April 3, 2026

Sam Cullen, Town Manager
Town of Maggie Valley
3987 Soco Road
Maggie Valley, NC 28751

Subject: Wastewater System Development Fee Study

Dear Mr. Cullen,

WILLDAN FINANCIAL SERVICES ("Willdan") is pleased to submit to the Town of Maggie Valley, North Carolina (the "Town") the Wastewater System Development Fee Study report (the "Report") for your consideration. We have completed the analysis for the review and development of wastewater system development fees and have summarized the results herein.

GENERAL

System Development Fees ("SDF" or "SDFs") and other comparable charges are often referred to by various terms including impact fees, capacity fees, system expansion fees, availability fees, connection fees, capacity reservation charges, facility fees, capital connection charges or other such terminology. In general, an SDF is a one-time charge implemented to recover (in whole or part) the costs associated with capital investments made by a utility system to make service available to future users of the system. Such capital costs include the construction of facilities as well as engineering, surveys, land, financing, legal and administrative costs. It has become common practice for utility systems to implement SDFs (or other similar charges) to establish a supplemental source of funding for future capital projects. This practice helps to mitigate the need for existing customers to subsidize system expansion entirely through increased user rates.

CRITERIA FOR SYSTEM DEVELOPMENT FEES

The purpose of an SDF is to assign, to the extent practical, growth-related capital costs to those customers responsible for such additional costs. To the extent that new population growth imposes identifiable additional capital costs to municipal services, equity and prudent financial practice necessitate the assignment of such costs to those customers or system users responsible for the additional costs rather than the existing user base. This practice has been labeled as "growth paying for growth" without placing the full cost burden on existing users.

It is important to note that an SDF is different than an assessment or tax. A special assessment is predicated upon an estimated increment in value to the property assessed by virtue of the improvement being constructed in the vicinity of the property. Further, the assessment must be directly and reasonably related to the benefit of which the property receives. SDFs are not related to the value of the improvement to the property but rather to the usage of the facilities required by the property. Until the property is put to purpose (i.e., developed), there is no burden placed upon the servicing facilities and the land use may be entirely unrelated to the value of the assessment basis of the underlying land. With respect to a comparison to taxes, SDFs are distinguishable primarily in the direct relationship between the amount charged and the measurable quantity of public facilities required. In the case of taxation, there is no requirement that the payment be in proportion to the quantity of public services consumed, and funds received by a municipality from taxes can be expended for any legitimate public purpose.

LEGAL CONSIDERATIONS

Court Proceedings - General

Courts throughout the United States have found that capacity-related fees associated with new customer connections to utility systems are legal provided they meet a Rational Nexus Test. In accordance with common court rulings, the rational nexus test requires that certain conditions be met to incorporate a valid capacity-related fee. Typically, the court decisions have found that such fees are valid if the following standards are met:

1. The required payment should primarily benefit those who must pay it because they receive a special benefit or service by reason of improvements made with the proceeds.

2. Proceeds from the required SDF payments are dedicated solely to the capital improvement projects (i.e., proceeds are not placed in a general fund to be spent on ongoing expenses and maintenance, which characterizes a tax, but are set aside in a restricted reserve fund).

3. The revenue generated by the required payment should not exceed the cost of capital improvements to the system.

4. The required payments are imposed uniformly and equitably on all new customers based on their anticipated usage (i.e., a relationship between the fees paid and the benefits received).

In general, most courts have found that it is reasonable for utility systems to take steps to ensure that there are adequate funds for capital projects, and to set aside collected fees in a special account for that purpose. Additionally, new customers are treated alike in that all must pay a fee based on anticipated usage and/or potential demand. Finally, courts have reasoned that it is rational for a utility system to prepare to pay for future capital projects and, while imposing a capacity-related

fee may not be the only way to raise such funds, it is a reasonable and legitimate method of accruing funds.

Court Proceedings – North Carolina

In 1990, a precedent was set in the State of North Carolina in a decision by the United States Court of Appeals, Fourth District for the case of Shell Island Investment v. Town of Wrightsville Beach North Carolina (900 F.2d 255), regarding the right of the Town of Wrightsville Beach to impose utility system impact fees to fund the expansion of the water and sewer facilities. The Court of Appeals upheld the decision of the United States District Court for the Eastern District of North Carolina that the Town of Wrightsville Beach had "authority to impose impact and tap fees under the Public Enterprise statute and that no specific enabling legislation is necessary."

Pursuant to the ruling of the District Court and the Court of Appeals, it was concluded that "despite the absence of any express authorization in the Public Enterprise Statute for municipalities to establish or increase utility fees in order to offset future capital improvements to their sewer and water infrastructures, general authority to do so is implicit in relevant state law, limited only by the requirement that any discrimination among users be not based on arbitrary or unreasonable classifications."

Court Proceedings – Town of Carthage Case

On April 8, 2016, in the case of Quality Built Homes, Inc. v. Town of Carthage, (766 S.E. 2d 897) the North Carolina Court of Appeals held that the Town of Carthage possessed authority to charge "impact fees" for water and sewer services. However, on August 16, 2016, the North Carolina Supreme Court reversed the North Carolina Court of Appeals' decision and held that the Town did not possess authority to charge impact fees for water and sewer services. Although there were many distinct factors influencing this decision, the result generated a significant amount of confusion and concern for governmental utility systems within the State.

House Bill 436

The General Assembly of North Carolina recently enacted House Bill 436, which included a general statute under Section 1, Chapter 162A, Article 8 for the development of "System Development Fees" (herein referred to as "Chapter 162A") that impacts all governmental entities in North Carolina who currently assess fees for the recovery of capital costs associated with new development and system growth. As defined in Chapter 162A, a system development fee is 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. Based on requirements of Chapter 162A, the calculation of the SDFs must employ generally accepted accounting, engineering, and planning methodologies. Defined methodologies include the buy-in method, incremental or marginal cost method, and combined cost method. A brief description of each of these methods as defined in American Water Works Association (AWWA) Manual M1 is provided below.

- *Buy-in Method.* Based on the value of the existing system's capacity. Under this method, new development "buys" a proportionate share of capacity at the cost (value) of the existing facilities.
- *Incremental/Marginal Cost Method*. Based on the value or cost to expand the existing system's capacity. This method assigns to new development the incremental cost of future system expansion needed to serve new development.
- *Combined Cost Method*. Based on blended value of both the existing and expanded system capacity. This method uses a combination of the buy-in and incremental/marginal cost methods.

Chapter 162A allows a governmental unit to utilize any of the three methods described above depending on the availability of information from the governmental unit, i.e., a detailed listing of asset data (buy-in method) or a ten to twenty-year capital improvement plan (incremental method). The combined method includes both existing assets and future capital projects required to serve growth.

Chapter 162A states that an SDF shall be calculated based on a written analysis, which may constitute or be included in a capital 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 5 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.
9. Uses the gallons per day per service unit that the local governmental unit applies to its water or sewer system engineering or planning purposes for water or sewer, as appropriate, in calculating the system development fee. (2017-138, s. 1; 2018-34, s. 1(a); 2021-76, s. 2.)

Further, Chapter 162A includes certain other minimum requirements as follows:

1. A system development fee shall not exceed that calculated based on the system development fee analysis.
2. Credits must be included no matter which methodology is used. A more detailed discussion on the applicable credits will be included in later sections of this Report.
3. A construction or contribution credit shall be given with respect to new development such that the governmental unit will credit the value of costs in excess of a development's proportionate share of connecting facilities required to be oversized for the use of others outside the development.

As such, this Report is intended to assess SDFs that meet the legal requirements set forth above to develop fees in accordance with Chapter 162A. The development of the proposed/calculated SDFs and applicable analysis assumptions are described throughout the remainder of the Report.

ADOPTION AND PERIODIC REVIEW OF SDF ANALYSIS

Upon completion of the SDF analysis, Chapter 162A sets forth certain criteria regarding the adoption and periodic review of SDFs. These include the following:

1. For not less than 45 days prior to consideration for adoption of the SDF analysis, the governmental unit shall post the analysis on its website and solicit and furnish a means to submit written comments which shall be considered by the preparer for potential modifications or revisions to the analysis.
2. Following expiration of the 45-day posting period, the governing body shall conduct a public hearing prior to considering adopting the analysis with any modifications.
3. The governmental unit shall publish the SDFs in its annual budget, rate plan or ordinance. Further, the SDF analysis shall be updated at least every five years.

EXISTING SEWER CAPACITY CAPITAL CHARGE

The Town currently imposes a Sewer Capacity Capital Charge to new customers requiring wastewater utility service. The current fee is $810.00 per bedroom. For comparison purposes throughout this Report, the existing charge assumes a typical three-bedroom residential home. To keep consistent with Chapter 162A, it is proposed that the Town's terminology of Sewer Capacity Capital Charge be changed to System Development Fee moving forward. Additionally, as will be explained in detail later in this Report, it is proposed that, rather than charging by the number of bedrooms, the SDF be applied by the number of Equivalent Residential Units (ERU's) for the

applicable meter size regardless of the number of bedrooms, square footage, or any other such criteria. For comparison purposes, the existing capital-related charge for a typical 3-bedroom single family residential home is provided in **Table 1**.

Table 1
Existing Sewer Capacity Capital Charge

Description	Existing Fee
Single Family Residential	$ 2,430

OTHER CONNECTION CHARGES

The Town currently does not impose tap charges to new customers connecting to the wastewater system. That may be a change the Town might consider implementing. If so, it is important to note that such connection-related charges are different than the SDFs developed and proposed herein. The distinguishing characteristic is that the connection charges would be established for the purpose of recovering the operating costs associated with performing the customer service act of physically making a new system connection (i.e., materials, labor, equipment, vehicles, etc.) SDFs, on the other hand, are established for the purpose of recovering the major capital costs incurred in making wastewater utility service available to the public. The SDFs calculated herein are intended to be in addition to any other connection-related charges the Town chooses to adopt.

EXISTING & PROJECTED CAPITAL FACILITIES

Existing Facilities – Buy-In Method

In considering the recovery of existing asset costs under the buy-in method, the general concept is that new customers "buy" a proportionate share of system capacity at the value of the existing facilities. It is important to note that while this methodology is labeled as *buy-in*, payment of an SDF does not transfer any ownership of the assets to the customer. Rather, such payment provides access to capacity at a status equal to that of existing customers of the system.

While there are asset valuation methods, a common approach is to value the existing assets at a replacement cost amount. According to the replacement cost method, the existing system

components are valued at the estimated current cost of replacing the facilities. The analysis developed herein uses an approach referred to as Replacement Cost New Less Depreciation (RCNLD). Applying the RCNLD method, the original costs are escalated to current dollars using construction cost indices, and then the result is adjusted down for the accumulated depreciation, which is also adjusted by the construction cost indices. This approach results in a replacement cost valuation that reflects the remaining depreciable life of the facilities.

In performing the RCNLD analysis, the Town provided a detailed listing of the current wastewater system facilities (the "Asset Listing"). The Asset Listing contained the original cost, the date placed in service and the accumulated depreciation for each asset. The replacement cost of each asset is estimated by using construction cost indices information contained in the Handy-Whitman Index of Public Utility Construction Costs for the South Atlantic Region. The Handy-Whitman Index calculates the cost trends for diverse types of utility construction, including wastewater systems. The published indices are used by regulatory bodies, operating entities, utility systems, service companies, valuation experts and insurance companies. The Handy-Whitman Index values are widely used to trend earlier valuations and original cost records to estimate replacement cost at prices prevailing at a certain date or at the present. While other construction cost indices are available, the Handy-Whitman Index is used in this analysis because it is specifically tailored to the utility industry.

After the replacement cost is calculated for each individual asset item, the adjusted accumulated depreciation is deducted for each asset item. The result is the RCNLD. The asset data and applicable recoverable cost allocations are provided in **Exhibit 1** at the end of this Report. The existing capital facilities and RCNLD calculations are summarized in **Table 2**.

TABLE 2
SUMMARY OF EXISTING RECOVERABLE FACILITIES

Description	Original Cost	Replacement Cost New	Accumulated Depreciation	RCNLD
Total Utility Assets:				
Land	$ 125,249	$ 125,249	$ 0	$ 125,249
Buildings And Systems	8,297,739	23,771,690	(12,829,010)	10,942,680
Improvements Other Than Buildings	333,748	450,737	(108,100)	342,637
Machinery & Equipment	250,310	562,213	(440,584)	121,629
Vehicles	198,451	198,452	(90,691)	107,761
Total	$ 9,205,497	$ 25,108,341	$ (13,468,385)	$ 11,639,956

For the purpose of the SDF analyses developed herein, the existing assets are categorized based on the major components of **Treatment** and **Transmission/Collection**. The treatment category includes the treatment plant facilities and the effluent disposal facilities. The transmission/collection category consists of major force mains, sewer lift stations and collection

lines. Since the localized collection facilities are generally contributed by developers or funded from other sources (i.e., assessments, direct customer payments, etc.), these facilities are not included for recovery through the capacity fees. Additionally, a cost limit or threshold has been set at $50,000 as a condition of inclusion of the asset items in the SDF calculation. The cost limit assumes that any asset item that costs less than the limit amount is not a major facility that provides a system-wide benefit. A final adjustment was made to exclude certain asset items that were identified as projects that only restored existing capacity rather than provided system upgrades or additional system capacity. The asset data and applicable recoverable cost allocations are provided in **Exhibit 1** at the end of this Report. The existing recoverable wastewater capital asset cost allocations included in the analysis are summarized in **Table 3**.

TABLE 3
SUMMARY OF EXISTING RECOVERABLE FACILITIES

Description		Recoverable RCNLD
Total Recoverable Assets:		
Land	$	125,249
Buildings And Systems		10,313,815
Improvements Other Than Buildings		312,943
Machinery & Equipment		0
Vehicles		0
Total	$	10,752,007
Allocation of Recoverable Assets:		
Treatment Facilities	$	8,413,445
Transmission Facilities		2,338,562
Total	$	10,752,007

Capital Improvement Program – Incremental Cost Method

In considering the recovery of future asset costs under the incremental cost method, the general concept is to assign to new development the incremental cost of future system expansion needed to serve the new development. When using this method, Chapter 162A requires a minimum 5-year capital improvement program ("CIP") that identifies the costs associated with new capacity and the timing of the expenditures. It is also important to consider the planned funding sources for the projects identified in the CIP. For example, projects that are funded from grants or developer contributions are excluded from the SDF calculation since these are costs that are not incurred by the utility.

The SDFs developed herein include the incremental cost method and therefore include future capital improvement projects and their applicable additions to system capacity. The Town has

prepared a CIP that provides a listing of individual projects and anticipated construction costs for fiscal years 2027 through 2031 (i.e., a 5-year CIP). The projected capital costs are provided in 2026 dollars. As such, the analysis developed herein applies an annual inflationary adjustment of 3.00% to capture the impact of assumed future cost increases. The inflation-adjusted CIP is provided in **Exhibit 2**. Like the rationale for excluding certain existing assets from recovery through SDFs, the CIP project costs included for capital recovery in the analysis consist of only those projects associated with system-wide upgrades or expansions. As such, projects related to general maintenance (i.e., renewal and replacement of existing facilities) or localized facilities that benefit only certain customers are excluded from recovery through the SDFs. The CIP and resulting identification of assumed growth-related projects (i.e., project costs recoverable from SDFs) are provided in **Exhibit 3**. The Exhibit also provides a summary allocation of the recoverable costs between the treatment and transmission/collection components. The projected growth-related projects and capital costs included in the analysis are summarized in **Table 4**.

TABLE 4
SUMMARY OF THE CIP

Description	Recoverable Capital	Excluded Capital	Total CIP
Summary Allocation:			
Treatment Projects	$ 1,278,775	$ 0	$ 1,278,775
Transmission Projects	473,824	2,305,906	2,779,730
Other Facilities	0	0	0
Total	$ 1,752,599	$ 2,305,906	$ 4,058,505

Total Facilities – Combined Method

The analysis developed herein for calculation of the SDFs proposes the combined method. As the name implies, the combined method includes the cost/value of both the existing facilities currently providing service, as well as the planned facilities required to perpetuate or expand service. This method assumes that the utility capacity within the existing system is sufficient to serve near-term growth but will require additional capital expenditures to serve future growth needs. Using this method, new customers pay an SDF that reflects the value of both existing and planned capacity. The combined system costs included for recovery are summarized in **Table 5**.

TABLE 5
SUMMARY OF COMBINED RECOVERABLE FACILITIES

Description	Recoverable Facilities
Existing Facilities:	
Treatment Facilities	$ 8,413,445
Transmission Facilities	2,338,562
Subtotal	$ 10,752,007
Capital Improvement Program:	
Treatment Facilities	$ 1,278,775
Transmission Facilities	473,824
Subtotal	$ 1,752,599
Combined:	
Treatment Facilities	$ 9,692,220
Transmission Facilities	2,812,386
Total	$ 12,504,606

CALCULATION CREDITS

It is common practice for utilities to fund major capital improvements and expansion projects with debt (i.e., bond issues). Typically, debt service payments associated with bond issues are recovered through the monthly user rates and charges applied to all system customers, as well as from other available revenue sources (including SDFs). To mitigate the potential for new customers to pay twice for capital facilities (i.e., paying an SDF for facilities that may have been debt funded and then paying for debt service in their monthly user rates), the SDF analysis developed herein includes a debt service credit to the existing facilities (buy-in method). The credit on the existing facilities is equal to the outstanding principal remaining on all utility related debt. The debt service credit amount for the existing facilities is based on information provided by staff related to the capital projects that were funded from proceeds of each individual debt instrument.

In addition to the credit on the existing facilities, the analysis developed herein also applies a credit to the planned future facilities provided in the CIP (incremental cost method). The credit for the future facilities is equal to 25% of the recoverable CIP, which meets the requirements of Chapter 162A. A summary of the combined recoverable capital facilities as adjusted for the applicable credits is provided in **Table 6**.

TABLE 6
SUMMARY OF NET RECOVERABLE FACILITIES

Description	Net Recoverable Facilities
Combined Facilities:	
Treatment Facilities	$ 9,692,220
Transmission Facilities	2,812,386
Subtotal	$ 12,504,606
Less Combined Credit Adjustment:	
Treatment Facilities	$ (648,918)
Transmission Facilities	(209,965)
Total	$ (858,883)
Net Capital Costs:	
Treatment Facilities	$ 9,043,302
Transmission Facilities	2,602,421
Total	$ 11,645,723

SYSTEM CAPACITIES

As previously addressed, the purpose of the SDF is to have new customers pay for their proportionate share of system capacity. This concept implies that the fee is based on a unit cost of capacity. To apply a fee based on the unit cost of capacity, it is necessary to identify the capacities of the facilities for which cost recovery is assigned. As such, the methodology applied herein relies upon identifying the wastewater treatment capacities as well as estimating the capacities of the major transmission/collection facilities. Due to the regulatory and design requirements for wastewater treatment plants, the capacity of treatment facilities is typically well documented. However, the volumetric capacity of the major transmission/collection facilities is often more difficult to determine. For this reason, in performing an analysis of this nature, the assumed capacity of the transmission/collection facilities is commonly based on a factor of the associated treatment capacities. In developing the estimated amount of capacity for each respective category, the analysis relies on information provided by the Town, as well as assumptions based on common industry standards.

Wastewater Treatment

The wastewater treatment facilities are designed and permitted in accordance with published hydraulic standards adopted by Section 15A NCAC 02T .0114 of the North Carolina Administrative Code regulations. The Town currently owns and operates a wastewater treatment plant with a permitted capacity of 1.00 MGD.

The wastewater system is impacted by inflow and infiltration (I&I) into the wastewater collection facilities. In essence, the impact of I&I reduces the level of capacity that is available for use by existing and future system customers. Pursuant to discussions with staff, the wastewater treatment capacity is adjusted for an assumed I&I impact of 20.00%, resulting in an adjusted average daily capacity of 0.80 MGD (see **Exhibit 4**).

Wastewater Transmission

Unlike the treatment facilities, it is difficult to identify the capacity of the wastewater transmission/collection facilities. Although an exact capacity number is difficult to determine, for the purpose of this analysis, it is assumed that the wastewater trunk lines and pumping facilities are designed to provide capacity at least 1.25 times the permitted plant flow amount of 1.00 MGD, totaling 1.25 MGD. Like the adjustment for treatment, a 20.00% I&I adjustment is made to the transmission/collection facilities resulting in a combined adjusted capacity of 1.00 MGD (see **Exhibit 4**).

DEVELOPMENT OF SDFs

The methodology utilized for developing the wastewater SDFs relies upon the cost of major system facilities as well as the existing and expanded system capacities to calculate an estimated cost per unit (gallon) of capacity. Based on this methodology, the wastewater facility costs are $13.90 per gallon of wastewater capacity (combined treatment and transmission). The calculated cost per gallon of capacity is summarized in **Table 7**.

TABLE 7
CALCULATED COST PER GALLON OF CAPACITY

Description	Calculated Cost Per Gallon
Net Capital Costs:	
Treatment Facilities	$ 9,043,302
Transmission Facilities	2,602,421
Subtotal	$ 11,645,723
Estimated Capacity - MGD:	
Treatment Facilities	0.000
Transmission Facilities	1.000
Calculated Cost Per Gallon of Capacity:	
Treatment Facilities	$ 11.30
Transmission Facilities	2.60
Total Cost per Gallon of Capacity	**$ 13.90**

In developing the SDFs, the unit costs per gallon of capacity are applied on an ERU basis such that 1 ERU is equal to the estimated capacity requirements for a typical single family 5/8-inch X 3/4-inch metered residential connection. In accordance with wastewater flow design standards adopted by the State and defined the North Carolina Administrative Codes (15A NCAC 02T .0114), the level of service requirement is based on 120 gallons of capacity per day per bedroom for a residential home. As previously discussed, this analysis assumes an average of 3 bedrooms per new home constructed. Applying the State's flow standard to the average number of bedrooms, it is assumed that 1 ERU requires a standard level of service of 360 gpd of wastewater system capacity.

Applying the average day LOS amounts to the estimated unit costs per gallon of capacity results in the calculated SDF of $4,990 for a typical single-family residential connection (i.e., per ERU), as rounded down. The development of the wastewater SDF per ERU is detailed in **Exhibit 4**. A summary of the existing and calculated SDF for a new residential connection (i.e., 1 ERU) is provided in **Table 8.**

TABLE 8
COMPARISON OF FEE PER ERU

Description	Fee Per ERU		
	Existing	Calculated	Difference
Wastewater System Development Fee	$ 2,430	$ 4,990	$ 2,560

APPLICATION OF SDFs

For the purpose of developing SDFs, the average daily flow number is established as one ERU. An ERU provides a standard unit of measure such that fees for connections with larger than average demand requirements can be calculated on an equivalency basis. As previously addressed, one ERU is equal to the average flow capacity for a single-family dwelling unit with a standard 5/8 x 3/4-inch metered water connection. New connections with larger metered water connections have the potential of placing more demand on the system (i.e., require more capacity) and are assessed ERU factors accordingly. The methodology for incrementing the SDFs for larger connection sizes is based on standardized demand criteria established by the AWWA and Water Environment Federation (WEF) pursuant to the size of the connection. Utilizing the AWWA/WEF demand criteria, the applicable ERU factors for larger connections are based on the incremental increase in potential demand as compared to the standard connection size. The calculated wastewater SDFs for the various connection sizes are developed in **Exhibit 5** and summarized in **Table 9**.

TABLE 9
PROPOSED SYSTEM DEVELOPMENT FEES

Description	Meter Factors (1)	Proposed Fees By Meter Size
Meter Size:		
5/8 x 3/4 Inch	1.00	$ 4,990
1.0 Inch	2.50	$ 12,475
1.5 Inch	5.00	$ 24,950
2.0 Inch	8.00	$ 39,920
3.0 Inch	16.00	$ 79,840
4.0 Inch	25.00	$ 124,750
6.0 Inch	50.00	$ 249,500
8.0 Inch	80.00	$ 399,200

(1) Meter-size equivalency factors established by the AWWA and identified in AWWA Standards C700, M1 and M22, as well as applied by the Water Environment Federation (WEF) in its Manual of Practice No. 27. Such factors are commonly applied consistently for both water and wastewater fee calculations.

In situations where the application of the connection-based fees will result in the collection of fees significantly different than the potential demand requirement of a new customer requesting service, a special calculation methodology may be applied at the discretion of the Town's Utility Department. For such situations, it is important for the utility to have the flexibility to utilize an ERU methodology for individual accounts based on specific capacity requirements. This alternative methodology is to apply the calculated unit costs per gallon of capacity times the capacity requirement for the customer. This type of situation will be uncommon and will typically only involve larger commercial and industrial connections. It is anticipated that, in such situations, the Town will require certified engineering documentation defining the capacity utilization needs for the new customer.

COMPARISON WITH NEIGHBORING UTILITIES

In order to provide the Town with additional insight regarding the development and application of the SDFs, a comparison is included to show the level of such fees as imposed by several other utility systems in North Carolina, including neighboring governments. The comparison shows the capacity-related fees for a new wastewater connection that receives service (from the subject utility or other local provider) through a standard residential-sized connection (representative of 1 ERU) calculated under the existing and proposed fees of the Town, and those of the other utility systems.

A comparison of the Town's existing and proposed SDF's to those currently in place for various other North Carolina utility systems was developed as of March 2026 and included in **Exhibit 6**.

GENERAL ASSUMPTIONS AND CONSIDERATIONS

In the preparation of this Report, certain information has been used and relied upon that was provided to Willdan by other entities. Such information includes, but is not limited to, audited financial statements, annual operating budgets, capital information, asset listings, cost data, system capacities, fee schedules for other utilities, and other information provided during the study. While the sources and applicable information are believed to be reliable, no independent verification of the information has been made and no assurances are offered with respect to the accuracy of the applicable information. To the extent that information used to develop the assumptions applied in the Report differs from actual results, the analyses developed herein could be impacted accordingly.

CONCLUSIONS

This study has found a need for the Town to maintain a mechanism for recovering the capital costs associated with system growth and expansion. Based on the reviews, analyses and assumptions provided herein, it is concluded that:

1. The application of capital recovery fees for new system connections has become common practice for public utility systems in North Carolina. As growth continues to impact the region, and as state and federal funding programs are reduced or eliminated, it is prudent management practice to adopt mechanisms to recover capital costs incurred by the utility for making service available to future customers.

2. Through Chapter 162A, the North Carolina legislature has found that it is prudent to require new customers to bear a portion of the costs of current capacity and future expansions their presence will demand. It should be noted that Willdan is not attempting to issue a legal opinion regarding Chapter 162A or any court proceedings leading to the enactment of Chapter 162A. The summary discussion of the bill and any prior court rulings is intended for informational purposes only. Any questions regarding the legal consideration provided herein should be directed to the Town's legal counsel.

3. The SDFs developed herein are equitable and provide for reasonable recovery of the capital costs associated with providing service to new customers.

4. The SDFs proposed herein are calculated in accordance with the requirements of Chapter 162A and utilize methodologies that are consistent with industry standards.

5. The proposed SDFs are based on a listing of existing system assets as provided by the Town, as well as the 5-year capital improvement plan prepared by the Town. The projected capital costs are provided in 2026 dollars. As such, the analysis developed herein applies an annual inflationary adjustment of 3.00% to capture the impact of assumed future cost increases.

6. The wastewater LOS standards proposed herein for establishing an ERU basis are based on flow standards approved by the State of North Carolina and utilized by the Town for system planning and design purposes and are consistent with common industry standards.

7. The Town may choose to impose tap fees or other connection-related operational charges for new customer connections. Since these other charges would be intended to recover operating costs for providing incident-specific services, the SDFs developed herein will have no effect on the level or application methodology for these other connection-related fees.

RECOMMENDATIONS

Based on the reviews, analyses and assumptions discussed herein, as well as the resulting conclusions provided above, it is respectfully recommended that the Town:

1. Adopt the calculated SDFs and application methodology as developed in this Report, or other such SDF amounts as determined appropriate by the Town but not to exceed the fee amounts calculated herein.

2. Enact the new SDFs to become effective on July 1, 2026 or other such date as determined appropriate by the Town's Board of Aldermen.

3. Readdress the SDF study within the next 5 years, or at such times as future capital budgets are developed and additional capital costs are incurred that may result in material adjustments to the SDF as adopted.

We appreciate the opportunity to be of service to the Town in this matter. In addition, we would like to thank you and the other members of the Town staff for the valuable assistance and cooperation provided during the preparation of the Report. We look forward to collaborating with you on future projects and continuing a successful professional relationship.

Respectfully Yours,

WILLDAN FINANCIAL SERVICES.

Daryll B. Parker
Principal Consultant

EXHIBITS 1 - 6

SUPPORTING OUTPUT FOR THE WASTEWATER SDF STUDY

WASTEWATER SDF STUDY FOR THE TOWN OF MAGGIE VALLEY, NORTH CAROLINA

Prepared by Willdan Financial Services

Exhibit 1
System Development Fee Analysis
Existing Recoverable Capital Costs
Wastewater System

Line	Description	Original Cost	Replacement Cost New	Accumulated Depreciation	RCNLD
	UTILITY ASSETS				
	Total Assets by Category:				
1	Land	$ 125,249	$ 125,249	$ 0	$ 125,249
2	Buildings And Systems	8,297,739	23,771,690	(12,829,010)	10,942,680
3	Improvements Other Than Buildings	333,748	450,737	(108,100)	342,637
4	Machinery & Equipment	250,310	562,213	(440,584)	121,629
5	Vehicles	198,451	198,452	(90,691)	107,761
6	**Total**	$ 9,205,497	$ 25,108,341	$ (13,468,385)	$ 11,639,956
	Adjusted For Assumed Cost Limit ($):				
7	Land	$ 125,249	$ 125,249	$ 0	$ 125,249
8	Buildings And Systems	7,815,130	22,414,408	(12,100,593)	10,313,815
9	Improvements Other Than Buildings	279,106	369,994	(57,051)	312,943
10	Machinery & Equipment	106,792	273,545	(240,146)	33,399
11	Vehicles	123,156	123,156	(15,395)	107,761
12	**Total**	$ 8,449,432	$ 23,306,352	$ (12,413,185)	$ 10,893,167
	Recoverable Allocation - Wastewater (%):				
13	Land				**100%**
14	Buildings And Systems				**100%**
15	Improvements Other Than Buildings				**100%**
16	Machinery & Equipment				**0%**
17	Vehicles				**0%**
	System Allocation - Wastewater ($):				
18	Land				$ 125,249
19	Buildings And Systems				10,313,815
20	Improvements Other Than Buildings				312,943
21	Machinery & Equipment				0
22	Vehicles				0
23	**Total**				$ 10,752,007
24	**Grand Total Recoverable Assets**				**$ 10,752,007**

Exhibit 1
System Development Fee Analysis
Existing Recoverable Capital Costs
Wastewater System

Line	Description	Original Cost	Replacement Cost New	Accumulated Depreciation	RCNLD
	COMPONENT ALLOCATION				
	Total Recoverable Wastewater Facilities:				
25	Treatment Facilities			78.25%	$ 8,413,445
26	Transmission Facilities			21.75%	2,338,562
27	**Total**			100.00%	$ 10,752,007
	COMPARISON TO TOTAL				
28	**Total Utility Assets - RCNLD**				$ 11,639,956
29	**Recoverable Assets**				$ 10,752,007
	Difference (Assets Excluded From Recovery):				
30	Excluded From Recovery ($)				$ 887,949
31	Excluded From Recovery (%)				7.63%
	DEBT SERVICE CREDIT				
32	**Outstanding Debt Principal**				$ 420,733
	Component Allocation - Wastewater:				
33	Treatment Facilities				$ 329,224
34	Transmission Facilities				91,509
35	**Total**				$ 420,733

Exhibit 2
System Development Fee Analysis
Current Capital Improvement Program for FY 2027 - FY 2031
Wastewater System

Line	Description	Total	2027	2028	2029	2030	2031
	Wastewater						
	Capital Projects						
1	Collection System Cleaning & Video Inspection	$ 376,381	$ 63,860	$ 68,965	$ 74,324	$ 81,072	$ 88,160
2	Repairs to Collection System	384,525	61,800	68,965	76,510	84,450	92,800
3	Replace Undersized Sewer Lines	220,425	30,900	37,135	43,720	50,670	58,000
4	US 276 Sewer Crossing (NC Commerce Grant)	1,545,000	1,545,000	-	-	-	-
5	Line Extensions to areas in town limits	232,000	-	-	-	-	232,000
6	GIS Mapping	21,399	3,605	3,926	4,263	4,617	4,988
7	WWTP Facility Improvements	423,275	-	-	191,275	-	232,000
8	WWTP Expansion	546,500	-	-	546,500	-	-
9	WWTP vehicle bridge	309,000	309,000	-	-	-	-
10	**Total Wastewater CIP**	**$ 4,058,505**	**$ 2,014,165**	**$ 178,991**	**$ 936,592**	**$ 220,809**	**$ 707,948**

Exhibit 3
System Development Fee Analysis
Allocation of Capital Improvements Program
Wastewater System

Line	Description		Total	Percentage Allocation (1)			Allocation Amount		
				Expand/ Upgrade	R&R	Other	Expand/ Upgrade	R&R	Other
	WASTEWATER PROJECTS								
	Capital Projects								
1	Collection System Cleaning & Video Inspection		$ 376,381	0.00%	0.00%	100.00%	$ 0	$ 0	$ 376,381
2	Repairs to Collection System		384,525	0.00%	100.00%	0.00%	0	384,525	0
3	Replace Undersized Sewer Lines		220,425	100.00%	0.00%	0.00%	220,425	0	0
4	US 276 Sewer Crossing (NC Commerce Grant)	(2)	1,545,000	0.00%	0.00%	100.00%	0	0	1,545,000
5	Line Extensions to areas in town limits		232,000	100.00%	0.00%	0.00%	232,000	0	0
6	GIS Mapping		21,399	100.00%	0.00%	0.00%	21,399	0	0
7	WWTP Facility Improvements		423,275	100.00%	0.00%	0.00%	423,275	0	0
8	WWTP Expansion		546,500	100.00%	0.00%	0.00%	546,500	0	0
9	WWTP vehicle bridge		309,000	100.00%	0.00%	0.00%	309,000	0	0
10	**Total - All Capital Projects**		**$ 4,058,505**				**$ 1,752,599**	**$ 384,525**	**$ 1,921,381**
	ALLOCATION OF CAPITAL PROJECTS								
	Wastewater:								
11	Treatment Projects		$ 1,278,775				$ 1,278,775	$ 0	$ 0
12	Transmission Projects		2,779,730				473,824	384,525	1,921,381
13	Other Projects		0				0	0	0
14	**Grand Total**		**$ 4,058,505**				**$ 1,752,599**	**$ 384,525**	**$ 1,921,381**

Notes:

(1) The capital costs are allocated to determine the costs that are recoverable from a capacity-related fee. The costs allocated as expansion and/or upgrade projects are assumed to be recoverable from such fees. All other capital costs are assumed to either be maintenance-related (R&R) projects, localized projects that do not provide system-wide capacity benefits, or projects funded from outside sources (e.g. grants, developers).

(2) This project is funded with a North Carolina Commerce grant; therefore, it is excluded from recovery through system development fees.

Exhibit 4
System Development Fee Analysis
Calculation of Capacity Fee Per ERU
Wastewater System

Line	Description		Total	
	Recoverable Capital Facilities			
	Existing Facilities:			
1	Treatment Facilities		$ 8,413,445	
2	Transmission Facilities		2,338,562	
3	**Subtotal**		$ 10,752,007	(1)
	Capital Improvement Program:			
4	Treatment Facilities		$ 1,278,775	
5	Transmission Facilities		473,824	
6	**Subtotal**		$ 1,752,599	
	Combined:			
7	Treatment Facilities		$ 9,692,220	
8	Transmission Facilities		2,812,386	
9	**Total**		$ 12,504,606	
	Less Debt Service Principal Credit:			
10	Treatment Facilities		$ (329,224)	
11	Transmission Facilities		(91,509)	
12	**Total**		$ (420,733)	(2)
	Less 25% CIP Adjustment:			
13	Treatment Facilities	25%	$ (319,694)	
14	Transmission Facilities	25%	(118,456)	
15	**Subtotal**		$ (438,150)	(3)
	Combined Credits:			
16	Treatment Facilities		$ (648,918)	
17	Transmission Facilities		(209,965)	
18	**Subtotal**		$ (858,883)	
	Net Capital Costs:			
19	Treatment Facilities		$ 9,043,302	
20	Transmission Facilities		2,602,421	
21	**Net Recoverable Costs**		$ 11,645,723	

Exhibit 4
System Development Fee Analysis
Calculation of Capacity Fee Per ERU
Wastewater System

Line	Description		Total	
	Available System Capacity (MGD)			
	Daily Treatment Capacity (MGD):			
22	Maggie Valley WWTP		1.000	
23	Additional Capacity From CIP		0.000	
24	**Combined Capacity of Treatment Facilities**		1.000	
	Treatment Capacity:			
25	Average Day Treatment Capacity (MGD)		1.000	
26	I&I Capacity Adjustment	20.0%		
27	Adjusted Average Day Treatment Capacity		**0.800**	
	Estimated Transmission System Capacity:			
28	Transmission-to-Treatment Capacity Factor	1.25		
29	Assumed Gross Transmission Capacity		1.250	
30	I&I Capacity Adjustment	20.0%		
31	Estimated Transmission Capacity		**1.000**	(4)
	Estimated Cost Per Gallon of Capacity			
	Calculated Cost Per Gallon of Capacity:			
32	Treatment ($/Gallon)		$ 11.30	
33	Transmission ($/Gallon)		2.60	
34	**Total Cost Per Gallon of Capacity**		**$ 13.90**	
35	Assumed Standard Level of Service Per ERU (GPD of Capacity)		360	(5)

Exhibit 4
System Development Fee Analysis
Calculation of Capacity Fee Per ERU
Wastewater System

Line	Description		Total
	Calculation of Proposed Fee Per ERU		
	Calculation of Fee Per ERU:		
36	Treatment Facilities	$	4,068
37	Transmission Facilities		936
38	Combined Cost	$	5,004
	Adjusted Fee - Treatment:		
39	Calculated Fee Per ERU	$	4,068
40	Less Rounding Adjustment		(8)
41	Adjusted Fee	$	4,060
	Credit Adjusted Fee - Transmission:		
42	Calculated Fee Per ERU	$	936
43	Less Rounding Adjustment		(6)
44	Adjusted Fee	$	930
	Capacity Fee Per ERU (Rounded):		
45	Treatment Facilities	$	4,060
46	Transmission Facilities		930
47	Total Fee	$	4,990
48	**Calculated Fee Per ERU**	**$**	**4,990**

Exhibit 4
System Development Fee Analysis
Calculation of Capacity Fee Per ERU
Wastewater System

Line	Description	Total

Notes

(1) See **Exhibit 1** for the development of existing asset costs identified for capital recovery.

(2) In an effort to account for the facility costs that may be recovered from user rates as part of the normal budgetary process, a debt service credit is applied to the applicable fee calculation. The credit is equal to outstanding principal amount on existing utility-related debt. The principal balance is allocated between water and wastewater as provided in **Exhibit 1**.

(3) This adjustment is made in accordance with House Bill 436, § 162A-207. Minimum requirements.

(4) It is assumed that the wastewater trunk lines and pumping facilities are designed to provide capacity at least equal to 1.25-times the available treatment capacity.

(5) The system development charges for wastewater are to be applied on an equivalent residential unit (ERU) basis such that 1 ERU is equal to the estimated capacity requirements for a typical single family residential connection with a 5/8-inch water meter. In accordance with wastewater flow design standards adopted by the State of North Carolina and defined the North Carolina Administrative Codes (15A NCAC 02T .0114), the level of service requirement is based on 120 gallons of capacity per day per bedroom for a residential home. Assuming a typical residential connection is 3 bedroom on average, it is assumed that 1 ERU requires a standard level of service of 360 gpd of wastewater system capacity.

Exhibit 5
System Development Fee Analysis
Summary of Calculated Fees
Wastewater System

Line	Description		ERU Factor	Wastewater Fee
	FEE COMPARISON			
	Fee Per Equivalent Residential Unit:			
1	Existing	(1)	1.00	$ 2,430
2	Proposed/Calculated		1.00	$ 4,990
3	Difference			$ 2,560
	PROPOSED/CALCULATED FEES	(2)		
	Meter Size:			
4	5/8 x 3/4 Inch		1.00	$ 4,990
5	1.0 Inch		2.50	$ 12,475
6	1.5 Inch		5.00	$ 24,950
7	2.0 Inch		8.00	$ 39,920
8	3.0 Inch		16.00	$ 79,840
9	4.0 Inch		25.00	$ 124,750
10	6.0 Inch		50.00	$ 249,500
11	8.0 Inch		80.00	$ 399,200
	Special Case Unit Cost	(3)		
	Charge Per GPD of Capacity:			
12	Treatment Facilities			$ 11.30
13	Transmission Facilities			2.60
14	Total Cost per Gallon of Capacity			$ 13.90

Notes:

(1) The calculated existing fee is based on a residential inside Town three bedroom home.

(2) The proposed capacity fees are based on the calculated fee per ERU as applied to the respective ERU factor. The proposed ERU factors for the capacity fees are based on meter equivalency factors established by the AWWA and WEF.

(3) In situations where the application of the meter-based fees will result in the collection of fees significantly different than the potential demand requirement, a special fee calculation methodology may be applied based on the unit cost of capacity and the estimated daily capacity needs of the new service connection. The estimated capacity needs will be based on the amount determined by the utility's engineering staff to be appropriate.

Exhibit 6
System Development Fee Analysis
Comparison With Other Utility Systems
Wastewater System

Line	Description		Wastewater
	Town of Maggie Valley:		
1	Existing Fee Per ERU	(1)	$ 2,430
2	Calculated Fee Per ERU		$ 4,990
	Other Utilities:	(2)	
3	Waynesville, NC		$ 1,098
4	Junaluska Sanitary District		$ 1,850
5	Town of Ranlo, NC		$ 2,716
6	Mooresville, NC		$ 3,150
7	MSD - Buncombe County, NC		$ 3,568
8	ONWSA		$ 4,460
9	Monroe, NC		$ 5,068
10	Charlotte, NC		$ 5,389
11	**Average of Other Utilities**		**$ 3,412**

Notes:

(1) For calculation purposes we used a 3 bedroom residence.

(2) Developed from fee information made available by the other utilities included. This study has attempted to ensure that fees included for comparison are applicable capital recovery fees consistent with the intent of the proposed fees developed herein. However, due to differences in terminology, fee structure and method of applying fees, such a direct comparison is often difficult to establish.