City of

NORMAN

2022 Water and Wastewater Connection Fee Study Update

February 18, 2022

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Nathan Madenwald
Utilities Engineer
City of Norman
P.O. Box 370
Norman, OK 73070

Subject: Water and Wastewater Connection Fee Study Update

Dear Mr. Madenwald,

Raftelis is pleased to provide this Water and Wastewater Connection Fee Study report to the City of Norman (City). This report details the methodologies, calculations, and findings of the proposed water and wastewater connection fees. The overarching goal of these fees is to recover the cost of capacity required to serve new development and achieve equity between new and existing customers.

It has been a pleasure working with you and other members of the City's Staff. Thank you for the support you provided during the course of this study.

Sincerely,

RAFTELIS, Inc.

Todd Cristiano

Todd Cristiano
Senior Manager

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1 : EXECUTIVE SUMMARY

1.1 BACKGROUND AND INTRODUCTION

The city retained Raftelis in 2021 to complete a Water and Wastewater Connection Fee Study (Study). This study's primary goal was to update the water and wastewater connection fees incorporating:

- The current value of the water and wastewater systems
- The cost of capacity-related projects
- The total current capacity and estimated added capacity over the next 10-years (FY22 – FY31)
- Peak water demands and wastewater flow characteristics for a ¾" equivalent meter
- Calculating the fee to recover the cost to serve new development

The resulting connection fees will allow the City to recover capital-related costs associated with growth and maintain equity between new and existing customers.

1.2 EXISTING CONNECTION FEES

Connection fees are one-time charges paid by new customers when they connect to the water and wastewater utility systems. They are used to pay for the cost of capacity demands imposed by growth and are intended to represent the unit cost of the capacity incurred to serve new customers.

The water connection fee is assessed by water meter size. The fees increase by meter size which represents the additional capacity requirement needed to serve larger meters. Water connection fees were last updated in 2015.

The wastewater fee consists of two components, the connection fee and the excise tax fee. The connection fee is based on water meter size. The residential excise tax fee is based on building square feet (sq ft) and the commercial fee is based on the type of business, the number of employees, and the anticipated contributed flow to the wastewater treatment plant. Table 1 shows the current water and wastewater connection fees. Section 1.4 provides details on the wastewater excise tax fee.

Table 1: Existing Connection Fees for FY 2022

Meter Size	Water Meter Ratios	Water	Wastewater Meter Ratio	Wastewater [1]
3/4"	1.00	$1,000.00	1.00	$275.00
1"	1.67	1,670.00	2.00	550.00
1.5"	3.33	3,330.00	4.00	1,100.00
2"	6.67	6.667.00	7.00	1,925.00
3"	14.67	14,667.00	16.82	4,625.00
4"	28.00	28,000.00	29.05	7,987.50
6"	57.67	57,667.00	66.84	18,381.00
[1] Excludes the excise tax fee (See Section 1.4 for details)				

1.3 PROPOSED CONNECTION FEES

1.3.1 Water Connection Fees

Raftelis used industry-standard connection fee calculation methodologies to develop the maximum allowable water and wastewater connection fee. The City requested Raftelis to calculate three different water connection fee alternatives based on different supply sources to support new growth. A brief description is provided below. A comprehensive description is provided in their annual capital plan. Table 1 compares the existing and proposed water connection fees.

- ***Alternative 1 - "Augmentation":*** Augmenting or supplementing the water supplies in Lake Thunderbird with treated water from Norman's Water Reclamation Facility (WRF). The primary goal of this alternative is to increase the reliable yield from the lake.
- ***Alternative 2 - "OKC":*** Purchasing more wholesale water from Oklahoma City in lieu of constructing new facilities to meet future supply needs.
- ***Alternative 3 - "Wells":*** Drilling additional groundwater supply wells in the Garber-Wellington Aquifer.

Table 2: Comparison of Existing and Proposed Water Connection Fee Alternatives

Meter Size	Meter Ratios	Existing Fees	Alt. 1: Augmentation	Alt. 2: OKC	Alt. 3: Wells
3/4"	1.00	$1,000.00	$3,180.00	$2,010.00	$2,150.00
1"	1.67	1,667.00	5,310.00	3,360.00	3,590.00
1.5"	3.33	3,333.00	10,590.00	6,690.00	7,160.00
2"	6.67	6,667.00	21,210.00	13,410.00	14,340.00
3"	14.67	14,667.00	46,650.00	29,490.00	31,540.00
4"	28.00	28,000.50	89,040.00	56,280.00	60,200.00
6"	57.67	57,667.00	183,390.00	115,920.00	123,990.00
[1] Proposed fee alternatives rounded to the nearest $10.					

1.3.2 Wastewater Connection Fees

Raftelis' calculated a ¾" wastewater connection fee is $3,280 based on the methodologies described later in this report. Raftelis compared this value to the total current connection fee and excise tax fee for a typical residential dwelling. Under the current structure, the total fee for a residential dwelling with a ¾" meter and a building size of 2,280 square feet[1] would be approximately $3,285 or a $5 difference from the proposed structure. Based on this analysis, Raftelis recommends the City retain the existing connection fee structure by meter size and the current excise tax fee.

1.4 WASTEWATER EXCISE TAX ON NEW DEVELOPMENT

In 2001, the citizens of the City of Norman approved a wastewater excise tax on new development that, similar to the wastewater connection fee, provides funding for growth-related wastewater infrastructure. Since its inception, the wastewater excise tax has been assessed according to the following schedule:

Residential Construction:

- $850.00 for homes up to 1,200 square feet
- $2.00 per square foot over 1,200 square feet

Non-Residential Construction:

- $115.00 per employee
- $4.00 per gallon per day, if the estimated wastewater flow is greater than 30 gallons per day per employee

Residential Expansions (includes the installation of plumbing fixtures):

- $1.00 per square foot for each additional living space added to the structure.

Together the connection fees and the new development excise tax are required to help finance the cost of growth-related infrastructure that growth adds to the wastewater system. As already discussed in Section 1.3.2, the combined wastewater connection fee and excise tax are sufficiently recovering funds for added costs caused by additional demands and Raftelis recommends that the City retain the existing connection fee structure by meter size and the current excise tax fee.

1.5 RELIANCE ON CITY PROVIDED DATA

During this project, the City (and/or its representatives) provided Raftelis with a variety of technical information, including cost and revenue data. Raftelis did not independently assess or test for the accuracy of such data – historic or projected. Raftelis has relied on this data in the formulation of our findings and subsequent recommendations, as well as in the preparation of this report. Raftelis also relied on cost allocation data provided by the City needed to complete the cost-of-service analysis.

[1] Reasonable residential home size for Norman based on historical building permit information.

There are often differences between actual and projected data. Some of the assumptions used for projections in this report will not be realized, and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the data or results projected in this report and actual results achieved, and those differences may be material. As a result, Raftelis takes no responsibility for the accuracy of data or projections provided by or prepared on behalf of the City, nor do we have any responsibility for updating this report for events occurring after the date of this report.

2 : CONNECTION FEE OVERVIEW

2.1 INTRODUCTION

Connection fees are one-time capital charges imposed on new customers to pay for the facilities needed to provide water and wastewater service. Therefore, the fees need to reflect the cost of capital improvements to increase or expand functional service capacity of public infrastructure systems relative to the functional service capacity being provided or made available to the fee payor.

The City currently charges a connection fee for connection to and, therefore, use of capacity in the water and wastewater systems. The fee is charged to new customers or customers requesting additional capacity compared to their current capacity.

The general steps in calculating tap fees are as follows:

- Determine value of backbone facilities. (existing and/or future growth-related)
- Estimate current system capacity or level of service.
- Calculate unit cost of capacity.
- Determine customer service level demand characteristics.
- Apply unit cost of capacity to customer's demand characteristics.

Water backbone facilities include major infrastructure such as wells, treatment plants, transmission mains, raw and treated water storage, and pumping facilities. Wastewater backbone facilities typically include treatment plants, trunk lines, lift stations, etc. The capacity of water and/or wastewater treatment plants is a common method for defining the level of service. Level of service is defined as the relationship between the service capacity and the service demand. In other words, the service capacity is the capacity of the system and the service demand is the requirement to serve new development. The basic formulas for calculating a tap fee based on a ¾" meter demand requirement is illustrated below.

$$\frac{Value\ of\ Backbone\ Facilities}{System\ Capacity\ (gpd)} \times New\ CustomerDemand\ (gpd) = Connection\ Fee$$

2.2 CONNECTION FEE METHODOLOGIES

There are three primary methodologies to develop the cost included in connection fees. These methodologies consider whether the utility is attempting to recover costs related to existing capacity (Buy-In), recover future capacity expansion plans (Incremental), or a combination of existing and future capacity (Hybrid). Table 3 illustrates the basic parameters that a utility may consider when selecting a methodology that best meets their needs.

Table 3: Industry-Standard Connection Fee Methodologies

Description	Buy-in	Incremental	Hybrid
Available existing capacity sufficient to accommodate new growth	X		
No existing capacity with significant future capacity requirements		X	
Some existing capacity available with future capacity requirements needed to accommodate new growth		X	X

2.2.1 Buy-In Method

The buy-in method considers the valuation of existing assets and the capacity of those assets to determine the tap fee. This method is typically reserved for utilities that have capacity available to serve new customers in the existing system in the near and long term. The buy-in method recoups the new development's proportionate share of capacity; essentially reimbursing the existing rate payers that funded the original facility investment and can be seen as the new development "buying into" the system. However, this methodology, as with the other methodologies, does not imply a transfer or impart ownership of the assets to the customer.

There are four approaches to determine the value of assets under the buy-in methodology.

- Original cost (OC)
- Original cost less accumulated depreciation (OCLD)
- Replacement cost new (RCN)
- Replacement cost new less accumulated depreciation (RCLD)

The OC approach values existing facilities at the original cost in the year the facilities were completed. This allows new customers to buy into the system at the same cost level as existing customers. The OCLD approach also values existing facilities at the original cost in the year the facilities were completed but reduces the cost by accumulated depreciation. Accumulated depreciation accounts for the loss in value of an asset due to use, repair, and obsolescence. With the OCLD approach, new customers buy into the system at a lower cost than existing customers. The accumulated depreciation not recovered through the connection fee using the OCLD approach is recovered through user rates. Because new development occurs over time, both the OC and OCLD approaches do not reflect the time value of money, and do not compensate the existing customers for carrying cost of the initial funds used to add capacity.

The RCN and RCLD approaches both consider the current value of facilities as if they were added at the time of the new connection. However, RCLD deducts accumulated depreciation from the current replacement value. The RCN and RCLD approaches estimate the value of facilities using historical asset data and apply a cost index factor from publications such as *Engineering News Record*, or the *Handy Whitman Cost Index for Public Utilities*. These methods account for inflation of the market value of facilities over time and fairly compensate existing customers for the carrying cost of building facilities in advance of serving new development. Whereas these indices are recognized as

the industry standard, they do have drawbacks. They are not utility specific and may not capture the nuances associated with the cost of constructing facilities or technological and regulatory costs associated with water and wastewater systems. As a result, the ENR index provides a conservative estimate of current value.

2.2.2 Incremental

When new users connect to a system, they use either surplus capacity from the existing system or they require construction of new capacity to accommodate their needs. When substantial new facility construction is required, the incremental cost method is an option. Under the incremental-cost approach, new customers pay for the cost of additional capacity regardless of the value of past investments made by existing customers.

As with the equity buy-in approach, new connectors will effectively acquire a financial position that is on par with existing customers. This approach is best suited for growing communities where additional facilities are needed to accommodate growth.

2.2.3 Hybrid Method

In addition to the above two methodologies, there is also a hybrid approach which includes using aspects of both the incremental cost approach and the buy-in approach. This is appropriate when systems have some existing unused capacity available but may not be sufficient for anticipated demand. The fee produced by the hybrid approach recognizes that new customers benefit from both existing infrastructure and planned capital improvements. *The hybrid approach was used for this study for both the water and wastewater connection fees since both systems have available existing capacity for growth but not adequate for anticipated demand.*

2.2.4 Credits and Offsets

Credits and adjustments may be accounted for differently depending on the methodology selected (buy-in, incremental, and hybrid) and often include grants, contributions in aid, existing and/or future debt. Grants, and contributions in aid of construction can be deducted from the connection fees valuation using any of the methodologies. Contributions in aid of construction typically refers to when developers are required to construct, install and dedicate onsite facilities serving the development and dedicate these facilities to the utility. Grants also provide no-cost infrastructure to the utility.

Another practice, most common with the buy-in methodologies, is to reduce outstanding principal from debt used to construct those facilities when rate-based revenues, assessments, or other dedicated revenues are the sole repayment source for outstanding debt and may require additional analysis for each community. Once a new customer connects to the water system, they pay for service through user charges or rates. For some communities, rates are designed to fully recover principal and interest costs on outstanding debt while connection fees are dedicated to cash

funding capital facilities. By reducing the connection fees by outstanding principal, it avoids double-counting this cost in both rates and connection fees when applicable.

Alternatively, communities that repay outstanding debt using connection fees may not wish to adjust the value for outstanding principal as connection fees are used to repay previously expansionary investments (e.g., excess and available capacity in place). Under the incremental and hybrid methodologies, expansionary facilities are often designed and built to meet long-term planning horizons and connection fees revenues may be insufficient to meet the initial expansion project costs. As a result, debt funding or existing reserve funds from rates are used to assist in funding the projects. Interest on bonds and loans are a cost of doing business and are often capitalized. As a result, interest costs are often included in the cost of expansion facilities and the connection fees if they are not to be funded by user rates. *Raftelis reduced the asset valuation by developer contributions and outstanding principal*.

2.3 ESTIMATING SYSTEM CAPACITY

The second step in determining connection fees is estimating the existing and/or future capacity. The buy in methodology may consider either the total capacity of the system or the remaining capacity available in the system. Whichever method is chosen, the value of facilities and capacity should be based on the same criteria. For example, if there is 25% capacity available in the system, the asset value should reflect the value of that remaining 25% of capacity. *Raftelis used the total system capacity along with the full value of existing system assets in the fee calculation*.

The incremental methodology considers the capacity that future growth-related projects will add over a specified time period. For example, if the next increment of capacity will provide treatment and transport for 10 million gallons per day (mgd), then the appropriate capacity to use for unit cost calculation is 10 mgd. The basis of capacity used to calculate the unit cost is often based on water and/or wastewater treatment design values as those tend to be largest facilities that govern system capacity.

The hybrid method captures the combined existing capacity (total or remaining available) and future incremental capacity of future growth-related projects. *Raftelis used the combined value of existing and future capacity in the fee calculation.*

2.4 UNIT COST OF CAPACITY

Capacity units used to develop connection fees for customers are determined by dividing the estimated value of existing assets, growth-related projects, or both, by the capacity of the facilities included in the valuation. The unit cost of capacity is then applied to customer demand characteristics to determine the connection fees. For the hybrid method, the unit cost of capacity is determined by a weighted average of the existing and future cost of capacities. The weighted average cost of capacity is the sum of the estimated existing system asset value plus the future project growth-related costs, divided by the sum of the existing and future capacity.

2.5 ¾" EQUIVALENT DEMAND ANALYSIS

A customer usage analysis determines the demand requirements of a group of customers or the entire customer class and serves as the basis for the connection fee. Customer demands must be analyzed using the same unit measurements as the unit cost of capacity calculation in order to maintain the rational nexus between the cost of facilities and the cost to serve a new customer. For example, if the unit cost of a water system is measured using system treatment capacity units (i.e. peak day demand in gallons per day (gpd)), then the new customer demands should also be measured in peak demands to calculate the connection fee.

2.6 ASSESSMENT SCHEDULE

The unit cost of capacity can be applied to the customer class demand characteristics (or meter size demand characteristic) to determine the cost to serve a new customer. The final task is to develop an assessment schedule in order to apply the connection fee in an equitable manner. Connection fee assessment schedules are used to apply the unit cost of capacity consistently and equitably to new development. These schedules may be based on customer type and/or meter size, lot size, plumbing fixtures, number of units, or equivalent residential units, etc. *The City's water and wastewater connection fees are based on water meter size.*

3 : WATER CONNECTION FEES

3.1 INTRODUCTION

The proposed water connection fee is based on the hybrid methodology. There exists available capacity in the system with anticipated expansion in the near future. The City requested Raftelis develop three connection fee alternatives based on different future supply sources. These alternatives include:

- ***Alternative 1 - "Augmentation":*** Augmenting or supplementing the water supplies in Lake Thunderbird with treated water from Norman's Water Reclamation Facility (WRF). The primary goal of this alternative is to increase the reliable yield from the lake.
- ***Alternative 2 - "OKC":*** Purchasing more wholesale water from Oklahoma City in lieu of constructing new facilities to meet future supply needs.
- ***Alternative 3 - "Wells":*** Drilling additional groundwater supply wells in the Garber-Wellington Aquifer.

3.2 WATER SYSTEM VALUATION

Raftelis estimated the value of the existing water system based on the replacement cost of facilities using the ENR-CCI Index (Engineering News-Record Construction Cost Index). Proposed expansion facility costs were developed by the City from their 10-year capital program. The value of the existing assets was reduced by contributed capital (consisting primarily of distribution mains) and outstanding loans for water utility infrastructure. Table 4 summarizes the total valuation under each alternative

Table 4: Asset and Future Capital Valuation Under Each Alternative

Description	Alt. 1: Augmentation	Alt. 2: OKC	Alt. 3: Wells
Total Existing Assets	$212,875,945	$212,875,945	$212,875,945
Less: Outstanding Principal	(49,460,000)	(49,460,000)	(49,460,000)
Growth Related Capital	$105,300,000	$6,300,000	$18,300,000
Total Facility Valuation	**$268,715,945**	**$169,715,945**	**$181,715,945**

3.3 SYSTEM CAPCITY

The current system capacity for the total water system, including the WTP, groundwater wells, and OKC wholesale connection, is estimated at 30 mgd and capacity additions are estimated at 3 mgd for each connection fee alternative. The total capacity used for each calculation is 33 mgd.

3.4 UNIT COST OF CAPACITY

The unit cost of capacity is the value of the current system valuation plus the expansion facility costs divided by the estimated total capacity 33 million gallons per day (mgd). Table 5 shows the unit cost of capacity used for the calculations shown in gallons per day (gpd).

Table 5: Unit Cost of Capacity Calculation

Description	Alt. 1: Augmentation	Alt. 2: OKC	Alt. 3: Wells
Valuation ($)	$268,715,945	$169,715,945	$181,715,945
Capacity (mgd)	33.0	33.0	33.0
Unit Cost, $ per gpd	**$8.14**	**$5.14**	**$5.51**

3.5 ¾" METER DEMAND ANALYSIS

Raftelis used historical billing data to determine the annual average demand for a ¾" meter. Because the unit cost of capacity is based on capacity of peak demand, the ¾" demand must also be stated in similar units. Raftelis applied a system peaking factor of 2.1 to the average day demand (186 gpd) which brings the estimated peak demand to 391 gpd.

3.6 PROPOSED WATER CONNECTION FEE

Table 6 on the following page summarizes the calculation of the proposed connection fee alternatives based on the data discussed above.

Table 6: Proposed Water Connection Fee Calculations

Calculated Connection Fee Based on 3/4" Meter				
Description		Alt. 1: Augmentation	Alt. 2: OKC	Alt. 3: Wells
Existing Assets				
Replacement Cost New of Existing Water Facilities		$309,643,908	$309,643,908	$309,643,908
Donated Assets		($141,967,964)	($141,967,964)	($141,967,964)
WTP Phase #2 Capitalized FY21		$38,000,000	$38,000,000	$38,000,000
Robinson Under I-35		$7,200,000	$7,200,000	$7,200,000
Total Existing Assets		$212,875,945	$212,875,945	$212,875,945
Less Credit on Existing Debt [1]				
2015 NUA Refunding		($6,320,000)	($6,320,000)	($6,320,000)
NUA Revenue Note, Refunding Series 2016		($5,925,000)	($5,925,000)	($5,925,000)
NUA Series 2017 Drinking Water SRF Loan - Phase 2		($26,350,000)	($26,350,000)	($26,350,000)
NUA Series 2018 Promissory Note - Wells		($10,865,000)	($10,865,000)	($10,865,000)
Total Outstanding Principal Credit		($49,460,000)	($49,460,000)	($49,460,000)
Net Existing Asset Value		**$163,415,945**	**$163,415,945**	**$163,415,945**
Growth-Related Capital:				
Rob. 24th WTP Water Line Upsizing 30" - 42"		$6,300,000	$6,300,000	$6,300,000
10 New Wells				$12,000,000
Reuse and Augmentation		$99,000,000		
Total Existing and Growth-Related Facilities		**$268,715,945**	**$169,715,945**	**$181,715,945**
Peak Capacity, mgd	33.0			
Unit Cost, $ per gpd		**$8.14**	**$5.14**	**$5.51**
Estimated 5/8" & 3/4" Meter Average Day Water Use (gpd)	186			
Estimated Max Day Peaking Factor	**2.1**			
Estimated 5/8" & 3/4" Meter Peak Day Water Use (gpd)	391			
Connection Fee, $ per 3/4" Equivalent Meter		**$3,181**	**$2,009**	**$2,151**
Connection Fee, $ per 3/4" Equivalent Meter (Rounded)		**$3,180**	**$2,010**	**$2,150**

[1] Norman Utilities Authority (NUA)

Table 7 compares the existing fee with the proposed fee alternatives under the current assessment schedule.

Table 7: Comparison of Existing and Proposed Water Connection Fee Alternatives

Meter Size [1]	Meter Ratio	Existing Fee	Alt. 1: Augmentation	Alt. 2: OKC	Alt. 3: Wells
3/4"	1.00	$1,000.00	$3,180.00	$2,010.00	$2,150.00
1"	1.67	1,667.00	5,310.00	3,360.00	3,590.00
1.5"	3.33	3,333.00	10,590.00	6,690.00	7,160.00
2"	6.67	6,667.00	21,210.00	13,410.00	14,340.00
3"	14.67	14,667.00	46,650.00	29,490.00	31,540.00
4”	28.00	28,000.50	89,040.00	56,280.00	60,200.00
6”	57.67	57,667.00	183,390.00	115,920.00	123,990.00
[1] Proposed fee alternatives rounded to the nearest $10.					

4 : WASTEWATER CONNECTION FEE

The process used by Raftelis to develop an updated wastewater connection fee schedule is similar to that used for water connection fees as discussed in Section 3. As a result, the discussion in the following sections is abbreviated.

4.1 WASTEWATER SYSTEM VALUATION

Raftelis estimated the value of the existing wastewater system based on the replacement cost of facilities using the ENR-CCI Index. Proposed expansion facility costs were produced by the City from their 10-year capital program. The value of the existing assets was reduced by contributed capital and outstanding loans for water utility infrastructure. The total net value of the existing system is approximately $487.78 million.

4.2 SYSTEM CAPCITY

The current capacity of the Water Reclamation Facility (WRF) is 17 mgd and 22 mgd on a max month basis. The capacity will be increased to 21.5 mgd and a max month of 28 mgd with the full completion of the North WRF or further expansion of the existing WRF.

4.3 UNIT COST OF CAPACITY

The UCC is the value of the current system plus the expansion facility divided by the estimated incremental capacity. Table 8 shows the unit cost of capacity used for the wastewater calculations.

Table 8: Unit Cost of Capacity Calculation

Description	Units
Valuation ($)	$487,782,148
Peak (Max Month) Capacity (mgd)	28.0
Unit Cost, $ per gpd	**$17.42**

4.4 ¾" METER DEMAND ANALYSIS

Raftelis used historical billing data to determine the annual average demand for a ¾" meter. Because the unit cost of capacity is based on capacity of peak demand, the ¾" demand must also be stated in similar units. The peak month flow factor for wastewater system was calculated based on the average day capacity (21.5 mgd) divided by the max month capacity (28 mgd) with a resulting value of 1.3. Raftelis applied the peak month flow factor of 1.3 to the average day flow (146 gpd) for a total of 188 gpd.

4.5 CALCULATED WASTEWATER CONNECTION FEE

Raftelis calculated the ¾" wastewater connection fee to be $3,275 (rounded up to $3,280) based on the methodology described in previous sections and as detailed in Table 9. Raftelis compared this

value to the total current connection fee and excise tax fee for a typical residential dwelling. Under the current structure, the total fee for a residential dwelling with a ¾" meter and a building size of 2,280 square feet[2] would be approximately $3,285 or a $5 difference from the proposed structure. Based on this analysis, City staff proposed to retain the existing connection fee structure by meter size and the current excise tax fee. Table 9 summarizes the calculation of the proposed connection fees based on the data discussed above.

Table 9: Calculated Wastewater Connection Fee

Calculated Connection Fee Based on 3/4" Meter		
Description		Calculation
Existing Assets		
Replacement Cost New of Existing Wastewater Facilities		$522,414,357
Donated Assets & > 5 Years		($127,337,956)
Summit Valley Interceptor		$231,625
Bishop Creek Interceptors		$3,671,100
Brookhaven Creek Interceptors		$3,181,500
SE Lift Station Payback		$7,024,000
Corporate Addition Utilities		$552,800
4.5 MGD North WRF		$100,400,000
Total Net Asset Valuation		**$510,137,425**
Less Credit on Existing Debt [1]		
2015 NUA Refunding		
NUA Clean Water SRF Note		(2,807,424)
NUA Series 2014 Clean Water SRF Note		($19,547,853)
Total Outstanding Principal Credit		($22,355,277)
Net Existing Asset Value		**$487,782,148**
Total Existing Facilities		**$487,782,148**
Max Month Capacity MGD	**28.0**	
Unit Cost, $ per gpd		**$17.42**
Estimated 3/4" Meter Average Day Indoor Use (gpd) [2]	146	
Estimated Max Month: Average Month, gpd [3]	**1.3**	
Estimated 5/8" & 3/4" Meter Peak Day Water Use (gpd)	188	
Connection Fee, $ per 3/4" Equivalent Meter		**$3,281**
Connection Fee, $ per 3/4" Equivalent Meter (Rounded)		**$3,280**

[1] Norman Utilities Authority (NUA)
[2] Based on FY16 - 20 Billing Data
[3] Max month to average month = 28 MGD / 21.5 MGD

[2] Reasonable residential home size for Norman based on historical building permit information.