

**IN THE TENNESSEE PUBLIC UTILITY COMMISSION
AT NASHVILLE, TENNESSEE**

IN RE:)	
)	
JOINT PETITION OF TENNESSEE)	
WASTEWATER SYSTEMS, INC.,)	DOCKET NO. 20-00009
AND TPUC STAFF (as a Party) TO)	
INCREASE RATES AND CHARGES)	

SUPPLEMENTAL TESTIMONY

OF

KEVIN MCCLENATHAN

1 **Q. Please state your name, position and business address.**

2 A. My name is Kevin McClenathan. I am a Utility Rate Specialist for the Tennessee Public
3 Utility Commission. My business address is 502 Deaderick Street, Fourth Floor, Nashville,
4 TN 37243.

5 **Q. Did you previously submit pre-filed direct testimony in this docket?**

6 A. Yes. My pre-filed direct testimony was filed in this docket on January 31, 2020.

7 **Q. What is the purpose of your supplemental testimony?**

8 A. In my supplemental testimony, I will detail recommended financial adjustments to the
9 forecasted revenue requirements and provide Revised Commission Staff Exhibits,
10 Schedules and Workpapers incorporating the recommended financial adjustments, which
11 are attached hereto and which replace the exhibits, schedules and workpapers filed with
12 my pre-filed direct testimony. Joe Shirley will also submit supplemental testimony to
13 recommend additional accounting procedures for escrow funds and developer payments
14 and to summarize the impact of the proposed financial adjustments on the recommended
15 service rates. TWSI witness Suzanne Christman will file supplemental testimony providing
16 further support for the proposed revisions.

17 **Q. Please summarize the proposed financial adjustments to the previously recommended**
18 **revenue requirements.**

19 A. The overall adjustment to the proposed revenue deficiency results in a decrease of \$44,905.
20 This is a decrease from the originally proposed deficiency of \$449,198 to the revised
21 deficiency of \$404,293. However, the parties have agreed to increase escrow fees by the
22 same amount of the decrease in the revenue deficiency. The changes to the rates are
23 reflected on revised Schedule 13 attached hereto. This revised schedule reflects the
24 decrease to base service rates and the increase to escrow fees in the aggregate of \$44,905.
25 The recommended combined rates for wastewater service and escrow charges are
26 unchanged by the financial adjustments and remain the same as the recommended
27 combined rates for Residential Customers, Commercial Customers Without Food Service,
28 Commercial Customers With Food Service, and Commercial Cabin Customers in the
29 originally proposed rate design.
30 There are two categories of financial adjustments that make up the total \$44,905 decrease
31 to the proposed revenue deficiency. First, the parties agreed to remove Management Fees,

1 Depreciation Expense, State Excise Tax, and Federal Income Tax from Total Operating
2 Expenses for application of the Operating Margin. These adjustments are reflected on
3 revised Schedule 1 attached hereto. The financial impact of these adjustments is to reduce
4 the calculated revenue deficiency by \$41,382.

5 Second, the revised schedules attached to my testimony also correct a duplicate inclusion
6 of State Excise Tax in the original calculation of Federal Income Tax Expense. This
7 resulted in a change from the original Federal Income Tax Expense of (\$25,644) to the
8 revised figure of (\$27,427). The elimination of this miscalculation is shown on the revision
9 to Schedule 10 attached hereto. The financial impact of this adjustment is to reduce the
10 calculated revenue deficiency by \$3,523.

11 **Q. Please identify and explain the adjustments made to the Revised Staff Exhibit**
12 **attached to your testimony.**

13 A. **Schedule 1, Line 1 - Total Operating Expenses - \$2,270,035:** As shown in the revised
14 exhibits, the adjusted figure for Total Operating Expenses is \$2,270,035. This is a decrease
15 from the originally proposed amount of \$2,272,408. This difference is attributed to the
16 adjustment of Federal Income Tax Expense found on Schedule 2, Line 11 and Schedule
17 10, Line 14.

18 **Schedule 1, Lines 2-7 - Operating Expenses Subject to Operating Margin - \$1,963,456:**

19 The newly-calculated figure of \$1,963,456 excludes Management Fees, Depreciation
20 Expense, State Excise Tax and Federal Income Tax from Total Operating Expenses for
21 purposes of applying the recommended Fair Operating Margin to compute the Required
22 Operating Income.

23 **Schedule 1, Line 9 - Required Operating Income - \$196,346:** This figure is calculated
24 by multiplying the Operating Expenses Subject to Operating Margin by the recommended
25 10.0% Fair Operating Margin. This is a decrease from the originally proposed amount of
26 \$227,241 due to the exclusion of Management Fees, Depreciation Expense, State Excise
27 Tax and Federal Income Tax from the Operating Margin calculation.

28 **Schedule 1, Line 10 - Operating Income at Current Rates - (\$103,177):** This is an
29 increase from the originally proposed amount of (\$105,550). The difference is attributed
30 to the adjustment of Federal Income Tax Expense found on Schedule 2, Line 11 and
31 Schedule 10, Line 14.

Schedule 1, Line 11 – Operating Income Deficiency - \$299,522: This amount is the sum of the Required Operating Income and the Net Operating Loss at Current Rates forecasted for the Attrition Period. Due to the adjustments to correct the calculation of Federal Income Tax and to remove Management Fees, Depreciation Expense, State Excise Tax and Federal Income Tax from the Operating Margin calculation, this figure is a decrease from the originally proposed amount of \$332,791.

Schedule 1, Line 13 - Revenue Deficiency - \$404,293: This figure represents the overall adjustment to the original revenue deficiency of \$449,198 that results in the decrease of \$44,905.

Schedule 2, Lines 11-13 - Federal Income Tax Expense, Total Operating Expenses, and Net Operating Income: The adjustment of Federal Income Tax Expense of (\$25,644) to the revised figure of (\$27,427) carries through to Total Operating Expenses and Net Operating Expenses.

Schedule 10, Line 14 - Federal Income Tax - (\$27,427): This figure is the result of a correction to a duplicate inclusion of Excise Tax in the calculations originally proposed. The result is a change from the proposed Federal Income Tax Expense of (\$25,644) to the revised figure of (\$27,427).

Schedule 11, Line 13 – \$196,345: The revised Net Operating Income of \$196,345 is a decrease from the originally proposed \$227,241. The difference is attributed to the correction in Federal Income Tax Expense and the calculation of Operating Expenses Subject to Operating Margin as discussed previously.

Q. Do you have any other comments regarding the changes to the previously recommended revenue requirements?

A. Yes. After much consideration, the parties have agreed to the proposed changes to the financial requirements. I am of the opinion that the financial adjustments described previously and reflected in the Revised Commission Staff Exhibits, Schedules and Workpapers attached hereto are reasonable and should be adopted by the Commission for purposes of setting rates in this proceeding.

Q. Does this conclude your supplemental testimony?

A. Yes it does.

Tennessee Wastewater Systems, Inc.
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For the 12 Months Ending December 31, 2020

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Tennessee Wastewater Systems, Inc.
Results of Operations - Operating Margin Method
For the 12 Months Ending December 31, 2020

Line No.		TWSI	
1	Total Operating Expenses	2,270,035	A/
2	Less: Expenses Recoverable without application of Operating Margin		
3	Management Fees	231,020	B/
4	Depreciation	112,065	C/
5	State Tax Expense	(9,079)	A/
6	Federal Tax Expense	(27,427)	A/
7	Operating Expenses Subject to Operating Margin	1,963,456	
8	Fair Operating Margin	10.00%	D/
9	Required Operating Income	196,346	
10	Less Operating Income at Current Rates	(103,177)	A/
11	Operating Income Deficiency/(Surplus)	299,522	
12	Gross Revenue Conversion Factor	1.34979	E/
13	Revenue Deficiency/(Surplus)	404,293	

A/ Schedule 2.

B/ Schedule 5.

C/ Schedule 6.

D/ Proposed Operating Margin.

E/ Schedule 12.

Tennessee Wastewater Systems, Inc.
Income Statement at Current Rates
For the 12 Months Ending December 31, 2020

Line No.		Test Period		Adjustments		Attrition Period	
	Operating Revenues:						
1	Wastewater Revenues	1,990,765		157,769		2,148,533	
2	Other Revenues	232,363		(214,038)		18,326	
3	Total Operating Revenue	<u>2,223,128</u>	A/	<u>(56,269)</u>		<u>2,166,859</u>	A/
	Expenses:						
4	Operating Expenses	1,320,041	B/	(46,856)		1,273,186	B/
5	Contractual Services	476,667	C/	(89,998)		386,670	C/
6	Administrative & General Expenses	396,584	D/	(23,668)		372,916	D/
7	Miscellaneous Expenses	77,433	E/	8,258		85,691	E/
8	Taxes Other Than Income Expenses	59,155	F/	122,325		181,480	F/
9	Non-Utility Expenses	25,705	G/	(19,106)		6,600	G/
10	State Income Tax Expense	-		(9,079)		(9,079)	H/
11	Federal Income Tax Expense	-	H/	(27,427)		(27,427)	H/
12	Total Expenses	<u>2,355,586</u>		<u>(85,550)</u>		<u>2,270,035</u>	
13	Net Operating Income	<u>(132,458)</u>		<u>29,281</u>		<u>(103,177)</u>	

A/ Schedule 3.
B/ Schedule 4.
C/ Schedule 5.
D/ Schedule 6.
E/ Schedule 7.
F/ Schedule 8.
G/ Schedule 9.
H/ Schedule 10.

Tennessee Wastewater Systems, Inc.
Revenues
For the 12 Months Ending December 31, 2020

Line No.		Test Period	Adjustments	Attrition Period
1	Residential	1,056,119	59,773	1,115,892
2	Commercial	761,523	87,641	849,164
3	Sewer Access Fees	173,123	10,354	183,477
4	Operations & Maintenance	363	(363)	-
5	Billing & Collecting	(161)	161	-
6	Bonding	4,182	(4,182)	-
7	Franchise Income	3,390	(3,390)	-
8	Bioxide	-	-	-
9	Late Payment	14,651	354	15,006
10	Developer Subsidy	206,250	(206,250)	-
11	Miscellaneous	3,689	(369)	3,320
12	Total Revenues	2,223,128	(56,269)	2,166,859

SOURCE: Commission Staff Workpaper 1.

Tennessee Wastewater Systems, Inc.
Operating & Maintenance Expense
For the 12 Months Ending December 31, 2020

Line No.		Test Period	Adjustments	Attrition Amount
1	Salary & Wages Expense - Employees	642,157	(18,597)	623,560
2	Salary & Wages Expense - Officers	-	-	-
3	Life Insurance Expense	2,091	54	2,145
4	Worker's Compensation Expense	16,196	2,668	18,864
5	IRA Contribution Expense	14,611	(746)	13,865
6	Purchased Wastewater Treatment Expense	116,597	(116,597)	-
7	Purchased Power Expense	160,563	16,458	177,021
8	Telemetry Monitoring Expense	173,192	4,451	177,643
9	Bioxide Expense	3,680	(3,680)	-
10	Materials & Supplies Expense	190,953	69,135	260,088
11	Total Operation & Maintenance Expense	1,320,041	(46,856)	1,273,186

SOURCE: Commission Staff Workpaper 5.

Tennessee Wastewater Systems, Inc.
Contractual Services Expense
For the 12 Months Ending December 31, 2020

Line No.		Test Period	Adjustments	Attrition Period
1	Professional	25,594	(8,001)	17,593
2	Testing	7,932	204	8,136
3	Maintenance	12,247	(5,044)	7,203
4	Service	1,505	39	1,544
5	Lawn Maintenance	28,063	28,063	56,125
6	One-Call	5,831	150	5,981
7	Management Fees	321,257	(90,237)	231,020
8	IT Support	74,238	(15,170)	59,068
9	Total Contractual Services Expense	476,667	(89,998)	386,670

SOURCE: Commission Staff Workpaper 7.

Tennessee Wastewater Systems, Inc.
Administrative & General Expense
For the 12 Months Ending December 31, 2020

Line No.		Test Period	Adjustments	Attrition Period
1	Rent	60,945	5,055	66,000
2	Registration Renewal	618	409	1,026
3	Fuel Expense	66,023	1,697	67,719
4	Vehicle Maintenance	25,955	667	26,622
5	Insurance	38,162	981	39,143
6	Regulatory Commission Expense	8,279	(8,279)	-
7	Depreciation Expense	124,530	(12,465)	112,065
8	Letter of Credit Fees	10,500	(10,500)	-
9	Interest Expense	10,451	(3,004)	7,447
10	Licenses & Permits	43,246	1,111	44,358
11	Uncollectible Expense	7,875	661	8,536
12	Total Administrative & General Expense	396,584	(23,668)	372,916

SOURCE: Commission Staff Workpaper 8.

Tennessee Wastewater Systems, Inc.
Miscellaneous Expense
For the 12 Months Ending December 31, 2020

Line No.		Test Period	Adjustments	Attrition Period
1	Website & Internet Hosting	726	(726)	-
2	Equipment Maintenance	7,177	12,554	19,731
3	Equipment Rental	19,406	(5,893)	13,513
4	Small Equipment Purchases	330	4,625	4,954
5	Telephone	10,466	269	10,735
6	Office Supplies	1,034	27	1,060
7	Postage	9,939	1,019	10,958
8	Software Licenses	23,133	595	23,727
9	Membership Dues	40	(40)	-
10	Franchise Fees	3,383	(3,383)	-
11	Billing Costs	-	-	-
12	Other	1,800	(788)	1,012
13	Total Miscellaneous Expense	77,433	8,258	85,691

SOURCE: Commission Staff Workpaper 9.

Tennessee Wastewater Systems, Inc.
Taxes Other Than Income Tax Expense
For the 12 Months Ending December 31, 2020

Line No.		<u>Test Period</u>		<u>Adjustments</u>	<u>Attrition Period</u>	
1	Payroll Tax	49,703	A/	3,274	52,977	B/
2	Franchise Tax	58,000	A/	2,247	60,247	C/
3	Gross Receipts Tax	-	A/	-	-	D/
4	Property Tax	59,155	A/	(87)	59,068	E/
5	Utility Commission Fee	8,280	A/	908	9,188	F/
6	Total Taxes Other Than Income Taxes	<u>175,138</u>		<u>6,342</u>	<u>181,480</u>	

A/ Profit and Loss January 2018 through December 2018.

B/ Per Commission Staff Workpaper 6 (Salary and Wage Priceout).

C/ Commission Staff Workpaper 10.

D/ 2020 Intrastate Revenues less 5,000* .03 less franchise tax, less excise tax.

E/ Commission Staff Workpaper 10.

F/ 2020 Revenues less 5,000 / 1000 *4.25

Tennessee Wastewater Systems, Inc.
Non-Utility Expense
For the 12 Months Ending December 31, 2020

Line No.		Test Period	Adjustments	Attrition Period
1	Lodging	155	(155)	-
2	Meals & Entertainment	6,237	(6,237)	-
3	Dues & Subscriptions	2,580	(1,070)	1,510
4	Banking & NSF Fees	8,287	(4,606)	3,681
5	Miscellaneous	7,247	(5,838)	1,409
6	Construction	1,200	(1,200)	-
7	Total Non-Utility Expense	25,705	(19,106)	6,600

SOURCE: Commission Staff Workpaper 11.

Tennessee Wastewater Systems, Inc.
Income Tax Expense at Current Rates
For the 12 Months Ending December 31, 2020

Line No.		<u>Tax Rate</u>	<u>Attrition Period</u>
1	Revenues		<u><u>2,166,859</u></u> A/
	Operating Expenses:		
2	Operating Expenses		1,273,186 A/
3	Contractual Services		386,670 A/
4	Administrative & General Expenses		372,916 A/
5	Miscellaneous Expenses		85,691 A/
6	Taxes Other Than Income Expense		181,480 A/
7	Non-Utility Expenses		<u>6,600</u> A/
8	Total Operating Expenses		<u><u>2,306,542</u></u>
9	Income Before Tennessee Excise and Federal Income Tax Expense		<u><u>(139,683)</u></u>
10	Tennessee Excise Tax	6.50%	<u>(9,079)</u>
11	Income Before Federal Income Tax Expense		<u><u>(130,604)</u></u>
	Federal Income Tax Calculation:		
12	Net Income Before Income Taxes		(130,604)
13	FIT Rate	21.00%	<u>21.00%</u>
14	Federal Income Tax Expense		<u><u>(27,427)</u></u>

A/ Schedule 2.

Tennessee Wastewater Systems, Inc.
Income Statement at Proposed Rates
For the 12 Months Ending December 31, 2020

Line No.		Current Rates		Rate Increase		Proposed Rates
	Operating Revenues:					
1	Wastewater Revenues	2,148,533	A/	404,293	B/	2,552,826
2	Other Revenues	18,326	A/	2,824	C/	21,149
3	Total Operating Revenue	2,166,859		407,117		2,573,976
	Expenses:					
4	Operating Expenses	1,273,186	A/	-		1,273,186
5	Contractual Services	386,670	A/	-		386,670
6	Administrative & General Expenses	372,916	A/	1,617	D/	374,533
7	Miscellaneous Expenses	85,691	A/	-		85,691
8	Taxes Other Than Income Expenses	181,480	A/	-		181,480
9	Non-Utility Expenses	6,600	A/	-		6,600
10	State Income Tax Expense	(9,079)	A/	26,357	E/	17,278
11	Federal Income Tax Expense	(27,427)	A/	79,620	F/	52,193
12	Total Expenses	2,270,035		107,595		2,377,630
13	Net Operating Income	(103,177)		299,522		196,345 B/

A/ Schedule 2.

B/ Schedule 1.

C/ Schedule 1, Line 7 x Schedule 12, Line 2.

D/ Schedule 1, Line 7 x Schedule 12, Line 4.

E/ Schedule 1, Line 7 x Schedule 12, Line 6.

F/ Schedule 1, Line 7 x Schedule 12, Line 8.

Tennessee Wastewater Systems, Inc.
Revenue Conversion Factor
For the 12 Months Ending December 31, 2020

Line No.		<u>Amount</u>	<u>Balance</u>
1	Operating Revenues		1.000000
2	Add: Forfeited Discounts	0.006984 A/	<u>0.006984</u>
3	Balance		1.006984
4	Uncollectible Expense Ratio	0.003973 B/	<u>0.004001</u>
5	Balance		1.002984
6	State Excise Tax	0.065000 C/	<u>0.065194</u>
7	Balance		0.937790
8	Federal Income Tax	0.210000 D/	<u>0.196936</u>
9	Balance		<u>0.740854</u>
10	Revenue Conversion Factor (Line 1 / Line 9)		<u><u>1.349793</u></u>

A/	Forfeited Discounts	15,006	Schedule 3.
	Residential & Commercial & Sewer Access Fees	<u>2,148,533</u>	Schedule 3.
	Forfeited Discount Ratio	<u><u>0.006984</u></u>	

B/	Bad Debt Expense	8,536	Schedule 6.
	Residential & Commercial & Sewer Access Fees	<u>2,148,533</u>	Schedule 3.
	Uncollectible Expense Ratio	<u><u>0.003973</u></u>	

C/ Statutory State Excise Tax Rate of 6.50%.

D/ Statutory Federal Income Tax Rate of 21%.

Tennessee Wastewater Systems, Inc.
Rate Design
For the 12 Months Ending December 31, 2020

20-00009
Revised Commission Staff Exhibit
Schedule 13

	Bills/Usage	Current Base Rate	Current Escrow Rate	Base Rate Revenue	Escrow Revenue	Proposed Base Rate	Proposed Escrow Rate	Proposed Base Revenue	Proposed Escrow Revenue	Proposed Combined Increase %
Residential Rates:										
Rate Class 1	28,528	34.02	10.13	970,535	288,992	40.48	7.27	1,154,907	207,322	8.15%
Rate Class 2	424	34.02	10.13	14,424	4,295	40.48	7.27	17,165	3,081	8.15%
Rate Class 5	996	30.71	8.43	30,587	8,396	36.66	5.69	36,509	5,672	8.20%
Rate Class 6	1,894	30.71	8.43	58,165	15,966	36.66	5.69	69,425	10,786	8.20%
Rate Class 9 excl. TC charge	2,398	17.59	6.35	42,181	15,227	20.55	3.39	49,280	8,128	0.00%
Total	34,240			1,115,892	332,877			1,327,286	234,989	
Commercial Without Food Rates:										
Tier 1 (0 - 300 GPD)	357	80.40	21.75	28,720	7,769	95.93	14.87	34,268	5,311	8.47%
Tier 2.1 (301 - 400 GPD)	0	96.43	26.17	-	-	115.07	17.98	-	-	8.52%
Tier 2.2 (401 - 500 GPD)	52	112.46	30.59	5,808	1,580	134.21	21.09	6,931	1,089	8.56%
Tier 2.3 (501 - 600 GPD)	13	128.49	35.01	1,659	452	153.34	24.21	1,980	313	8.59%
Tier 2.4 (601 - 700 GPD)	3	144.52	39.43	466	127	172.48	27.32	557	88	8.62%
Tier 2.5 (701 - 800 GPD)	15	160.55	43.85	2,418	661	191.62	30.43	2,886	458	8.64%
Tier 2.6 (801 - 900 GPD)	0	176.59	48.26	-	-	210.76	33.54	-	-	8.65%
Tier 2.7 (901 - 1,000 GPD)	29	192.62	52.68	5,596	1,530	229.89	36.66	6,678	1,065	8.66%
Tier 3.1 (1,001 - 2,000 GPD)	22	316.43	86.82	6,809	1,868	381.18	56.37	8,202	1,213	8.51%
Tier 3.2 (2,001 - 3,000 GPD)	13	440.28	120.92	5,685	1,561	533.29	76.11	6,885	983	8.59%
Tier 3.3 (3,001 - 4,000 GPD)	8	564.13	155.02	4,249	1,168	685.41	95.84	5,162	722	8.64%
Tier 3.4 (4,001 - 5,000 GPD)	2	687.98	189.12	1,480	407	837.53	115.57	1,802	249	8.66%
Tier 3.5 (5,001 - 6,000 GPD)	0	811.83	223.22	-	-	989.64	135.31	-	-	8.69%
Tier 3.6 (6,001 - 7,000 GPD)	0	935.68	257.32	-	-	1,141.76	155.04	-	-	8.70%
Tier 3.7 (7,001 - 8,000 GPD)	0	1,059.53	291.42	-	-	1,293.88	174.77	-	-	8.71%
Tier 3.8 (8,001 - 9,000 GPD)	0	1,183.38	325.52	-	-	1,446.00	194.50	-	-	8.72%
Tier 3.9 (9,001 - 10,000 GPD)	26	1,307.23	359.62	33,756	9,286	1,598.11	214.24	41,267	5,532	8.73%
Contract 25,000 GPD	13	3,164.98	871.12	40,864	11,247	3,879.87	510.23	50,094	6,588	8.77%
Total	552			137,509	37,657			166,713	23,610	
Commercial With Food Rates:										
Tier 1 (0 - 300 GPD)	85	107.15	29.00	9,108	2,465	127.88	19.82	10,869	1,685	8.48%
Tier 2.1 (301 - 400 GPD)	17	126.43	34.22	2,176	589	151.18	23.17	2,603	399	8.53%
Tier 2.2 (401 - 500 GPD)	26	145.71	39.44	3,763	1,018	174.49	26.51	4,506	684	8.56%
Tier 2.3 (501 - 600 GPD)	0	164.99	44.66	-	-	197.80	29.85	-	-	8.59%
Tier 2.4 (601 - 700 GPD)	1	184.27	49.88	198	54	221.11	33.19	238	36	8.61%
Tier 2.5 (701 - 800 GPD)	28	203.55	55.10	5,694	1,541	244.42	36.53	6,837	1,022	8.62%
Tier 2.6 (801 - 900 GPD)	5	222.83	60.32	1,199	325	267.73	39.87	1,440	215	8.63%
Tier 2.7 (901 - 1,000 GPD)	0	242.11	65.54	-	-	291.03	43.22	-	-	8.65%
Tier 3.1 (1,001 - 2,000 GPD)	36	393.82	107.18	13,983	3,805	475.73	67.97	16,891	2,413	8.52%
Tier 3.2 (2,001 - 3,000 GPD)	26	545.53	148.82	14,087	3,843	661.37	92.73	17,078	2,395	8.61%
Tier 3.3 (3,001 - 4,000 GPD)	2	697.24	190.46	1,500	410	847.00	117.50	1,823	253	8.65%
Tier 3.4 (4,001 - 5,000 GPD)	13	849.02	232.10	10,962	2,997	1,032.63	142.27	13,332	1,837	8.67%
Tier 3.5 (5,001 - 6,000 GPD)	13	1,000.80	273.74	12,921	3,534	1,218.26	167.04	15,729	2,157	8.69%
Tier 3.6 (6,001 - 7,000 GPD)	0	1,152.58	315.38	-	-	1,403.89	191.81	-	-	8.70%
Tier 3.7 (7,001 - 8,000 GPD)	0	1,304.36	357.02	-	-	1,589.53	216.57	-	-	8.71%
Tier 3.8 (8,001 - 9,000 GPD)	39	1,456.14	398.66	56,401	15,441	1,775.16	241.34	68,758	9,348	8.72%
Tier 3.9 (9,001 - 10,000 GPD)	13	1,607.92	440.30	20,760	5,685	1,960.79	266.11	25,316	3,436	8.72%
Contract 25,000 GPD	13	3,884.62	1,064.90	50,155	13,749	4,745.27	637.63	61,267	8,233	8.76%
Total	316			202,908	55,457			246,688	34,111	
Commercial Cabin Rates:										
Tier 1 (0 - 300 GPD)	8,570	53.20	15.95	455,912	136,688	(See Commercial Cabin Rate Design Table Below)				
Tier 2.1 (301 - 400 GPD)	201	64.66	19.49	13,010	3,921					
Tier 2.2 (401 - 500 GPD)	88	76.13	23.02	6,717	2,031					
Tier 2.3 (501 - 600 GPD)	48	87.59	26.56	4,241	1,286					
Tier 2.4 (601 - 700 GPD)	57	99.05	30.10	5,648	1,716					
Tier 2.5 (701 - 800 GPD)	31	110.52	33.63	3,448	1,049					
Tier 2.6 (801 - 900 GPD)	17	121.98	37.17	2,100	640					
Tier 2.7 (901 - 1,000 GPD)	20	133.44	40.71	2,728	832					
Tier 3.1 (1,001 - 2,000 GPD)	44	254.15	77.95	11,211	3,439					
Tier 3.2 (2,001 - 3,000 GPD)	4	374.86	115.19	1,613	496					
Tier 3.3 (3,001 - 4,000 GPD)	2	495.57	152.43	1,066	328					
Tier 3.4 (4,001 - 5,000 GPD)	0	616.28	189.67	-	-					
Tier 3.5 (5,001 - 6,000 GPD)	0	736.99	226.91	-	-					
Tier 3.6 (6,001 - 7,000 GPD)	0	857.70	264.15	-	-					
Tier 3.7 (7,001 - 8,000 GPD)	1	978.41	301.39	1,053	324					
Total	9,085			508,748	152,751			628,742	143,292	
Subtotal Monthly Service Fees				1,965,056				2,369,429	436,002	
Sewer Access Fees				183,477				183,477	-	
Wastewater Revenues				2,148,533	578,741			2,552,906	436,002	
								404,373		

COMMERCIAL CABIN RATE DESIGN
(Redesigned from GPD to Square Feet)

Rate Class	Square Feet	Number of Cabins	Annual Bills	Proposed Base Rate	Proposed Escrow Rate	Proposed Combined Rate	Proposed Base Revenue	Proposed Escrow Revenue
Small	0-1000 A/	9	565	60.85	13.15	74.00	34,378	7,432
Small	1001-2000	255	3060	60.85	13.15	74.00	186,191	40,249
Medium	2001-3000	214	2568	69.68	16.32	86.00	178,937	41,911
Medium	3001-4000	103	1236	69.68	16.32	86.00	86,124	20,172
Large	4001-5000	84	1008	82.44	19.56	102.00	83,097	19,719
Large	5001-6000	26	312	82.44	19.56	102.00	25,721	6,103
Extra Large	6001-7000	18	216	102.07	22.93	125.00	22,046	4,954
Extra Large	7001+	10	120	102.07	22.93	125.00	12,248	2,752
		719	9085				628,742	143,292

Commercial Cabin Class Increase:	
Proposed Combined Revenue	772,034
Current Combined Revenue	661,498
Class Revenue Increase	110,536
Class Percentage Increase	16.71%

A/ All new customer growth added into the small cabin rate group

WORKPAPERS

Tennessee Wastewater Systems, Inc.
Revenue Workpapers
For the 12 Months Ending December 31, 2020

Line No.		2010	2011	2012	2013	2014	2015	2016	2017	2018	Average Period	Attrition Amount
1	Residential	300,287	303,873	333,238	322,545	353,371	373,741	407,462	957,687	1,056,119	Priceout	1,115,892 A/
2	Commercial	308,384	296,552	278,302	270,642	267,014	290,750	337,739	751,549	761,523	Priceout	849,164 B/
3	Sewer Access Fees	199,700	169,254	208,212	204,997	197,208	182,918	198,628	178,680	173,123	3	183,477
4	Operations & Maintenance	545,890	591,960	666,496	681,767	704,369	756,922	831,932	1,050	363	Elimination	0
5	Billing & Collecting	42,002	37,256	38,631	40,171	40,754	46,946	50,159	0	-161	Elimination	0
6	Bonding	11,959	12,630	11,683	48,172	61,332	43,804	39,228	37,459	4,182	Elimination	0
7	Franchise Income	2,265	2,398	2,403	2,305	2,479	2,502	2,582	2,787	3,390	Elimination	0
8	Bioxide	-1,013	-4,994	1,415	9,633	7,611	10,524	902	7,202	0	Elimination	0
9	Penalty Fees	20,037	16,115	18,688	16,867	13,832	14,216	16,403	13,963	14,651	3	15,006
10	Developer Income	12,800	2,400	227,800	133,300	65,200	309,550	151,030	156,445	206,250	Elimination	0 D/
11	Miscellaneous	0	0	0	0	0	0	1,715	2,690	3,689	Priceout	3,320 C/
12	Total Revenues	1,442,311	1,427,444	1,786,868	1,730,399	1,713,170	2,031,873	2,037,780	2,109,512	2,223,128		2,166,859

A/ Workpaper 2.
B/ Workpaper 3.
C/ Workpaper 4.
D/ Developer Income will be recorded as Contributions In Aid of Construction.

Tennessee Wastewater Systems, Inc.
Revenue Priceout - Residential Summary

	2018 Test Period	Growth Adjustment	2020 Attr Period
Rate 1:			
Total Bills	23,967	4,561	28,528
Net Base Rate	\$34.02	\$34.02	\$34.02
Rate 1 Base Revenue	\$815,357.34	\$155,177.39	\$970,534.73
Rate 2:			
Total Bills	424		424
Net Base Rate	\$34.02		\$34.02
Rate 2 Base Revenue	\$14,424.48		\$14,424.48
Rate 5:			
Total Bills	996		996
Net Base Rate	\$30.71		\$30.71
Rate 5 Base Revenue	\$30,587.16		\$30,587.16
Rate 6:			
Total Bills	1,894		1,894
Net Base Rate	\$30.71		\$30.71
Rate 6 Base Revenue	\$58,164.74		\$58,164.74
Rate 9:			
Total Bills	2,398		2,398
Net Base Rate	\$17.59		\$17.59
Rate 9 Base Revenue	\$42,180.82 A/		\$42,180.82
Total Residential Revenues	\$960,714.54		\$1,115,891.93
Total Residential Bills	29,679 B/	4,561	34,240

A/ Not include TC Pass-through amount.

B/ Tied to TPUC Form 3.19.

Tennessee Wastewater Systems, Inc.
Revenue Priceout - Commercial Revenues

	Middle TN Bills	East TN Bills	Total Bills	Base Rate	Base Fee Revenue	Test Period Average Bill	Attrition Period Bills	Service Revenue
Commercial Without Food Rates:								
Tier 1 (0 - 300 GPD)	181	151	332	\$80.40	\$26,692.80		357	\$28,719.58
Tier 2.1 (301 - 400 GPD)	0	0	0	\$96.43	\$0.00		0	\$0.00
Tier 2.2 (401 - 500 GPD)	48	0	48	\$112.46	\$5,398.08		52	\$5,807.96
Tier 2.3 (501 - 600 GPD)	12	0	12	\$128.49	\$1,541.88		13	\$1,658.95
Tier 2.4 (601 - 700 GPD)		3	3	\$144.52	\$433.56		3	\$466.48
Tier 2.5 (701 - 800 GPD)	12	2	14	\$160.55	\$2,247.70		15	\$2,418.37
Tier 2.6 (801 - 900 GPD)	0			\$176.59	\$0.00		0	\$0.00
Tier 2.7 (901 - 1,000 GPD)	24	3	27	\$192.62	\$5,200.74		29	\$5,595.63
Tier 3.1 (1,001 - 2000 GPD)	12	8	20	\$316.43	\$6,328.60		22	\$6,809.13
Tier 3.2 (2,001 - 3,000 GPD)	0	12	12	\$440.28	\$5,283.36		13	\$5,684.52
Tier 3.3 (3,001 - 4,000 GPD)	0	7	7	\$564.13	\$3,948.91		8	\$4,248.75
Tier 3.4 (4,001 - 5,000 GPD)	0	2	2	\$687.98	\$1,375.96		2	\$1,480.44
Tier 3.5 (5,001 - 6,000 GPD)				\$811.83	\$0.00		0	\$0.00
Tier 3.6 (6,001 - 7,000 GPD)				\$935.68	\$0.00		0	\$0.00
Tier 3.7 (7,001 - 8,000 GPD)				\$1,059.53	\$0.00		0	\$0.00
Tier 3.8 (8,001 - 9,000 GPD)				\$1,183.38	\$0.00		0	\$0.00
Tier 3.9 (9,001 - 10,000 GPD)	24		24	\$1,307.23	\$31,373.52		26	\$33,755.71
							0	\$0.00
Unknown 25,000 GPD	12		12	\$3,164.98	\$37,979.76		13	\$40,863.56
Total	325	188	501		\$127,804.87	\$255.10	552	\$137,509.07
Commercial With Food Rates:								
Tier 1 (0 - 300 GPD)	24	55	79	\$107.15	\$8,464.85		85	\$9,107.58
Tier 2.1 (301 - 400 GPD)	12	4	16	\$126.43	\$2,022.88		17	\$2,176.48
Tier 2.2 (401 - 500 GPD)	24		24	\$145.71	\$3,497.04		26	\$3,762.57
Tier 2.3 (501 - 600 GPD)				\$164.99	\$0.00		0	\$0.00
Tier 2.4 (601 - 700 GPD)	0	1	1	\$184.27	\$184.27		1	\$198.26
Tier 2.5 (701 - 800 GPD)	24	2	26	\$203.55	\$5,292.30		28	\$5,694.14
Tier 2.6 (801 - 900 GPD)		5	5	\$222.83	\$1,114.15		5	\$1,198.75
Tier 2.7 (901 - 1,000 GPD)				\$242.11	\$0.00		0	\$0.00
Tier 3.1 (1,001 - 2000 GPD)	18	15	33	\$393.82	\$12,996.06		36	\$13,982.85
Tier 3.2 (2,001 - 3,000 GPD)	12	12	24	\$545.53	\$13,092.72		26	\$14,086.85
Tier 3.3 (3,001 - 4,000 GPD)	0	2	2	\$697.24	\$1,394.48		2	\$1,500.36
Tier 3.4 (4,001 - 5,000 GPD)	12		12	\$849.02	\$10,188.24		13	\$10,961.83
Tier 3.5 (5,001 - 6,000 GPD)	12		12	\$1,000.80	\$12,009.60		13	\$12,921.49
Tier 3.6 (6,001 - 7,000 GPD)				\$1,152.58	\$0.00		0	\$0.00
Tier 3.7 (7,001 - 8,000 GPD)				\$1,304.36	\$0.00		0	\$0.00
Tier 3.8 (8,001 - 9,000 GPD)	36		36	\$1,456.14	\$52,421.04		39	\$56,401.36
Tier 3.9 (9,001 - 10,000 GPD)	12		12	\$1,607.92	\$19,295.04		13	\$20,760.11
							0	\$0.00
Unknown 25,000 GPD	12		12	\$3,884.62	\$46,615.44		13	\$50,154.94
					\$0.00		0	\$0.00
Total	198	96	294		\$188,588.11	\$641.46	316	\$202,907.57
Commercial Cabin Rates:								
Tier 1 (0 - 300 GPD)		7,965	7,965	\$53.20	\$423,738.00		8,570	
Tier 2.1 (301 - 400 GPD)		187	187	\$64.66	\$12,091.42		201	
Tier 2.2 (401 - 500 GPD)		82	82	\$76.13	\$6,242.66		88	
Tier 2.3 (501 - 600 GPD)		45	45	\$87.59	\$3,941.55		48	
Tier 2.4 (601 - 700 GPD)		53	53	\$99.05	\$5,249.65		57	
Tier 2.5 (701 - 800 GPD)		29	29	\$110.52	\$3,205.08		31	
Tier 2.6 (801 - 900 GPD)		16	16	\$121.98	\$1,951.68		17	
Tier 2.7 (901 - 1,000 GPD)		19	19	\$133.44	\$2,535.36		20	
Tier 3.1 (1,001 - 2000 GPD)		41	41	\$254.15	\$10,420.15		44	
Tier 3.2 (2,001 - 3,000 GPD)		4	4	\$374.86	\$1,499.44		4	
Tier 3.3 (3,001 - 4,000 GPD)		2	2	\$495.57	\$991.14		2	
Tier 3.4 (4,001 - 5,000 GPD)		0	0	\$616.28	\$0.00		0	
Tier 3.5 (5,001 - 6,000 GPD)		0	0	\$736.99	\$0.00		0	
Tier 3.6 (6,001 - 7,000 GPD)		0	0	\$857.70	\$0.00		0	
Tier 3.7 (7,001 - 8,000 GPD)		1	1	\$978.41	\$978.41		1	
Total		8,444	8,444		\$472,844.54	\$56.00	9,085	\$508,747.55
Total Commercial Revenue			9,239		\$789,237.52			\$849,164.19

Tennessee Wastewater Systems, Inc.
Revenue Priceout - Miscellaneous Revenue

	2017 Determinants	2018 Determinants	Average Determinants	Tariff Rate	Attrition Revenue
Disconnection Revenue:					
East Tennessee	6	30	18	\$40.00	\$720.00
Middle Tennessee	30	20	25	40.00	1000.00
Total Disconnection Revenue	36	50	43		\$1,720.00

Reconnection Revenue:					
East Tennessee	3	24	14	\$50.00	\$675.00
Middle Tennessee	22	12	17	50.00	850.00
Total Reconnection Revenue	25	36	31		\$1,525.00

Convenience Fee Revenue:	Month	2017 Amount	2018 Amount	Average Amount	Attrition Amount
	January	\$639.87	\$875.14	\$757.51	\$0.00
	February	603.08	944.75	\$773.92	0.00
	March	577.96	858.08	\$718.02	0.00
	April	578.17	792.94	\$685.56	0.00
	May	570.43	952.48	\$761.46	0.00
	June	675.80	1,068.51	\$872.16	0.00
	July	632.13	933.90	\$783.02	0.00
	August	621.62	994.57	\$808.10	0.00
	September	663.33	1,031.67	\$847.50	0.00
	October	527.48	1,119.34	\$823.41	0.00
	November	705.00	1,002.41	\$853.71	0.00
	December	789.09	1,174.80	\$981.95	0.00
	Total	\$7,583.96	\$11,748.59	\$9,666.28	\$0.00

Convenience Fee Revenue is non-tariffed. Therefore, these revenues are excluded from the rate case.

	2017 Determinants	2018 Determinants	Average Determinants	Tariff Rate	Attrition Revenue
Returned Check Revenue:					
East Tennessee	2	1	1.5	25.00	\$37.50
Middle Tennessee	1	2	1.5	25.00	\$37.50
Total Returned Check Revenue	3	3	3		\$75.00
Total Miscellaneous Revenue					\$3,320.00

A/ Monthly figures from 2017 and 2018 Bank and NSF Fees spreadsheets.

Tennessee Wastewater Systems, Inc.
Operating & Maintenance Expense Workpaper
For the 12 Months Ending December 31, 2020

Line No.		2010	2011	2012	2013	2014	2015	2016	2017	2018	Method	Attrition Amount
1	Salary & Wages Expense - Employees	0	0	0	0	239,588	516,024	450,488	551,087	642,157	Priceout Workpaper	623,560 A/
2	Salary & Wages Expense - Officers	0	0	0	0	187	537	875	0	0	Eliminate	0
3	Life Insurance Expense	0	0	0	0	1,403	2,399	1,917	1,919	2,091	GDP Deflator	2,145
4	Worker's Compensation Expense	0	0	0	0	19,787	1,354	16,100	16,705	16,196	Priceout Workpaper	18,864 A/
5	IRA Contribution Expense	0	0	0	0	1,782	5,966	6,321	10,252	14,611	Priceout Workpaper	13,865 A/
6	Purchased Wastewater Treatment Expense	111,892	99,492	136,839	112,918	115,073	105,897	107,923	110,812	116,597	Eliminate Pass-Through	0
7	Purchased Power Expense	37,124	38,843	61,113	94,039	121,791	118,441	132,976	144,155	160,563	Inflation Factor	177,021
8	Telemetry Monitoring Expense	21,165	19,568	37,633	64,378	97,229	124,173	157,838	166,827	173,192	GDP Deflator	177,643
9	Bioxide Expense	0	0	17,267	0	0	0	3,882	2,208	3,680	Eliminate Pass-Through	0
10	Materials & Supplies Expense	3,097	0	92,077	1,520	140,190	179,399	67,969	104,460	190,953	Priceout Workpaper	260,088
11	Total Operation & Maintenance Expense	173,278	157,903	344,929	272,855	737,030	1,054,190	946,289	1,108,427	1,320,041		1,273,186

A/ Workpaper 6.

Tennessee Wastewater Systems, Inc.
Salary Expense Summary
For the 12 Months Ending December 31, 2020

		A/		B/		A/		C/		D/		E/	
Employee ID	Position	2019 Compensation Rate	Annualized Hours	Annual Compensation Projection	3% 2020 Adjustments	2020 Pro Forma Base Pay	IRA Contribution Percent	IRA Contribution Amount	Workers Compensation Rate	Workers Compensation Amount	2020 FICA Expense @ 7.65%	2020 FUTA @ 6%	SUI Tax Amount
1	Z55872 CUSTOMER CARE			\$ 42,400.00	\$ 1,272.00	\$ 43,672.00	0%	\$ -	0.14%	\$ 61.14	\$ 3,244	\$ 420	\$ 56
2	I52209 MAINTENANCE TECHNICIAN	\$ 16.50	2080	\$ 34,320.00	\$ 1,029.60	\$ 35,349.60	3%	\$ 1,060	3.43%	\$ 1,212.49	\$ 2,625	\$ 420	\$ 56
3	P52095 CUSTOMER CARE	\$ 17.51	2080	\$ 36,420.80	\$ 1,092.62	\$ 37,513.42	3%	\$ 1,125	0.14%	\$ 52.52	\$ 2,786	\$ 420	\$ 56
4	B57434 MAINTENANCE TECHNICIAN	\$ 12.50	2080	\$ 26,000.00	\$ 780.00	\$ 26,780.00	0%	\$ -	3.43%	\$ 918.55	\$ 1,989	\$ 420	\$ 56
5	M52093 OPERATOR I			\$ 45,618.70	\$ 1,368.56	\$ 46,987.26	3%	\$ 1,410	3.43%	\$ 1,611.66	\$ 3,490	\$ 420	\$ 56
6	V52100 OPERATOR I			\$ 52,000.00	\$ 1,560.00	\$ 53,560.00	3%	\$ 1,607	3.43%	\$ 1,837.11	\$ 3,978	\$ 420	\$ 56
7	N52094 OPERATOR II			\$ 51,855.35	\$ 1,555.66	\$ 53,411.01	3%	\$ 1,602	3.43%	\$ 1,832.00	\$ 3,967	\$ 420	\$ 56
8	L52092 OPERATIONS MANAGER			\$ 56,378.01	\$ 1,691.34	\$ 58,069.35	3%	\$ 1,742	3.43%	\$ 1,991.78	\$ 4,313	\$ 420	\$ 56
9	U52099 MAINTENANCE TECHNICIAN	\$ 15.45	2080	\$ 32,136.00	\$ 964.08	\$ 33,100.08	0%	\$ -	3.43%	\$ 1,135.33	\$ 2,458	\$ 420	\$ 56
10	J52090 MAINTENANCE TECH - EXEMPT			\$ 43,775.00	\$ 1,313.25	\$ 45,088.25	3%	\$ 1,353	3.43%	\$ 1,546.53	\$ 3,349	\$ 420	\$ 56
11	S52097 TEAM LEADER MTN			\$ 64,800.00	\$ 1,944.00	\$ 66,744.00	3%	\$ 2,002	3.43%	\$ 2,289.32	\$ 4,957	\$ 420	\$ 56
12	T52098 OPERATOR II	\$ 28.62	2080	\$ 63,534.00	\$ 1,906.02	\$ 65,440.02	3%	\$ 1,963	3.43%	\$ 2,244.59	\$ 4,860	\$ 420	\$ 56
13	R52096 MAINTENANCE TECH - EXEMPT	\$ 14.50	2080	\$ 30,160.00	\$ 904.80	\$ 31,064.80	0%	\$ -	3.43%	\$ 1,065.52	\$ 2,307	\$ 420	\$ 56
14	Vacant MAINTENANCE TECH	\$ 12.50	2080	\$ 26,000.00	\$ 780.00	\$ 26,780.00	0%	\$ -	3.43%	\$ 1,065.52	\$ 1,989	\$ 420	\$ 56
				\$ 605,397.86	\$ 18,162	\$ 623,560	\$ 13,865		\$ 18,864		\$ 46,313	\$ 5,880	\$ 784

A/ Payroll per TWSI Email 12-26-19 (13 Current employees + 1 Vacant.)

B/ Assumes 3% annual cost of living increase.

C/ June 2019 Worker's Comp Report.

D/ 6.2% Social Security + 1.45% Medicare

E/ <https://www.tn.gov/workforce/article/ui-tax-rates>

Tennessee Wastewater Systems, Inc.
Contractual Services Expense Workpaper
For the 12 Months Ending December 31, 2020

Line No.		2010	2011	2012	2013	2014	2015	2016	2017	2018	Method	Attrition Amount
1	Professional	26,691	55,460	0	100,534	110,435	256,068	48,271	9,591	25,594	2-Year Average	17,593
2	Testing	745	150	0	0	3,925	12,677	12,305	9,606	7,932	GDP Deflator	8,136
3	Maintenance	546,885	590,506	922,352	846,590	387,211	15,212	48,724	2,159	12,247	2-Year Average	7,203
4	Service	0	0	90	5,460	6,143	22,352	376	8,779	1,505	GDP Deflator	1,544
5	Lawn Maintenance	6,910	8,705	6,715	2,605	19,575	20,947	21,890	23,469	28,063	Double Test Period	56,125 A/
6	One-Call	2,178	2,564	2,279	5,122	2,552	3,169	5,519	7,340	5,831	GDP Deflator	5,981
7	Management Fees	218,560	139,859	68,274	109,993	81,213	148,788	223,460	116,473	321,257	Priceout Workpaper	231,020
8	IT Support	0	0	0	0	0	0	41,502	0	74,238	Priceout Workpaper	59,068
9	Total Contractual Services Expense	801,969	797,244	999,710	1,070,304	611,054	479,213	402,047	177,418	476,667		386,670

A/ Based on conversation with management regarding need for better maintenance of system grounds. Efforts during 2019 to clean up system grounds showed \$81,096 spent for contract lawn maintenance YTD Nov 2019.

Tennessee Wastewater Systems, Inc.
Administrative & General Expense Workpapers
For the 12 Months Ending December 31, 2020

Line No.		2010	2011	2012	2013	2014	2015	2016	2017	2018	Method	Attrition Amount
1	Rent	7,333	13,890	6,945	6,945	44,945	60,945	60,945	60,945	60,945	Priceout Workpaper	66,000
2	Registration Renewal	0	0	0	0	118	1,489	288	1,435	618	2-Year Average	1,026
3	Fuel Expense	0	0	0	0	20,045	35,185	37,055	50,800	66,023	GDP Deflator	67,719
4	Vehicle Maintenance	0	0	0	0	4,553	26,941	30,197	27,391	25,955	GDP Deflator	26,622
5	Insurance	335	366	231	641	3,031	11,784	17,744	30,766	38,162	GDP Deflator	39,143
6	Regulatory Commission Expense	5,395	5,608	5,583	6,057	6,788	7,032	10,182	104,655	8,279	Other Taxes	0
7	Depreciation Expense	1,533	1,219	1,219	1,219	12,620	56,997	111,638	87,601	124,530	Priceout Workpaper	112,065
8	Letter of Credit Fees	6,735	52,165	60,573	47,243	45,037	43,710	43,710	5,696	10,500	Eliminate Pass Through	0
9	Interest Expense	4,335	2,294	761	0	192	10,116	13,237	12,431	10,451	A/	7,447
10	Licenses & Permits	14,470	34,150	35,250	42,484	38,762	11,681	77,052	68,722	43,246	GDP Deflator	44,358
11	Uncollectible Expense	15,345	7,634	2,998	8,413	2,908	38,787	0	112,013	7,875	Priceout Workpaper	8,536
12	Total Administrative & General Expense	55,481	117,326	113,560	113,002	178,999	304,667	402,048	562,455	396,584		372,916

A/ Traced to interest for bank loans from Wilson Bank & Trust for equipment with loan period through the Attrition Period.

Tennessee Wastewater Systems, Inc.
Miscellaneous Expense Workpapers
For the 12 Months Ending December 31, 2020

Line No.		2010	2011	2012	2013	2014	2015	2016	2017	2018	Average Period	Attrition Amount
1	Website & Internet Hosting	0	0	0	0	0	15,284	10,950	-33,570	726	Eliminate IT Expense	0
2	Equipment Maintenance	0	0	0	0	163	835	6,227	32,286	7,177	2-Year Average	19,731
3	Equipment Rental	0	0	0	0	5,609	1,540	5,754	7,620	19,406	2-Year Average	13,513
4	Small Equipment Purchases	0	0	0	0	3,047	40,513	47,141	9,579	330	2-Year Average	4,954
5	Telephone	497	0	0	1,013	3,742	12,238	13,241	8,672	10,466	GDP Deflator	10,735
6	Office Supplies	0	0	0	0	0	0	435	1,043	1,034	GDP Deflator	1,060
7	Postage	4,595	3,728	0	0	3,861	8,049	8,666	9,337	9,939	Inflation Factor	10,958
8	Software Licenses	0	0	0	0	9,400	13,285	12,630	22,533	23,133	GDP Deflator	23,727
9	Membership Dues	105	440	440	3,590	680	4,784	690	640	40	Eliminate Disallowed	0
10	Franchise Fees	2,279	2,390	2,405	2,449	2,464	2,506	2,580	2,734	3,383	Eliminate Pass Through	0
11	Billing Costs	2,884	960	2,099	480	960	960	720	720	0	Eliminate	0
12	Other	1,320	13,000	10,400	9,400	720	1,033	860	225	1,800	2-Year Average	1,012
13	Total Miscellaneous Expense	11,680	20,518	15,344	16,932	30,646	101,027	109,894	61,817	77,433		85,691

Tennessee Wastewater Systems, Inc.
Taxes Other Than Income Tax Expense Workpapers
For the 12 Months Ending December 31, 2020

Line No.		2010	2011	2012	2013	2014	2015	2016	2017	2018	Average Period	Attrition Amount
1	Property Taxes	56,733	75,451	64,537	65,555	58,787	51,983	77,933	61,213	59,155	1	59,155 C/
2	Franchise	80,704	64,839	48,824	95,096	37,427	53,650	40,240	86,175	58,000	Priceout	60,247 B/
3	Payroll Taxes	0	0	0	0	19,089	42,459	37,955	41,417	49,703	Priceout	52,977 A/
4	Total Other Taxes Expense	137,437	140,290	113,361	160,651	115,303	148,092	156,128	188,804	166,858		172,379

A/ Salary & Wage Priceout Workpaper.

B/ 2018 UPIS (24098823) / 100 *.25

C/ Since amount decreased from 2017 to 2018, amount was held constant at 2018 total.

NOTE: There was an \$87.00 adjusted deduction to the total of \$59,155, which results in an Attrition Year forecast of \$59,068.

Tennessee Wastewater Systems, Inc.
Non-Utility Expense Workpapers
For the 12 Months Ending December 31, 2020

Line No.		2010	2011	2012	2013	2014	2015	2016	2017	2018	Average Period	Attrition Amount
1	Lodging	0	0	0	0	0	364	265	1,428	155	A/	0
	<i>Cumulative Amounts</i>	2,212	2,212	2,212	2,212	2,212	2,212	1,848	1,583	155		
2	Meals & Entertainment	0	0	0	0	844	2,402	2,773	4,707	6,237	A/	0
	<i>Cumulative Amounts</i>	16,963	16,963	16,963	16,963	16,963	16,119	13,717	10,944	6,237		
3	Dues & Subscriptions	1,000	123	0	390	3,840	7,050	939	2,132	2,580	B/	1,510
	<i>Cumulative Amounts</i>	18,054	17,054	16,931	16,931	16,541	12,701	5,651	4,712	2,580		
4	Banking & NSF Fees	4,446	6,929	7,018	6,191	3,112	5,697	5,378	7,708	8,287	C/	3,681
	<i>Cumulative Amounts</i>	54,766	50,320	43,391	36,373	30,182	27,070	21,373	15,995	8,287		
5	Miscellaneous	11,200	0	0	244	350	623	3,182	304	7,247	D/	1,409
	<i>Cumulative Amounts</i>	23,150	11,950	11,950	11,950	11,706	11,356	10,733	7,551	7,247		
6	Construction	0	0	0	0	0	0	16,709	-16,711	1,200	A/	0
	<i>Cumulative Amounts</i>	1,198	1,198	1,198	1,198	1,198	1,198	1,198	-15,511	1,200		
7	Total Non-Utility Expense	16,646	7,052	7,018	6,825	8,146	16,136	29,246	-431	25,705		6,600

A/ Disallowed expenses.

B/ Adjusted to remove association and lobbying expenses.

C/ Adjusted to reflect banking service charges and payroll direct deposit fees.

D/ Adjusted to reflect recurring trash removal expenses.