Stantec

Pender County, NC

Water and Sewer System Development Fee Study

April 27, 2018

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Ms. Margaret Gray
Pender County
Interim Director of Utilities

605 E. Fremont Street
Burgaw, NC 28425

Re: Water and Sewer System Development Fee Study

Dear Ms. Gray,

Stantec is pleased to present this Final Report on the Water and Sewer System Development Fee Study that we performed for Pender County, North Carolina. We appreciate the professional assistance provided by you and all of the members of the County staff who participated in the Study.

If you have any questions, please do not hesitate to call us at (202) 585-6391. We appreciate the opportunity to be of service to the County, and look forward to the possibility of doing so again in the near future.

Sincerely,

David A. Hyder
Principal

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Washington DC 20005
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David.hyder@stantec.com

Enclosure

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1. INTRODUCTION

Stantec Consulting Services Inc. (Stantec) has conducted a Water and Sewer System Development Fee Study (Study) for Pender County's water and sewer systems (hereafter referred to as the "County" or "Utility"). This report presents the results of the comprehensive Study, including background information, legal requirements, an explanation of the calculation methodology employed, and the results of the analysis.

1.1 BACKGROUND

A system development fee is a one-time charge paid by a new customer to recover a portion or all of the cost of constructing water and sewer system capacity. The fees are also often assessed to existing customers requiring increased system capacity. In general, system development fees are based upon the costs of utility infrastructure including, but not limited to, water supply facilities, treatment facilities, effluent disposal facilities, and transmission mains. System development fees serve as the mechanism by which growth can "pay its own way", and minimize the extent to which existing customers must bear the cost of facilities that will be used to serve new customers.

The County currently assesses water and sewer system development fees that are designed to recover the cost of water and sewer capacity from new connectors to each respective system. In an effort to comply with the new North Carolina Public Water and Sewer System Development Fee Act, Session Law (S.L.) 2017-138, the County has retained the services of Stantec to calculate updated system development fees for each system.

1.2 LEGAL REQUIREMENTS

The new Public Water and Sewer System Development Fee Act, S.L. 2017-138, also known as the House Bill 436 ("HB 436") was approved on July 20th, 2017 and grants local government entities that own or operate municipal water and sewer systems the authority to assess system development fees for the provision of utility service to new development.

HB 436 defines new development as 1) subdivision of land, 2) construction or change to existing structure that increases service needs or 3) any use of land which increased service needs within 1 year (no longer than 12 months) of a development fee being adopted.

According to HB 436 the following procedural requirements need to be followed in order to adopt a system development fee:

- **Requirement 1**: The fee should be calculated in a written analysis ("SDF Analysis") prepared by a financial professional or licensed professional engineer (qualified by experience and training or education) who employs generally accepted accounting, engineering, and planning methodologies to calculate system development fees for water and sewer systems, including

the buy-in, incremental cost or marginal cost, and combined costs methods for each service; and that (1) documents the facts and data used in the analysis and their sufficiency and reliability; (2) provides analysis regarding the selection of the appropriate method of analysis; (3) documents and demonstrates reliable application of the methodology to the facts and data, including all reasoning, analysis, and interim calculations underlying each identifiable component of the system development fee; (4) identifies all assumptions and limiting conditions affecting the analysis and demonstrates that they do not materially undermine the reliability of the conclusions reached; (5) calculates a system development fee per service unit of new development and includes an equivalency or conversion table to use in determining the fees applicable for various categories of demand; and (6) covers a planning horizon of between 10 and 20 years.

- **Requirement 2**: The system development fee analysis must be posted on the County's website, and the County must solicit comments and provide a means by which people can submit their comments, for a period of at least 45 days.
- **Requirement 3**: Comments received from the public must be considered by preparer of the system development fee analysis for possible adjustments to the analysis.
- **Requirement 4**: The County Council must hold a public hearing prior to considering adoption of the system development fees including any adjustments made as part of the comments received by the County.
- **Requirement 5**: The County must publish the system development fee schedule as part of its annual budget or fee ordinance.
- **Requirement 7**: The County cannot adopt a fee that is higher than the fee calculated by the professional analysis.
- **Requirement 6**: The County must update the system development fee analysis at least every five years.

In addition to the procedural requirements listed above, HB 436 provides specific requirements pertaining to the calculation of the system development fees. These requirements are highlighted within the body of this report in concert with the calculation of the system development fees for the County. Further, the County must follow HB 436 when actually charging the system development fee: it may be charged only to "new development" and only at the time specified in the legislation; and new development must be given a credit for costs in excess of the development's proportionate share of connecting facilities required to be oversized for use of others outside of the development.

1.3 STUDY OBJECTIVE

The objective of this Study is to:

1. Determine the full cost recovery system development fees for water and sewer service based upon requirements created by the new Public Water and Sewer System Development Fee Act, S.L. 2017-138.

2. Provide a comparison of the system development fees calculated during the study with the County's current system development fees.

1.4 GENERAL METHODOLOGY

There are three primary approaches to the calculation of development fees, all of which are outlined within the new Public Water and Sewer System Development Fee Act, S.L. 2017-138. Each of the approaches are discussed below.

Buy-In Method

This approach determines the system development fees solely on the existing utility system assets. Specifically, the replacement cost of each system's major functional components serve as the cost basis for the system development fee calculation. This approach is most appropriate for a system with considerable excess capacity, such that most new connections to the system will be served by that existing excess capacity and the customers are effectively "buying-in" to the existing system.

Incremental/Marginal Cost Method

The second approach is to use the portion of each system's multi-year capital improvement program (CIP) associated with the provision of additional system capacity by functional system component as the cost basis for the development fee calculation. This approach is most appropriate where 1) the existing system has limited or no excess capacity to accommodate growth, and 2) the CIP contains a significant number of projects that provide additional system capacity for each functional system component representative of the cost of capacity for the entire system.

Combined Cost Method

The third approach is a combination of the two approaches described above. This approach is most appropriate when 1) there is excess capacity in the current system that will accommodate some growth, but additional capacity is needed in the short-term as reflected in each system's CIP, and 2) the CIP includes a significant amount of projects that will provide additional system capacity, but does not necessarily have a sufficient number of projects in each functional area to be reflective of a total system.

1.4.1 Methodologies & Restriction of Proceeds

While HB 436 allows for the use of any one of the three methodologies discussed above, it specifies restrictions on how the revenues generated by the fees calculated using each methodology may be utilized. Table 1-1 summarizes each of the three methodologies, their typical application, and restriction of how the revenues can be utilized for each.

Table 1-1 Description of Methodologies & Restriction to Proceeds

Methodology / Approach:	Description:	Often Used by Systems with:	Fee Proceeds Allowed for:
Buy-In Method	New development shares in capital costs previously incurred which provided capacity for demand arriving with new development needs.	Excess capacity.	Expansion and/or rehabilitation projects. Since the buy-in method reimburses the system for certain past investments, proceeds can be treated as unrestricted.
Incremental / Marginal Cost	New development share in capital costs to be incurred in the future which will provide capacity for demand arriving with new development needs.	Limited or no excess capacity and a CIP which will provide significant additional capacity.	Professional services costs in development of new fees and expansion costs (construction costs, debt service, capital, land purchase, other costs etc.) related to new development only.
Combined Cost	Combination of Buy-In and Incremental / Marginal Cost methods	Some excess capacity but short term additional capacity is needed and identified in the CIP.	Restricted in the same as manner the Incremental / Marginal Costs.

Given that the County has excess capacity in its current water and sewer systems, as well as significant capital spending planned over the next 10 years for the water system, the methodology chosen for the calculation of the system development fee for the water system in this Study is the Combined Cost Method, and the methodology chosen for the sewer system is the Buy-In Method. To comply with the new legislation, the County will revisit the methodology at least every five years to determine if the methodology for each system is still the most appropriate methodology to use.

2. BASIS OF ANALYSIS

The first step in calculating water and sewer development fees is to determine the cost basis or value for each system (Water and Sewer). The net system value for use in the determination of the system development fees is calculated using the following approach.

1) The existing system assets are analyzed to determine the replacement cost new less depreciation (RCNLD) of the County's existing major water and sewer system components.
2) Addition of growth related capital project spending over the next 10 years for the water system (due to the use of the combined approach). This includes projects designated to add new capacity to the system, whether partially or entirely.
3) Any donated assets and/or assets not funded by the County (funded by grants, developers, etc.) are removed from the system assets.
4) The assets are further reduced by the outstanding net present value of the principal on debt for each system.
5) The resulting net system value is used in the determination of the fee.

The following section outlines the details of the analysis completed during the Study to calculate the water and sewer system development fees.

2.1 TOTAL SYSTEM VALUE

The County provided a summary asset inventory list by each district it serves, which included description of the asset category, year placed in service, original cost, and useful life for each water and sewer system asset through FY 2018. These assets were classified by each major system function, and a replacement cost new less depreciation was calculated for each asset record using the data provided by the County and the Engineering News Record Construction Cost Index. Schedule 5 in the Appendix shows the RCNLD for the County's existing water and sewer systems based upon the asset records provided by County staff.

The County also provided a 20 year capital improvements plan (CIP), which included the project description, total spending, and an indication of whether the project was designated for expansion or rehabilitation. The water system CIP includes a three projects that will expand the water system's capacity over the next 20 years. Review of the sewer system CIP revealed that the County currently has no planned capital projects that will expand the capacity of the sewer system. Thus for the water system, three projects were included in the system value given the use of the Combined Method for determining the water system development fees. The CIP was classified by each major system function, similar to the assets. Schedule 6 in the Appendix shows the CIP included in the total water system value for purposes of determining the water system development fee.

2.2 CREDITS

HB 436 requires that the system development fee calculations include provisions for credits against the value of the system to account for assets that were not funded by the municipality and for assets with outstanding debt liabilities. The credits included in Study are discussed below.

Principal on Outstanding Debt.

Once the system values were identified for each functional component, an adjustment was then made in the form of a credit for the net present value of the principal of all outstanding debt that will be recovered in usage rates after new customers connect to the water and/or sewer systems. Upon connection to either system, new customers will pay monthly usage rates associated with the use of utility service. In addition to the systems' operating costs, the user rates recover the principal and interest payments associated with the debt incurred to fund the capital costs of each water and sewer system. Therefore, in order to avoid a double recovery of those capital costs in the system development fees and user rates, a credit is provided based on the total principal outstanding on debt for each of the water and sewer systems, respectively.

Contributed and Grant Funded Assets

Water and sewer system assets that were donated to the County or funded with grants must be excluded from the system development fee calculation. If the County did not incur the cost of purchasing and/or constructing the asset, they cannot legitimately include the costs in the system value used to determine the system development fee.

HB 436 requires that the total credit applied in the system development fee calculations be equal to at least 25% of the total system value when the Combined or Incremental Cost Methods are utilized. This minimum credit threshold does not apply to the Buy-in Method. Table 2.1 presents the determination of the net system value given the credit for debt service and donated assets. The combined outstanding principal and contributions for the water system does not meet the 25% threshold as required, so an additional $3,390,251 of credit is applied to the water fee calculation in order to meet that 25% threshold, as shown in Table 2-1.

Table 2-1 Credits by System

System	Total System Value	NPV of Principal Outstanding	Contributed Assets	Additional Required Credit	Total Credits / % of Value	Net System Value
Water	$171,378,121	$21,227,452	$18,226,827	$3,390,251	$42,844,530 / 25%	$128,533,590
Sewer	$26,639,905	$8,650,893	$452,288	N/A	$9,103,180 / 34%	$17,536,725

2.3 CAPACITIES

Once the system values were determined and allocated to each system and its functional components, the next step was to determine the water and sewer system capacities by functional cost component as stated in terms of equivalent residential units (ERUs). Expressing the system capacities in terms of ERUs allows for the development of the unit pricing of capacity which is essential for the determination of system development fees. The total system capacity (treatment capacity in million gallons per day for each system) divided by the level of service in gallons per day is equal to the total number of ERUs the County can serve with the existing system capacity.

2.3.1 System Capacity

The County's water and sewer systems consist of numerous functional components such as water treatment, source of supply, transmission and storage. Each of the functional components have a physical or regulatory permitted capacity. While treatment, supply, and disposal capacities are readily available and generally accepted to be the physical or regulatory permitted capacity of such facilities, transmission system capacities are more difficult to quantify.

As such, it is common to define the capacity for all functional components (including the transmission facilities) based on the system's total treatment capacity. This approach was utilized for the determination of the system capacities of the County's utility systems. The rationale behind this decision is that even if the transmission and pumping portion of either system is larger than that system's treatment capacity, the maximum capacity the system can offer to its connections is its total treatment capacity. For the County's water system, the current water treatment plant is permitted for a peak day design capacity of 6.0 million gallons per day (MGD). The County also has a $50,000,000 capital project planned to construct a new 8.0 MGD surface Water Treatment Plant in 2033, which will increase the water system's capacity to 14 MGD.

Sewer system average day treatment capacity is 0.75 MGD. The County previously purchased 0.75 MGD of capacity at the Wallace Wastewater Treatment Plant (WTTP), however, they do not own the capacity, nor can they dispose of flows at that plant, so that source of capacity was not included in the fee calculation. Only the 0.50 MGD from the Pender Commerce Park WTTP, and the Rocky Point area permit of 0.25 MGD were included in the calculation. Table 2-2 summarizes the capacity by function used in the fee calculation for the County.

Table 2-2 System Capacity by Function

	Water Capacity (MGD)		Sewer Capacity (MGD)	
	Source of Supply/ Treatment	Transmission/ Pumping	Transmission/ Pumping	Treatment/ Disposal
Current and Future Capacity	**14.00**[1]	**14.00**	**0.75**[2]	**0.75**

[1] *Represents the water system's current peak day capacity*
[2] *Represents the sewer system's permitted average day capacity*

2.3.2 Level of Service Standards

In the evaluation of the capital facility needs for providing water and sewer utility services, it is critical that a Level of Service (LOS) standard be developed. The LOS is an indicator of the extent or degrees of service provided by, or proposed to be provided by a facility, based on and related to the operational characteristics of the facility. Level of service indicates the capacity per unit of demand for each public facility or service. Level of service standards are established to ensure that adequate facility capacity will be provided for future development and for purposes of issuing development orders or permits.

For water and sewer service, the level of service that is commonly used in the industry is the amount of capacity allocable to an ERU expressed as the amount of usage in gallons on an average day, maximum month or peak day basis. This allocation would generally represent the amount of capacity allowable to an ERU, whether or not such capacity is actually used on an average day basis. For the County, we are using the North Carolina state standard of 120 gallons per day per bedroom, with an assumption of 3 bedrooms per ERU, resulting in a level of service of 360 gpd. The LOS utilized as part of this process represents average daily usage per ERU, and is shown in Table 2-3 below.

Table 2-3 Level of Service by System Component

Water		Sewer	
Source of Supply / Treatment	**Transmission / Pumping**	**Transmission / Pumping**	**Treatment / Disposal**
360 GPD	360 GPD	360 GPD	360 GPD

3. RESULTS

This section summarizes the results of the Study, the existing and calculated system development fees, and conclusions and recommendations.

3.1 EXISTING WATER AND SEWER FEES

The County currently charges system development by meter size for the water system, and per gallon per day for the sewer system. The tables below summarize the existing fees the County currently charges:

Table 3-1 Existing Water Fees

Meter Size	Water
3/4"	$3,500
1”	$4,500
1.5”	$9,300
2”	$14,125
4”	$42,000
6”	$112,000
8”	$166,500

Table 3-2 Existing Sewer Fees

Description	Sewer
Per Gallon Per Day	$20.00

3.2 UPDATED SYSTEM DEVELOPMENT FEE AMOUNTS

To calculate the system development fees, the net system value described in Section 2 for each functional component was divided by the capacity for each functional component stated in ERUs to determine the capacity cost per ERU for the water system. For the sewer system, the net system capacity developed in Section 2 was divided by the permitted capacity to calculate a capacity cost per gallon per day. The County currently defines an ERU as a single family residential customer with a 3/4” meter size connection. The unit cost per ERU or system development fee per a 3/4” meter connection is then scaled by meter size to develop the system development fee schedule for all applicable meter sizes for the water system. Schedules 2 and 3 in the Appendix provide a summary of the calculated water and sewer system development fees.

Table 3-3 provides a schedule of the existing and calculated water system development fees based upon the cost and capacity information discussed herein by meter size. The scaling of the system development fee by meter size is intended to reflect the potential demand associated with each meter. It

is common industry practice to utilize hydraulic meter equivalents established by the American Water Works Association (AWWA) to scale system development fees. The County's current water system development fees are scaled by meter size by factors that are close to the meter equivalents established by AWWA but don't match exactly for each meter. The calculated water system development fees in Table 3-3 are scaled based on the AWWA meter equivalents to comply with industry standards.

Table 3-4 provides a schedule of the calculated sewer system development fees based upon the cost and capacity information discussed herein by gallon per day.

Table 3-3 Water System Development Fee Schedule

Meter Size	Existing Fee	Calculated Fee	Difference
3/4"	$3,500	$3,404	$(96)
1"	$4,500	$5,685	$1,185
1.5"	$9,300	$11,337	$2,037
2"	$14,125	$18,146	$4,021
4"	$42,000	$56,752	$14,752
6"	$112,000	$113,470	$1,470
8"	$166,500	$181,559	$15,059

Table 3-4 Sewer System Development Fee Schedule

Fee	Existing Fee	Calculated Fee	Difference
Residential ERU	$20.00	$23.55	$3.55

Table 3-5 below shows the existing and calculated water and sewer combined system development fee for a residential ERU, assuming a 3 bedroom house using 120 gallons per day per bedroom for the sewer system.

Table 3-4 Combined System Development Fee

Category	Current Fee	Calculated Fee	Difference
Residential ERU	$10,700	$11,882	$1,182

It is important to note that the County has discretion regarding the percentage of cost recovery utilized in the establishment of the system development fees. The system development fees can recover any amount up to, but not in excess of, the full cost recovery amounts identified herein.

3.3 CONCLUSIONS AND RECOMMENDATIONS

Based upon the analysis presented herein, we have developed the following conclusions and recommendations:

1) We recommend that the County adopt water and sewer system development fees as demonstrated in Tables 3-3 and 3-4.
2) We recommend that the County review its development fees at least every five years to ensure that it follows requirements established by the Public Water and Sewer System Development Fee Act, S.L. 2017-138 and to ensure that they remain fair and equitable and continue to reflect its current cost of capacity. As the County continues to expand its facilities, future changes in technology, demands, development patterns, or other factors may necessitate additional adjustments to its development fees.
3) We recommend that as part of any system development fee update, the County also evaluates the most appropriate accepted methodology for calculating its system unit cost of capacity as system capacity may change over time.

Disclaimer

This document was produced by Stantec Consulting Services, Inc. ("Stantec") for Pender County and is based on a specific scope agreed upon by both parties. Stantec's scope of work and services do not include serving as a "municipal advisor" for purposes of the registration requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) or the municipal advisor registration rules issued by the Securities and Exchange Commission. Stantec is not advising Pender County, or any municipal entity or other person or entity, regarding municipal financial products or the issuance of municipal securities, including advice with respect to the structure, terms, or other similar matters concerning such products or issuances.

In preparing this report, Stantec utilized information and data obtained from Pender County or public and/or industry sources. Stantec has relied on the information and data without independent verification, except only to the extent such verification is expressly described in this document. Any projections of future conditions presented in the document are not intended as predictions, as there may be differences between forecasted and actual results, and those differences may be material.

Additionally, the purpose of this document is to summarize Stantec's analysis and findings related to this project, and it is not intended to address all aspects that may surround the subject area. Therefore, this document may have limitations, assumptions, or reliance on data that are not readily apparent on the face of it. Moreover, the reader should understand that Stantec was called on to provide judgments on a variety of critical factors which are incapable of precise measurement. As such, the use of this document and its findings by the Pender County should only occur after consultation with Stantec, and any use of this document and findings by any other person is done so entirely at their own risk.

APPENDIX: SUPPORTING SCHEDULES

Schedule 1 Control Panel

Schedule 2 Water System Development Fee Calculation

Schedule 3 Sewer System Development Fee Calculation

Schedule 4 Current and Calculated System Development Fees by Meter Size

Schedule 5 Asset Listing, RCNLD System and Functional Allocations

Schedule 6 Capital Improvement Program

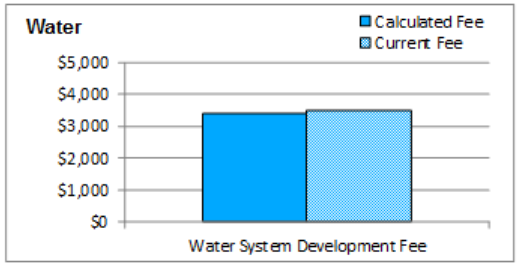
Schedule 7 Outstanding Debt Service Used in Credit Calculation

FAMS - XL: Control Panel

FAMS-XL: System Development Fee
Pender County Utilities, NC

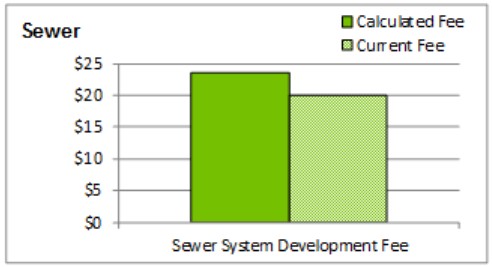
Water System Development Fee

Total Plant In Service	$	75,651,294
Expansion Capital Costs	$	77,500,000
Total Costs Combined Method	$	153,151,294
Cost per ERU	$	4,407
Debt Service Credit	$	(1,102)
Cost Recovery Percentage		100.0%
Total Calculated Fee:	**$**	**3,404**
Current Fee:	$	3,500
Dollar Change:	$	(96)
Percentage Change:		-3%



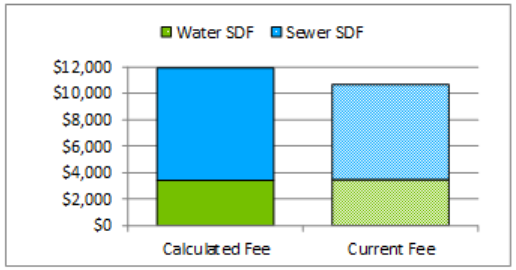
Sewer System Development Fee

Total Plant In Service	$	26,187,617
Expansion Capital Costs	$	-
Total Costs Buy-In Method	$	26,187,617
Cost per Gallon	$	35.00
Debt Service Credit	$	(12.14)
Cost Recovery Percentage		100.0%
Total Calculated Fee per Gallon:	**$**	**23.55**
Current Fee:	$	20
Dollar Change:	$	4
Percentage Change:		18%



Total System Development Fee

Current		
Water SDF	$	3,500
Sewer SDF	$	7,200
Total SDFs	**$**	**10,700**
Calculated		
Water SDF	$	3,404
Sewer SDF	$	8,477
Total Calculated SDFs	**$**	**11,882**
Dollar Change	$	1,182
Percent Change		11.0%



* Sewer SDF assumes a 3 bedroom house at 120 GPD per bedroom.

Water System Development Charge Calculation - FY 2018

Functional Component		Source of Supply / Treatment	Transmission / Distribution	Total
Plant in Service Value		$26,407,647	$49,243,646	$75,651,294
Donated & Contributed Assets		$10,900,235	$7,326,591	$18,226,827
Capital Improvement Cost		$52,500,000	$25,000,000	$77,500,000
Total System Value (including CIP)		$89,807,883	$81,570,238	$171,378,121
Credits:				
Donated/Contributed/Grant Funded Assets		($10,900,235)	($7,326,591)	($18,226,827)
NPV of Debt Service Principal Credit		($11,123,897)	($10,103,555)	($21,227,452)
Apply Additional Credit to Meet 25% Requirement?	Yes	($1,776,605)	($1,613,646)	($3,390,251)
Net System Value		$66,007,145	$62,526,445	$128,533,590
Credit % Used in Fee Determination				25.0%
Capacity:				
Million Gallons Per Day (MGD)		14.00	14.00	
Level of Service (GPD)		360	360	
Equivalent Residential Units (ERUs) @		38,889	38,889	
Fee Calculation:				
Calculated Cost per ERU		$2,309	$2,098	$4,407
Credit for Debt Service Included in Usage Rates		-$612	-$490	-$1,102
Calculated Fee per ERU After Debt Service Credit		$1,697	$1,608	$3,305
Reduction for Contingency	0.0%	$0	$0	$0
Percentage of Full Cost Recovery	100.0%	$1,697	$1,608	
Escalation Factor to Effective Year	3.0%	$1,748	$1,657	
Calculated Fee per ERU				**$3,404**
Current Fee per ERU				$3,500
$ Change				-$96
Percent Change				-3%

Sewer System Development Charge Calculation - FY 2018

Functional Component		Conveyance / Collection	Treatment	Total
Plant in Service Value		$3,353,506	$22,834,112	$26,187,617
Donated & Contributed Assets		$452,288	$0	$452,288
Capital Improvement Cost		$0	$0	$0
Total System Value (including CIP)		$3,805,793	$22,834,112	$26,639,905
Credits:				
Donated & Contributed Assets		($452,288)	$0	($452,288)
NPV of Debt Service Principal Credit		($1,235,872)	($7,415,021)	($8,650,893)
Apply Additional Credit to Meet 25% Requirement?	No	$0	$0	$0
Net System Value		$2,117,634	$15,419,091	$17,536,725
Credit % Used in Fee Determination				34%
Capacity:				
Million Gallons Per Day (MGD)		0.75	0.75	
Fee Calculation:				
Calculated Cost per Gallon		$5.00	$30.00	$35.00
Credit for Debt Service Included in Usage Rates		-$2.25	-$9.89	-$12.14
Calculated Fee per Gallon After Debt Service Credit		$2.75	$20.11	$22.86
Reduction for Contingency	0.0%	$0	$0	$0
Percentage of Full Cost Recovery	100.0%	$3	$20	$23
Escalation Factor to Effective Year	3.0%	$3	$21	$24
Calculated Fee per Gallon				**$23.55**
Current Fee per Gallon				$20.00
$ Change				$3.55
Percent Change				18%

Schedule 4: Current and Calculated System Development Fees by Meter Size

Water

Meter Size	AWWA Meter Equivalents	Current System Development Fee	Calculated System Development Fee	$ Difference
3/4"	1.00	$ 3,500	$ 3,404	$ (96)
1"	1.67	$ 4,500	$ 5,685	$ 1,185
1.5"	3.33	$ 9,300	$ 11,337	$ 2,037
2"	5.33	$ 14,125	$ 18,146	$ 4,021
4"	16.67	$ 42,000	$ 56,752	$ 14,752
6"	33.33	$ 112,000	$ 113,470	$ 1,470
8"	53.33	$ 166,500	$ 181,559	$ 15,059

Sewer

Meter Size	Current Equivalent	Current System Development Fee per Gal	Calculated System Development Fee per Gal	$ Difference
3/4"	1.00	$ 20.00	$ 23.55	$ 3.55

Meter Size	AWWA Meter Equivalents	Current System Development Fee*	Calculated System Development Fee*	$ Difference
3/4"	1.00	$ 7,200	$ 8,477	$ 1,277

Total Water and Sewer System Development Fees

Meter Size	Total Current Fees*	Total Calculated Fees*	$ Difference
3/4"	$10,700	$11,882	$1,182

*Fee is calculated assuming a 3 bedroom house at 120 GPD per bedroom.

Schedule 5: Asset Listing, RCNLD System and Functional Allocations

Asset Description	Original Cost	Year Acquired	Life of Asset (Years)	Annual Depreciation	Accumulated Depreciation	Net Book Value	ENR Escalation Factor	RCNLD	Exclude?[1]	ALLOCATION OF RCNLD COSTS			
										Water System		Sewer System	
										Source of Supply / Treatment	Transmission / Distribution	Conveyance / Collection	Treatment
WATER													
Raw Water Supply for future Water Treatment Plant	$ 1,050,000	2017	100	$ -	$ -	$ 1,050,000	1.00	$ 1,050,000		$ 1,050,000	$ -	$ -	$ -
Rocky Point/Topsail Water Distribution System	$ 30,000,000	2001	50	$ 600,000	$ 9,600,000	$ 20,400,000	1.69	$ 34,535,556		$ -	$ 34,535,556	$ -	$ -
Scott's Hill WSD Water Distribution System	$ 3,000,000	2011	50	$ 60,000	$ 360,000	$ 2,640,000	1.18	$ 3,125,164		$ -	$ 3,125,164	$ -	$ -
Pender County Surface WTP	$ 22,500,000	2012	50	$ 450,000	$ 2,250,000	$ 20,250,000	1.15	$ 23,357,647		$ 23,357,647	$ -	$ -	$ -
USDA-RD Grant Funding/Local Contributions	$ 10,500,000	2012	50	$ 210,000	$ 1,050,000	$ 9,450,000	1.15	$ 10,900,235	Yes	$ -	$ -	$ -	$ -
Pender Commerce Park Water Distribution System	$ 170,000	2014	50	$ 3,400	$ 10,200	$ 159,800	1.09	$ 174,957		$ -	$ 174,957	$ -	$ -
WASTEWATER													
Pender Packing WW PS and Forcemain	$ 431,000	2010	50	$ 8,620	$ 60,340	$ 370,660	1.22	$ 452,288	Yes	$ -	$ -	$ -	$ -
Rocky Point/Topsail Sewer Collection & Regional Pump St	$ 850,000	2000	50	$ 17,000	$ 289,000	$ 561,000	1.73	$ 968,187		$ -	$ -	$ 968,187	$ -
2 MGD Wallace WWTP Capacity	$ 3,000,000	2013	25	$ 120,000	$ 480,000	$ 2,520,000	1.12	$ 2,834,112		$ -	$ -	$ -	$ 2,834,112
Highway 117 Sewer Pump Stations and Forcemain - Burga	$ 2,005,000	2012	25	$ 80,200	$ 401,000	$ 1,604,000	1.15	$ 1,850,156		$ -	$ -	$ 1,850,156	$ -
Pender Commerce Park - 0.5 MGD WWTP	$ 20,000,000	2017	50	$ -	$ -	$ 20,000,000	1.00	$ 20,000,000		$ -	$ -	$ -	$ 20,000,000
Pender Commerce Park - WW Collection	$ 520,000	2014	50	$ 10,400	$ 31,200	$ 488,800	1.09	$ 535,162		$ -	$ -	$ 535,162	$ -
CONSTRUCTION WORK IN PROGRESS													
Central Pender WSD Water Distribution System	$ 6,128,700	2018		$ -	$ -	$ 6,128,700		$ 6,048,870		$ -	$ 6,048,870	$ -	$ -
USDA-RD Grant Funding	$ 3,910,091	2018		$ -	$ -	$ 3,910,091		$ 3,859,159	Yes	$ -	$ -	$ -	$ -
Moore's Creek WSD Water Distribution System	$ 5,359,100	2018		$ -	$ -	$ 5,359,100		$ 5,359,100		$ -	$ 5,359,100	$ -	$ -
USDA-RD Grant Funding	$ 3,467,432	2018	50	$ -	$ -	$ 3,467,432		$ 3,467,432	Yes	$ -	$ -	$ -	$ -
Pender County Surface WTP	$ 2,000,000	2019	50	$ -	$ -	$ 2,000,000		$ 2,000,000		$ 2,000,000	$ -	$ -	$ -
	$ 114,891,323			**$ 1,559,620**	**$ 14,531,740**	**$ 100,359,583**		**$ 120,518,026**		**$ 26,407,647**	**$ 49,243,646**	**$ 3,353,506**	**$ 22,834,112**
									Allocation of Indirect Costs	$ -	$ -	$ -	$ -
									Total Allocated Fixed Assets	**$ 26,407,647**	**$ 49,243,646**	**$ 3,353,506**	**$ 22,834,112**

[1] Excluded assets represent those that were funded by grants, therefore they are excluded from the total value calculation of the plant in service.

Schedule 6: Capital Improvement Program

Project Name/Description	Total Cost	Expansion %	Capacity Increase (MGD)
WATER			
Parallel Water Transmission Main & BPS - NC 210	$ 25,000,000	100%	0.00
Concept Phase Project:			
Scott's Hill WSD 500,000 Gal Elevated Water Storage Tank & Interconnect to CFPUA	$ 2,500,000	100%	0.00
8 MGD surface WTP	$ 50,000,000	100%	8.00
	$ 77,500,000		

Schedule 7: Total Outstanding Debt Service Used in Credit Calculation

	Water	Sewer
FY 2018	$771,000	$735,500
FY 2019	$1,002,495	$750,210
FY 2020	$1,031,626	$772,275
FY 2021	$1,061,816	$790,663
FY 2022	$1,098,066	$816,405
FY 2023	$1,179,377	$827,438
FY 2024	$1,222,753	$856,858
FY 2025	$1,265,194	$878,923
FY 2026	$1,322,702	$897,310
FY 2027	$1,356,279	$930,408
FY 2028	$1,415,926	$948,795
FY 2029	$1,470,646	$992,925
FY 2030	$1,501,442	$1,011,313
FY 2031	$1,553,314	$1,055,443
FY 2032	$1,590,265	$1,073,830
FY 2033	$1,641,297	$1,103,250
FY 2034	$1,710,413	$1,132,670
FY 2035	$1,758,614	$1,158,413
FY 2036	$1,811,904	
FY 2037	$1,868,284	
FY 2038	$1,935,756	
FY 2039	$1,991,325	
FY 2040	$2,058,991	
FY 2041	$2,072,758	
FY 2042	$1,865,629	
FY 2043	$1,895,607	
FY 2044	$1,933,693	
FY 2045	$1,145,892	
FY 2046	$1,178,207	
FY 2047	$1,212,640	
FY 2048	$1,248,196	
FY 2049	$1,283,876	
FY 2050	$1,321,685	
FY 2051	$1,360,626	
FY 2052	$1,040,704	
FY 2053	$394,000	
FY 2054	$402,000	
FY 2055	$409,000	
FY 2056	$268,000	
Totals	**$52,651,998**	**$16,732,625**