

SYSTEM DEVELOPMENT FEE STUDY FOR WATER FACILITIES

Draft

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TABLE OF CONTENTS

INTRODUCTION	3
NORTH CAROLINA DEVELOPMENT FEE ENABLING LEGISLATION	3
<i>Qualified Professionals.....</i>	<i>3</i>
SUMMARY OF PROPOSED WATER SYSTEM DEVELOPMENT FEES	4
<i>Evaluation of Credits</i>	<i>4</i>
<i>Water System Development Fee.....</i>	<i>5</i>
Figure 1. Current and Proposed Water System Development Fee.....	5
WATER SYSTEM DEVELOPMENT FEE ANALYSIS.....	6
CURRENT USE AND AVAILABLE CAPACITY.....	6
Figure 2. Maximum Day Water System Demand.....	6
PROJECTED WATER DEMAND	7
Figure 3. Projected Maximum Daily Water Demand	7
NEED FOR WATER FACILITIES.....	7
Figure 4. Jordan Lake Partnership Water Facility - Construction and Other Capital Costs	8
ADDITIONAL WATER PROJECTS TO BE INCLUDED	9
Figure 5. Cary/Apex Raw Water Intake Capital Projects.....	9
WATER SYSTEM DEVELOPMENT FEE COMPONENTS.....	10
Figure 6. Capital Cost of Jordan Lake Facility.....	10
Figure 7. Capital Cost of Western Transmission Main - Storage Component.....	10
Figure 8. Capital Cost of Western Transmission Main - Distribution Component	11
Figure 9. Western Transmission Debt Service Payment Schedule	11
Figure 10. Percentage of Credit to Capital Cost, Western Transmission	12
Figure 11. Capital Cost of Southeast District Distribution Lines	12
Figure 12. Southeast District Distribution Lines Debt Service Payment Schedule	13
Figure 13. Percentage of Credit to Capital Cost, Southeast District Distribution Lines	13
Figure 14. Cary/Apex Raw Water Intake Capital Projects.....	14
PROPOSED WATER DEVELOPMENT FEE	15
Figure 15. Capital Cost Factors & Proposed Water System Development Fee.....	15
PROJECTION OF REVENUES.....	16
Figure 16. Water Fee Revenue Projection	16
APPENDIX A – LAND USE ASSUMPTIONS.....	17
APPENDIX B – WATER METER CAPACITY	21
APPENDIX C – NORTH CAROLINA SESSION LAW 2017-138	22

INTRODUCTION

Chatham County retained TischlerBise to document land use assumptions and update water development fees under the State of North Carolina's Session Law 2017-138, *Public Water and Sewer System Development Fee Act*. Counties in North Carolina may assess development fees to offset infrastructure costs for necessary water and sewer systems.

Water system development fees are one-time payments used to construct utility system improvements needed to accommodate new development. The fee represents future development's proportionate share of infrastructure costs. Development fees may be used for infrastructure improvements and/or debt service for growth-related infrastructure. In contrast to other general sources of revenue such as property taxes, development fees may not be used for operations, maintenance, replacement or correcting existing deficiencies.

Please note, calculations throughout this report are based on an analysis conducted using Excel software. Results are discussed in the memo using one-and two-digit places (in most cases), which represent rounded figures. However, the analysis itself uses figures carried to their ultimate decimal places; therefore, the sums and products generated in the analysis may not equal the sum or product if the reader replicates the calculation with the factors shown in the report (due to the rounding of figures shown, not in the analysis).

NORTH CAROLINA DEVELOPMENT FEE ENABLING LEGISLATION

Prior to the adoption of North Carolina Session Law (S.L.) 2017-138 (House Bill 436), Chatham County was given the authority under a 1987 session law, Chapter 460, to collect impact fees from developers to help defray the costs of constructing capital improvements including those for water and sewer systems.

With the adoption of S.L. 2017-138, Chatham County, along with all local governments, was given direct authority to charge a development fee for water and sewer systems.

See Appendix C for the full S.L. 2017-138.

Qualified Professionals

According to S.L. 2017-138, a qualified professional must calculate the development fee based on a written analysis, using general accepted engineering and planning practices. A qualified professional is defined as "a financial professional or a licensed professional engineer qualified by experience and training or education to employ generally accepted accounting, engineering, and planning methodologies to calculate system development fees for public water and sewer systems."

TischlerBise is a fiscal, economic, and planning consulting firm specializing in the cost of growth services with qualified planners and financial consultants on staff.¹ Our services include development fees, fiscal impact analysis, infrastructure funding, user fee and cost of service studies, capital improvement plans, and fiscal software. TischlerBise has prepared over 900 development fee studies over the past 37 years for local governments across the United States.

SUMMARY OF PROPOSED WATER SYSTEM DEVELOPMENT FEES

Development fees for water and wastewater must be based on the same level of service provided to existing development in the service area. There are three general methods for calculating development fees. The choice of a particular method depends primarily on the timing of infrastructure construction (past or future). Each method has advantages and disadvantages in a particular situation and can be used simultaneously for different cost components. Reduced to its simplest terms, the process of calculating development fees involves two main steps: (1) determining the cost of development-related capital improvements and (2) allocating those costs equitably to various types of development. In practice, though, the calculation of development fees is complicated due to many variables involved in defining the relationship between development and the need for facilities within the designated service area. The following discusses the three basic methods for calculating development fees and how those methods can be applied:

- The **Cost Recovery Method** is used in instances when a community has oversized a water facility or asset in anticipation of future development. This methodology is based on the rationale that new development is repaying the community for its share of the remaining unused capacity.
- The **Incremental Expansion Method** documents the current level-of-service standards and assumes there is no existing deficiencies or surpluses in capacity. Revenues are used to expand or provide additional facilities, as needed, to accommodate new development. The method is best suited for public facilities that expand in regular increments to keep pace with development.
- The **Plan-Based Method** utilizes a community's adopted plans, or engineering studies, to determine water capital improvements needed to serve new development.

Evaluation of Credits

Regardless of the methodology, a consideration of "credits" is integral to the development of a legally defensible development fee that conforms to the North Carolina Public Water and Sewer System Development Fee Act. There are two types of "credits" that should be addressed in development fee studies and ordinances. The first is a revenue credit due to possible double payment situations, which

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could occur when other revenues (e.g., rate revenue) may contribute to the capital costs of infrastructure covered by the development fee. This type of credit is integrated into the fee calculation, thus reducing the fee amount.

The second is a site-specific credit or developer reimbursement for dedication of land or construction of system improvements. This type of credit is addressed in the administration and implementation of the development fee program. For ease of administration, TischlerBise normally recommends developer reimbursements for system improvements.

In Session Law 2017-138, a specific minimum is established for revenue credits: “In no case shall the credit be less than twenty-five percent (25%) of the aggregate cost of capital improvements.” To comply with this provision, a credit is applied to projects that have current debt obligations with the credit being at least 25 percent of the calculated capital cost per gallon. The credit calculations for eligible projects and any necessary adjustments made to conform to S.L. 2017-138 are detailed in the body of this report.

Water System Development Fee

Current and proposed development fees for water facilities are summarized in Figure 1. The fee is calculated for additional capacity in the water systems in Chatham County and should be assessed as such. The proposed fee for a typical single family housing unit is \$3,431. The fee for the developments with a larger meter size than 5/8 x 3/4 inches is based on the capacity ratio provided by the American Water Works Association².

Figure 1. Current and Proposed Water System Development Fee

Meter Size (inches)	Capacity Ratio	Proposed Water Fee	Current Fee	\$ Change	Percent Change
5/8 x 3/4	1.00	\$3,431	\$3,500	(\$69)	-2%
1	1.67	\$5,729	\$7,000	(\$1,271)	-18%
1 1/2	3.33	\$11,425	\$10,000	\$1,425	14%
2	5.33	\$18,287	\$16,000	\$2,287	14%
3	10.00	\$34,310	\$30,000	\$4,310	14%
4	16.67	\$57,194	\$40,000	\$17,194	43%
6	33.33	\$114,355	\$120,000	(\$5,645)	-5%

Source: American Water Works Association, Manual M-6, Water Meters - Selecting, Testing, Installation, and Maintenance; TischlerBise analysis

² See Appendix B.

WATER SYSTEM DEVELOPMENT FEE ANALYSIS

There are three water systems operated by Chatham County: North, Southwest, and Asbury. In terms of usage, the North water system is the largest. The Water System Development Fee is applied to all developments that are connected to the Chatham County water systems, so the water demands in this study are a cumulative total of the three systems.

CURRENT USE AND AVAILABLE CAPACITY

Water use by current customers is determined from County utility billing records. The number of water customers and use for FY2017 is shown in Figure 2. As shown, the three Chatham County water systems have an estimated 8,375 connections with daily maximum demand of 3.18 million gallons per day. Maximum demand is used because water facilities are designed to accommodate maximum demand not average demand. A factor of 1.5 is applied to average daily usage to calculate the maximum demand. This equates to 281 gallons per day per residential connection and 102 gallons per day per person.

For nonresidential usage, employment figures are used. To project jobs just within the water systems (as opposed to Countywide), TischlerBise derived a population per job factor of .28 for the whole county and applied that to the population total within the water systems. (See Appendix A for further detail on demographic assumptions.) Based on this analysis, it is estimated that there are 6,269 jobs and 29 jobs per nonresidential connection in the water system service areas. Consequently, there is an average of 145 gallons per day per job in the County's water systems. ***The residential water demand, 281 gallons (rounded), is used as Chatham County's water demand per Equivalent Residential Unit (ERU). The ERU is applied to the capital costs per gallon calculated later in the report.***

Figure 2. Maximum Day Water System Demand

Land Use	Connections	Total Water Demand, Max (MGD)	Max per Connection (gal)
Residential	8,045	2.26	281
Commercial	194	0.32	1,637
Industrial	76	0.52	6,834
Institutional	60	0.07	1,231
Total	8,375	3.18	379

Source: Chatham County Utilities & Water Division

Jobs Per Connection [1]	19
Gallons Per Nonresidential Connection, Max [2]	2,760
Gallons Per Day Per Job, Max	145
Gallons per Day Per Person, Max [3]	102

[1] Estimated 6,269 jobs in the Chatham County Water System

[2] 330 nonresidential connections

[3] Estimated 22,272 residents

PROJECTED WATER DEMAND

Current average day water demand is estimated at 2.12 million gallons per day (MGD). However, peak day demand can reach 4.05 MGD. Over the next ten years, Chatham County's daily max water demand is expected to increase from 4.05 MGD to 11.9 MGD in 2027. As shown in Figure 3, residential demand is projected to increase by 3.22 MGD and nonresidential demand is projected to increase by 2.61 MGD. Along with residential and nonresidential demands, the total includes system processes and unaccounted-for water demands (listed as Other). Lastly, through interviews with officials from the County, it has been gathered that a new industrial development has been approved which will increase water demand by an additional 1 MGD. This is included in Figure 3 under Industrial. From the base year to 2020, the full 1 MGD demand steadily comes online. Further detail about Chatham County's demographics and growth projections can be found in Appendix A.

Figure 3. Projected Maximum Daily Water Demand

	Base Year 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total Increase
Population	22,272	24,737	27,201	29,665	31,299	32,932	34,566	36,199	37,833	39,466	41,100	18,827
Jobs	6,269	6,963	7,657	8,350	8,810	9,270	9,730	10,190	10,649	11,109	11,569	5,300
Residential Connections												
Single Family	7,978	8,861	9,743	10,626	11,211	11,796	12,381	12,967	13,552	14,137	14,722	6,744
Multifamily	67	74	82	89	94	99	104	109	114	119	124	57
Total	8,045	8,935	9,825	10,715	11,305	11,895	12,485	13,076	13,666	14,256	14,846	6,801
Nonresidential Connections												
Commercial	194	215	237	258	273	287	301	315	330	344	358	164
Industrial	76	84	93	101	107	112	118	124	129	135	140	64
Institutional	60	67	73	80	84	89	93	98	102	106	111	51
Total	330	367	403	440	464	488	512	536	561	585	609	279
Water Demand, Maximum (MGD)												
Residential	2.26	2.79	3.31	3.83	4.07	4.30	4.54	4.77	5.01	5.25	5.48	3.22
Commercial	0.32	0.36	0.40	0.45	0.49	0.52	0.56	0.60	0.64	0.68	0.72	0.40
Industrial	0.52	0.96	1.40	2.21	2.27	2.32	2.37	2.42	2.48	2.53	2.58	2.06
Institutional	0.07	0.10	0.12	0.14	0.15	0.16	0.17	0.18	0.20	0.21	0.22	0.15
Other	0.88	1.35	1.83	2.31	2.39	2.48	2.56	2.65	2.73	2.81	2.90	2.02
Total	4.05	5.56	7.06	8.94	9.36	9.78	10.21	10.63	11.05	11.48	11.90	7.85

Source: Chatham County Utilities & Water Division; Local Water Supply Plan, 2016; Chatham County CAFR, 2017; TischlerBise analysis

NEED FOR WATER FACILITIES

The Chatham County staff has determined that additional growth-related improvements are necessary. Currently, the County purchases water from several sources to supplement their water production to accommodate the current water demand. To end their dependence on purchasing water and to accommodate the projected increase in water demand from future growth Chatham County, along with regional partnerships, plans to construct a new water facility.

The Western Intake Partners Facility (WIP) includes water withdrawal, treatment, and transmission facilities on the western side of B. Everett Jordan Lake and is a collaborative development between Chatham County, the City of Durham, the Orange Water and Sewer Authority, and the Town of Pittsboro. A feasibility study conducted by Hazen and Sawyer concluded that the regional water treatment facility was the best option to meet Chatham County and the region's long-term water needs.

The WIP facility has a planning horizon of 2060 and includes two phases. The first phase includes construction of a new water treatment and pumping facilities to meet maximum day demands in the year 2040. The subsequent phase includes expansion to accommodate 2060 demand levels. Ultimately, Phase 1 of the WIP facility will add 33 million gallons per day (MGD) to the region and Phase 2 to will increase the capacity of the facility to 54 MGD.

The WIP facility is expected to provide the needed capacity for Chatham County's future development. The Plan-Based Methodology is used for this project to calculate its appropriate capital cost for the Water System Development Fee. The facility will be providing 10 MGD to the County in Phase 1 and 16 MGD in Phase 2. In accordance with Session Law 2017-138, the cost used in the system development fee for the WIP facility will be no longer than 20 years from the base year. Listed in Figure 4, in 2014 the construction and other capital costs totaled \$65,941,000. Utilizing the Turner Building Cost Index³ (the largest general contractor in the United States), the 2014 total is updated to 2017 dollars. The WIP facility's current total cost is estimated at \$77,345,430.

Additional project components to include storage and transmission are included in the development fee calculation and detailed in the next section.

Figure 4. Jordan Lake Partnership Water Facility - Construction and Other Capital Costs

	Phase 1 Costs	%
Construction Subtotal	\$43,459,000	66%
Engineering Costs Subtotal	\$7,842,000	12%
Land Acquisitions and Easements	\$577,000	1%
Contingency	\$12,970,000	20%
Allocation Cost	\$1,093,000	2%
Total (2014 \$)	\$65,941,000	100%
Total (2017 \$) [1]	\$77,345,430	

[1] Total cost has been adjusted to reflect increase in construction costs;

Source: Turner Building Cost Index, 2017

Source: Jordan Lake Partnership Western Intake Feasibility Study, 2014

³ The Turner Building Cost Index's base year is 1967, index value 100. In 2014, the Index was valued at 902. In the fourth quarter of 2017, the Index is valued at 1,058. That is an increase of 17.29%. This increase in construction costs is applied to the 2014 total for the Jordan Lake facility to calculate the 2017 cost.

ADDITIONAL WATER PROJECTS TO BE INCLUDED

In addition to planned facilities, previously completed water facilities that increased the water system's capacity and are currently debt financed can be included into the System Development Fee. There are two such projects in Chatham County to be included in the development fee analysis:

- Western Transmission Mains
- Southeast District Distribution Lines

The Cost Recovery Methodology is used for the West Transmission Main project to calculate its appropriate capital cost for the Water System Development Fee. The project included constructing 162,000 linear feet of water mains, an elevated storage tank (750,000 gallons), and two booster stations. With the completion of the project, the County can better serve current and future development in the Southwest and Asbury Water System. Provided by County staff, the Western Transmission Mains project accounted for 64 percent of a 2012 limited obligation bond. The project's total cost is \$16,660,679. The project's debt obligation is planned to be fully paid by 2028-2029.

The Cost Recovery Methodology is used for the Southeast District Distribution Line project as well. Following a voter-approved referendum, the project included constructing 40 miles of distribution water mains. Three bonds were used to finance the project (Water Series 2010, Water System Series 2010A, and Water System Series 2010B) and they are scheduled to be repaid by 2049. To stay within the 20-year horizon set by S.L 2017-318, the cost of the project will be calculated through 2037. Including principal and interest, the Southeast District Distribution Line project costs \$6,799,637.

Lastly, Chatham County has a longstanding agreement with the Towns of Cary and Apex to purchase 3 MGD of raw water from a water intake facility on the eastern shore of Jordan Lake. The agreement was recently renewed for a 10-year term. Under the Water Intake Service Agreement, Chatham County is responsible for 4.75 percent of the cost of recent projects that expanded the intake facility to 63.2 MGD. Figure 5 lists the capital projects and the dollar amount Chatham County is responsible for under the Cary/Apex Agreement. Chatham County's total cost of the two projects is \$1,095,939.

Figure 5. Cary/Apex Raw Water Intake Capital Projects

Water Pumping Station and Intake Improvements	\$18,196,402
Chatham County Percent of Capital Cost	4.75%
Chatham County Capital Cost	\$864,329
 Jordan Lake Aeration System	 \$4,876,000
Chatham County Percent of Capital Cost	4.75%
Chatham County Capital Cost	\$231,610
Total Capital Cost	\$1,095,939

Source: Chatham County, Chatham County Water Intake Service Agreement

WATER SYSTEM DEVELOPMENT FEE COMPONENTS

To calculate the Water System Development Fee, a capital cost per gallon of capacity for each of the included projects is needed. There are seven components to the Water System Development Fee:

- Western Intake Partners Water Facility
- Western Transmission Mains – Storage
- Western Transmission Mains – Distribution
- Western Transmission Mains – Credit
- Southeast Distribution Lines
- Southeast Distribution Lines – Credit
- Cary/Apex Raw Water Intake Capital Projects

As illustrated in Figure 6, the Western Intake Partners Water Facility is estimated to cost Chatham County \$77,345,430 (in current dollars) over the next 20 years, which reflects the first phase of the project. This first phase of the facility will add 10 MGD to Chatham County's water systems' capacity. Below, Figure 6 calculates the WIP's capital cost per gallon component of the system development fee. The WIP Facility adds \$7.73 per gallon to the system development fee.

Figure 6. Capital Cost of Jordan Lake Facility

Description	Capacity	Cost
Western Intake Partners Water Facility	10,000,000	\$77,345,430

Total Cost	\$77,345,430
Gallons of Capacity	10,000,000
Cost per Gallon of Capacity	\$7.73

Source: Jordan Lake Partnership Western Intake Feasibility Study, 2014; TischlerBise analysis

The Western Transmission Mains project is separated into storage and distribution components. The storage component is the 750,000-gallon elevated storage tank. The distribution component includes the mains and all other related costs (pump stations, design, construction administration, and land acquisition). From information provided by County staff, the distribution portion of the project has a capacity of 7,250,000 gallons. Figure 7 & Figure 8 illustrate the results. The storage component cost is \$2.09 per gallon and the distribution component cost is \$2.08.

Figure 7. Capital Cost of Western Transmission Mains - Storage Component

Description	Capacity	Cost
Western Transmission - Storage Tank	750,000	\$1,568,467

Total Cost	\$1,568,467
Gallons of Capacity	750,000
Cost per Gallon of Capacity	\$2.09

Source: Chatham County 2011 Capital Improvement Program; Chatham County Bond Ledger Series 2012; TischlerBise analysis

Figure 8. Capital Cost of Western Transmission Mains - Distribution Component

Description	Capacity	Cost
Western Transmission - Distribution	7,250,000	\$15,092,212

Total Cost	\$15,092,212
Gallons of Capacity	7,250,000
Cost per Gallon of Capacity	\$2.08

Source: Chatham County Utilities & Water Division; Chatham County Bond Ledger Series 2012; TischlerBise analysis

The County debt financed the Western Transmission Mains project; therefore, a credit is necessary for future payments. County staff provided a payment schedule for the existing limited obligation bond that was used to finance the project. Figure 9 provides the credit calculation for the payments to be made by Chatham County. To account for the time value of money, annual payments per gallon of max water demand are discounted using a net present value formula based on the applicable discount (interest) rate. This results in a credit per gallon of \$1.16. The credit amount is subtracted from the capital cost per gallon.

Figure 9. Western Transmission Debt Service Payment Schedule

FY	Debt Service	Max Water Demand (MGD)	Cost per Gallon
2017-2018	\$1,011,631	4.1	\$0.25
2018-2019	\$1,001,735	5.6	\$0.18
2019-2020	\$988,113	7.1	\$0.14
2020-2021	\$977,123	8.9	\$0.11
2021-2022	\$968,642	9.4	\$0.10
2022-2023	\$958,907	9.8	\$0.10
2023-2024	\$944,529	10.2	\$0.09
2024-2025	\$935,291	10.6	\$0.09
2025-2026	\$924,608	11.1	\$0.08
2026-2027	\$912,479	11.5	\$0.08
2027-2028	\$902,037	11.9	\$0.08
2028-2029	\$263,467	12.3	\$0.02
Net Present Value (starting FY17-18)			\$1.16

Interest Rate (2018-2021)	4%
Interest Rate (2022-2029)	5%

Source: Chatham County Local Water Supply Plan 2016; Chatham County Bond Ledger Series 2012; TischlerBise analysis

To comply with North Carolina Session Law 2017-138, the revenue credit for the Western Transmission debt needs to be at least 25 percent of the capital cost per gallon. Shown in Figure 10, the combined cost per gallon of the two Western Transmission components is \$4.17 (\$2.09 per gallon for storage plus \$2.08 for transmission). As a result, the credit is 27.7 percent of the cost and in compliance with the Session Law.

Figure 10. Percentage of Credit to Capital Cost, Western Transmission

Cost per Gallon of Capacity	\$4.17
Credit Net Present Value per Gallon	\$1.16
Percentage of Cost Reduced by Credit	27.7%

Source: TischlerBise analysis

Figure 11 provides capacity and cost detail for the Southeast District Distribution Lines project. From information provided by County staff, the distribution lines have a capacity of 4,600,000 gallons per day. The total cost of the project was \$6,799,637. As a result, there is a capital cost of \$1.48 per gallon.

Figure 11. Capital Cost of Southeast District Distribution Lines

Description	Capacity	Cost
Southeast District Distribution Lines	4,600,000	\$6,799,637

Total Cost	\$6,799,637
Gallons of Capacity	4,600,000
Cost per Gallon of Capacity	\$1.48

Source: Chatham County Utilities & Water Division; Chatham County Comprehensive Annual Financial Report 2010; TischlerBise analysis

The County debt financed the Southeast District Distribution lines project; therefore, a credit is necessary for future payments. The payment schedule for the three bonds that were used to finance the project is from Chatham County's 2010 *Comprehensive Annual Financial Report* (CAFR). Figure 12 provides the credit calculation for the payments to be made by Chatham County. To account for the time value of money, annual payments per gallon are discounted using a net present value formula based on the applicable discount (interest) rate. This results in a revenue credit per gallon of \$0.38. The credit amount is subtracted from the capital cost per gallon.

Figure 12. Southeast District Distribution Lines Debt Service Payment Schedule

FY	Debt Service	Max Water Demand (MGD)	Cost per Gallon
2017	\$254,780	4.1	\$0.06
2018	\$253,823	5.6	\$0.05
2019	\$253,793	7.1	\$0.04
2020	\$253,650	8.9	\$0.03
2021	\$254,395	9.4	\$0.03
2022	\$254,988	9.8	\$0.03
2023	\$254,428	10.2	\$0.02
2024	\$254,755	10.6	\$0.02
2025	\$253,930	11.1	\$0.02
2026	\$253,993	11.5	\$0.02
2027	\$253,903	11.9	\$0.02
2028	\$253,660	12.3	\$0.02
2029	\$253,950	12.7	\$0.02
2030	\$253,950	13.2	\$0.02
2031	\$254,223	13.6	\$0.02
2032	\$254,223	14.1	\$0.02
2033	\$254,223	14.6	\$0.02
2034	\$254,223	15.1	\$0.02
2035	\$254,223	15.6	\$0.02
2036	\$254,169	16.1	\$0.02
2037	\$254,169	16.5	\$0.02
Net Present Value (starting FY17-18)			\$0.38

Interest Rate	4%
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Source: Chatham County Local Water Supply Plan 2016;
Chatham County Comprehensive Annual Financial Report
2010; TischlerBise analysis

To comply with S.L. 2017-138, the revenue credit for the Southeast District Distribution Lines debt needs to be at least 25 percent of the capital cost per gallon. Shown in Figure 13, the credit is 25.6 percent of the cost per gallon, and therefore in compliance with Session Law.

Figure 13. Percentage of Credit to Capital Cost, Southeast District Distribution Lines

Cost per Gallon of Capacity	\$1.48
Credit Net Present Value per Gallon	\$0.38
Percentage of Cost Reduced by Credit	25.6%

Source: TischlerBise analysis

The last project included in the development fee is the Cary/Apex Water Intake Capital Projects. Figure 14 provides the calculation of the cost per gallon of capacity from the Cary/Apex water facility projects. The County purchases 3 MGD from the Cary/Apex facility and is under agreement to pay for a portion (\$1,095,939) of recent capital projects on the facility. This results in a capital cost of \$0.37 per gallon.

Figure 14. Cary/Apex Raw Water Intake Capital Projects

Description	Capacity	Cost
Cary/Apex Water Facility Projects	3,000,000	\$1,095,939

Total Cost	\$1,095,939
Gallons of Capacity	3,000,000
Cost per Gallon of Capacity	\$0.37

Source: Chatham County Water Intake Service Agreement

PROPOSED WATER DEVELOPMENT FEE

Figure 15 summarizes the capital cost factors for the Chatham County Water System Development Fee. After including the debt service credit, the net capital cost per gallon totals \$12.22. The maximum day gallons of demand per Equivalent Residential Unit (ERU) is applied to the capital cost to calculate the proposed Water System Development Fee. **The fee for a meter that is 5/8 x 3/4 inches is \$3,431 (\$12.21 per gallon x 281 gallons per day = \$3,431, truncated).** For meters that are larger than 5/8 x 3/4 inches, a capacity ratio is applied. The water capacity for each meter size is provided by the American Water Works Association, see Appendix B.

All costs in the System Development Fee calculations are given in current dollars with no assumed inflation over time. Since the Water System Development Fee study is based on a snapshot in time, if cost estimates or other factors change significantly, calculations should be revisited. As the majority of the future capital costs for Chatham County are due to the future Jordan Lake facility project, **TischlerBise recommends that the Water System Development Fee be adjusted every year to compensate for the increasing construction costs observed both nationally and in the County.** Since costs are expected to increase, this will ensure that future developments are paying their fair share. It is recommended that the adjustment be consistent with the study and use the Turner Building Cost Index.

Figure 15. Capital Cost Factors & Proposed Water System Development Fee

	Cost per Gallon of Maximum Day Capacity
Jordan Lake Water Facility	\$7.73
Western Transmission - Storage Tank	\$2.09
Western Transmission - Distribution	\$2.08
Southeast District Distribution Lines	\$1.48
Cary/Apex Water Facility Projects	\$0.37
Debt Service Credit	-\$1.54
Capital Cost per Gallon of Capacity =>	\$12.21
Maximum Day Gallons of Demand per ERU =>	281

All Development (per meter)

Meter Size (inches)	Capacity Ratio	Proposed Water Fee	Current Fee	\$ Change	Percent Change
5/8 x 3/4	1.00	\$3,431	\$3,500	(\$69)	-2%
1	1.67	\$5,729	\$7,000	(\$1,271)	-18%
1 1/2	3.33	\$11,425	\$10,000	\$1,425	14%
2	5.33	\$18,287	\$16,000	\$2,287	14%
3	10.00	\$34,310	\$30,000	\$4,310	14%
4	16.67	\$57,194	\$40,000	\$17,194	43%
6	33.33	\$114,355	\$120,000	(\$5,645)	-5%

Source: American Water Works Association, Manual M-6, Water Meters - Selecting, Testing, Installation, and Maintenance; TischlerBise analysis

Note: Proposed water fee is truncated

PROJECTION OF REVENUES

The System Development Fee generates revenue from new development for Chatham County to offset a portion of the capital costs of water facilities. Since accurately projecting meter sizes from future development, especially nonresidential development, is challenging, the net capital cost per gallon of capacity (\$12.21) is applied to population and job projections. Shown in Figure 16, to estimate the revenue from residential development, the population growth is multiplied by the water demand per capita (102 gallons) and the cost per gallon factor. For nonresidential development, the revenue is calculated by multiplying the employment projection by the water consumption per job (145 gallons) and the cost per gallon factor.

Over the next twenty years, Chatham County has identified a need for approximately \$94 million in growth-related water improvements, including \$76.3 million for the Western Intake Partners. As shown at the bottom of Figure 16, projected Water System Development Fee revenue totals \$61.3 million over twenty years. As the Western Intake facility accommodates current water demands and future growth, it is not expected that the system development fee will pay for the entire capital cost.

Figure 16. Water Fee Revenue Projection

	Year	Population	Job
Base	2017	22,272	6,269
Year 1	2018	24,737	6,963
Year 2	2019	27,201	7,657
Year 3	2020	29,665	8,350
Year 4	2021	31,299	8,810
Year 5	2022	32,932	9,270
Year 6	2023	34,566	9,730
Year 7	2024	36,199	10,190
Year 8	2025	37,833	10,649
Year 9	2026	39,466	11,109
Year 10	2027	41,100	11,569
Year 11	2028	42,733	12,029
Year 12	2029	44,367	12,489
Year 13	2030	46,000	12,948
Year 14	2031	47,643	13,411
Year 15	2032	49,286	13,873
Year 16	2033	50,930	14,336
Year 17	2034	52,573	14,799
Year 18	2035	54,216	15,261
Year 19	2036	55,859	15,724
Year 20	2037	57,502	16,186
Twenty-Year Increase		35,230	9,917
Water Demand, per Pop./Job		102	145
Cost per Gallon		\$12.21	\$12.21
Revenue Subtotal		\$43,738,346	\$17,592,390
Revenue Grand Total		\$61,330,737	

Source: TischlerBise analysis

APPENDIX A – LAND USE ASSUMPTIONS

As part of our Work Scope, TischlerBise prepared documentation on demographic data and development projections that are used in the Water System Development Fee Study for Chatham County, NC. The demographic data estimates for 2017 are used in the study calculations as the base year. The development projections are intended solely for the purpose of having an understanding of the possible future pace of service demands, system development fee revenues, and capital expenditures.

The system development fee study only pertains to the areas that are connected to Chatham County water systems (North, Southwest, and Asbury). There are several municipalities that operate their own water systems and households in unincorporated areas of the county may be served by private wells as well.

CHATHAM COUNTY WATER SYSTEMS RESIDENTIAL BASE YEAR ESTIMATE AND PROJECTIONS

Based on Chatham County's *Local Water Supply Plan*, 2016, and an 8-month water usage report for all three water systems, there are 22,272 residents, 7,978 single family connections, and 67 multifamily connections in the base year; see Figure 17.

The *Local Water Supply Plan* also provides population projections. In Figure 17, the annual percentage of population growth drives the single and multifamily connection growth. Based on the population growth of 85 percent over the next ten years, there will be an additional 6,744 single family and 57 multifamily connections.

Figure 17. Chatham County Water Systems' Residential Projections, 2017 to 2027

	Base Year 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total Increase
Population	22,272	24,737	27,201	29,665	31,299	32,932	34,566	36,199	37,833	39,466	41,100	18,827
Percent Increase		11%	10%	9%	6%	5%	5%	5%	5%	4%	4%	85%
Residential Connections												
Single Family	7,978	8,861	9,743	10,626	11,211	11,796	12,381	12,967	13,552	14,137	14,722	6,744
Multifamily	67	74	82	89	94	99	104	109	114	119	124	57
Total	8,045	8,935	9,825	10,715	11,305	11,895	12,485	13,076	13,666	14,256	14,846	6,801

Source: Chatham County Utilities & Water Division, Local Water Supply Plan, 2016; TischlerBise analysis

CHATHAM COUNTY WATER SYSTEMS NONRESIDENTIAL ESTIMATE AND PROJECTIONS

To estimate the number of jobs served by Chatham County water systems, the job-to-population ratio for the entire county is applied to the population of the three water systems. Figure 18 lists the total employment in Chatham County by NAICS codes. There is a total of 20,215 jobs in all of Chatham County.

Figure 18. Chatham County Employment Totals

Industries by NAICS Codes	Employees	Percent
Agriculture, Forestry, Fishing & Hunting	74	0.4%
Mining	4	0.0%
Utilities	249	1.2%
Construction	876	4.3%
Manufacturing	2,106	10.4%
Wholesale Trade	659	3.3%
Retail Trade	2,623	13.0%
Transportation & Warehousing	352	1.7%
Information	400	2.0%
Finance & Insurance	500	2.5%
Real Estate, Rental & Leasing	584	2.9%
Professional, Scientific & Tech Services	803	4.0%
Management of Companies & Enterprises	6	0.0%
Administrative & Support & Waste Management & Remediation	391	1.9%
Educational Services	1,683	8.3%
Health Care & Social Assistance	3,554	17.6%
Arts, Entertainment & Recreation	336	1.7%
Accommodation & Food Services	1,984	9.8%
Other Services (except Public Administration)	1,482	7.3%
Public Administration	1,505	7.4%
Unclassified Establishments	44	0.2%
Total	20,215	100%

Source: ESRI, Business Analyst 2017

Additionally, according to Chatham County's *Comprehensive Annual Financial Report*, 2017, there is estimated to be 71,815 residents in Chatham County. As a result, the job-to-population ratio is 0.28. By applying that ratio to the population estimated for the water systems (22,272), the employment total is estimated (22,272 residents x 0.28 ratio = 6,269 jobs); see Figure 19.

Furthermore, there are 330 nonresidential connections in the base year, the majority being for commercial purpose. Over the 10-year projection period, there is a projected increase of 164 commercial connections, 64 industrial connections, and 51 institutional connections, per the *Water Supply Plan*.

Figure 19. Chatham County Water Systems' Nonresidential Projections, 2017 to 2027

	Base Year 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total Increase
Jobs	6,269	6,963	7,657	8,350	8,810	9,270	9,730	10,190	10,649	11,109	11,569	5,300
Nonresidential Connections												
Commercial	194	215	237	258	273	287	301	315	330	344	358	164
Industrial	76	84	93	101	107	112	118	124	129	135	140	64
Institutional	60	67	73	80	84	89	93	98	102	106	111	51
Total	330	367	403	440	464	488	512	536	561	585	609	279

Source: Chatham County Local Water Supply Plan, 2016; Chatham County CAFR, 2017; TischlerBise analysis

CHATHAM COUNTY WATER SYSTEMS WATER DEMAND PROJECTIONS

Current and future water demands from residential and nonresidential connections are provided in the Utilities & Water Division's Local Water Supply Plan, 2016. The data is provided at a ten-year increment, so an average annual interpolated increase is used to determine annual demand amounts. Displayed in Figure 20 is the residential average and maximum daily consumption in millions of gallons (MGD). Maximum consumption is 1.5x of the average daily amount. In the next ten years, it is projected that the daily maximum demand from residential units on Chatham County's water systems will increase by 3.22 MGD or by 142 percent.

Figure 20. Chatham County Water Systems' Residential Water Demand Projections, 2017 to 2027

	Base Year 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total Increase
Average Residential (MGD)	1.51	1.86	2.21	2.55	2.71	2.87	3.03	3.18	3.34	3.50	3.66	2.15
Maximum Residential (MGD)	2.26	2.79	3.31	3.83	4.07	4.30	4.54	4.77	5.01	5.25	5.48	3.22

Source: Chatham County Utilities & Water Division, Local Water Supply Plan, 2016; TischlerBise analysis

The current water demands from commercial, industrial, and institutional land uses are listed in Figure 21. Per County Utilities staff, a new industrial development has been approved that will increase water demand by an additional 1 MGD. This additional 1 MGD demand is included in Figure 21 under the Industrial category and gradually comes online from the base year to 2020. By the end of the next ten years, it is projected that the maximum daily demand from nonresidential development in Chatham County's water systems will increase by 2.61 million gallons per day, or an increase of 287 percent from the base year.

Figure 21. Chatham County Water Systems' Nonresidential Water Demand Projections

	Base Year 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total Increase
Commercial (MGD)	0.21	0.24	0.27	0.30	0.32	0.35	0.38	0.40	0.43	0.45	0.48	0.27
Industrial (MGD)	0.35	0.64	0.93	1.48	1.51	1.55	1.58	1.62	1.65	1.69	1.72	1.37
Institutional (MGD)	0.05	0.06	0.08	0.09	0.10	0.11	0.12	0.12	0.13	0.14	0.15	0.10
Total (MGD)	0.61	0.94	1.28	1.87	1.93	2.00	2.07	2.14	2.21	2.28	2.35	1.74
Maximum Total (MGD)	0.91	1.41	1.92	2.80	2.90	3.00	3.11	3.21	3.31	3.42	3.52	2.61

Source: Chatham County Utilities & Water Division, Local Water Supply Plan, 2016; TischlerBise analysis

CHATHAM COUNTY WATER SYSTEMS SUMMARY

In summary, Figure 22 lists the base year totals and projections for the Chatham County water systems. In the base year, there are 8,045 residential connections, 330 nonresidential connections, and a maximum water demand of 4.05 MGD. The water demand includes other water usages that are unaccounted for and used in system processes. Growth is projected to increase maximum water demand to 11.9 MGD by 2027. The majority of the increase comes from residential, industrial, and other purposes.

Figure 22. Chatham County Water Systems Summary

	Base Year 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total Increase
Population	22,272	24,737	27,201	29,665	31,299	32,932	34,566	36,199	37,833	39,466	41,100	18,827
Jobs	6,269	6,963	7,657	8,350	8,810	9,270	9,730	10,190	10,649	11,109	11,569	5,300
Residential Connections												
Single Family	7,978	8,861	9,743	10,626	11,211	11,796	12,381	12,967	13,552	14,137	14,722	6,744
Multifamily	67	74	82	89	94	99	104	109	114	119	124	57
Total	8,045	8,935	9,825	10,715	11,305	11,895	12,485	13,076	13,666	14,256	14,846	6,801
Nonresidential Connections												
Commercial	194	215	237	258	273	287	301	315	330	344	358	164
Industrial	76	84	93	101	107	112	118	124	129	135	140	64
Institutional	60	67	73	80	84	89	93	98	102	106	111	51
Total	330	367	403	440	464	488	512	536	561	585	609	279
Water Demand, Maximum (MGD)												
Residential	2.26	2.79	3.31	3.83	4.07	4.30	4.54	4.77	5.01	5.25	5.48	3.22
Commercial	0.32	0.36	0.40	0.45	0.49	0.52	0.56	0.60	0.64	0.68	0.72	0.40
Industrial	0.52	0.96	1.40	2.21	2.27	2.32	2.37	2.42	2.48	2.53	2.58	2.06
Institutional	0.07	0.10	0.12	0.14	0.15	0.16	0.17	0.18	0.20	0.21	0.22	0.15
Other	0.88	1.35	1.83	2.31	2.39	2.48	2.56	2.65	2.73	2.81	2.90	2.02
Total	4.05	5.56	7.06	8.94	9.36	9.78	10.21	10.63	11.05	11.48	11.90	7.85

Source: Chatham County Utilities & Water Division; Local Water Supply Plan, 2016; Chatham County CAFR, 2017; TischlerBise analysis

APPENDIX B – WATER METER CAPACITY

In determining the development fee for meters that are larger than the standard meter size for a single family home, 5/8 x 3/4 inches, a capacity ratio is calculated and then applied to the development fee for a single family home. For example, the water flow capacity for the standard meter size serving a single family home is 30 gallons per minute (gpm). The water flow capacity for a 1.5-inch meter is 100 gpm. The capacity ratio is calculated by dividing the larger meter's capacity by the standard meter's capacity ($100/30 = 3.33$). To calculate the corresponding fee, the ratio is applied to the proposed development fee for the 5/8 x 3/4 meter. The meter capacities shown in Figure 23 are from the American Water Works Association.

Figure 23. Water Meter Capacity Ratios

Meter Size (inches)	Meter Capacity (gpm)	Capacity Ratio
5/8 x 3/4	30	1.00
1	50	1.67
1 1/2	100	3.33
2	160	5.33
3	300	10.00
4	500	16.67
6	1000	33.33

Capacity ratios are based on meter capacity standards published by American Water Works Association, *Manual M-6, Water Meters - Selecting, Testing, Installation, and Maintenance*

APPENDIX C – NORTH CAROLINA SESSION LAW 2017-138

The text of the Public Water and Sewer System Development Fee Act is provided on the following pages.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2017

HOUSE BILL 436

RATIFIED BILL

AN ACT TO PROVIDE FOR UNIFORM AUTHORITY TO IMPLEMENT SYSTEM DEVELOPMENT FEES FOR PUBLIC WATER AND SEWER SYSTEMS IN NORTH CAROLINA AND TO CLARIFY THE APPLICABLE STATUTE OF LIMITATIONS.

The General Assembly of North Carolina enacts:

SECTION 1. Chapter 162A of the General Statutes is amended by adding a new Article to read:

"Article 8.

"System Development Fees.

"§ 162A-200. Short title.

This Article shall be known and may be cited as the "Public Water and Sewer System Development Fee Act."

"§ 162A-201. Definitions.

The following definitions apply in this Article:

- (1) Capital improvement. – A planned facility or expansion of capacity of an existing facility other than a capital rehabilitation project necessitated by and attributable to new development.
- (2) Capital rehabilitation project. – Any repair, maintenance, modernization, upgrade, update, replacement, or correction of deficiencies of a facility, including any expansion or other undertaking to increase the preexisting level of service for existing development.
- (3) Existing development. – Land subdivisions, structures, and land uses in existence at the start of the written analysis process required by G.S. 162A-205, no more than one year prior to the adoption of a system development fee.
- (4) Facility. – A water supply, treatment, storage, or distribution facility, or a wastewater collection, treatment, or disposal facility, including for reuse or reclamation of water, owned or operated, or to be owned or operated, by a local governmental unit and land associated with such facility.
- (5) Local governmental unit. – Any political subdivision of the State that owns or operates a facility, including those owned or operated pursuant to local act of the General Assembly or pursuant to Part 2 of Article 2 of Chapter 130A, Article 15 of Chapter 153A, Article 16 of Chapter 160A, or Articles 1, 4, 5, 5A, or 6 of Chapter 162A of the General Statutes.
- (6) New development. – Any of the following occurring after the date a local government begins the written analysis process required by G.S. 162A-205, no more than one year prior to the adoption of a system development fee, which increases the capacity necessary to serve that development:

- a. The subdivision of land.



- b. The construction, reconstruction, redevelopment, conversion, structural alteration, relocation, or enlargement of any structure which increases the number of service units.
 - c. Any use or extension of the use of land which increases the number of service units.
- (7) Service. – Water or sewer service, or water and sewer service, provided by a local governmental unit.
- (8) Service unit. – A unit of measure, typically an equivalent residential unit, calculated in accordance with generally accepted engineering or planning standards.
- (9) System development fee. – A charge or assessment for service imposed with respect to new development to fund costs of capital improvements necessitated by and attributable to such new development, to recoup costs of existing facilities which serve such new development, or a combination of those costs, as provided in this Article. The term includes amortized charges, lump-sum charges, and any other fee that functions as described by this definition regardless of terminology. The term does not include any of the following:
 - a. A charge or fee to pay the administrative, plan review, or inspection costs associated with permits required for development.
 - b. Tap or hookup charges for the purpose of reimbursing the local governmental unit for the actual cost of connecting the service unit to the system.
 - c. Availability charges.
 - d. Dedication of capital improvements on-site, adjacent, or ancillary to a development absent a written agreement providing for credit or reimbursement to the developer pursuant to G.S. 153A-280, 153A-451, 160A-320, 160A-499 or Part 3A of Article 18, Chapter 153A or Part 3D of Article 19, Chapter 160A of the General Statutes.
 - e. Reimbursement to the local governmental unit for its expenses in constructing or providing for water or sewer utility capital improvements adjacent or ancillary to the development if the owner or developer has agreed to be financially responsible for such expenses; however, such reimbursement shall be credited to any system development fee charged as set forth in G.S. 162A-207(c).
- (10) System development fee analysis. – An analysis meeting the requirements of G.S. 162A-205.

"§ 162A-202. Reserved.

"§ 162A-203. Authorization of system development fee.

(a) A local governmental unit may adopt a system development fee for water or sewer service only in accordance with the conditions and limitations of this Article.

(b) A system development fee adopted by a local governmental unit under any lawful authority other than this Article and in effect on October 1, 2017, shall be conformed to the requirements of this Article not later than July 1, 2018.

"§ 162A-204. Reserved.

"§ 162A-205. Supporting analysis.

A system development fee shall be calculated based on a written analysis, which may constitute or be included in a capital improvements plan, that:

- (1) Is prepared by a financial professional or a licensed professional engineer qualified by experience and training or education to employ generally accepted accounting, engineering, and planning methodologies to calculate system development fees for public water and sewer systems.
- (2) Documents in reasonable detail the facts and data used in the analysis and their sufficiency and reliability.
- (3) Employs generally accepted accounting, engineering, and planning methodologies, including the buy-in, incremental cost or marginal cost, and combined cost methods for each service, setting forth appropriate analysis as to the consideration and selection of a method appropriate to the circumstances and adapted as necessary to satisfy all requirements of this Article.
- (4) Documents and demonstrates the reliable application of the methodologies to the facts and data, including all reasoning, analysis, and interim calculations underlying each identifiable component of the system development fee and the aggregate thereof.
- (5) Identifies all assumptions and limiting conditions affecting the analysis and demonstrates that they do not materially undermine the reliability of conclusions reached.
- (6) Calculates a final system development fee per service unit of new development and includes an equivalency or conversion table for use in determining the fees applicable for various categories of demand.
- (7) Covers a planning horizon of not less than 10 years nor more than 20 years.
- (8) Is adopted by resolution or ordinance of the local governmental unit in accordance with G.S. 162A-209.

"§ 162A-206. Reserved.

"§ 162A-207. Minimum requirements.

(a) Maximum. – A system development fee shall not exceed that calculated based on the system development fee analysis.

(b) Revenue Credit. – In applying the incremental cost or marginal cost, or the combined cost, method to calculate a system development fee with respect to water or sewer capital improvements, the system development fee analysis must include as part of that methodology a credit against the projected aggregate cost of water or sewer capital improvements. That credit shall be determined based upon generally accepted calculations and shall reflect a deduction of either the outstanding debt principal or the present value of projected water and sewer revenues received by the local governmental unit for the capital improvements necessitated by and attributable to such new development, anticipated over the course of the planning horizon. In no case shall the credit be less than twenty-five percent (25%) of the aggregate cost of capital improvements.

(c) Construction or Contributions Credit. – In calculating the system development fee with respect to new development, the local governmental unit shall credit the value of costs in excess of the development's proportionate share of connecting facilities required to be oversized for use of others outside of the development. No credit shall be applied, however, for water or sewer capital improvements on-site or to connect new development to water or sewer facilities.

"§ 162A-208. Reserved.

"§ 162A-209. Adoption and periodic review.

(a) For not less than 45 days prior to considering the adoption of a system development fee analysis, the local governmental unit shall post the analysis on its Web site and solicit and furnish a means to submit written comments, which shall be considered by the preparer of the analysis for possible modifications or revisions.

(b) After expiration of the period for posting, the governing body of the local governmental unit shall conduct a public hearing prior to considering adoption of the analysis with any modifications or revisions.

(c) The local governmental unit shall publish the system development fee in its annual budget or rate plan or ordinance. The local governmental unit shall update the system development fee analysis at least every five years.

"§ 162A-210. Reserved.

"§ 162A-211. Use and administration of revenue.

(a) Revenue from system development fees calculated using the incremental cost method or marginal cost method, exclusively or as part of the combined cost method, shall be expended only to pay:

(1) Costs of constructing capital improvements including, and limited to, any of the following:

a. Construction contract prices.

b. Surveying and engineering fees.

c. Land acquisition cost.

d. Principal and interest on bonds, notes, or other obligations issued by or on behalf of the local governmental unit to finance any costs for an item listed in sub-subdivisions a. through c. of this subdivision.

(2) Professional fees incurred by the local governmental unit for preparation of the system development fee analysis.

(3) If no capital improvements are planned for construction within five years or the foregoing costs are otherwise paid or provided for, then principal and interest on bonds, notes, or other obligations issued by or on behalf of a local governmental unit to finance the construction or acquisition of existing capital improvements.

(b) Revenue from system development fees calculated using the buy-in method may be expended for previously completed capital improvements for which capacity exists and for capital rehabilitation projects. The basis for the buy-in calculation for previously completed capital improvements shall be determined by using a generally accepted method of valuing the actual or replacement costs of the capital improvement for which the buy-in fee is being collected less depreciation, debt credits, grants, and other generally accepted valuation adjustments.

(c) A local governmental unit may pledge a system development fee as security for the payment of debt service on a bond, note, or other obligation subject to compliance with the foregoing limitations.

(d) System development fee revenues shall be accounted for by means of a capital reserve fund established pursuant to Part 2 of Article 3 of Chapter 159 of the General Statutes and limited as to expenditure of funds in accordance with this section.

"§ 162A-212. Reserved.

"§ 162A-213. Time for collection of system development fees.

For new development involving the subdivision of land, the system development fee shall be collected by a local governmental unit either at the time of plat recordation or when water or sewer service for the subdivision or other development is committed by the local governmental unit. For all other new development, the local governmental unit shall collect the system development fee at the time of application for connection of the individual unit of development to the service or facilities.

"§ 162A-214. Reserved.

"§ 162A-215. Narrow construction.

Notwithstanding G.S. 153A-4 and G.S. 160A-4, in any judicial action interpreting this Article, all powers conferred by this Article shall be narrowly construed to ensure that system development fees do not unduly burden new development."

SECTION 2. G.S. 130A-64 reads as rewritten:

"§ 130A-64. Service charges and rates.

(a) A sanitary district board shall apply service charges and rates based upon the exact benefits derived. These service charges and rates shall be sufficient to provide funds for the maintenance, adequate depreciation and operation of the work of the district. If reasonable, the service charges and rates may include an amount sufficient to pay the principal and interest maturing on the outstanding bonds and, to the extent not otherwise provided for, bond anticipation notes of the district. Any surplus from operating revenues shall be set aside as a separate fund to be applied to the payment of interest on or to the retirement of bonds or bond anticipation notes. The sanitary district board may modify and adjust these service charges and rates.

(b) The district board may require system development fees only in accordance with Article 8 of Chapter 162A of the General Statutes."

SECTION 3. G.S. 153A-277 reads as rewritten:

"§ 153A-277. Authority to fix and enforce rates.

(a) A county may establish and revise from time to time schedules of rents, rates, fees, charges, and penalties for the use of or the services furnished or to be furnished by a public enterprise. Schedules of rents, rates, fees, charges, and penalties may vary for the same class of service in different areas of the county and may vary according to classes of service, and different schedules may be adopted for services provided outside of the county. A county may include a fee relating to subsurface discharge wastewater management systems and services on the property tax bill for the real property where the system for which the fee is imposed is located.

...
(a2) A county may require system development fees only in accordance with Article 8 of Chapter 162A of the General Statutes.
....

SECTION 4.(a) G.S. 160A-314 reads as rewritten:

"§ 160A-314. Authority to fix and enforce rates.

(a) A city may establish and revise from time to time schedules of rents, rates, fees, charges, and penalties for the use of or the services furnished or to be furnished by any public enterprise. Schedules of rents, rates, fees, charges, and penalties may vary according to classes of service, and different schedules may be adopted for services provided outside the corporate limits of the city.

...
(e) A city may require system development fees only in accordance with Article 8 of Chapter 162A of the General Statutes."

SECTION 4.(b) G.S. 160A-317 is amended by adding a new subsection to read:

"(a4) System Development Fees. – A city may require system development fees only in accordance with Article 8 of Chapter 162A of the General Statutes."

SECTION 5.(a) G.S. 162A-6(a) is amended by adding a new subdivision to read:

"(9a) To impose and require system development fees only in accordance with Article 8 of this Chapter."

SECTION 5.(b) G.S. 162A-9 is amended by adding a new subsection to read:

"(a5) An authority may require system development fees only in accordance with Article 8 of this Chapter."

SECTION 6.(a) G.S. 162A-36(a) is amended by adding a new subdivision to read:

"(8a) To impose and require system development fees only in accordance with Article 8 of this Chapter."

SECTION 6.(b) G.S. 162A-49 reads as rewritten:

"§ 162A-49. Rates and charges for services.

(a) The district board may fix, and may revise from time to time, rents, rates, fees and other charges for the use of land for the services furnished or to be furnished by any water system or sewerage system or both. Such rents, rates, fees and charges shall not be subject to supervision or regulation by any bureau, board, commission, or other agency of the State or of any political subdivision. Any such rents, rates, fees and charges pledged to the payment of revenue bonds of the district shall be fixed and revised so that the revenues of the water system or sewerage system or both, together with any other available funds, shall be sufficient at all times to pay the cost of maintaining, repairing and operating the water system or the sewerage system or both, the revenues of which are pledged to the payment of such revenue bonds, including reserves for such purposes, and to pay the interest on and the principal of such revenue bonds as the same shall become due and payable and to provide reserves therefor. If any such rents, rates, fees and charges are pledged to the payment of any general obligation bonds issued under this Article, such rents, rates, fees and charges shall be fixed and revised so as to comply with the requirements of such pledge. The district board may provide methods for collection of such rents, rates, fees and charges and measures for enforcement of collection thereof, including penalties and the denial or discontinuance of service.

(b) The district board may require system development fees only in accordance with Article 8 of this Chapter."

SECTION 7.(a) G.S. 162A-69 is amended by adding a new subdivision to read:

"(8a) To impose and require system development fees only in accordance with Article 8 of this Chapter."

SECTION 7.(b) G.S. 162A-72 reads as rewritten:

"§ 162A-72. Rates and charges for services.

(a) The district board may fix, and may revise from time to time, rents, rates, fees and other charges for the use of and for the services furnished or to be furnished by any sewerage system. Such rents, rates, fees and charges shall not be subject to supervision or regulation by any bureau, board, commission, or other agency of the State or of any political subdivision. Any such rents, rates, fees and charges pledged to the payment of revenue bonds of the district shall be fixed and revised so that the revenues of the sewerage system, together with any other available funds, shall be sufficient at all times to pay the cost of maintaining, repairing and operating the sewerage system the revenues of which are pledged to the payment of such revenue bonds, including reserves for such purposes, and to pay the interest on and the principal of such revenue bonds as the same shall become due and payable and to provide reserves therefor. If any such rents, rates, fees and charges are pledged to the payment of any general obligation bonds issued under this Article, such rents, rates, fees and charges shall be fixed and revised so as to comply with the requirements of such pledge. The district board may provide methods for collection of such rents, rates, fees and charges and measures for enforcement of collection thereof, including penalties and the denial or discontinuance of service.

(b) The district board may require system development fees only in accordance with Article 8 of this Chapter."

SECTION 8. G.S. 162A-85.13 is amended by adding a new subsection to read:

"(a1) The district board may require system development fees only in accordance with Article 8 of this Chapter."

SECTION 9. G.S. 162A-88 reads as rewritten:

"§ 162A-88. District is a municipal corporation.

(a) The inhabitants of a county water and sewer district created pursuant to this Article are a body corporate and politic by the name specified by the board of commissioners. Under that name they are vested with all the property and rights of property belonging to the corporation; have perpetual succession; may sue and be sued; may contract and be contracted with; may acquire and hold any property, real and personal, devised, sold, or in any manner conveyed, dedicated to, or otherwise acquired by them, and from time to time may hold, invest, sell, or dispose of the same; may have a common seal and alter and renew it at will; may establish, revise and collect rates, fees or other charges and penalties for the use of or the services furnished or to be furnished by any sanitary sewer system, water system or sanitary sewer and water system of the district; and may exercise those powers conferred on them by this Article.

(b) The district board may require system development fees only in accordance with Article 8 of this Chapter."

SECTION 10.(a) G.S. 1-52(15) reads as rewritten:

"(15) For the recovery of taxes paid as provided in ~~G.S. 105-381~~ G.S. 105-381 or for the recovery of an unlawful fee, charge, or exaction collected by a county, municipality, or other unit of local government for water or sewer service or water and sewer service."

SECTION 10.(b) This section is to clarify and not alter G.S. 1-52.

SECTION 11. Sections 1 through 9 of this act become effective October 1, 2017, and apply to system development fees imposed on or after that date. Section 10 of this act, being a clarifying amendment, has retroactive effect and applies to claims accrued or pending prior to and after the date that section becomes law. Nothing in this act provides retroactive authority for any system development fee, or any similar fee for water or sewer services to be furnished, collected by a local governmental unit prior to October 1, 2017. The remainder of this act is effective when it becomes law and applies to claims accrued or pending prior to and after that date.

In the General Assembly read three times and ratified this the 29th day of June, 2017.

s/ Daniel J. Forest
President of the Senate

s/ Tim Moore
Speaker of the House of Representatives

Roy Cooper
Governor

Approved _____, m. this _____ day of _____, 2017