upon notification by the EPD and/or the permit may be reopened to incorporate a WET limit.

11. BIS(2-ETHYLHEXYL)PHTHALATE

Upon the effective date of the permit, the permittee shall begin monthly monitoring of bis(2-ethylhexyl)phthalate in the effluent. Monitoring shall continue until otherwise notified by EPD.

After receiving the results of 12 months of bis(2-ethylhexyl)phthalate monitoring data from the permittee, EPD will conduct a reasonable potential evaluation. If it is determined that bis(2-ethylhexyl)phthalate is present in the effluent at levels of concern, EPD may reopen the permit to include a limit for this pollutant. If it is determined that bis(2-ethylhexyl)phthalate in the effluent has no potential to cause or contribute to a water quality standards violation in the receiving stream, EPD shall notify the permittee in writing that monitoring for bis(2-ethylhexyl)phthalate is no longer necessary.

12. LONG TERM BIOCHEMICAL OXYGEN DEMAND

The permittee shall conduct a 120-day long term BOD test once the facility is operating under the B.2 effluent limitations. The test must be performed on an effluent sample collected during the critical period from June 1 through September 30. The results of this test should be provided to EPD prior to renewal of the permit.

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 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 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 five (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 exceedance 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 this permit. Any permit noncompliance is a violation of the Federal 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 without written authorization from the EPD. To receive this authorization, 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 water quality permits issued to this facility for construction or operation are revoked by the issuance of this permit. The permit governs discharges from this facility under the National Pollutant Discharge Elimination System (NPDES).

PART III

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

1. The permittee's approved pretreatment program shall be enforceable through this permit. The permittee shall also comply with the provisions of 40 CFR 403.

2. The permittee shall administer the approved pretreatment program by:

   a. Maintaining records identifying the character and volume of pollutants contributed by industrial users to the POTW.

   b. Enforcing and obtaining appropriate remedies for noncompliance by any industrial user with any applicable pretreatment standard or requirement defined by Section 307(b) and (c) of the Federal Act, 40 CFR Part 403.5 and 403.6 or any State or local requirement, whichever is more stringent.

   c. Revising the adopted local limits based on technical analyses to ensure that the local limits continue to prevent:

      1. Interference with the operation of the POTW;
      2. Pass-through of pollutants in violation of this permit;
      3. Municipal sludge contamination; and
      4. Toxicity to life in the receiving stream.

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

   d. Ensuring that industrial wastewater discharges from industrial users are regulated through discharge permits or equivalent individual control mechanisms. Compliance schedules will be required of each industrial user for the installation of control technologies to meet applicable pretreatment standards and the requirements of the approved program.

   e. Inspecting, surveying, and monitoring to determine if the industrial user is in compliance with the applicable pretreatment standards.

   f. Equitably maintaining and adjusting revenue levels to ensure adequate and continued pretreatment program implementation.

   g. Preparing a list of industrial users which, during the reporting period of November 1st to October 31st, have been in significant noncompliance with the pretreatment requirements enumerated in 40 CFR Part 403.8 (f)(2)(viii). This list will be published annually each November in the newspaper with the largest circulation in the service area.

B. APPROVED PRETREATMENT PROGRAM ANNUAL REPORT

1. Within 30 days of the close of the reporting period November 1st through October 31th, the permittee shall submit a report to the EPD that includes:

   a. An updated list of POTW industrial users;

   b. The results of POTW sampling and analyses required by the EPD;

   c. A summary of POTW industrial user inspections;

   d. A summary of POTW operations including information on upsets, interferences, pass through events, or violations of the permit related to industrial user discharges;

   e. A summary of all activities to involve and inform the public of pretreatment requirements;

   f. A summary of the annual pretreatment program budget;

   g. A descriptive summary of any compliance activities initiated, ongoing, or completed against industrial users which shall include the number of administrative orders, show cause hearings, penalties, civil actions, and fines;

   h. A list of contributing industries using the treatment works, divided into Standard Industrial Classification Code (SIC) categories, which have been issued permits or similar enforceable individual control mechanisms, and a status of compliance for each industrial user. The list should also identify the industries that are categorical or significant industrial users;

   i. The name and address of each industrial user that has received a conditionally revised discharge limit;

   j. A list of all industrial users who were in significant noncompliance with applicable pretreatment standards and requirements;

   k. A list of all industrial users showing the date that each was notified that a categorical pretreatment standard had been promulgated by EPA for their industrial category and the status of each industrial user in achieving compliance within the 3 year period allowed by the Federal Act; and

   l. A description of all substantial changes proposed for the program. All substantial changes must first be approved by the EPD before formal adoption by the POTW. Substantial changes shall include but not be limited to:

      1. Changes in legal authority;
      2. Changes in local limits;
      3. Changes in the control mechanisms;
      4. Changes in the method for implementing categorical pretreatment standards.

5. A decrease in the frequency of self-monitoring or reporting required of industrial users;
6. A decrease in the frequency of industrial user inspections or sampling by the POTW;
7. Significant reductions in the program resources including personnel commitments, equipment, and funding levels;
8. Changes in confidentiality procedures; and
9. Changes in the POTW sludge disposal and management practices.

2. Reports submitted by an industrial user will be retained by the permittee for at least 3 years and shall be available to the EPD for inspection and copying. This period shall be extended during the course of any unresolved litigation concerning the discharge of pollutants by an industrial user or concerning the operations of the program or when requested by the Director.

C. INDUSTRIAL PRETREATMENT STANDARDS

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

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

1. The permittee shall require all industrial dischargers to the POTW to meet State pretreatment regulations promulgated in response to Section 307(b) of the Federal Act. Other information about new industrial discharges may be required and will be requested from the permittee after the EPD has received notice of the discharge.

2. The permittee may be required to supplement the requirements of the State and Federal pretreatment regulations to ensure compliance with all applicable effluent limitations listed in Part I. Supplemental actions by the permittee concerning some or all of the industries discharging to the POTW may be necessary.

E. RETAINER

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

PART IV

APPROVED SLUDGE MANAGEMENT PLAN

1. The permittee's approved Sludge Management Plan shall be implemented in accordance with Chapter 391-3-6-.17 of the State Rules and EPD's, "*Guidelines for Land Application of Sewage Sludge (Biosolids) at Agronomic Rates*", unless a more stringent requirement is stated in this Permit, and shall be enforceable through this Permit.

2. The permittee will submit an annual report pertaining to the most recent calendar year, as required under Chapter 391-3-6-.17(14) of the State Rules. The annual report shall be submitted to EPD no later than January 31 of the following year.

3. The permittee will maintain records of the amount of sludge land applied to each site. The amount of sludge land applied during each calendar year will be reported in the annual report in units of dry tons per year.

4. The permittee will monitor in accordance with the following requirements:

   a. The pH of the sludge and soil mixture from each field within each land application site will be measured once per year. The sample will be a separate, composite sample of each soil type present and will be representative of field conditions.

   b. The sewage sludge shall be monitored for the following parameters at the frequencies specified in Part IV.A.5:

Parameter	**Units***
Total nitrogen	Percent
Ammonia-nitrogen	Percent
Nitrate-nitrogen	Percent
Volatile solids	Percent
Total solids	Percent
pH	Standard units
Arsenic	mg/kg
Cadmium	mg/kg
Copper	mg/kg
Lead	mg/kg
Mercury	mg/kg
Molybdenum	mg/kg
Nickel	mg/kg
Selenium	mg/kg
Zinc	mg/kg

   *Units must be reported on a dry weight basis with the exception of pH.

   c. The pathogen density requirements listed in Chapter 391-3-6-.17(7) of the State Rules shall be monitored at the frequency listed in Part IV.A.5.

d. The vector attraction reduction requirements listed in Chapter 391-3-6-.17(8)(a) through (8)(h) of the State Rules shall be monitored at the frequency listed in Part IV.A.5.

5. Monitoring Frequency:

Amount of Sewage Sludge* (dry tons/year)	Frequency
0-300	Once/year
300-1,600	Once/quarter
1,600-16,000	Once/two months
>16,000	Once/month

*The amount of sewage sludge refers to either the amount of bulk sewage sludge (dry weight) applied to the land or the amount of sewage sludge (dry weight) received by a preparer that sells or otherwise distributes sewage sludge in a bag or other container for application to the land.

6. In accordance with Chapter 391-3-6-.17(12) of the State Rules, sewage sludge samples shall be analyzed using EPA approved methods contained in 40 CFR Part 503.8.

7. A proposed addition (or removal) of a new land application site(s) will be subject to EPD's review and approval process as outlined in the Guidelines for Land Application of Sewage Sludge (Biosolids). Upon written approval of the Director, addition or removal of a land application site(s) will be considered as amending the approved Sludge Management Plan and as an addendum to the permit.

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

Technical Contact: Kim Hembree
Kim.Hembree@dnr.ga.gov
404-463-4937

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.: GA0020214

1.2 Name and Address of Owner/Applicant

City of Griffin
Post Office Box T
Griffin, Georgia 30224

1.3 Name and Address of Facility

Cabin Creek WPCP
1140 North Hill Street
Griffin, Georgia 30244

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

Outfall #	Latitude (°)	Longitude (°)	Receiving Waterbody
001	33.269680	-84.256159	Cabin Creek

1.5 Permitted Design Capacity

1.5 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 bar screening and grit removal, primary clarification, trickling filters, alum addition, secondary clarification, caustic soda addition, chlorination, dechlorination, and cascade aeration.

Solids processing:

The sludge is digested anaerobically or aerobically and land applied.

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)	0.830	0.700
Five-Day Biochemical Oxygen Demand (mg/L)	6.0	3.0
Total Suspended Solids (mg/L)	10.8	4.9
Fecal Coliform Bacteria (#/100mL)	4	1.2
Ammonia, as N (mg/L)	4.3	3.5
Total Phosphorus, as P (mg/L)	32	0.19

* These are maximum values as reported in the permit application.

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 – Cabin 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	N/A	0.2	0.18	2.3	31	10*

* A conservative value of 10 mg/L was used for the reasonable potential analysis calculations.

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

Cabin Creek	Headwaters, Griffin to Towaliga River	Ocmulgee	Bio F, FC	UR	16	miles	4a	Causes of Bio F, FC are I1 & UR. TMDLs completed Bio F (2002 & 2007), Tox (2002), FC (2002 & 2007), DO (2002).
R030701031103	Spalding County	Fishing						
1,3,4,10								

Cabin Creek WPCP discharges to a stream that is listed on the 2014 303(d) list as stream not supporting its designated use (fishing). However, TMDL(s) have been completed for the parameters that are causing the stream not to meet its use (biota - fish, fecal coliform bacteria).

3.4 Total Maximum Daily Loads (TMDLs)

A 2007 Total Maximum Daily Load (TMDL) for sediment in 70 Stream segments including Cabin Creek in the Ocmulgee River Basin recommends that there be no authorized increase in the mass loading of sediment (TSS) above that identified in the TMDL. The effluent limitations in the draft permit meet all the requirements of the TMDLs.

The 2007 TMDL for fecal coliform bacteria for 74 stream segments including Cabin Creek, no fecal coliform loading reduction is recommended for the WPCP. The effluent limitations in the draft permit meet all the requirements of the TMDLs.

The 2002 Ocmulgee River Basin Dissolved Oxygen TMDL recommended a reduction in the permitted point source loadings of oxygen demanding constituents to Cabin Creek. The TMDL set a combined load limit (point and non-point) of 767 lbs/day for Cabin Creek. The effluent limitations in the draft permit meet all the requirements of the TMDLs.

3.5 Wasteload Allocation (WLA)

A WLA was issued on June 7, 2016. Refer to *Appendix A* of the Fact Sheet for a copy of the WLA.

4. EFFLUENT LIMITS AND PERMIT CONDITIONS

4.1.a Outfall #001: (Latitude-Longitude: 33.269680°, -84.256159°)

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

Parameters	Discharge limitations in mg/L (kg/day) unless otherwise specified	
	Monthly Average	Weekly Average
Flow (MGD)	1.5	1.88
Five-Day Biochemical Oxygen Demand		
November – April	15.0 (85.3)	22.5 (107)
May – October	13.0 (73.9)	19.5 (92.4)
Total Suspended Solids	20 (114)	30 (142)
Ammonia, as N		
January	7.3 (41.5)	11.0 (51.9)
February	8.4 (47.8)	12.6 (59.7)
March	9.2 (52.3)	13.8 (65.4)
April	6.2 (35.3)	9.3 (44.1)
May	3.2 (18.2)	4.8 (22.7)
June	2.5 (14.2)	3.8 (17.8)
July	2.3 (13.1)	3.5 (16.3)
August	2.1 (11.9)	3.2 (14.9)
September	2.1 (11.9)	3.2 (14.9)
October	3.0 (17.1)	4.5 (21.3)
November	4.7 (26.7)	7.1 (33.4)
December	6.0 (34.1)	9.0 (42.6)
Total Phosphorus (as P)	1.0 (5.6)	1.5 (7.1)
Fecal Coliform Bacteria (#/100 mL)	200	400

(Effluent limitations continued on the next page)

4.1.a Outfall #001: (Continued)

Parameters	Discharge limitations in mg/L unless otherwise specified
pH, Minimum – Maximum (Standard Unit)	6.0 – 8.0
Dissolved Oxygen, Minimum	5.0
Total Residual Chlorine, Maximum	0.01
Chronic Whole Effluent Toxicity (WET)	NOEC $\geq$ IWC (92%)
Organic Nitrogen, as N	Report
Nitrate-Nitrite, as N	Report
Total Kjeldahl Nitrogen, as N	Report
Ortho-Phosphate, as P	Report
Bis(2-ethylhexyl)phthalate	Report

4.1.b Outfall #001: (Latitude-Longitude: 33.269680°, -84.256159°)

The discharge from the water pollution control plant shall be limited and monitored by the permittee as specified below upon completion of the ammonia compliance schedule and continuing until the expiration of the permit:

Parameters	Discharge limitations in mg/L (kg/day) unless otherwise specified	
	Monthly Average	Weekly Average
Flow (MGD)	1.5	1.88
Five-Day Biochemical Oxygen Demand		
November – April	15.0 (85.3)	22.5 (107)
May – October	13.0 (73.9)	19.5 (92.4)
Total Suspended Solids	20 (114)	30 (142)
Ammonia, as N		
November – January	2.15 (12.2)	3.2 (15.3)
February – April	2.11 (12.0)	3.2 (15.3)
May – July	1.12 (6.4)	1.7 (8.0)
August – October	0.87 (4.9)	1.3 (6.2)
Fecal Coliform Bacteria (#/100 mL)	200	400
Total Phosphorus, as P	1.0 (5.6)	1.5 (7.1)

Parameters	Discharge limitations in mg/L unless otherwise specified
pH, Minimum – Maximum (Standard Unit)	6.0 – 8.0
Dissolved Oxygen, Minimum	5.0
Chronic Whole Effluent Toxicity (WET)	NOEC ≥ IWC (92%)
Organic Nitrogen, as N	Report
Nitrate-Nitrite, as N	Report
Total Kjeldahl Nitrogen, as N	Report
Ortho-Phosphate, as P	Report
Bis(2-ethylhexyl)phthalate	Report
Long Term Biochemical Oxygen Demand	Report

4.2 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 4.3 for reasonable potential analysis on effluent toxicity.

Refer to Section 4.7 for reasonable potential analysis on toxic and manmade pollutants.

4.3 Whole Effluent Toxicity

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).

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

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 92%; therefore, effluent is not considered toxic. WET test results are presented in the table below:

Test	Sample Date	No Observed Effect Concentration (NOEC)			
		Ceriodaphnia dubia		*Pimephales promelas*	
		Survival (%)	Reproduction (%)	Survival (%)	Growth (%)
1	2014	92	92	92	92
2	2015	92	92	92	92
3	2016	92	92	92	92
4	2017	92	92	92	92

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 D* for PSMD values.

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

EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. The effluent from Cabin Creek 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 92%. If results of the WET tests predict toxicity or are invalid, then the permittee may be required to perform additional WET tests or the permit may be modified to include chronic WET effluent limitations.

4.4 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).

4.5 Conventional Pollutants

Pollutants of Concern	Basis
pH	The limits of 6.0-8.0 SU (minimum-maximum) are in accordance with the current permit and meet Water Quality Standards (Section 3.1). The upper pH limit has been set to 8.0 S.U. to offset more stringent requirements for Ammonia toxicity-related limits.
Five-Day Biochemical Oxygen Demand (BOD_5)	According to the steady state GA DOSAG model, the proposed BOD_5 limits of 13.0 mg/L (May-October) and 15.0 mg/L (November-April) combined with the Ammonia limit (refer to Section 4.6 below) is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1. Refer to WLA in *Appendix A* for model inputs.
Total Suspend Solids (TSS)	The limit of 20 mg/L is in accordance with EPD permitting guidelines for TSS (i.e., technology-based limit), and is incompliance with the TMDL recommendations.
Fecal Coliform Bacteria	The limit of 200#/100mL meets the instream Water Quality Standards (Section 3.1) and TMDL recommendations (Section 3.4).

4.6 Nonconventional Pollutants

Pollutants of Concern	Basis
Dissolved Oxygen (DO)	According to the steady state GA DOSAG model, a minimum effluent DO of 5.0 mg/L is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above.
Total Residual Chlorine (TRC)	The TRC limit of 0.010 mg/L for B.1. limits 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. The facility will utilize ultra violet disinfection upon authorization to discharge at the B.2 limits, therefore the TRC limit was removed.
Total Phosphorus (TP)	The limit of 1.0 mg/L is in accordance with EPD permitting strategy for Phosphorus.
Ortho-phosphate, Total Kjeldahl Nitrogen (TKN), Organic Nitrogen, Nitrate-Nitrite	Ortho-phosphate, TKN, organic nitrogen, and nitrate-nitrite, monitoring is included in the draft permit. The data will be used to determine nutrient speciation and to quantify and manage nutrient loadings in the Ocmulgee River Basin.
Ammonia (NH_3)	The seasonal ammonia limits were decreased from 2.1-9.2 mg/L to 0.87-2.15 mg/L to EPD's permitting strategy for addressing ammonia toxicity criteria. According to the steady-state dissolved oxygen Georgia DOSAG model, the seasonal ammonia limits of 0.87-2.15 mg/L, when combined with the BOD_5 limits (Refer to Section 4.5), are also protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above. A compliance schedule for meeting the revised ammonia limits or developing site specific ammonia limits has been included in Part I.C.9 of the draft permit.

4.7 Toxics & Manmade Organic Compounds

The permittee submitted the results of four Priority Pollutant Scans (PPS) with the permit application. All parameters were "non-detect" except for:

Pollutants of Concern	Basis
Total Recoverable Copper	This parameter was evaluated and its instream concentration was found to be less than 50% of the acute & chronic instream standard. Refer to *Appendix C* for reasonable potential evaluation. In accordance with EPD reasonable potential procedures, copper is not considered a pollutant of concern and additional monitoring is not required.
Total Recoverable Zinc	This parameter was evaluated and its instream concentration was found to be less than 50% of the acute & chronic instream standard. Refer to *Appendix C* for reasonable potential evaluation. In accordance with EPD reasonable potential procedures, zinc is not considered a pollutant of concern and additional monitoring is not required.
Diethyl phthalate	This parameter was evaluated and its instream concentration was found to be less than 50% of the instream standard. Refer to *Appendix C* for reasonable potential evaluation. In accordance with EPD reasonable potential procedures, diethyl phthalate 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 standard. Refer to *Appendix C* for reasonable potential evaluation. In accordance with EPD reasonable potential procedures, bis(2-ethylhexyl)phthalate is considered a pollutant of concern and monthly monitoring has been included in the draft permit. After receiving the results of 12 months of bis(2-ethylhexyl)phthalate monitoring data from the permittee, EPD will conduct a reasonable potential evaluation. If it is determined that bis(2-ethylhexyl)phthalate is present in the effluent at levels of concern, EPD may reopen the permit to include a limit for this pollutant. If it is determined that bis(2-ethylhexyl)phthalate in the effluent has no potential to cause or contribute to a water quality standards violation in the receiving stream, EPD shall notify the permittee in writing that monitoring for bis(2-ethylhexyl)phthalate is no longer necessary.

4.8 Calculations for Water Quality Based Effluent Limits

4.8.1 Instream Waste Concentration (IWC):

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

$$= \frac{2.3}{2.3 + 0.2}$$

$$= 92\ \%$$

4.8.2.a Five-Day Biochemical Oxygen Demand (November – April):

Q = Flow
C = Concentration
M = Mass

- *Weekly Average Flow:*

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

$$= 1.50 \times 1.25$$

$$= 1.88\ \text{MGD}$$

- *Weekly Average Concentration:*

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

$$= 15.0 \times 1.5$$

$$= 22.5\ \text{mg/L}$$

- *Monthly Average Mass Loading:*

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

$$= \frac{1.5 \times 15.0 \times 8.34}{2.2}$$

$$= 85.3\ \text{kg/day}$$

- *Weekly average mass loading:*

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

$$= \frac{1.88 \times 15.0 \times 8.34}{2.2}$$

$$= 107\ \text{kg/day}$$

4.8.2.b Five-Day Biochemical Oxygen Demand (May – October):

- *Weekly Average Flow:*

$Q_{Weekly} = Q_{Monthly}$ (MGD) x 1.25 MGD

= 1.50 x 1.25

= 1.88 MGD

- *Weekly Average Concentration:*

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

= 13.0 x 1.5

= 19.5 mg/L

- *Monthly Average Mass Loading:*

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

$$= \frac{1.5 \times 13.0 \times 8.34}{2.2}$$

= 73.9 kg/day

- *Weekly average mass loading:*

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

$$= \frac{1.88 \times 13.0 \times 8.34}{2.2}$$

= 92.4 kg/day*

* The BOD weekly average mass loading limit has been revised from 45 kg/day to 92.4 kg/day due to a typographical error in the previous permit and is in accordance with anit-backsliding rules in 40 CFR 122.44(l)(2)(2)(i)(B)(1).

4.8.3. Total Residual Chlorine (TRC):

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

$$= \frac{(2.3 + 0.2) \times 0.011}{2.3}$$

= 0.01 mg/L

4.8.4 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:

$[NH_3]_{Effluent}$ =

$$\frac{\left(Q_{Effluent}(ft^3/sec) + 7Q10(ft^3/sec)\right) \times CCC(mg/L) - 7Q10(ft^3/sec) \times [NH_3]_{Stream\ Background}(mg/L)}{Q_{Effluent}(ft^3/sec)}$$

4.8.5 Metals

See the calculations for metals in *Appendix C*

4.9 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	6.0-9.0	

4.10 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)]
Five-Day Biochemical Oxygen Demand (mg/L)	**13.0 & 15.0**	30.0
Total Suspended Solids (mg/L)	None	**20**
Ammonia (mg/L)	**B.1: 2.1 – 9.2** **B.2: 0.87 – 2.15**	None
Total Phosphorus, as P (mg/L)	**1.0**	None
Fecal Coliform Bacteria (#/100 mL)	**200**	None

(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 Long Term Biochemical Oxygen Demand (LTBOD) Test

The City will upgrade the WPCP within the next permit cycle; therefore the LTBOD monitoring requirement has been maintained in the draft permit.

5.2 Industrial Pre-treatment Program (IPP)

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

5.3 Sludge Management Plan (SMP)

The City has an approved SMP to land apply sludge at agronomic rates; therefore language to reflect the approved plan has been included in the draft permit.

5.4 Watershed Protection Plan (WPP)

The City has an approved WPP; therefore language to reflect the approved plan has been included in the draft permit.

5.5 Service Delivery Strategy

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

5.6 Metropolitan North Georgia Water Wastewater Plan

Not applicable

5.7 Compliance Schedules

Effluent limitations are applicable immediately upon the effective date of the permit. A compliance schedule for meeting reduced Ammonia limits has been included in Part I.C.9 of the permit.

5.8 Anti-Backsliding

The limits in the draft permit are the same as (or more stringent than) the current ones; therefore, the proposed draft permit complies with anti-backsliding requirements.

6. REPORTING

6.1 Compliance office

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

Georgia Environmental Protection Division
Watershed Compliance Program
2 Martin Luther King Jr. Dr., Suite 1152 East
Atlanta, Georgia 30334

6.2 E-Reporting

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

7. REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS

Not applicable

8. PERMIT EXPIRATION

The permit will expire five years from the effective date.

9. PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS

9.1 Comment Period

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

The permit application, draft permit, and other information are available for review at 2 Martin Luther King Jr. Drive, Suite 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

City of Griffin – Cabin Creek WPCP
NPDES Permit No. GA0020214

Waste Load Allocation (WLA)

National Pollutant Discharge Elimination System
Wasteload Allocation Form

Part I: Background Information

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

Facility Name: **Griffin - Cabin Creek WPCP** County: **Spalding** WQMU: **0501**

NPDES Permit No.: **GA0020214** Expiration Date: **12/30/2017** Outfall Number: **001**

Receiving Water: **Cabin Creek** River Basin: **Ocmulgee** 10-Digit HUC: **0307010311**

Discharge Type: Domestic ☒ Industrial ☐ Both ☐ Proportion (D:I): Flow(s) Requested (MGD): **1.5**

EPD/WPB/WRP

Industrial Contributions Type(s):

Treatment Process Description: **Screen, primary clarifier, trickling filter, alum addition, secondary clarifier, cascading aeration**

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

JUN 1 3 2016

Requested by: **Benoit Causse** Title: **EE** Program: **WRP**

Telephone: **404-463-4958** Date: **3/22/2016**

RECEIVED

Part II: Receiving Water Information

Receiving Water: **Cabin Creek** Designated Use Classification: **Fishing**

Integrated 305(b)/303(d) List: Yes ☒ No ☐ Partial Support: ☐ Not Support: ☒ Criteria: **Bio F, Fecal Coliform,**

Total Maximum Daily Load: Yes ☒ No ☐ Parameter(s): **Biota, FC** WLA Complies with TMDL: Yes ☒ No ☐

The 2007 TMDL for sediment for 70 stream segments including Cabin Creek in the Ocmulgee River Basin recommended that there shall be no authorized increase in the mass loading of sediment (TSS) above that identified in the TMDL. In the 2007 TMDL for fecal coliform for 74 stream segments including Cabin Creek, no fecal coliform loading reduction is recommended for the subject facility. The 2002 Ocmulgee River Basin Dissolved Oxygen (DO) TMDL recommended a reduction in the permitted point source loadings of oxygen demanding constituents to Cabin Creek. The TMDL set a combined load limit (point and non-point) of 767 lbs/day for Cabin Creek.

Part III: Water Quality Model Review Information

Model Type: Uncalibrated ☐ Calibrated ☐ Verified ☐ Cannot be Modeled ☐ Model Length (mi): **16**

Field Data: None ☒ Fair ☐ Good ☐ Excellent ☐

Model and Field Data Description: **A steady-state dissolved oxygen Georgia DOSAG model was used to develop the TMDL recommended loading. A revised f-ratio modeling was performed for this WLA request.**

Critical Water Temperature (°C): **25** Drainage Area (mi²): **2.0** 7Q10 streamflow at discharge (cfs): **0.2**

7Q10 Yield (cfs/mi²): **0.09** Velocity (range fps): **0.5-0.75** 1Q10 streamflow at discharge (cfs): **0.16**

Effluent Flow Rate (cfs): **2.32** 7Q10 IWC (%): **92** Mean annual streamflow at discharge (cfs): **2.3**

Slope (range - fpm): **7.3-21** K1: **0.15** K3: **1.5** Escape Coef. (ft⁻¹): **0.08** K2 (range): **8.3-15.9**

SOD: **0.2** f-Ratio (BOD_u/BOD_5): **2.5** Background Hardness (as $CaCO_3$): **31**

The minimum dissolved oxygen concentration is 5.55 mg/L, immediately downstream from the discharge.
The modeling parameters cited above, are from the modeling analysis for the original wasteload allocation (with revised f-ratio).

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

Rationale: Same as current ☐ Revised ☒ New ☐

Location: **Existing discharge location on Cabin Creek**

Month	Effluent Flow Rate (MGD)	BOD_5	NH_3-N	DO (min.)	TRC (daily max.)	TSS	Fecal Coliform (No./100ml)	pH (std. units)	Total Phosph.	Ortho Phosph.	Organic Nitrogen	Total Kjeldahl Nitrogen	Nitrate-Nitrite
Nov.-Jan.	1.5	15	2.15	5.0	0.01	20	200	6.0 - 8.0	1.0	Monitor	Monitor	Monitor	Monitor
Feb.-Apr.	1.5	15	2.11	5.0	0.01	20	200	6.0 - 8.0	1.0	Monitor	Monitor	Monitor	Monitor
May-Jul.	1.5	13	1.12	5.0	0.01	20	200	6.0 - 8.0	1.0	Monitor	Monitor	Monitor	Monitor
Aug.-Oct.	1.5	13	0.87	5.0	0.01	20	200	6.0 - 8.0	1.0	Monitor	Monitor	Monitor	Monitor

Additional Comments:

- **Priority pollutant permit limits and aquatic toxicity testing requirements are to be determined by WRP.**

- **The ammonia limits meets the 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia.**
- **Monthly monitoring for Ortho-Phosphorus, and Organic Nitrogen, Total Kjeldahl Nitrogen and Nitrate-Nitrite of the effluent is recommended according to the nutrient monitoring strategy.**
- **One day per month, TKN, nitrate-nitrite, and organic nitrogen should be analyzed from the same effluent sample as should Ortho-P taken and analyzed from the same effluent sample as TP.**
- **EPD recommends that a 120-day long-term biochemical oxygen demand test be performed once a year during the permit period prior to renewal. The test should be performed on an effluent sample collected during the critical period from June 1 to September 30. The result of this test should be provided to the Georgia Environmental Protection Division prior to the renewal of the permit.**
- **The background hardness has been revised.**

Prepared by: **William Wang** Date: **5/2/2016** Reviewed by: Date:

Part V: Program Manager Comments

Elizabeth O Booth

Elizabeth Booth Date: 6/17/16

Georgia Department of Natural Resources
Environmental Protection Division
Atlanta, Georgia

FACT SHEET

Appendix B

City of Griffin - Cabin Creek WPCP
NPDES Permit No. GA0020214

Receiving Water: Cabin Creek

1) Instream Wastewater Concentration (IWC) Calculations:

Permitted flow (MGD)	Permitted flow (cfs)	Seasonal 7Q10 Streamflow (cfs)	Instream Wastewater Concentration (%)
1.5	2.3	**0.2**	92

$$IWC = \frac{Q_{Plant}}{Q_{Plant} + Q_{Stream}} \times 100 \quad \%$$

2) Total Residual Chlorine (TRC) Calculations:

Permitted flow (MGD)	Permitted flow (cfs)	Seasonal 7Q10 Streamflow (cfs)	Instream target TRC concentration (mg/L)	Calculated effluent TRC limit (mg/L)
1.50	2.3	**0.20**	0.011	0.01

$$[TRC]_{Effluent} = \frac{(Q_{Plant} + Q_{Stream}) \times [TRC]_{Stream}}{Q_{Plant}}$$

11/8/2017

FACT SHEET

Appendix C

City of Griffin - Cabin Creek WPCP
NPDES Permit No. GA0020214

Stream Data (upstream of the discharge):

Hardness:	31.0	mg/L
TSS:	10	mg/L
7Q10:	0.2	ft^3/s
1Q10:	0.18	ft^3/s
Mean flow:	2.3	ft^3/s

Effluent Data:

Hardness:	31.0	mg/L
TSS:	11.0	mg/L
Flow:	1,500,000	gal/day
Flow:	2.3	ft^3/s

Stream data (downstream of the discharge):

Hardness (at 7Q10):	31.0	mg/L
TSS (at 7Q10):	10.92	mg/L
Dilution factor (at average flow):	2.0	
Dilution factor (at 7Q10):	1.1	
Dilution factor (at 1Q10):	1.1	

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

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

Metal	K_{PO}	α	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	0.00	0.0	0.0	340.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.0	0.0	0.64	no
Chromium III	3.36.E+06	-0.930	0.00	0.0	0.0	218.33	no
Chromium VI	3.36.E+06	-0.930	0.00	0.0	0.0	16.00	no
Copper	1.04.E+06	-0.744	0.34	**5.6**	1.78	4.46	**no**
Lead	2.80.E+06	-0.800	0.00	0.0	0.0	17.68	no
Mercury	2.91.E+06	-1.136	0.00	0.0	0.0	1.40	no
Nickel	4.90.E+05	-0.572	0.00	0.0	0.0	173.84	no
Zinc	1.25.E+06	-0.704	0.28	**40.7**	10.68	43.44	**no**

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

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

FACT SHEET

Appendix C

City of Griffin - Cabin Creek WPCP
NPDES Permit No. GA0020214

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	0.00	0.0	0.0	150.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.0	0.0	0.11	no
Chromium III	3.36.E+06	-0.930	0.00	0.0	0.0	28.40	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	**1.90**	0.60	3.29	**no**
Lead	2.80.E+06	-0.800	0.00	0.0	0.0	0.69	no
Mercury	2.91.E+06	-1.136	0.32	0.0	0.0	0.012	no
Nickel	4.90.E+05	-0.572	0.00	0.0	0.0	173.84	no
Zinc	1.25.E+06	-0.704	0.28	**24.8**	6.45	43.79	**no**

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

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?
Diethyl phthalate	11.0	5.52	44,000	22,000	**no**
Bis(2-ethylhexyl)phthalate	18.0	9.04	2.2	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 constinuent 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 constinuent may be included in the permit.

FACT SHEET

Appendix D

City of Griffin -Cabin Creek WPCP
NPDES Permit No. GA0020214

	PMSD Bounds	
Water Flea (C. dubia)	13	47
Fathead Minnow (P. promelas)	12	30

WET Test PMSD Values:

WET Test #1 **2014**

Species	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	--	--	**25.0**	Lower
Fathead Minnow (P. promelas)	--	--	**16.6**	Lower

WET Test #2 **2015**

Species	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	--	--	**21.8**	Lower
Fathead Minnow (P. promelas)	--	--	**13.9**	Lower

WET Test #3 **2016**

Species	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	--	--	**17.9**	Lower
Fathead Minnow (P. promelas)	--	--	**19.4**	Lower

WET Test #4 **2017**

Species	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	--	--	**43.2**	Lower
Fathead Minnow (P. promelas)	--	--	**21.7**	Lower

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

SUMMARY PAGE

Name of Facility: City of Griffin – Potato Creek WPCP

NPDES Permit No.: GA0030791

This is a reissuance of the NPDES permit for the Potato Creek WPCP. Up to 2.0 MGD (monthly average) of treated domestic wastewater is discharged to Potato Creek in the Flint River Basin. The permit also includes effluent limitations and monitoring requirements for the expanded flow of 3.0 MGD.

The permit expired on June 30, 2019 and became administratively extended.

The permit was placed on public notice from September 4, 2019 to October 16, 2019.

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

Part I.B.1 – Effluent Limitations and Monitoring Requirements (2 MGD):

- Removed section I.B.1.a as the compliance schedule for total recoverable copper has been completed.
- Reduced I.B.1 total recoverable copper limit from 8.8 µg/L to 8.6 µg/L based on updated stream monitoring data.
- Revised the seasonal monthly average five-day biochemical oxygen demand limits to 10.0 mg/L year-round based on demonstrated performance and facility design.
- Revised the seasonal monthly dissolved oxygen limits to 6.0 mg/L year-round based on demonstrated performance and facility design.
- Revised WET limit to NOEC $\geq$ 98% to reflect the updated stream flow information and Instream Wastewater Concentration (IWC)
- Added orthophosphate, organic nitrogen, nitrate-nitrite and total Kjeldahl nitrogen monitoring requirements to determine nutrient speciation and to quantify nutrient loadings in the Flint River Basin.
- Revised the seasonal monthly average ammonia limits from 4.1–17.4 mg/L to 1.0–4.8 mg/L in accordance with EPD's *NPDES Permitting Strategy for Addressing Ammonia Toxicity*, 2017.
- Included bis(2-ethylhexyl)phthalate monitoring for 12 months as this is a pollutant of concern.
- Removed permit requirements to conduct Priority Pollutant Scans and Effluent Testing Data as these requirements are part of the permit renewal application process, not permit monitoring.
- Removed effluent limits for total residual chlorine at the request of the permittee as chlorine is no longer used for disinfection.
- Removed monitoring for 2,4,6-Trichlorophenol as these requirements have been completed.

Part I.B.2 – Effluent Limitations and Monitoring Requirements (3 MGD):

- Revised Instream Wastewater Concentration (IWC) requirement from 94% to 99% for WET testing to reflect updated stream flow information.
- Included I.B.1 WET limit of NOEC ≥ 99%. An effluent toxicity evaluation will be conducted once the facility is operating at 3.0 MGD.
- Revised the seasonal monthly average five-day biochemical oxygen demand limits to 9.0 mg/L year-round based on facility design.
- Added orthophosphate, organic nitrogen, nitrate-nitrite and total Kjeldahl nitrogen monitoring requirements to determine nutrient speciation and to quantify nutrient loadings in the Flint River Basin.
- Included total recoverable copper limits and instream hardness monitoring requirements.
- Included bis(2-ethylhexyl)phthalate monitoring for 12 months as this is a pollutant of concern.
- Removed monitoring for 2,4,6-Trichlorophenol as these requirements have been completed.
- Removed permit requirements to conduct Effluent Testing Data as this requirement is a part of the permit renewal application process, not permit monitoring.

Standard Conditions and Boilerplate Modifications:

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

Final Permit Determinations and Public Comments:

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

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

Dr. Brant Keller, Public Works Director
City of Griffin
Post Office Box T
Griffin, Georgia 30224

OCT 21 2019

RE: Permit Issuance
Potato Creek Water Pollution Control Plant
NPDES Permit No. GA0030791
Lamar County, Flint River Basin

Dear Mr. Keller:

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

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

Georgia Environmental Protection Division
Watershed Compliance Program
2 Martin Luther King Jr. Drive
Suite 1152 East
Atlanta, GA 30334

Please be advised that on and after the effective date indicated in the attached NPDES permit, the permittee must comply with all the terms, conditions and limitations of this permit.

If you have any questions, please contact Stephanie Reed at 404-463-0665 or *stephanie.reed@dnr.ga.gov*.

Sincerely,

Richard E. Dunn
Director

RED\sr
Attachment: NPDES Permit No. GA0030791, Fact Sheet
cc: Hsin Yeh, EPD Municipal Compliance (Hsin-Sheng.Yehz@dnr.ga.gov)
Robert Clark, City of Griffin (RClark@cityofgriffin.com)

Permit No. GA0030791
Issuance Date: OCT 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 Griffin
P.O. Box T
Griffin, Georgia 30224

is authorized to discharge from a facility located at

Potato Creek Water Pollution Control Plant
1150 County Line Road
Griffin, Georgia 30224
(Spalding County)

to receiving waters

Potato Creek
(Flint River Basin)

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

This permit is issued in reliance upon the permit application signed on December 20, 2018, 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 November 1, 2019.

This permit and the authorization to discharge shall expire at midnight, October 31, 2024.

STATE OF GEORGIA
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 – PHASE I

Discharge to Potato Creek - Outfall #001 (33.186971°, -84.226660°):

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 EPD provides approval of construction completion and written authorization to operate under the B.2. effluent limitations (3.0 MGD):

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)	2.0	2.5	Seven Days/Week	Continuous Recording	Effluent
Five-Day Biochemical Oxygen Demand (1)	10 (75.8)	15.0 (94.8)	Three Days/Week	Composite	Influent & Effluent
Total Suspended Solids (1)	30 (227.5)	45 (284.3)	Three Days/Week	Composite	Influent & Effluent
Ammonia, as N (2)			Three Days/Week	Composite	Effluent
January - February	4.8 (36.4)	7.2 (45.5)			
March - May	3.0 (22.7)	4.5 (28.4)			
June - November	1.0 (7.6)	1.5 (9.5)			
December	4.8 (36.4)	7.2 (45.5)			
Fecal Coliform Bacteria (#/100 mL)	200	400	Two Days/Week	Grab	Effluent
Total Recoverable Copper (μg/L)	8.6 (0.065)	11.6 (0.088)	One Day/Month	Composite	Effluent

(1) Numeric limits only apply to the effluent.

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

(Effluent limitations continued on the next page)

B.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – PHASE I (CONTINUED)

Discharge to Potato Creek - Outfall #001 (33.186971°, -84.226660°)

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	6.0	Seven Days/Week	Grab	Effluent
Total Phosphorus, as P (2)	Report	One Day/Month	Composite	Effluent
Orthophosphate, as P (2)	Report	One Day/Month	Composite	Effluent
Organic Nitrogen, as N (3)	Report	One Day/Month	Composite	Effluent
Nitrate-Nitrite, as N (3)	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N (3)	Report	One Day/Month	Composite	Effluent
Bis(2-ethylhexyl)phthalate (µg/L) (4)	Report	One Day/Month	Grab	Effluent
Long Term Biochemical Oxygen Demand (5)	Report	See Below	Composite	Effluent
Chronic Whole Effluent Toxicity (%) (6)	NOEC ≥ 98%	See Below	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) Total phosphorus and orthophosphate must be analyzed from the same sample.

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

(4) Refer to Part I.C.10. BIS(2-ETHYLHEXYL)PHTHALATE MONITORING

(5) Refer to Part I.C.12. LONG-TERM BIOCHEMICAL OXYGEN DEMAND TESTING.

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

B.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – PHASE II

Discharge to Potato Creek - Outfall #001 (33.186971°, -84.226660°):

The discharge from the water pollution control plant shall be limited and monitored by the permittee as specified below effective on the date EPD provides written approval of construction completion and written authorization to operate under the B.2. effluent limitations (3.0 MGD):

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)	3.0	3.75	Seven Days/Week	Continuous Recording	Effluent
Five-Day Biochemical Oxygen Demand (1)	9.0 (102.4)	13.5 (127.9)	Three Days/Week	Composite	Influent & Effluent
Total Suspended Solids (1)	20 (227.5)	30 (284.3)	Three Days/Week	Composite	Influent & Effluent
Ammonia, as N (2)			Three Days/Week	Composite	Effluent
January - February	2.2 (25.0)	3.3 (31.3)			
March - May	1.2 (13.6)	1.8 (17.1)			
June - November	0.7 (8.0)	1.1 (10.0)			
December	2.2 (25.0)	3.3 (31.3)			
Total Phosphorus, as P (3)	1.0 (11.4)	1.5 (14.2)	Three Days/Week	Composite	Effluent
Fecal Coliform Bacteria (#/100 mL)	200	400	Two Days/Week	Grab	Effluent
Total Recoverable Copper (µg/L)	8.5 (0.097)	11.6 (0.132)	One Day/Month	Composite	Effluent

(1) Numeric limits only apply to the effluent.

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

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

(Effluent limitations continued on the next page)

B.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – PHASE II (CONTINUED)

Discharge to Potato Creek - Outfall #001 (33.186971°, -84.226660°):

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	6.0	Seven Days/Week	Grab	Effluent
Orthophosphate, as P [(2)]	Report	One Day/Month	Composite	Effluent
Organic Nitrogen, as N [(3)]	Report	One Day/Month	Composite	Effluent
Nitrate-Nitrite, as N [(3)]	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N [(3)]	Report	One Day/Month	Composite	Effluent
Bis(2-ethylhexyl)phthalate (µg/L) [(4)]	Report	One Day/Month	Grab	Effluent
Priority Pollutants [(5)]	Report	See Below	Composite	Effluent
Long Term Biochemical Oxygen Demand [(6)]	Report	See Below	Composite	Effluent
Chronic Whole Effluent Toxicity (%) [(7)]	NOEC ≥ 99%	See Below	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) Total phosphorus and orthophosphate must be analyzed from the same sample.

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

(4) Refer to Part I.C.10. BIS(2-ETHYLHEXYL)PHTHALATE MONITORING

(5) Refer to Part I.C.11. PRIORITY POLLUTANTS.

(6) Refer to Part I.C.12. LONG-TERM BIOCHEMICAL OXYGEN DEMAND TESTING.

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

B.3. INSTREAM SURFACE WATER QUALITY MONITORING

Potato Creek:

The receiving stream shall be monitored by the permittee as specified below:

Parameters	Instream Surface Water Quality Monitoring	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Locations
Dissolved Oxygen (mg/L) [(1)]	Report	One Day/Week	Grab	Upstream and Downstream
Total Hardness, as $CaCO_3$ (mg/L) [(2)] [(3)]	Report	One Day/Month	Grab	Downstream

(1) Upstream sampling location refers to approximately 100 ft. upstream from the discharge at County Line Road. Downstream sampling location #1 refers to the crossing of Potato Creek with Camp Road. Downstream location #2 refers to the crossing of Potato Creek with Walton Road.

(2) Samples for total hardness should be taken concurrently with effluent sample for total recoverable copper.

(3) Downstream sampling location refers to the crossing of Potato Creek with Camp Road.

C. MONITORING AND REPORTING

1. REPRESENTATIVE SAMPLING

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

2. SAMPLING PERIOD

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

b. Unless otherwise specified in this permit, semiannual samples shall be taken during the periods January-June and July-December.

c. Unless otherwise specified in this permit, annual samples shall be taken during the period of January-December.

3. MONITORING PROCEDURES

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

4. RECORDING OF RESULTS

For each required parameter analyzed, the permittee shall record:

a. The exact place, date, and time of sampling, and the person(s) collecting the sample. For flow proportioned composite samples, this shall include the instantaneous flow and the corresponding volume of each sample aliquot, and other information relevant to document flow proportioning of composite samples;

b. The dates and times the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical procedures or methods used; and

e. The results of all required analyses.

5. ADDITIONAL MONITORING BY PERMITTEE

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

6. RECORDS RETENTION

The permittee shall retain records of:

a. All laboratory analyses performed including sample data, quality control data, and standard curves;

b. Calibration and maintenance records of laboratory instruments;

c. Calibration and maintenance records and recordings from continuous recording instruments;

d. Process control monitoring records;

e. Facility operation and maintenance records;

f. Copies of all reports required by this permit;

g. All data and information used to complete the permit application; and

h. All monitoring data related to sludge use and disposal.

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

7. PENALTIES

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

8. WATERSHED PROTECTION PLAN

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

Each June 30th the permittee is to submit the following to EPD:

a. 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."

b. 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.

c. A progress report that provides a summary of the BMPs that have been implemented and documented water quality improvements. The progress report shall also include any necessary changes to the Watershed Protection Plan.

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

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

9. CHRONIC WHOLE EFFLUENT TOXICITY (WET)

a. Part I.B.1 (2.0 MGD)

The permittee must conduct annual chronic Whole Effluent Toxicity (WET) tests. The testing must be conducted in accordance with the most current U.S. Environmental Protection Agency (EPA) chronic aquatic toxicity testing manuals. The referenced document is entitled Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th Edition, U.S. EPA, 821-R-02-013, October 2002. Definitive tests must be run on the same samples concurrently using both an invertebrate species (i.e., *Ceriodaphnia dubia*) and a vertebrate species (i.e., *Pimephales promelas*). The testing must include a dilution equal to the facility's instream wastewater concentration (IWC) of 98%.

EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. An effluent discharge will not be considered toxic if the No Observed Effect Concentration (NOEC) is greater than or equal to the Instream Wastewater Concentration (IWC) of 98%. If the test results indicate effluent toxicity, the permittee may be required to perform additional tests or studies in accordance with Part I.C.5 of the permit.

b. Part I.B.2 (3.0 MGD)

The permittee shall conduct one chronic whole effluent toxicity (WET) test for four consecutive quarters after receiving EPD written authorization to commence operation under Part I.B.2 effluent limitations (3.0 MGD), with the first test conducted within 90 days of the authorization. The testing must be conducted in accordance with the most current U.S. Environmental Protection Agency (EPA) chronic aquatic toxicity testing manuals. The referenced document is entitled Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th Edition, U.S. EPA, 821-R-02-013, October 2002. Definitive tests must be run on the same samples concurrently using both an invertebrate species (i.e., *Ceriodaphnia dubia*) and a vertebrate species (i.e., *Pimephales promelas*). The testing must include a dilution equal to the facility's instream wastewater concentration (IWC) of 99%.

EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. An effluent discharge will not be considered toxic if the No Observed Effect Concentration (NOEC) is greater than or equal to the Instream Wastewater Concentration (IWC) of 99%. The results of the tests shall be submitted to EPD with the permittee's monthly Discharge Monitoring Reports.

Within thirteen months of receiving authorization to operate under Part I.B.2 effluent limitations (3.0 MGD), the permittee shall submit a report to EPD that includes a summary of the effluent data collected as well as copies of all the analytical laboratory reports. The report shall be submitted to EPD at the address below:

Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive SE
Suite 1152 East
Atlanta, Georgia 30334

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

10. BIS(2-ETHYLHEXYL)PHTHALATE MONITORING (PARTS I.B.1 and I.B.2)

Upon the effective date of the permit, the permittee shall collect and analyze one sample per month of bis(2-ethylhexyl)phthalate in the effluent. Monitoring for this parameter 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 bis(2-ethylhexyl)phthalate effluent data collected as well as copies of all the analytical laboratory reports. The report shall be submitted to EPD at the address below:

Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive SE
Suite 1152 East
Atlanta, Georgia 30334

Upon receipt of the report, EPD will conduct a reasonable potential evaluation, including any available data from priority pollutant scans. If it is determined that bis(2-ethylhexyl)phthalate is present in the effluent at levels of concern, EPD will reopen the permit to include a limit for this pollutant. If it is demonstrated that bis(2-ethylhexyl)phthalate in the effluent has no potential to cause or contribute to a water quality standards violation in the receiving stream, EPD will notify the permittee in writing to discontinue the bis(2-ethylhexyl)phthalate monitoring requirements.

11. PRIORITY POLLUTANTS

The permittee must conduct one scan of the priority pollutants <u>for three consecutive quarters</u> after receiving EPD written authorization to commence operation under Part I.B.2 effluent limitations (3.0 MGD), with the first scan conducted within 90 days of the authorization. The priority pollutant scans must represent seasonal variation. Total recoverable mercury must be sampled and analyzed using EPA Method 1631E. The results of the tests shall be submitted to EPD with the permittee's monthly Discharge Monitoring Reports.

Within thirteen months of receiving authorization to operate under Part I.B.2 effluent limitations (2.0 MGD), the permittee shall submit a report to EPD that includes a summary of the effluent data collected as well as copies of all the analytical laboratory reports. The report shall be submitted to EPD at the address below:

Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive SE
Suite 1152 East
Atlanta, Georgia 30334

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

12. 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

B.1. EFFLUENT LIMITATIONS

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.

B.2. EFFLUENT LIMITATIONS

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

7. LABORATORY ANALYST CERTIFICATION REQUIREMENTS

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

8. BYPASSING

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

a. Bypassing is unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There are no feasible alternatives to bypassing; and

c. The permittee notifies the EPD at least 10 days before the date of the bypass.

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

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

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

9. POWER FAILURES

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

10. DUTY TO MITIGATE

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

11. NOTICE CONCERNING ENDANGERING WATERS OF THE STATE

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

Spills and Major Spills:

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

A "major spill" means:

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

2. Any discharge of raw sewage that 1) exceeds 10,000 gallons or 2) results in water quality violations in the waters of the State.

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

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

a. Notify EPD, in person or by telephone, when a spill or major spill occurs in the system.

b. Report the incident to the local health department(s) for the area affected by the incident. The report at a minimum shall include the following:

1. Date of the spill or major spill;
2. Location and cause of the spill or major spill;
3. Estimated volume discharged and name of receiving waters; and
4. Corrective action taken to mitigate or reduce the adverse effects of the spill or major spill.

c. Post a notice as close as possible to where the spill or major spill occurred and where the spill entered State waters and also post additional notices along portions of the waterway affected by the incident (i.e. bridge crossings, boat ramps, recreational areas, and other points of public access to the affected waterway). The notice at a minimum shall include the same information required in 11(b)(1-4) above. These notices shall remain in place for a minimum of seven days after the spill or major spill has ceased.

d. Within 24 hours of becoming aware of a spill or major spill, the owner of a POTW shall report the incident to the local media (television, radio, and print media). The report shall include the same information required in 11(b)(1-4) above.

e. Within 5 days (of the date of the spill or major spill), the owner of a POTW shall submit to EPD a written report which includes the same information required in 11(b)(1-4) above.

f. Within 7 days (after the date of a major spill), the owner of a POTW responsible for the major spill, shall publish a notice in the largest legal organ of the County where the incident occurred. The notice shall include the same information required in 11(b)(1-4) above.

g. The owner of a POTW shall immediately establish a monitoring program of the receiving waters affected by a major spill or by consistently exceeding an effluent limit, with such monitoring being at the expense of the POTW for at least one year. The monitoring program shall include an upstream sampling point as well as sufficient downstream locations to accurately characterize the impact of the major spill or the consistent exceedance 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.

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

1. The permittee's approved pretreatment program shall be enforceable through this permit. The permittee shall also comply with the provisions of 40 CFR 403.

2. The permittee shall administer the approved pretreatment program by:

   a. Maintaining records identifying the character and volume of pollutants contributed by industrial users to the POTW.

   b. Enforcing and obtaining appropriate remedies for noncompliance by any industrial user with any applicable pretreatment standard or requirement defined by Section 307(b) and (c) of the Federal Act, 40 CFR Part 403.5 and 403.6 or any State or local requirement, whichever is more stringent.

   c. Revising the adopted local limits based on technical analyses to ensure that the local limits continue to prevent:

      1. Interference with the operation of the POTW;
      2. Pass-through of pollutants in violation of this permit;
      3. Municipal sludge contamination; and
      4. Toxicity to life in the receiving stream.

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

d. Ensuring that industrial wastewater discharges from industrial users are regulated through discharge permits or equivalent individual control mechanisms. Compliance schedules will be required of each industrial user for the installation of control technologies to meet applicable pretreatment standards and the requirements of the approved program.

e. Inspecting, surveying, and monitoring to determine if the industrial user is in compliance with the applicable pretreatment standards.

f. Equitably maintaining and adjusting revenue levels to ensure adequate and continued pretreatment program implementation.

g. Preparing a list of industrial users which, during the reporting period January 1 to December 31, have been in significant noncompliance with the pretreatment requirements enumerated in 40 CFR Part 403.8 (f)(2)(viii). This list will be published annually each January in the newspaper with the largest circulation in the service area.

B. APPROVED PRETREATMENT PROGRAM ANNUAL REPORT

1. Within 30 days of the close of the reporting period January 1 through December 31, the permittee shall submit a report to the EPD that includes:

a. An updated list of POTW industrial users;

b. The results of POTW sampling and analyses required by the EPD;

c. A summary of POTW industrial user inspections;

d. A summary of POTW operations including information on upsets, interferences, pass through events, or violations of the permit related to industrial user discharges;

e. A summary of all activities to involve and inform the public of pretreatment requirements;

f. A summary of the annual pretreatment program budget;

g. A descriptive summary of any compliance activities initiated, ongoing, or completed against industrial users which shall include the number of administrative orders, show cause hearings, penalties, civil actions, and fines;

h. A list of contributing industries using the treatment works, divided into Standard Industrial Classification Code (SIC) categories, which have been issued permits or similar enforceable individual control mechanisms, and a status of compliance for each industrial user. The list should also identify the industries that are categorical or significant industrial users;

i. The name and address of each industrial user that has received a conditionally revised discharge limit;

j. A list of all industrial users who were in significant noncompliance with applicable pretreatment standards and requirements;

k. A list of all industrial users showing the date that each was notified that a categorical pretreatment standard had been promulgated by EPA for their industrial category and the status of each industrial user in achieving compliance within the 3 year period allowed by the Federal Act; and

l. A description of all substantial changes proposed for the program. All substantial changes must first be approved by the EPD before formal adoption by the POTW. Substantial changes shall include but not be limited to:

1. Changes in legal authority;
2. Changes in local limits;
3. Changes in the control mechanisms;
4. Changes in the method for implementing categorical pretreatment standards.
5. A decrease in the frequency of self-monitoring or reporting required of industrial users;
6. A decrease in the frequency of industrial user inspections or sampling by the POTW;
7. Significant reductions in the program resources including personnel commitments, equipment, and funding levels;
8. Changes in confidentiality procedures; and
9. Changes in the POTW sludge disposal and management practices.

2. Reports submitted by an industrial user will be retained by the permittee for at least 3 years and shall be available to the EPD for inspection and copying. This period shall be extended during the course of any unresolved litigation concerning the discharge of pollutants by an industrial user or concerning the operations of the program or when requested by the Director.

C. INDUSTRIAL PRETREATMENT STANDARDS

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

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

1. The permittee shall require all industrial dischargers to the POTW to meet State pretreatment regulations promulgated in response to Section 307(b) of the Federal Act. Other information about new industrial discharges may be required and will be requested from the permittee after the EPD has received notice of the discharge.

2. The permittee may be required to supplement the requirements of the State and Federal pretreatment regulations to ensure compliance with all applicable effluent limitations listed in Part I. Supplemental actions by the permittee concerning some or all of the industries discharging to the POTW may be necessary.

E. RETAINER

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

PART IV

APPROVED SLUDGE MANAGEMENT PLAN

1. The permittee's approved Sludge Management Plan shall be implemented in accordance with Chapter 391-3-6-.17 of the State Rules and EPD's, "*Guidelines for Land Application of Sewage Sludge (Biosolids) at Agronomic Rates*", unless a more stringent requirement is stated in this Permit, and shall be enforceable through this Permit.

2. The permittee will submit an annual report pertaining to the most recent calendar year, as required under Chapter 391-3-6-.17(14) of the State Rules. The annual report shall be submitted to EPD no later than February 19 of the following year.

3. The permittee will maintain records of the amount of sludge land applied to each site. The amount of sludge land applied during each calendar year will be reported in the annual report in units of dry tons per year.

4. The permittee will monitor in accordance with the following requirements:

   a. The pH of the sludge and soil mixture from each field within each land application site will be measured once per year. The sample will be a separate, composite sample of each soil type present and will be representative of field conditions.

   b. The sewage sludge shall be monitored for the following parameters at the frequencies specified in Part IV.5:

Parameter	Units*
Total nitrogen	Percent
Ammonia-nitrogen	Percent
Nitrate-nitrogen	Percent
Volatile solids	Percent
Total solids	Percent
pH	Standard units
Arsenic	mg/kg
Cadmium	mg/kg
Copper	mg/kg
Lead	mg/kg
Mercury	mg/kg
Molybdenum	mg/kg
Nickel	mg/kg
Selenium	mg/kg
Zinc	mg/kg

   *Units must be reported on a dry weight basis with the exception of pH.

   c. The pathogen density requirements listed in Chapter 391-3-6-.17(7) of the State Rules shall be monitored at the frequency listed in Part IV.5.

   d. The vector attraction reduction requirements listed in Chapter 391-3-6-.17(8)(a) through (8)(h) of the State Rules shall be monitored at the frequency listed in Part IV.5.

5. Monitoring Frequency:

Amount of Sewage Sludge* (dry tons/year)	Frequency
0-300	Once/year
300-1,600	Once/quarter
1,600-16,000	Once/two months
>16,000	Once/month

*The amount of sewage sludge refers to either the amount of bulk sewage sludge (dry weight) applied to the land or the amount of sewage sludge (dry weight) received by a preparer that sells or otherwise distributes sewage sludge for application to the land.

6. In accordance with Chapter 391-3-6-.17(12) of the State Rules, sewage sludge samples shall be analyzed using EPA approved methods contained in 40 CFR Part 503.8.

7. A proposed addition (or removal) of a new land application site(s) will be subject to EPD's review and approval process as outlined in the Guidelines for Land Application of Sewage Sludge (Biosolids). Upon written approval of the Director, addition or removal of a land application site(s) will be considered as amending the approved Sludge Management Plan and as an addendum to the permit.

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 draft permit places conditions on the discharge of pollutants from the wastewater treatment plant to waters of the State.

Technical Contact:

Stephanie Reed, Environmental Specialist
stephanie.reed@dnr.ga.gov
404-463-0665

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.: GA0030791

1.2 Name and Address of Owner/Applicant

City of Griffin
P.O. Box T
Griffin, Georgia 30224

1.3 Name and Address of Facility

Potato Creek Water Pollution Control Plant
1150 County Line Road
Griffin, Georgia 30224

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

Outfall #	Latitude (°)	Longitude (°)	Receiving Waterbody
001	33.186971	-84.226660	Potato Creek

1.5 Permitted Design Capacity

Phase I (current): 2.0 MGD
Phase II (future): 3.0 MGD

1.6 SIC Code and Description

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

1.7 Description of the Water Pollution Control Plant

Although the treatment process was upgraded and expanded to 3.0 MGD in August 2017, the facility is still operating under the Part I.B.1 effluent limitations (2.0 MGD). An operability inspection (see letter, Appendix E, September 2017) found no major deficiencies and verified that the new facility was ready to begin operation. However, the City has no need at this time to operate at 3.0 MGD and has requested to remain operating under Part I.B.1 effluent limitations.

The treatment process consists of screening, biological treatment (activated sludge using sequencing batch reactors), chemical addition for phosphorus removal and pH/alkalinity control, post equalization tank, filtration, UV disinfection, and cascade aeration. Treated effluent is discharged to Potato Creek.

Sludge is held in aerobic digesters, thickened and land applied.

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)	1.819	1.179
Five-Day Biochemical Oxygen Demand (mg/L)	4.0	2.0
Total Suspended Solids (mg/L)	3	1
Fecal Coliform Bacteria (#/100mL)	18	4
Ammonia, as N (mg/L)	11.47	1.72
Total Phosphorus, as P (mg/L)	3.9	1.02

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 anti-degradation policy represents an approach to maintain and to protect various levels of water quality and uses.

3.1 Receiving Waterbody Classification and Information – Potato 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	0.9	0.06	0.05	11	31 (1)	10 (2)

(1) Hardness data from Discharge Monitoring Reports.

(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

Potato Creek	[illegible]	Flint	Not Supporting	Bio F	11	4a	TMDL completed Bio F 2003.
[illegible]	Spalding, Lamar	Fishing	4	NP, UR	Miles		

Potato Creek is listed on the 2018 305(b)/303(d) list as not supporting its designated use (fishing) but TMDLs have been completed for the impacted parameters (sediments and fecal coliform bacteria).

3.4 Total Maximum Daily Loads (TMDLs)

A TMDL evaluation for 28 stream segments in the Flint River Basin for fecal coliform was completed in 2003. The fecal coliform bacteria TMDL recommended that all municipal treatment facilities with the potential for the occurrence of fecal coliform in their discharge will be given end of pipe limits equivalent to the water quality standard of 200 counts/100 ml or less. The fecal coliform bacteria limits in the draft permit are in accordance with the TMDL requirements.

A TMDL evaluation for 28 stream segments in the Flint River Basin for sediments was completed in 2003. The TMDL allocated an annual TSS loading of 91.3 tons for Potato Creek WPCP (equivalent to 227.5 kg/day). The TSS limits in the draft permit are in accordance with the TMDL requirements.

3.5 Wasteload Allocation (WLA)

A WLA for reissuance was issued on February 26, 2019. Refer to *Appendix A* of the Fact Sheet for a copy of the WLA.

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).

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

Phase I (2.0 MGD):

The current permit includes a WET limit of NOEC ≥ 92%. The permittee submitted the results of ten WET tests. One test was more than 4.5 years old at the time the application was submitted and therefore was not taken into account. Refer to the 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	6/2014	92	92	92	92
2	6/2015	92	92	92	92
3	6/2016	*25*	*25*	100	*50*
4	8/2016	*46*	*23*	92	*12*
5	11/2016	92	92	92	92
6	4/2017	92	92	92	92
7	4/2018	*46*	*46*	92	92
8	6/2018	92	92	92	92
9	4/2019	92	92	92	92

The facility failed two WET tests in 2016. However, since the treatment process was upgraded in August 2017, the 2016 results may not be representative of the effluent quality

The facility also failed one WET test in April 2018, after the plant upgrade, but subsequently submitted two passing WET tests.

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 nine WET tests were lower or within EPA's Variability Criteria; therefore, the tests are considered valid. Refer to Appendix C for PSMD values.

The Instream Wastewater Concentration is 98% based on updated stream flow information (7Q10); therefore a WET limit of NOEC ≥ 98% has been included in the draft permit along with annual monitoring requirement.

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

Phase II (3.0 MGD):

A WET limit of NOEC ≥ 99% has been included in the Part I.B.2 effluent limitations. The permittee must conduct one whole effluent toxicity (WET) test for four consecutive quarters during the first year after receiving EPD written authorization to commence operation under Part I.B.2 effluent limitations (3.0 MGD), with the first test being conducted within 90 days of this authorization. Testing must include dilutions equal to or greater than the Instream Wastewater Concentration (IWC) of 99%.

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

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	*Phase I (2.0 MGD) & II (3.0 MGD):* In Phase I, the instream wastewater concentration (IWC) is 98%. In Phase II, the instream wastewater concentration (IWC) will be 99%. 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)	*Phase I (2.0 MGD):* The monthly average BOD_5 limit was revised from seasonal limitations (10-30.0 mg/L) to 10.0 mg/L year-round based on demonstrated performance and facility design. *Phase II (3.0 MGD):* The facility is equipped with tertiary filtration. The monthly average BOD_5 limit was decreased from seasonal limitations to 9.0 mg/L year-round based on the facility design. According to the steady-state dissolved oxygen Georgia DOSAG model, the respective Phase I and II proposed monthly average BOD_5 limits of 10.0 mg/L and 9.0 mg/L, when combined with the ammonia and dissolved oxygen limits (Refer to Section 4.5 below), is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above.

Total Suspended Solids (TSS)	*Phase I (2.0 MGD):* The monthly average TSS limit of 30 mg/L and 227.5 Kg/day are in accordance with technology-based effluent limitations for publicly owned treatment work (i.e., secondary standards) and the 2003 TMDL requirements. *Phase II (3.0 MGD):* The proposed monthly average TSS limit of 20 mg/L and 227.5 Kg/day are in accordance with the 2003 TMDL requirements and system design.
Fecal Coliform Bacteria (FCB)	*Phase I (2.0 MGD) & II (3.0 MGD):* The monthly average FCB limit of 200 #/100mL is in accordance with TMDL requirements in Section 3.4 above.

4.5 Nonconventional Pollutants

Pollutants of Concern	Basis
Total Residual Chlorine (TRC)	*Phase I (2.0 MGD) & II (3.0 MGD):* Chlorine is no longer used for disinfection; therefore a TRC limit is not required (see letter, Appendix E).
Dissolved Oxygen (DO)	*Phase I (2.0 MGD:* The minimum DO limit was revised from seasonal limitations (2.0-6.0 mg/L) to 6.0 mg/L based on demonstrated performance and facility design. *Phase II (3.0 MGD):* The minimum DO limit of 6.0 mg/L is maintained in the draft permit. According to the steady-state dissolved oxygen Georgia DOSAG model, a minimum effluent DO of 6.0 mg/L is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above.
Total Phosphorus (TP)	*Phase I (2.0 MGD):* Total phosphorus monitoring has been included in the draft permit in accordance with EPD's *Strategy for Addressing Phosphorus in NPDES Permitting*, 2011. *Phase II (3.0 MGD):* A monthly average limit of 1.0 mg/L is in accordance with EPD's *Strategy for Addressing Phosphorus in NPDES Permitting*, 2011.
Orthophosphate, Total Kjeldahl Nitrogen (TKN), Organic Nitrogen, Nitrate-Nitrite	*Phase I (2.0 MGD) & II (3.0 MGD):* Orthophosphate, TKN, organic nitrogen, and nitrate-nitrite monitoring has been included in the draft permit. The data will be used to determine nutrient speciation and to quantify nutrient loadings in the Flint River Basin.

Ammonia (NH_3)	*Phase I (2.0 MGD):* The seasonal monthly average ammonia limits were decreased from 4.1-17.4 mg/L to 1.0-4.8 mg/L in accordance with EPD's *NPDES Permitting Strategy for Addressing Ammonia Toxicity*, 2017. A review of Discharge Monitoring Report data indicates that the facility can meet the proposed limit without process modification; therefore, a compliance schedule was not included in the draft permit. According to the steady-state dissolved oxygen Georgia DOSAG model, the proposed seasonal monthly average ammonia limits, when combined with the BOD_5 and dissolved oxygen limit (Refer to Section 4.4 above), are also protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above. *Phase II (3.0 MGD):* According to the steady-state dissolved oxygen Georgia DOSAG model, the seasonal monthly average ammonia limits (0.7-2.2 mg/L), when combined with the monthly average BOD_5 and dissolved oxygen limits (Refer to Section 4.4 above), are protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above. The proposed seasonal monthly average ammonia limits are also in accordance with EPD's permitting strategy to address ammonia toxicity in State waters under 30Q3 stream flow conditions.

4.6 Toxics & Manmade Organic Compounds

Monitoring for 2,4,6-Trichlorophenol has been removed (see letter, Appendix E) as the facility has demonstrated that the pollutant effluent concentrations are not at a level of concern as per Part I.C.9 of the current permit.

The permittee submitted the results of three Priority Pollutant Scans (PPS) with the permit application. Data from the Discharge Monitoring Reports (DMR) were also evaluated. All pollutants evaluated were "non-detect" except for the following:

Pollutants of Concern	Basis
Total Recoverable Chromium (III)	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* of the Fact Sheet for reasonable potential evaluations. In accordance with EPD reasonable potential procedures, chromium (III) is not considered a pollutant of concern and additional monitoring is not required.
Total Recoverable Copper	This parameter was evaluated and its instream concentration was found to be greater than the acute instream standard and 50% of the chronic instream water quality standard. Refer to *Appendix B* of the Fact Sheet for reasonable potential evaluations. *Phase I (2.0 MGD):* In accordance with EPD reasonable potential procedures, copper is considered a pollutant of concern and a monthly average limit of 8.6 µg/L has been included in the draft permit. Since copper partitioning in the receiving water is hardness-dependent, monitoring for total hardness downstream of the discharge has also been maintained. *Phase II (3.0 MGD):* The total recoverable copper limit of 8.5 µg/L and total hardness downstream monitoring are included.

Total Recoverable Zinc	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* of the Fact Sheet for reasonable potential evaluations. In accordance with EPD reasonable potential procedures, zinc is not considered a pollutant of concern and additional monitoring is not required.
Mercury	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* of the Fact Sheet for reasonable potential evaluations. In accordance with EPD reasonable potential procedures, mercury is not considered a pollutant of concern and additional monitoring is not required.
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* of the Fact Sheet for reasonable potential evaluations. In accordance with EPD reasonable potential procedures, chloroform 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* of the Fact Sheet for reasonable potential evaluations. *Phase I (2.0 MGD) and II (3.0 MGD):* In accordance with EPD reasonable potential procedures, bis(2-ethylhexyl)phthalate is considered a pollutant of concern and additional monitoring is required.

The permittee must conduct one scan of priority pollutants for three consecutive quarters after receiving EPD written authorization to commence operation under Part I.B.2 effluent limitations (3.0 MGD), with the first scan conducted within 90 days of the authorization.

Analysis of priority pollutant scans shall include all results from testing of required pollutants from Section 4.6 Toxics & Manmade Organic Compounds. If substances are measured at levels of concern, then the permittee may be required to perform additional priority pollutant analyses in accordance with Part I.C.5 or the permit may be modified to include or exclude effluent limitations for priority pollutants.

4.7 Calculations for Effluent Limits – Phase I (2.0 MGD)

4.7.1 Instream Waste Concentration (IWC) – Phase I:

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

$$= \frac{3.1}{3.1+0.06}$$

$$= 98\ \%$$

Q = Flow
C = Concentration
M = Mass

4.7.2 Flow – Phase I:

- *Weekly Average Flow:*

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

$$= 2.0 \times 1.25$$

$$= 2.5\ MGD$$

4.7.3 Five-Day Biochemical Oxygen Demand – Phase I:

- *Weekly Average Concentration:*

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

$$= 10.0 \times 1.5$$

$$= 15.0\ mg/L$$

- *Monthly Average Mass Loading:*

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

$$= \frac{2.0 \times 10.0 \times 8.34}{2.2}$$

$$= 75.8\ kg/day$$

- *Weekly Average Mass Loading:*

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

$$= \frac{2.5 \times 10.0 \times 8.34}{2.2}$$

$$= 94.8\ kg/day$$

4.7.4 Total Suspended Solids – Phase I:

- *Weekly Average Concentration:*

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

$$= 30 \times 1.5$$

$$= 45\ mg/L$$

- *Monthly Average Mass Loading:*

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

$$= \frac{2.0 \times 30 \times 8.34}{2.2}$$

$$= 227.5\ kg/day$$

- *Weekly Average Mass Loading:*

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

$$= \frac{2.5 \times 30 \times 8.34}{2.2}$$

$$= 284.3\ kg/day$$

4.7.5 Fecal Coliform Bacteria – Phase I:

- *Weekly Average Concentration:*

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

$$= 200 \times 2$$

$$= 400\ \#/100\ mL$$

4.7.6. Total Residual Chlorine (TRC) – Phase I:

The facility is equipped with a UV system for disinfection and chlorine is no longer used. A TRC limit has not been included in the draft permit.

4.7.7 Ammonia – Phase I:

- *Toxicity Analysis:*

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

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

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:

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

Refer to *Appendix D* for detailed calculations.

- *Weekly Average Concentration – December through February:*

$$[C]_{\text{Weekly}} = [C]_{\text{Monthly}}(\text{mg/L}) \times 1.5$$
$$= 4.8 \times 1.5$$
$$= 7.2 \text{ mg/L}$$

- *Monthly Average Mass Loading – December through February:*

$$M_{\text{Monthly}} = \frac{Q_{\text{Monthly}}(\text{MGD}) \times [C]_{\text{Monthly}}(\text{mg/L or ppm}) \times 8.34(\text{lbs/gal})}{2.2(\text{lbs/Kg})}$$
$$= \frac{2.0 \times 4.8 \times 8.34}{2.2}$$
$$= 36.4 \text{ kg/day}$$

- *Weekly Average Mass Loading – December through February:*

$$M_{\text{Weekly}} = \frac{Q_{\text{Weekly}}(\text{MGD}) \times [C]_{\text{Monthly}}(\text{mg/L or ppm}) \times 8.34(\text{lbs/gal})}{2.2(\text{lbs/Kg})}$$
$$= \frac{2.5 \times 4.8 \times 8.34}{2.2}$$
$$= 45.5 \text{ kg/day}$$

- *Weekly Average Concentration – March through May:*

$$[C]_{\text{Weekly}} = [C]_{\text{Monthly}}(\text{mg/L}) \times 1.5$$
$$= 3.0 \times 1.5$$
$$= 4.5 \text{ mg/L}$$

- *Monthly Average Mass Loading – March through May:*

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

$$= \frac{2.0 \times 3.0 \times 8.34}{2.2}$$

$= 22.7$ kg/day

- *Weekly Average Mass Loading – March through May:*

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

$$= \frac{2.5 \times 3.0 \times 8.34}{2.2}$$

$= 28.4$ kg/day

- *Weekly Average Concentration – June through November:*

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

$= 1.0 \times 1.5$

$= 1.5$ mg/L

- *Monthly Average Mass Loading – June through November:*

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

$$= \frac{2.0 \times 1.0 \times 8.34}{2.2}$$

$= 7.6$ kg/day

- *Weekly Average Mass Loading – June through November:*

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

$$= \frac{2.5 \times 1.0 \times 8.34}{2.2}$$

$= 9.5$ kg/day

4.7.8 Metals – Phase I:

Total recoverable copper limits have been included. Refer to Appendix B.

4.8 Calculations for Effluent Limits – Phase II (3.0 MGD)

4.8.1 Instream Waste Concentration (IWC) – Phase II:

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

$$= \frac{4.6}{4.6+0.06}$$

$$= 99\ \%$$

4.8.2 Flow – Phase II:

Q = Flow
C = Concentration
M = Mass

- *Weekly Average Flow:*

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

$$= 3.0 \times 1.25$$

$$= 3.75\ \text{MGD}$$

4.8.3 Five-Day Biochemical Oxygen Demand – Phase II:

- *Weekly Average Concentration:*

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

$$= 9.0 \times 1.5$$

$$= 13.5\ \text{mg/L}$$

- *Monthly Average Mass Loading:*

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

$$= \frac{3.0 \times 9.0 \times 8.34}{2.2}$$

$$= 102.4\ \text{kg/day}$$

- *Weekly Average Mass Loading:*

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

$$= \frac{3.75 \times 9.0 \times 8.34}{2.2}$$

$$= 127.9 \text{ kg/day}$$

4.8.4 Total Suspended Solids – Phase II:

- *Weekly Average Concentration:*

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

$$= 20 \times 1.5$$

$$= 30 \text{ mg/L}$$

- *Monthly Average Mass Loading:*

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

$$= \frac{3.0 \times 20 \times 8.34}{2.2}$$

$$= 227.5 \text{ kg/day}$$

- *Weekly Average Mass Loading:*

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

$$= \frac{3.75 \times 20 \times 8.34}{2.2}$$

$$= 284.3 \text{ kg/day}$$

4.8.5 Fecal Coliform Bacteria – Phase II:

- *Weekly Average Concentration:*

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

$$= 200 \times 2$$

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

4.8.6. Total Residual Chlorine (TRC) – Phase II:

The facility is equipped with a UV system for disinfection. A TRC limit has not been included in the draft permit.

4.8.7 Ammonia – Phase II:

- *Toxicity Analysis:*

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

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

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

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

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

Refer to *Appendix D* for detailed calculations.

- *Weekly Average Concentration – December through February:*

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

$$= 2.2 \times 1.5$$

$$= 3.3 \text{ mg/L}$$

- *Monthly Average Mass Loading – December through February:*

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

$$= \frac{3.0 \times 2.2 \times 8.34}{2.2}$$

$$= 25.0 \text{ kg/day}$$

- *Weekly Average Mass Loading – December through February:*

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

$$= \frac{3.75 \times 2.2 \times 8.34}{2.2}$$

$= 31.3$ kg/day

- *Weekly Average Concentration – March through May:*

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

$= 1.2 \times 1.5$

$= 1.8$ mg/L

- *Monthly Average Mass Loading – March through May:*

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

$$= \frac{3.0 \times 1.2 \times 8.34}{2.2}$$

$= 13.6$ kg/day

- *Weekly Average Mass Loading – March through May*

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

$$= \frac{3.75 \times 1.2 \times 8.34}{2.2}$$

$= 17.1$ kg/day

- *Weekly Average Concentration – June through November:*

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

$= 0.7 \times 1.5$

$= 1.1$ mg/L

- *Monthly Average Mass Loading – June through November:*

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

$$= \frac{3.0 \times 0.7 \times 8.34}{2.2}$$

$= 8.0$ kg/day

- *Weekly Average Mass Loading – June through November:*

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

$$= \frac{3.75 \times 0.7 \times 8.34}{2.2}$$

$= 10.0$ kg/day

4.8.8 Total Phosphorus – Phase II:

- *Weekly Average Concentration:*

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

$= 1.0 \times 1.5$

$= 1.5$ mg/L

- *Monthly Average Mass Loading:*

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

$$= \frac{3.0 \times 1.0 \times 8.34}{2.2}$$

$= 11.4$ kg/day

- *Weekly Average Mass Loading:*

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

$$= \frac{3.75 \times 1.0 \times 8.34}{2.2}$$

$= 14.2$ kg/day

4.8.9 Metals – Phase II:

Total recoverable copper limits have been included. Refer to Appendix B.

4.9 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.	

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

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

4.10.1. Phase I (2.0 MGD):

Parameter	WQBELS [(1)]	TBELS [(1)]
	Monthly Average	*Monthly Average*
Five-Day Biochemical Oxygen Demand (mg/L)	**10.0**	30.0
Total Suspended Solids (mg/L)	**30**	**30**
Ammonia (mg/L)	**4.8** (Dec.-Feb.)	None
	3.0 (Mar.-May)	
	1.0 (Jun.-Nov.)	
Fecal Coliform Bacteria (#/100 mL)	**200**	None
Dissolved Oxygen (mg/L), Daily Minimum	**6.0**	None
pH (Standard Units), Daily Minimum – Daily Maximum)	**6.0-8.5**	6.0-9.0
Total Recoverable Copper (µg/L)	**8.6**	None
Chronic Whole Effluent Toxicity NOEC	**98%**	None

(1) Effluent limits in bold were included in the permit. Refer to Sections 4.4, 4.5, 4.7, 4.8, and 4.9 above for more information.

4.10.2. Phase II (3.0 MGD):

Parameter	WQBELS [(1)]	TBELS [(1)]
	Monthly Average	*Monthly Average*
Five-Day Biochemical Oxygen Demand (mg/L)	**9.0**	30.0
Total Suspended Solids (mg/L)	**20**	30
Total Phosphorus (mg/L)	**1.0**	None
Ammonia (mg/L)	**2.2** (Dec.-Feb.)	None
	1.2 (Mar.-May)	
	0.7 (Jun.-Nov.)	
Fecal Coliform Bacteria (#/100 mL)	**200**	None
Dissolved Oxygen (mg/L), Daily Minimum	**6.0**	None
pH (Standard Units), Daily Minimum – Daily Maximum)	**6.0-8.5**	6.0-9.0
Total Recoverable Copper (µg/L)	**8.5**	None
Chronic Whole Effluent Toxicity NOEC	**99%**	None

(1) Effluent limits in bold were included in the permit. Refer to Sections 4.4, 4.5, 4.7, 4.8, and 4.9 above for more information.

5. OTHER PERMIT REQUIREMENTS AND CONSIDERATIONS

5.1 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 once during the permit period on an effluent sample collected during the critical period from June 1 through September 30; therefore, a requirement for long term BOD testing has been included in the draft permit.

5.2 Industrial Pre-treatment Program (IPP)

The City of Griffin has an approved IPP; therefore language has been included in the draft permit to reflect the approved program.

5.3 Sludge Management Plan (SMP)

The City has an approved SMP to land apply sludge at agronomic rates; therefore language to reflect the approved plan has been included in the draft permit.

5.4 Watershed Protection Plan (WPP)

The City has an approved WPP; therefore language has been included in the draft permit to reflect the approved plan.

5.5 Service Delivery Strategy

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

5.6 Compliance Schedules

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

5.7 Anti-Backsliding

Limits for total residual chlorine have been removed as plant has been upgraded to UV disinfection and chlorine is no longer used. 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 Environmental Protection Division
Watershed Compliance Program
2 Martin Luther King Jr. Drive
Suite 1152 East
Atlanta, Georgia 30334

6.2 E-Reporting

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

7. REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS

Not applicable

8. PERMIT EXPIRATION

The permit will expire five years from the effective date.

9. PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS

9.1 Comment Period

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

The permit application, draft permit, and other information are available for review at 2 Martin Luther King Jr. Drive, Suite 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

Potato Creek Water Pollution Control Plant
NPDES Permit No. GA0030791

Waste Load Allocation (WLA)

SR

National Pollutant Discharge Elimination System
Waste Load Allocation Form

Part I: Background Information

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

Facility Name: Griffin – Potato Creek WPCP County: Spalding WQMU: 1105

NPDES Permit No.: GA0030791 Expiration Date: June 30, 2019 Outfall Number: 001

Receiving Water: Potato Creek River Basin: Flint 10-Digit HUC: 0313000509

Discharge Type: Domestic ☒ Industrial ☐ Both ☐ Proportion (D:I): Flow(s) Requested (MGD): 2.0 & 3.0

Industrial Contributions Type(s):

Treatment Process Description:

Additional Information: (history, special conditions, other facilities): The City proposed to use UV disinfection for the future 3.0 MGD facility.

Requested by: Melissa Dekar Title: Program: WRP

Telephone: Date: September 13, 2018

Part II: Receiving Water Information

Receiving Water: Potato Creek Designated Use Classification: Fishing

Integrated 305(b)/303(d) List: Yes ☒ No ☐ Partial Support: ☐ Not Support: ☒ Criteria: Biota(F)

Total Maximum Daily Load: Yes ☒ No ☐ Parameter(s): TSS, FC WLA Complies with TMDL Yes ☒ No ☐

The current TSS and fecal coliform permit limits meet the 2003 sediment and fecal coliform TMDL requirements.

Part III: Water Quality Model Review Information

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

Field Data: None ☐ Fair ☐ Good ☐ Excellent ☐

Model and Field Data Description: Steady-state dissolved oxygen Georgia DOSAG model.

Critical Water Temperature:(°C): 28 Drainage Area (mi²): 10 Mean annual streamflow at discharge (cfs): 11

7Q10 Yield (cfs/mi²): 0.006 Velocity (range fps): 0.21 – 0.71 30Q3 streamflow at discharge (cfs): 0.9

Effluent Flow Rate (cfs): 3.1, 4.6 7Q10 IWC (%): 98, 99 7Q10 streamflow at discharge (cfs): 0.06

Slope (range - fpm): 3.8 – 10 K 0.3 – 0.4 K3: 0.3 – 0.35 K2 (range): 1Q10 streamflow at discharge (cfs): 0.05

SOD: Not modeled Escape Coef. (ft⁻¹): 0.11 f- Ratio (BOD_u/BOD_5): 1.5

The predicted minimum DO was 5.1 mg/L, approximately 1.3 miles downstream from the MGD discharge. The modeling parameters cited above, except for the critical streamflows and temperature, are from the modeling analysis for the original waste load allocation.

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

Rationale: Same as current ☐ Revised ☒ New ☐

Location: Potato Creek

Effluent Flow Rate (MGD)	BOD_5	NH_3 (as N)	DO (minimum)	TRC (daily max.)	Fecal Coliform (No./100ml)	TSS	pH (std. units)	TP	Ortho-P, NO_3NO_2, TKN	Organic Nitrogen
2.0	10	Dec-Feb: 4.8 Mar-May: 3.0 Jun-Nov: 1.0	6.0	0.011	200	30	6.0 – 8.5	Monitor	Monitor	Calculated
3.0	9.0	Dec-Feb: 2.2 Mar-May: 1.2 Jun-Nov: 0.7	6.0	--	200	20	6.0 - 8.5	1.0	Monitor	Calculated

Additional Comments:

- Priority pollutant permit limits, aquatic toxicity testing requirements and other parameters required by the categorical effluent guidelines or identified during review of permit application are to be determined by the Wastewater Regulatory Program.
- The critical streamflows were updated based on a new USGS gage (02346310), upstream from the discharge.
- The new ammonia limits for the 2.0 MGD discharge, and the current ammonia limits for the 3.0 MGD discharge meet the U.S. EPA's Aquatic Life Ambient WQ Criteria for Ammonia-Freshwater 2013.
- The new year-round BOD_5 and DO permit limits are the current limits for the critical condition months, and are recommended to replace the current seasonal limits based on instream data. The facility demonstrated that these limits can be met year-round.
- Original WLA indicated Dosag modeling could not reliably predict the DO in the receiving water and instream DO monitoring was recommended. The discharge flows into a reservoir, approximately 1.9 miles downstream. Continus instream DO monitoring upstream from the discharge at County Line Rd and downstream from the discharge at Camp Rd and at Weldon Rd.
- Effluent monitoring for nutrients are recommended. TP and Ortho-P should be analyzed from the same effluent sample. Nitrogen constituents should be analyzed from the same effluent sample. Organic nitrogen should be calculated as TKN minus ammonia.

Prepared by: Azarina Carmical AC Date: Feb 14, 2018 Reviewed by: Josh Welte JW Date: 20-FEB-19

Part V: Program Manager Comments

Elizabeth A Booth

Elizabeth Booth Date: 2/26/19

Georgia Department of Natural Resources
Environmental Protection Division
Atlanta, Georgia

FACT SHEET

Appendix B

Potato Creek WPCP - Phase I
NPDES Permit No. GA0030791

Stream Data (upstream of the discharge):

TSS:	10	mg/L
7Q10:	0.06	ft^3/s
1Q10:	0.05	ft^3/s
Mean flow:	11.00	ft^3/s

Effluent Data:

TSS:	5.1	mg/L
Flow:	2,000,000	gal/day
Flow:	3.09	ft^3/s

Stream data (downstream of the discharge):

Hardness (at 7Q10):	31.2	mg/L		
TSS (at 7Q10):	5.19	mg/L		
Dilution factor (at average flow):	4.6		IWC (at average flow):	22
Dilution factor (at 7Q10):	1.02		IWC (at 7Q10):	98
Dilution factor (at 1Q10):	1.02		IWC (at 1Q10):	98

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

Metal	K_{PO}	α	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	0.00	0.0	0.0	340.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.0	0.0	0.65	no
Chromium III	3.36.E+06	-0.930	0.21	5.4	1.1	219.49	no
Chromium VI	3.36.E+06	-0.930	0.00	0.0	0.0	16.00	no
Copper	1.04.E+06	-0.744	0.39	7.7	2.93	4.49	yes
Lead	2.80.E+06	-0.800	0.00	0.0	0.0	17.81	no
Mercury				0.0082	0.0081	1.40	no
Nickel	4.90.E+05	-0.572	0.00	0.0	0.0	174.79	no
Zinc	1.25.E+06	-0.704	0.33	44.4	14.39	43.68	no

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

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

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

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Appendix B

Potato Creek WPCP - Phase I
NPDES Permit No. GA0030791

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	0.00	0.0	0.0	150.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.0	0.0	0.11	no
Chromium III	3.36.E+06	-0.930	0.21	1.8	0.4	28.55	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	0.39	4.78	1.81	3.31	yes
Lead	2.80.E+06	-0.800	0.00	0.0	0.0	0.69	no
Mercury				0.00432	0.004238	0.012	no
Nickel	4.90.E+05	-0.572	0.00	0.0	0.0	19.41	no
Zinc	1.25.E+06	-0.704	0.33	44.4	14.35	44.03	no

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

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

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?
Chloroform	2.7	0.59	470.0	235.0	no
Bis(2-ethylhexyl) phthalate	5.7	1.24	2.2	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 constinuent 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 constinuent may be included in the permit.

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Appendix B

Potato Creek WPCP - Phase I
NPDES Permit No. GA0030791

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	8.56	0.065	11.60	0.088
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	0.0	N/A	N/A	N/A	N/A

NOTES:

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

$$\text{Chronic } C_T = \frac{\frac{WQC_{\text{Chronic}}}{f_D} \times (Q_E + 7Q10) - (7Q10 \times C_S)}{Q_E}$$

$$\text{Acute } C_T = \frac{\frac{WQC_{\text{Acute}}}{f_D} \times (Q_E + 1Q10) - (1Q10 \times C_S)}{Q_E}$$

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

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

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

FACT SHEET

Appendix B

Potato Creek WPCP - Phase II
NPDES Permit No. GA0030791

Stream Data (upstream of the discharge):

TSS:	10	mg/L
7Q10:	0.06	ft^3/s
1Q10:	0.05	ft^3/s
Mean flow:	11.00	ft^3/s

Effluent Data:

TSS:	5.1	mg/L
Flow:	3,000,000	gal/day
Flow:	4.64	ft^3/s

Stream data (downstream of the discharge):

Hardness (at 7Q10):	31.2	mg/L
TSS (at 7Q10):	5.16	mg/L
Dilution factor (at average flow):	3.4	
Dilution factor (at 7Q10):	1.01	
Dilution factor (at 1Q10):	1.01	

IWC (at average flow):	30
IWC (at 7Q10):	99
IWC (at 1Q10):	99

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

Metal	K_{PO}	α	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	0.00	0.0	0.0	340.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.0	0.0	0.65	no
Chromium III	3.36.E+06	-0.930	0.21	5.4	1.1	219.49	no
Chromium VI	3.36.E+06	-0.930	0.00	0.0	0.0	16.00	no
Copper	1.04.E+06	-0.744	0.39	7.7	2.95	4.49	yes
Lead	2.80.E+06	-0.800	0.00	0.0	0.0	17.81	no
Mercury				0.0082	0.0081	1.40	no
Nickel	4.90.E+05	-0.572	0.00	0.0	0.0	174.79	no
Zinc	1.25.E+06	-0.704	0.33	44.4	14.48	43.68	no

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

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

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

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Appendix B

Potato Creek WPCP - Phase II
NPDES Permit No. GA0030791

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	0.00	0.0	0.0	150.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.0	0.0	0.11	no
Chromium III	3.36.E+06	-0.930	0.21	**1.8**	0.4	28.55	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	0.39	**4.78**	1.83	3.31	yes
Lead	2.80.E+06	-0.800	0.00	0.0	0.0	0.69	no
Mercury				**0.00432**	0.004265	0.012	no
Nickel	4.90.E+05	-0.572	0.00	0.0	0.0	19.41	no
Zinc	1.25.E+06	-0.704	0.33	**44.4**	14.45	44.03	no

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

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

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?
Chloroform	2.7	0.79	470.0	235.0	**no**
Bis(2-ethylhexyl) phthalate	5.7	1.68	2.2	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 constinuent 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 constinuent may be included in the permit.

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Appendix B

Potato Creek WPCP - Phase II
NPDES Permit No. GA0030791

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	8.55	0.097	11.59	0.132
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	0.0	N/A	N/A	N/A	N/A

NOTES:

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

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

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

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

FACT SHEET

Appendix C

Spalding County - Potato Creek WPCP
NPDES Permit No. GA0030791

WET Test PMSD Values:

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

WET Test #1 **6/2014**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**26.70**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**12.50**	Within

WET Test #2 **6/2015**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**8.5**	Lower
Fathead Minnow (P. promelas)	12-30	--	--	**17.7**	Within

WET Test #3 **6/2016**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**25.0**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**15.0**	Within

WET Test #4 **8/2016**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**9.9**	Lower
Fathead Minnow (P. promelas)	12-30	--	--	**16.9**	Within

WET Test #5 **11/2016**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**18.3**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**29.5**	Within

WET Test #6 **4/2017**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**28.5**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**13.8**	Within

FACT SHEET

Appendix C

Spalding County - Potato Creek WPCP
NPDES Permit No. GA0030791

WET Test PMSD Values:

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

WET Test #7 **4/2018**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**17.2**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**7.8**	Lower

WET Test #8 **6/2018**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**26.7**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**10.6**	Lower

WET Test #9 **4/2019**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**16.3**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**21.7**	Within

Appendix D
Ammonia Toxicity Analysis
for
Waste Load Allocation Development

Date: 2/12/2019
Facility: Griffin-Potato Creek WPCP 2.0 MGD
NPDES Permit Number: GA0030791
Receiving Stream: Potato Creek
Engineer: AZARINA CARMICAL
Comments: December - February

Stream and Facility Data:

Background Stream pH (standard units): 7.0
Effluent pH (standard units): 8.5
Final Stream pH (standard units): 7.29
December-February Critical Stream Temperature (Celsius): 14.0
December-February 30Q3 Streamflow (cfs): 3.1
Stream background concentration (Total NH3-N, mg/L): 0.05
Facility Discharge (MGD/cfs): 2   3.10
Total Combined Flow (cfs): 6.20

Effluent concentration (Total NH3-N, mg/L) = 4.8

If 4.8 is greater than 17.4 mg/L, use 17.4 mg/L in WLA modeling.

Chronic Criterion based on Villosa iris (Rainbow mussel):

Instream CCC = criterion continuous concentration (chronic criterion):

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

Allowable instream concentration CCC (Total NH3-N, mg/l) = 2.41

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.

Appendix D
Ammonia Toxicity Analysis
for
Waste Load Allocation Development

Date: 2/12/2019
Facility: Griffin-Potato Creek WPCP 2.0 MGD
NPDES Permit Number: GA0030791
Receiving Stream: Potato Creek
Engineer: AZARINA CARMICAL
Comments: March - May

Stream and Facility Data:

Background Stream pH (standard units): 7.0
Effluent pH (standard units): 8.5
Final Stream pH (standard units): 7.22
March - May Critical Stream Temperature (Celsius): 25.0
March - May 30Q3 Streamflow (cfs): 4.5
Stream background concentration (Total NH3-N, mg/L): 0.05
Facility Discharge (MGD/cfs): 2 3.10
Total Combined Flow (cfs): 7.60

Effluent concentration (Total NH3-N, mg/L) = 3.0

If 3.0 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) = 1.23

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.

Appendix D
Ammonia Toxicity Analysis
for
Waste Load Allocation Development

Date: 2/12/2019
Facility: Griffin-Potato Creek WPCP 2.0 MGD
NPDES Permit Number: GA0030791
Receiving Stream: Potato Creek
Engineer: AZARINA CARMICAL
Comments: June - November

Stream and Facility Data:

Background Stream pH (standard units):	7.0	
Effluent pH (standard units):	8.5	
Final Stream pH (standard units):	7.60	
June - November Critical Temperature (Celsius):	28	
June - November 30Q3 Streamflow (cfs):	0.9	
Stream background concentration (Total NH3-N, mg/L):	0.05	
Facility Discharge (MGD/cfs):	2	3.10
Total Combined Flow (cfs):	4.00	

Effluent concentration (Total NH3-N, mg/L) = 1.0

If 1.0 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) = 0.76

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

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

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

Appendix D
Ammonia Toxicity Analysis
for
Waste Load Allocation Development

Date: 2/12/2019
Facility: Griffin Potato Creek WPCP 3.0 MGD
NPDES Permit Number: GA0030791
Receiving Stream: Potato Creek
Engineer: AZARINA CARMICAL
Comments: December - February

Stream and Facility Data:

Background Stream pH (standard units):	7.0	
Effluent pH (standard units):	8.5	
Final Stream pH (standard units):	7.38	
December-February Critical Stream Temperature (Celsius):	14.0	
December-February 30Q3 Streamflow (cfs):	3.1	
Stream background concentration (Total NH3-N, mg/L):	0.05	
Facility Discharge (MGD/cfs):	3	4.64
Total Combined Flow (cfs):	7.74	

Effluent concentration (Total NH3-N, mg/L) = 3.7

If 3.7 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) = 2.26

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.

Appendix D
Ammonia Toxicity Analysis
for
Waste Load Allocation Development

Date: 2/12/2019
Facility: Griffin Potato Creek WPCP 3.0 MGD
NPDES Permit Number: GA0030791
Receiving Stream: Potato Creek
Engineer: AZARINA CARMICAL
Comments: March - May

Stream and Facility Data:

Background Stream pH (standard units):	7.0	
Effluent pH (standard units):	8.5	
Final Stream pH (standard units):	7.29	
March - May Critical Stream Temperature (Celsius):	25.0	
March - May 30Q3 Streamflow (cfs):	4.5	
Stream background concentration (Total NH3-N, mg/L):	0.05	
Facility Discharge (MGD/cfs):	3	4.64
Total Combined Flow (cfs):	9.14	

Effluent concentration (Total NH3-N, mg/L) = 2.3

If 2.3 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) = 1.18

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.

Appendix D
Ammonia Toxicity Analysis
for
Waste Load Allocation Development

Date: 2/12/2019
Facility: Griffin Potato Creek WPCP 3.0 MGD
NPDES Permit Number: GA0030791
Receiving Stream: Potato Creek
Engineer: AZARINA CARMICAL
Comments: June - November

Stream and Facility Data:

Background Stream pH (standard units): 7.0
Effluent pH (standard units): 8.5
Final Stream pH (standard units): 7.72
June - November Critical Temperature (Celsius): 28
June - November 30Q3 Streamflow (cfs): 0.9
Stream background concentration (Total NH3-N, mg/L): 0.05
Facility Discharge (MGD/cfs): 3 4.64
Total Combined Flow (cfs): 5.54

Effluent concentration (Total NH3-N, mg/L) = 0.8

If 0.8 is greater than 17.4 mg/L, use 17.4 mg/L in WLA modeling.

Chronic Criterion based on Villosa iris (Rainbow mussel):

Instream CCC = criterion continuous concentration (chronic criterion):

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

Allowable instream concentration CCC (Total NH3-N, mg/l) = 0.66

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.

FACT SHEET

Appendix E

Potato Creek Water Pollution Control Plant
NPDES Permit No. GA0030791

Regulatory Letters

Georgia Department of Natural Resources
Environmental Protection Division • Watershed Protection Branch
2 Martin Luther King Jr. Drive • Suite 1152 East • Atlanta • Georgia 30334
(404) 463-1511; Fax (404) 656-2453
Judson H. Turner, Director

June 24, 2015

Dr. Brant Keller, Ph. D., Director
Department of Public Works & Utilities
City of Griffin
P.O. Box T
Griffin, Georgia 30224

RE: City of Griffin – Potato Creek WPCP
NPDES Permit No. GA0030791
2,4,6-Trichlorophenol Monitoring
(Spalding County)

Dear Dr. Keller:

The Georgia Environmental Protection Division has received your request to remove the monitoring requirements for 2,4,6-Trichlorophenol in the above-referenced permit. We have completed our evaluation of 10 months of monitoring data and determined that 2,4,6-Trichlorophenol in the effluent has no potential to cause or contribute to a water quality standards violation in the receiving stream; therefore, the City is no longer required to monitor for this pollutant.

Should you have any questions, please contact Benoit Causse of my staff at (404) 463-4958 or via e-mail at *benoit.causse@dnr.state.ga.us*.

Sincerely,

Gigi Steele, Manager
Municipal Permitting Unit
Wastewater Regulatory Program

GMS\bsc
cc: Mr. Hsin-Sheng Yeh, Municipal Compliance Unit
Mr. Ted Hendrickx, Wastewater Regulatory Information Unit

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Watershed Protection Branch
2 Martin Luther King, Jr. Drive
Suite 1152, East Tower
Atlanta, Georgia 30334
404-463-1511

SEP 08 2017

Dr. Brant Keller, Public Works Director
City of Griffin
PO Box T
Griffin, Georgia 30224

RE: Potato Creek Water Pollution Control Plant
NPDES Permit No. GA0030791
Operability Inspection
(Spalding County)

Dear Dr. Keller:

On August 23, 2017, an inspection was conducted to verify that the facility was ready to begin operation. Although some equipment was still being tested (UV system) or awaiting parts (diffused air system) at the time of inspection, no major deficiencies were found.

Based on conversation with Mr. Cook, it is our understanding that the City would like to operate the new Potato Creek WPCP under the current B.1 effluent limitations (2.0 MGD) to verify performance and ability to consistently meet the new limits prior to being authorized to operate under the B.2 limits (3.0 MGD). We have no objections to the proposal.

Please contact this office when the plant is ready to start operation at the expanded flow. Your engineer must certify that the project has been constructed in accordance with the approved plans and specifications. We also request that an operation manual be submitted electronically for our files.

If you have any questions regarding this correspondence, feel free to contact me at (404) 463-4958 or *benoit.causse@dnr.ga.gov*.

Sincerely,

Benoit Causse
Municipal Permitting Unit
Wastewater Regulatory Program

cc: Mr. Joseph Johnson, PE, City of Griffin (*jjohnson@cityofgriffin.com*)
Mr. Aaron Cook, City of Griffin (*acook@cityofgriffin.com*)
Mr. Charles Penny, Paragon Consulting Group (*cpenny@pcgeng.com*)
Mr. Hsin Yeh, EPD Municipal Compliance Unit (*Hsin-Sheng.Yeh@dnr.ga.gov*)

GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

SUMMARY PAGE

Name of Facility: City of Griffin – Shoal Creek – Blanton Mill Water Pollution Control Plant (WPCP)

LAS Permit No.: GAJ020036

This is a reissuance of an extended LAS permit for the City of Griffin – Shoal Creek – Blanton Mill WPCP. The facility land applies up to 2.25 MGD of treated wastewater onto a dedicated site in Spalding County in the Flint River Basin. The permit expired on May 31, 2018 and became administratively extended.

The permit was placed on public notice from October 17, 2018 to November 23, 2018.

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

B.1. Treatment Requirements, Limitations and Monitoring

- Removed Nitrate-Nitrogen monitoring to be consistent with current monitoring requirements at municipal LAS facilities.

B.2. Storage Pond Limitations and Monitoring Requirements

- Removed Five-Day Biochemical Oxygen Demand and Total Suspended Solids monitoring and added Total Kjeldahl Nitrogen monitoring to be consistent with current monitoring requirements at municipal LAS facilities.
- Corrected the wetted area of the land application site from 520 acres to 370 acres as verified by facility operation/maintenance manual and facility personal.

B.5. Surface Water Monitoring

- Removed Total Suspended Solids and Fecal Coliform Bacteria monitoring and added Specific Conductivity, Total Kjeldahl Nitrogen, and Temperature monitoring to be consistent with current monitoring requirements at municipal LAS facilities.

Standard Conditions & Boilerplate Modifications:

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

Final Permit Determinations and Public Comments:

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

GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

PERMIT ADDENDUM

City of Griffin
Shoal Creek – Blanton Mill Water Pollution Control Plant
LAS Permit No. GAJ020036
(Spalding County)

Were there any revisions between the draft and the final permit? ☒ Yes ☐ No

If yes, specify:

Part I.B.5	Corrected the unit of measure for temperature from °C to °F.
Part II.A.10	Revised the boilerplate language to comply with current LAS boilerplate language.
Part II.A.11	Revised the boilerplate language to comply with current LAS boilerplate language.

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

DEC 17 2018

Dr. Brant D. Keller, Director
City of Griffin Public Works & Utilities
P.O. Box T
Griffin, Georgia 30224

RE: Permit Issuance
Shoal Creek – Blanton Mill
Water Pollution Control Plant
LAS Permit No. GAJ020036
Spalding County, Flint River Basin

Dear Dr. Keller:

Pursuant to the Georgia Water Quality Control Act as amended and the Rules and Regulations promulgated thereunder, we have today issued the attached Land Application System (LAS) permit for the referenced wastewater treatment facility.

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

Georgia Environmental Protection Division
Watershed Compliance Program
2 Martin Luther King Jr. Drive
Suite 1152 East
Atlanta, GA 30334

Please be advised that on and after the effective date indicated in the attached LAS permit, the permittee must comply with all the terms, conditions and limitations of this permit.

If you have any questions, please contact Kim Hembree at 404.463.4937 or *kim.hembree@dnr.ga.gov.*.

Sincerely,

Richard E. Dunn
Director

RED\kbh

Attachment: Permit, Permit Addendum, Fact Sheet

cc: Marzieh Shahbazaz, EPD Watershed Compliance Program (Marzieh.Shahbazaz@dnr.ga.gov)
Hsin-Sheng Yeh, EPD Watershed Compliance Program (Hsin-Sheng.Yeh@dnr.ga.gov)
Wally Brown, City of Griffin (WBrown@cityofgrffin.com)

Permit No. GAJ020036
Issuance Date: DEC 17 2018

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

LAND APPLICATION SYSTEM PERMIT

In accordance with the provisions of the Georgia Water Quality Control Act (Georgia Laws 1964, p. 416, as amended), and the Rules and Regulations promulgated pursuant thereto, this permit is issued to the following:

City of Griffin
Post Office Box T
Griffin, Georgia 30224

is authorized to operate the land treatment system located at:

Shoal Creek – Blanton Mill Water Pollution Control Plant
2940 West Ellis Road
Griffin, Georgia 30224
(Spalding County)

Flint River Basin

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

This permit is issued in reliance upon the permit application signed on November 27, 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 January 1, 2019.

This permit and the authorization to discharge shall expire at midnight on December 31, 2023.

STATE OF GEORGIA
CONSTITUTION
WISDOM JUSTICE MODERATION
1776

Director,
Environmental Protection Division

Table of Content:

PART I

A. CONDITIONS

1. DEFINITIONS

a. **"Composite Sample"** means a combination of at least 5 discrete sample aliquots of at least 100 milliliters, collected over periodic intervals from the same location, during the operating hours of a facility for at least 8 hours. The composite must be flow proportional.

b. **"Daily Discharge"** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day.

c. For the purposes of this permit **"Discharge of a Pollutant"** means any addition of any "pollutant" or combination of pollutants to "waters of the State" from any "point source." This definition includes additions of pollutants into waters of the State from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

d. **"DMR"** means Discharge Monitoring Report.

e. **"EPD"** means the Environmental Protection Division of the Department of Natural Resources.

f. **"Effluent"** means wastewater that is discharged (treated or partially treated).

g. **"Grab Sample"** means an individual sample collected over a period of time not exceeding 15 minutes.

h. **"Drip Field"** means the wetted application area or irrigation of the land treatment system or land disposal system where treated wastes, treated effluent from industrial processes, agricultural or domestic wastewater, domestic sewage sludge, industrial sludge or other sources is applied to the land using drip emitters, excluding the buffer zone.

i. **"Geometric Mean"** means the *n*th root of the product of *n* numbers.

j. **"Hydraulic Loading Rate"** means the rate at which wastes or wastewaters are discharged to a land disposal or land treatment system, expressed in volume per unit area per unit time or depth of water per unit of time.

k. **"Indirect Discharger"** means a nondomestic discharger introducing "pollutants" to a "publicly owned treatment works."

l. "**Industrial Wastes**" means any liquid, solid, or gaseous substance, or combination thereof, resulting from a process of industry, manufacture, or business or from the development of any natural resources.

m. **"Influent"** means wastewater, treated or untreated, that flows into a treatment plant.

n. **"Instantaneous**" means a single reading, observation, or measurement.

o. **"Land Disposal System"** means any method of disposing of pollutants in which the pollutants are applied to the surface or beneath the surface of a parcel of land and which results in the pollutants percolating, infiltrating, or being absorbed into the soil and then into the waters of the State. Land disposal systems exclude landfills and sanitary landfills but include ponds, basins, or lagoons used for disposal of wastes or wastewaters, where evaporation and/or percolation of the wastes or wastewaters are used or intended to be used to prevent point discharge of pollutants into waters of the State. Septic tanks or sewage treatment systems, as defined in Chapter 511-3-1-.02 (formally in Chapter 270-5-25-.01) and as approved by appropriate County Boards of Public Health, are not considered land disposal systems for purposes of Chapter 391-3-6-.11.

p. **"Land Treatment System"** means any land disposal system in which vegetation on the site is used for additional treatment of wastewater to remove some of the pollutants applied.

q. **"MGD"** means million gallons per day.

r. **"Monthly Average"** means the arithmetic or geometric mean of values for samples collected during each calendar month.

s. **"Monthly Average Limit"** means the highest allowable average of daily discharges over a calendar month, unless otherwise stated, calculated as an arithmetic mean of the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during the same calendar month.

t. **"OMR"** means Operating Monitoring Report.

u. **"Point Source"** means any discernible, confined, or discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

v. **"Pollutant"** means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, industrial wastes, municipal waste, and agricultural waste discharged into the waters of the state.

w. **"Quarter"** means the first three calendar months beginning with January and each group of three calendar months thereafter (also known as calendar quarters).

x. **"Quarterly Average"** means the arithmetic mean of values obtained for samples collected during a calendar quarter.

y. **"Rule(s)"** means the Georgia Rules and Regulations for Water Quality Control.

z. **"Spray Field"** means the wetted area of the land treatment system or land disposal system where treated wastes, treated effluent from industrial processes, agricultural or domestic wastewater, domestic sewage sludge, industrial sludge or other sources is applied to the land via spray, excluding the buffer zone.

aa. **"Sewage"** means the water carried waste products or discharges from human beings or from the rendering of animal products, or chemicals or other wastes from residences, public or private buildings, or industrial establishments, together with such ground, surface, or storm water as may be present.

bb. **"Sewage Sludge"** means solid, semi-solid, or liquid residue generated during the treatment of domestic sewage or a combination of domestic sewage and industrial wastewater in a treatment works. Sewage sludge includes, but is not limited to scum or solids removed in primary, secondary, or advanced wastewater treatment processes. Sewage sludge does not include ash generated during the firing of sewage sludge incinerator, grit and screenings generated during preliminary treatment of domestic sewage in a treatment works, treated effluent, or materials excluded from definition of "sewage sludge" by O.C.G.A. § 12-5-30-.3(a)(1).

cc. **"Sewage System"** means sewage treatment works, pipelines or conduits, pumping stations, and force mains, and all other constructions, devices, and appliances appurtenant thereto, used for conducting sewage or industrial wastes or other wastes to the point of ultimate disposal.

dd. **"Sludge"** means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the effluent from a wastewater treatment plant.

ee. **"State Act"** means the Georgia Water Quality Control Act, as amended (Official Code of Georgia Annotated; Title 12, Chapter 5, Article 2).

ff. **"Treatment System"** means the wastewater treatment facility which reduces high strength organic waste to low levels prior to the application to the spray field.

gg. **"Treatment Requirement"** means any restriction or prohibition established under the (State) Act on quantities, rates, or concentrations, or a combination thereof, of chemical, physical, biological, or other constituents which are discharged into a land disposal or land treatment system and then into the waters of the State, including but not limited to schedules of compliance.

hh. **"Water"** or **"Waters of the State"** means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, and all other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the State which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation.

ii. **"Weekly Average Limit"** means the highest allowable average of daily discharges over a consecutive calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week. The calendar week begins on Sunday at 12:00 a.m. and ends on Saturday at 11:59 p.m. A week that starts in a month and ends in another month shall be considered part of the second month.

2. MONITORING

a. REPRESENTATIVE SAMPLING

Samples and measurements taken for the purpose of monitoring shall be representative of the volume and nature of the monitored waste stream. The permittee shall maintain an updated written sampling plan and monitoring schedule.

b. SAMPLING PERIOD

1. Unless otherwise specified in this permit, quarterly samples shall be taken during the periods January-March, April-June, July-September, and October-December.

2. Unless otherwise specified in this permit, semiannual samples shall be taken during the periods January-June and July-December.

3. Unless otherwise specified in this permit, annual samples shall be taken during the period of January-December.

c. MONITORING AND ANALYZING PROCEDURES

1. 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, as amended. The analytical method used shall be sufficiently sensitive. Parameters must be analyzed to the detection limits. The parameters will be reported as "not detected" or "ND" 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 on the DMR or OMR in accordance with Part I.A.3 of this permit.

2. In accordance with 40 CFR Part 136, as amended and as applicable, all analyses shall be made in accordance with the latest edition of Standard Methods for the Examination of Water and Wastes, Methods for Chemical Analysis of Water and Wastes, or other approved methods.

d. ADDITIONAL MONITORING BY PERMITTEE

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

e. FLOW MONITORING

1. Measurements shall be conducted using the flow measuring device(s) in accordance with the approved design of the facility. If secondary flow measurement device(s) are installed, calibration shall be maintained 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.

2. For facilities which utilize approved alternate technologies for measuring flow, the flow measurement device must be calibrated semi-annually by qualified personnel.

3. Records of the calibration checks shall be maintained on site in accordance with the requirements of Part. I.A.2.f. of the permit.

f. RECORDING OF RESULTS

For each measurement of sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

1. The exact place, date, and time of sampling, and the person(s) collecting the samples;

2. The dates and times the analyses were performed;

3. The person(s) who performed the analyses;

4. The analytical procedures or methods used; and

5. The results of all required analyses.

g. RECORDS RETENTION

1. 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.

2. All records and information resulting from the monitoring activities and record keeping requirements required by this permit and the Rules shall be retained by the permittee for a minimum of three (3) years, whereas records pertaining to sludge shall be retained for five (5) years, or longer if requested by EPD.

3. REPORTING

a. 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 an OMR and submitted as an attachment to the DMR.

1. The permittee shall submit the DMR, OMR and additional monitoring data to EPD. The required submittals shall be postmarked no later than the 15th day of the month following the reporting period.

2. 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.

b. However, upon final approval from EPD to use the online web based NetDMR application for the submittals of DMRs and OMRs required by this permit, the permittee shall submit the DMRs and OMRs to EPD utilizing the online NETDMR submittal process. The permittee shall submit the required reports no later than 11:59 p.m. on the 15th day of the month following the reporting period.

c. The DMR and OMR and any other required forms, reports and/or information shall be completed, signed and certified by a principal executive officer or ranking elected official, or by a duly authorized representative of that person who has the authority to act for or on behalf of that person.

4. SEWAGE SLUDGE AND SLUDGE DISPOSAL AND MONITORING

a. Sewage sludge, sludge and industrial wastes (herein referred to as "sludge" in Part I.A.4 of this permit) shall be disposed of according to the regulations and guidelines established by the EPD and the Federal Clean Water Act section 405(d) and (e), and the Resource Conservation and Recovery Act (RCRA). In land applying nonhazardous sludge, the permittee shall comply with the general criteria outlined in the most current version of EPD's "Guidelines for Land Application of Sewage Sludge (Biosolids) At Agronomic Rates" and with the State Rules, Chapter 391-3-6-.17.

Before disposing of sludge by land application or any method other than co-disposal in a permitted sanitary landfill, the permittee shall submit a Sludge Management Plan (SMP) to EPD for written approval. This plan will become a part of the Land Treatment System Permit upon issuance and/ or modification of the permit. The permittee shall notify EPD, and if applicable obtain written approval, of any changes to an approved Sludge Management Plan.

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

b. 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 generated and removed from the facility.

c. The total quantity of sludge removed from the facility shall be reported on the DMR in accordance with Part I.A.3 of this permit. The total quantity shall be reported on a dry weight basis as total pounds per month when applicable.

d. Pond treatment systems are required to report the total quantity of sludge removed from the facility only during the months that sludge is removed.

B.1. TREATMENT REQUIREMENTS, LIMITATIONS AND MONITORING

Discharge from Treatment Pond:

Influent shall refer to the influent to the treatment facility and effluent shall refer to the discharge from the treatment pond to the storage pond. The discharge shall be limited and monitored as follows:

Parameter (units)	Discharge Limitations Monthly (Weekly) Average, Unless Otherwise Stated	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
Flow (MGD)	2.25 (2.8)	Seven Days/Week	Continuous	Effluent
Five-Day Biochemical Oxygen Demand (mg/L) [(1)]	50	Two Days/Month	Composite	Influent & Effluent
Total Suspended Solids (mg/L) [(1)]	90	Two Days/Month	Composite	Influent & Effluent
pH (standard unit), Daily Minimum & Daily Maximum	Report	Three Days/Week	Grab	Effluent

[(1)] Numerical limits only apply to effluent.

B.2. STORAGE POND LIMITATIONS AND MONITORING REQUIREMENTS

Discharge from Storage Pond

a. Effluent shall refer to the discharge from the storage pond to the spray fields. The discharge from the storage pond to the spray fields shall be limited and monitored as follows:

Parameter (units)	Discharge Limitation Monthly Average (Unless Otherwise Stated)	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
Flow (MGD)	Report	Seven Days/Week	Continuous	Effluent
Nitrate-Nitrogen (mg/L)	Report	One Day/Month	Grab	Effluent
Total Kjeldahl Nitrogen (mg/L)	Report	One Day/Month	Grab	Effluent
pH (standard unit), Daily Minimum & Daily Maximum	Report	One Day/Week	Grab	Effluent

b. The spray field of the land treatment system shall consist of 370 acres. The hydraulic wastewater loading to the spray field must not exceed 2.5 in/week. The instantaneous application rate for the site is 0.25 inches/hour. The hydraulic loading rates for each spray field shall be monitored daily and submitted to EPD in accordance with Part I.A.3 of this permit.

c. A daily log will be kept by the land treatment system operator of the volume (gal) of wastewater sprayed on each spray field for each day and shall be submitted to EPD in accordance with Part I.A.3 of this permit.

d. A daily log will be kept by the land treatment system operator of the amount of rainfall received each day within 0.5 miles of the permitted land treatment system and shall be submitted to EPD in accordance with Part I.A.3 of this permit.

e. A written summary of pertinent maintenance for the land treatment system such as planting, cutting vegetation, harvesting, resurfacing areas, etc. shall also be included in the report and submitted in accordance with Part I.A.3 of this permit.

B.3. GROUNDWATER MONITORING REQUIREMENTS

a. Groundwater leaving the land treatment system boundaries (as defined in this permit as the spray field) must not exceed the primary maximum contaminant levels for drinking water. The maximum contaminant level for nitrate nitrogen is 10.0 mg/L, as amended in the Safe Drinking Water Rules and Regulations. Samples of the groundwater shall be monitored from each groundwater monitoring well(s) by the permittee for the parameters and at the frequency listed below:

Parameter (units)	Measurement Frequency	Sample Type
Depth to Groundwater (feet)	One Day/Month	Grab
Nitrate, as N (mg/L)	One Day/Month	Grab
pH (standard unit)	One Day/Month	Grab
Specific Conductivity (μmho/cm)	One Day/Month	Grab
Fecal Coliform Bacteria (# col/100mL)	One Day/Six Months	Grab

b. Monitoring wells shall be identified in all reports submitted to EPD as up-gradient, midfield, and down-gradient, as referenced below. The down-gradient groundwater monitoring wells shall be considered the compliance wells. The monitoring wells are identified as follows:

Well	Location	Well	Location
D1	Down-gradient	D10	Down-gradient
D2	Down-gradient	D11	Down-gradient
D3	Down-gradient	D12	Down-gradient
D4	Down-gradient	D13	Down-gradient
D5	Down-gradient	D14	Down-gradient
D6	Down-gradient	D15	Down-gradient
D7	Down-gradient	U1	Up-gradient
D8	Down-gradient	M1	Midfield
D9	Down-gradient	M2	Midfield

c. As per Part I.B.2 and Part II.A.9-10 of this permit, upon written notification to EPD, additional up-gradient, mid-field and down-gradient monitoring wells may be added in accordance with EPD's Manual for Groundwater Monitoring, September 1991, as amended, the Environmental Protection Agency Guidance Design and Installation of Monitoring Wells, or other approved guidance without EPD approval and without modification to this permit. The additional wells are subject to the sampling parameters and sampling frequency(s) in Part I.B.3 of this permit, Groundwater Monitoring Requirements. The sampling analysis of additional wells shall be reported in accordance with Part I.A.3 of this permit.

B.4. SOIL MONITORING REQUIREMENTS

a. A Soil Fertility Test(s) shall be performed annually in the fourth (4^{th}) calendar quarter in accordance with the latest edition of Methods of Soil Analysis (published by the American Society of Agronomy, Madison, Wisconsin) or other methods approved by EPD. Representative soil samples shall be collected from the land treatment system using the Mehlich-1 extraction procedure. Results of the Soil Fertility Test(s) shall be utilized by the permittee in the continuing operation and maintenance of the land treatment system. The sampling analysis shall be reported in accordance with Part I.A.3 of this permit.

b. If the Soil Fertility Test(s) indicates a change in the pH value of one standard unit from the previous year's pH value, the permittee shall immediately perform a Cation Exchange Capacity and Percent Base Saturation analysis for the land treatment system. The monitoring results of the Cation Exchange Capacity and Percent Base Saturation analysis shall be submitted to EPD in accordance with Part I.A.3 of this permit.

c. Where there are categorical and/or significant industrial discharges to the sewer system, the permittee may be required, upon written notification by the Division, to sample for additional parameters. These parameters may include heavy metals and organic compounds.

B.5. SURFACE WATER MONITORING

Surface water(s)[1] adjacent to or traversing the land treatment system shall be monitored. Unless otherwise stated and or approved by EPD, surface water samples will be collected at a maximum of 100 feet upstream and a maximum 100 feet downstream of the land treatment system. The surface water shall be monitored for the parameters and at the frequency listed below:

Parameter (units)	Measurement Frequency	Sample Type
Nitrate, as N (mg/L)	One Day/Quarter	Grab
Five-Day Biochemical Oxygen Demand (mg/L)	One Day/Quarter	Grab
Specific Conductivity (µmho/cm)	One Day/Quarter	Grab
pH (standard unit)	One Day/Quarter	Grab
Total Kjeldahl Nitrogen (mg/L)	One Day/Quarter	Grab
Temperature (^{o}F)	One Day/Quarter	Grab
Dissolved Oxygen (mg/L)	One Day/Quarter	Grab

(1) Surface waters as identified in the Design Development Report and permit application are: **Flint River and Flat Creek**

C. ADDITIONAL REQUIREMENTS

1. LAS OPERATIONS

The land treatment system will be operated and maintained in accordance with the design criteria as presented in the approved engineering reports, operation and maintenance manuals, the permit application and/or other written agreements between EPD and the permittee. This includes, but is not limited to, the following:

a. A vegetative cover must be maintained at all times on the land treatment site and must be managed according to design criteria;

b. All treatment units are to be maintained and operated for maximum efficiency;

c. Hydraulic and nitrogen loading is to be maintained within design criteria;

d. Unless otherwise approved, no wastewater shall be applied via spray or aboveground drip irrigation during rain or when the conditions are such that applied wastewater will not be absorbed into the soil; and

e. If the hydraulic application rate(s) cannot satisfactorily be handled by the approved land treatment system, corrective actions shall immediately be taken by the permittee.

f. The land treatment system may not result in a point source discharge to surface waters, as mandated in the Rules.

2. CHANGE IN WASTEWATER INFLUENT

The influent to the system is authorized as long as it is consistent with the design criteria specified in the approved Design Development Report and application. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased pollutants or flow to the system must be approved by EPD prior to implementation. Submittal of a new permit application and reissuance of the Land Application System permit, as well as upgrading of the system, may be required in the process of obtaining EPD approval.

PART II.

A. MANAGEMENT REQUIREMENTS

1. FACILITY OPERATION

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities (and related appurtenances) which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. Proper operation of the land treatment system also includes the best management practice of establishing and maintaining a vegetative cover on the land treatment system.

2. NONCOMPLIANCE NOTIFICATION

If, for any reason the permittee does not comply with, or will be unable to comply with any limitations specified in the 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;

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 non-complying discharge.

3. 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.

4. 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 in Part II.A.2, Noncompliance Notification, of this permit.

The permittee shall notify EPD immediately if mechanical failure, inclement weather or other factors cause a discharge of contaminated runoff from the fields or an overflow from a pond, or if any other problems occur which could cause an adverse effect on the environment.

5. OPERATOR CERTIFICATION REQUIREMENTS

The permittee shall ensure that the person in responsible charge of the daily operation of this land application system shall be a Class II Certified Operator in accordance with the Georgia Certification of Water and Wastewater Plant Operators and Laboratory Analysts Act, as amended, and specified by Subparagraph 391-3-6-.12 of the Rules and Regulations for Water Quality Control. Operators, other than the person in responsible charge, must obtain certification in Class III operator classification in accordance with the above Act.

6. LABORATORY ANALYST CERTIFICATION REQUIREMENTS

The permittee shall ensure that, when required, the person(s) performing the laboratory analyses for this land treatment system is a Certified Laboratory Analyst in accordance with the Georgia Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts Act, as amended, and the Rules promulgated thereunder.

7. POWER FAILURES

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

8. ADVERSE IMPACT

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.

9. MONITORING WELL REQUIREMENTS

The permittee, upon written notification by the EPD, may be required to install groundwater monitoring wells at the existing land treatment system. This requirement may apply if monitoring wells were not included in the original design of the facility and also, if the EPD determines the existing groundwater monitoring wells are not adequate.

10. GROUNDWATER REQUIREMENTS

a. If any groundwater samples taken from the groundwater monitoring wells at the land treatment system are above the primary maximum contaminant levels for drinking water, the permittee shall immediately develop a plan which will ensure that the primary maximum contaminant levels for drinking water are not exceeded.

b. If any pollutants which are being discharged to the land treatment system are detected in the groundwater samples taken from the compliance monitoring wells at the land treatment system in amounts or concentrations which could be toxic or otherwise harmful to humans or biota if those pollutants mingle with waters of the State, then the permittee shall immediately develop a plan which will reduce the amounts or concentrations of the pollutants to ensure they are not toxic or otherwise harmful to humans or biota if those pollutants mingle with waters of the State.

11. NO POINT SOURCE DISCHARGE(S) OF A POLLUTANT TO SURFACE WATERS OF THE STATE

Land treatment system permits are not point source discharge permits to surface water regulated under the CWA, but nonpoint source permits regulated under State law. The land treatment system must be operated and maintained to ensure there is no point source discharge(s) of pollutants to surface waters of the State.

12. NOTICE CONCERNING ENDANGERING WATERS OF THE STATE

a. 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.

b. Spills and Major Spills:

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

2. A "major spill" means: 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 and any discharge of raw sewage that 1) exceeds 10,000 gallons or 2) results in water quality violations in the waters of the State.

3. "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.

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

1. Notify EPD, in person or by telephone, when a spill or major spill occurs in the system.

2. 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:

   a. Date of the spill or major spill;

   b. Location and cause of the spill or major spill;

   c. Estimated volume discharged and name of receiving waters; and

   d. Corrective action taken to mitigate or reduce the adverse effects of the spill or major spill.

d. 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 (c)(a-b) above. These notices shall remain in place for a minimum of seven days after the spill or major spill has ceased.

e. 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 (c)(a-b) above.

f. Within five (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 (c)(a-b) above.

g. 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 (c)(a-b) above.

h. 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 exceedance 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:

a. Dissolved Oxygen;

b. Fecal Coliform Bacteria;

c. pH;

d. Temperature; and

e. 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.

i. 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.

B. RESPONSIBILITIES

1. COMPLIANCE

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

a. Enforcement action;

b. Permit termination, revocation and reissuance, or modification; or

c. Denial of a permit renewal application.

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.

2. RIGHT OF ENTRY

The permittee shall allow the Director of EPD and/or their authorized representatives, agents, or employees, upon presentation of credentials:

a. To enter upon the permittee's premises where a regulated activity or facility is located or conducted, in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and to sample any substance or parameters at any location.

3. SUBMITTAL OF INFORMATION

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

4. TRANSFER OF OWNERSHIP OR CONTROL

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

a. The permittee notifies the Director in writing of the proposed transfer at least thirty (30) days in advance of the proposed transfer;

b. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current and new permittee (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) is submitted to the Director at least thirty (30) days in advance of the proposed transfer; and

c. The Director, within thirty (30) days, does not notify the current permittee and the new permittee of EPD's intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

5. PERMIT MODIFICATION

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

a. Violation of any condition of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted activity.

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

6. PENALTIES

The State Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine or by imprisonment, or by both. The State Act also provides procedures for imposing civil penalties which may be levied for violations of the State Act, any permit condition or limitation established pursuant to the Act, or negligently or intentionally failing or refusing to comply with any final or emergency order of the Director of EPD.

7. CIVIL AND CRIMINAL LIABILITIES

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

8. EXPIRATION OF PERMIT

The permittee shall not operate the system after the expiration date of the permit. In order to receive authorization to operate beyond the expiration date, the permittee shall submit such information, forms, and fees as are required by the EPD no later than 180 days prior to the expiration date.

9. 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.

10. SEVERABILITY

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

C. SPECIAL CONDITIONS

1. DESIGN DEVELOPMENT REPORT

The permittee shall operate and maintain the system as described in the Design Development Report, approved by EPD August 29, 1995.

2. WATERSHED PROTECTION PLAN

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

Each June 30th the permittee is to submit the following to EPD:

a. 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."

b. 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.

c. A progress report that provides a summary of the BMPs that have been implemented and documented water quality improvements. The progress report shall also include any necessary changes to the Watershed Protection Plan.

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

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

PART III.

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

1. The permittee's approved pretreatment program shall be enforceable through this permit. The permittee shall also comply with the provisions of 40 CFR 403.

2. The permittee shall administer the approved pretreatment program by:

   a. Maintaining records identifying the character and volume of pollutants contributed by industrial users to the POTW.

   b. Enforcing and obtaining appropriate remedies for noncompliance by any industrial user with any applicable pretreatment standard or requirement defined by Section 307(b) and (c) of the Federal Act, 40 CFR Part 403.5 and 403.6 or any State or local requirement, whichever is more stringent.

   c. Revising the adopted local limits based on technical analyses to ensure that the local limits continue to prevent:

      1. Interference with the operation of the POTW;
      2. Pass-through of pollutants in violation of this permit;
      3. Municipal sludge contamination; and
      4. Toxicity to life in the receiving stream.

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

   d. Ensuring that industrial wastewater discharges from industrial users are regulated through discharge permits or equivalent individual control mechanisms. Compliance schedules will be required of each industrial user for the installation of control technologies to meet applicable pretreatment standards and the requirements of the approved program.

   e. Inspecting, surveying, and monitoring to determine if the industrial user is in compliance with the applicable pretreatment standards.

   f. Equitably maintaining and adjusting revenue levels to ensure adequate and continued pretreatment program implementation.

   g. Preparing a list of industrial users which, during the reporting period November 1 to October 31, have been in significant noncompliance with the pretreatment requirements enumerated in 40 CFR Part 403.8 (f)(2)(viii). This list will be published annually each December in the newspaper with the largest circulation in the service area.

B. APPROVED PRETREATMENT PROGRAM ANNUAL REPORT

1. Within 30 days of the close of the reporting period November 1 to October 31, the permittee shall submit a report to the EPD that includes:

   a. An updated list of POTW industrial users;

   b. The results of POTW sampling and analyses required by the EPD;

   c. A summary of POTW industrial user inspections;

   d. A summary of POTW operations including information on upsets, interferences, pass through events, or violations of the permit related to industrial user discharges;

   e. A summary of all activities to involve and inform the public of pretreatment requirements;

   f. A summary of the annual pretreatment program budget;

   g. A descriptive summary of any compliance activities initiated, ongoing, or completed against industrial users which shall include the number of administrative orders, show cause hearings, penalties, civil actions, and fines;

   h. A list of contributing industries using the treatment works, divided into Standard Industrial Classification Code (SIC) categories, which have been issued permits or similar enforceable individual control mechanisms, and a status of compliance for each industrial user. The list should also identify the industries that are categorical or significant industrial users;

   i. The name and address of each industrial user that has received a conditionally revised discharge limit;

   j. A list of all industrial users who were in significant noncompliance with applicable pretreatment standards and requirements;

   k. A list of all industrial users showing the date that each was notified that a categorical pretreatment standard had been promulgated by EPA for their industrial category and the status of each industrial user in achieving compliance within the 3 year period allowed by the Federal Act; and

   l. A description of all substantial changes proposed for the program. All substantial changes must first be approved by the EPD before formal adoption by the POTW. Substantial changes shall include but not be limited to:

      1. Changes in legal authority;
      2. Changes in local limits;
      3. Changes in the control mechanisms;
      4. Changes in the method for implementing categorical pretreatment standards.
      5. A decrease in the frequency of self-monitoring or reporting required of industrial users;

6. A decrease in the frequency of industrial user inspections or sampling by the POTW;
7. Significant reductions in the program resources including personnel commitments, equipment, and funding levels;
8. Changes in confidentiality procedures; and
9. Changes in the POTW sludge disposal and management practices.

2. Reports submitted by an industrial user will be retained by the permittee for at least 3 years and shall be available to the EPD for inspection and copying. This period shall be extended during the course of any unresolved litigation concerning the discharge of pollutants by an industrial user or concerning the operations of the program or when requested by the Director.

C. INDUSTRIAL PRETREATMENT STANDARDS

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

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

1. The permittee shall require all industrial dischargers to the POTW to meet State pretreatment regulations promulgated in response to Section 307(b) of the Federal Act. Other information about new industrial discharges may be required and will be requested from the permittee after the EPD has received notice of the discharge.

2. The permittee may be required to supplement the requirements of the State and Federal pretreatment regulations to ensure compliance with all applicable effluent limitations listed in Part I. Supplemental actions by the permittee concerning some or all of the industries discharging to the POTW may be necessary.

E. RETAINER

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

GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

FACT SHEET

City of Griffin
Shoal Creek – Blanton Mill Water Pollution Control Plant
LAS Permit No. GAJ020036
(Spalding County)

Technical Contact:

Kim Hembree, Environmental Specialist
Kim.Hembree@dnr.ga.gov
404-463-4937

Permit is:

- ☐ First issuance
- ☐ Reissuance with no significant modifications
- ☒ Reissuance with modifications
- ☐ Modifications only

1. Applicant Name and Address:

City of Griffin
Post Office Box T
Griffin, Georgia 30224

2. Facility Name and Location:

Shoal Creek – Blanton Mill Water Pollution Control Plant
2940 West Ellis Road
Griffin, Georgia 30224

3. River Basin:

Flint River Basin

4. Description of Wastewater Treatment Facility:

The facility consists of influent screens, two aerated ponds, two settling ponds, effluent screens, and sprayfields.

Solids settle and stabilize at the bottom of the ponds. Ponds will be dredged and dewatered sludge sent to a permitted landfill when needed.

5. Pre-treatment Plant Effluent Limitations:

BOD: 50 mg/L; TSS: 90 mg/L; pH: Report

The proposed BOD, TSS and pH limits in the draft permit are in accordance with EPD guidelines for land application of wastewater.

6. Storage Pond Monitoring:

6.1. Nitrogen Loading:

Monthly monitoring for Nitrate-Nitrogen and Total Kjeldahl Nitrogen for the storage pond effluent (Aerobic Pond No. 4) has been included in the draft permit to quantify nitrogen loading to the sprayfield and verify design assumptions.

7. Land Treatment System:

7.1. Application Rate and Wetted Area:

Treated effluent is disposed of via spray irrigation.

Wetted area: 370 acres

Application rate (WLR): 2.5 in/week

The wetted area and the application rate in the draft permit are in accordance with the permittee's Design Development Report, approved August 29, 1995.

The maximum allowable flow to the spray field is as follows:

$$\text{Site capacity} = \frac{A_{Site}\,(\text{acres}) \times \text{WLR (in/week)} \times 43{,}560\ \text{ft}^2/\text{acre} \times 7.48\ \text{gal/ft}^3}{12\ \text{in/ft}}\ \text{gal/week}$$

$$= \frac{370 \times 2.5 \times 43{,}560 \times 7.48}{12}$$

$= 25,115,970$ gal/week maximum or 3.59 MGD (7-day average)

7.2. Groundwater Monitoring Requirements:

The intent of monitoring is to determine the influence of the land treatment system on the quality of the groundwater. Groundwater leaving the spray field boundaries must meet drinking water maximum contaminant levels (MCLs).

In accordance with EPD requirements for all municipal LAS facilities, groundwater will be monitored for the following parameters:

Parameter (units)
Depth to Groundwater (feet)
Nitrate, as N (mg/L)
pH (standard units)
Specific Conductivity (µmhos/cm)
Fecal Coliform Bacteria (# col/100mL)

Based on the application submitted, it has been determined that monitoring for additional parameters is not required at this time.

Nitrate-nitrogen violations in downgradient monitoring wells reported in the permittee's application will be addressed by EPD in a future enforcement action or corrective action plan.

7.3. Soil Monitoring Requirements:

The intent of monitoring is to determine the influence of the treated wastewater on the soil chemistry/composition. It will also aid the permittee with operation and maintenance of the land treatment system.

In accordance with EPD requirements for all municipal LAS facilities, requirements to conduct soil fertility tests, as well as Cation Exchange Capacity and Percent Base Saturation analysis (depending on pH results), have been included in the draft permit.

Based on the application submitted, it has been determined that monitoring for additional parameters is not required at this time.

7.4. Surface Water Monitoring Requirements:

The intent of monitoring is to determine if the facility has an impact on perennial surface water adjacent to or traversing the sprayfields by comparing results from upstream and downstream samples.

Surface water(s) as identified in the Design Development Report or permit application are the Flint River and Flat Creek. The surface water monitoring locations on the Flint River are upstream at the bridge on Highway 16 West and downstream at the bridge on Hollonville Road. The surface water monitoring locations on Flat Creek are upstream on Scott Branch Road (1/2 mile past dairy) and downstream at the bridge on Blanton Mill Road.

8. Other Permitting Considerations:

8.1. Service Delivery Strategy:

The permittee is in compliance with the DCA-approved service delivery strategy for Spalding County.

8.2. Watershed Protection Plan (WPP):

The City has an approved WPP; therefore language has been included in the draft permit to reflect the approved plan.

8.3. Sludge Management Plan (SMP):

Sludge is disposed of in a landfill. An approved SMP is not required.

8.4. Industrial Pretreatment Program (IPP):

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

8.5. Operator Certification:

Class II

9. Reporting

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

Georgia Environmental Protection Division
Watershed Compliance Program
2 Martin Luther King Jr. Drive
Suite 1152 East
Atlanta, Georgia 30334

10. Procedures for the Formulation of Final Determinations

10.1 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.

10.2 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.

10.3 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 LAS 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 LAS 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-.11(6). 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.

10.4 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

10.5 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.