

October 23, 2018

Sewer Utility Rate Study Update

City of Waukesha, Wisconsin



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Sewer Utility Rate Study Supporting Worksheets

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Table 1 - Comparison of Existing vs. Proposed Rates

	Current Rates Effective 1/1/2018	2019 Proposed Rates	\$ Change	% Change
<u>City (Inside) User Charges</u>				
Quarterly Fixed Charge	\$14.86	\$15.92	\$1.06	7.13%
Volumetric Charge per 1,000 gallons	\$6.62	\$7.25	\$0.63	9.50%
Quarterly flat charge (unmetered users only)	\$198.66	\$217.53	\$18.87	9.50%
Surcharge Rate BOD /lb	\$0.90	\$0.93	\$0.03	3.43%
Surcharge Rate SS /lb	\$0.46	\$0.50	\$0.04	7.78%
Surcharge Rate P /lb	\$7.87	\$8.48	\$0.61	7.75%
Surcharge Rate TKN /lb	\$1.60	\$1.72	\$0.12	7.50%
<u>Extraterritorial (Outside) User Charges</u>				
Quarterly Fixed Charge	\$14.86	\$15.92	\$1.06	7.13%
Volumetric Charge per 1,000 gallons	\$8.86	\$9.70	\$0.84	9.50%
Quarterly flat charge (unmetered users only)	\$265.72	\$290.96	\$25.24	9.50%
<u>Hauled Waste Charges</u>				
Septic Tank Rate per 1,000 gallons	\$54.18	\$59.52	\$5.34	9.85%
Holding Tank Rate per 1,000 gallons	\$17.91	\$19.67	\$1.76	9.85%
Chemical Toilet Waste Rate per 1,000 gallons	\$150.69	\$166.55	\$15.86	10.53%
Annual Cost for Average Residential User (48,000 gallons/year)	\$377.30	\$411.73	\$34.44	9.13%
Quarterly Increase			\$8.61	

Table 2 - Projected WWTF Flows and Loadings

Total	Equiv Customers	Flow (1,000 Gal)	BOD (Lbs)	SS (Lbs)	P (Lbs)	TKN (Lbs)
Residential	17,948	867,570	1,700,350	2,460,081	57,884	217,066
Commercial and Multi-Family ⁽¹⁾	2,180	675,000	1,322,933	1,914,030	45,036	168,885
Industrial	151	120,000	235,188	340,272	8,006	30,024
Public	106	64,000	125,434	181,478	4,270	16,013
Subtotal City Billable	20,385	1,726,570	3,383,905	4,895,862	115,197	431,988
Unmetered Customers	115	13,800	27,047	39,131	921	3,453
Outside Customers						
Residential	63	2,637	5,168	7,477	176	660
Commercial and Multi-Family	21	4,519	8,856	12,813	301	1,131
Industrial	2	139	273	395	9	35
Subtotal Outside Billable	86	7,295	14,297	20,685	487	1,825
High Strength Industrial						
Ventura Foods						
Excess Loadings			946,091	391,382	1,398	968
GE Healthcare						
Excess Loadings			5,703	13,341	409	5,605
Waukesha Memorial Hospital						
Excess Loadings			42,907	-	-	8,085
GE Distributed Power						
Excess Loadings			-	-	572	1,908
SPX Transformer						
Excess Loadings			-	-	111	1,881
Lifeway Wisconsin, LLC						
Excess Loadings			465,478	53,985	3,209	14,157
DSM Food						
Excess Loadings			8,420	12,042	2,203	196
Midwest Finishing						
Excess Loadings			1,459	-	-	71
Gascoigne Co.						
Excess Loadings			-	-	599	-
Profile Finishing						
Excess Loadings			-	-	-	-
Eaton Badger						
Excess Loadings			-	-	795	-
Eaton Lincoln						
Excess Loadings			-	-	-	-
Class 2 Industrial Hauled Excess Loadings			2,132	-	286	1,558
Subtotal High Strength Industrial Billable			1,472,190	470,750	9,582	34,429
Septic Tank Waste		7,120	88,831	361,916	2,791	11,876
Chemical Toilet Waste		131	9,023	9,863	277	3,087
Holding Tank Waste		7,760	41,679	59,217	1,683	6,084
Subtotal Wastehaulers		15,011	139,533	430,996	4,751	21,047
Total Billable	20,471	1,762,675	5,036,971	5,857,424	130,937	492,741
I/I		1,276,420				
Total WTF		3,039,095				
Total For Rate Calcs	20,471	1,762,675	5,036,971	5,857,424	130,937	492,741

Notes:

(1) Includes customer connections and flows from the Village of Wales in 2016.

Table 3 - Allocation of Costs to Function

	Flow		BOD		TSS		P		TKN	
	2019 Budget	%	Cost - User Charge	Cost - Customer	%	Cost	%	Cost	%	Cost
Operating & Maintenance			65.0%	35.0%						
Sewer Maintenance (7384)										
110 Personal Services										
51110 Salaries	\$66,008	100.0%	\$42,905	\$23,103	0.0%	\$0	0.0%	\$0	\$0	\$0
51210 Wages Permanent	\$410,945	100.0%	\$267,114	\$143,831	0.0%	\$0	0.0%	\$0	\$0	\$0
51220 Overtime	\$20,733	100.0%	\$13,476	\$7,257	0.0%	\$0	0.0%	\$0	\$0	\$0
51250 Wages Temporary	\$0	100.0%	\$0	\$0	0.0%	\$0	0.0%	\$0	\$0	\$0
51510 Social Security	\$38,073	100.0%	\$24,747	\$13,326	0.0%	\$0	0.0%	\$0	\$0	\$0
51520 Retirement	\$32,598	100.0%	\$21,189	\$11,409	0.0%	\$0	0.0%	\$0	\$0	\$0
51540 Health Insurance	\$108,548	100.0%	\$70,556	\$37,992	0.0%	\$0	0.0%	\$0	\$0	\$0
51550 Life Insurance	\$1,546	100.0%	\$1,005	\$541	0.0%	\$0	0.0%	\$0	\$0	\$0
51560 Dental Insurance	\$6,265	100.0%	\$4,072	\$2,193	0.0%	\$0	0.0%	\$0	\$0	\$0
120 Contractual Services										
52190 Other Professional Services	\$0	100.0%	\$0	\$0	0.0%	\$0	0.0%	\$0	\$0	\$0
52210 Water And Sewer	\$7,525	100.0%	\$4,891	\$2,634	0.0%	\$0	0.0%	\$0	\$0	\$0
52220 Electric	\$145,100	100.0%	\$94,315	\$50,785	0.0%	\$0	0.0%	\$0	\$0	\$0
52240 Heat	\$524	100.0%	\$341	\$183	0.0%	\$0	0.0%	\$0	\$0	\$0
52410 Vehicle Maintenance	\$50,000	100.0%	\$32,500	\$17,500	0.0%	\$0	0.0%	\$0	\$0	\$0
52435 Conveyance Maintenance	\$80,000	100.0%	\$52,000	\$28,000	0.0%	\$0	0.0%	\$0	\$0	\$0
52490 Pump Station Maintenance	\$100,000	100.0%	\$65,000	\$35,000	0.0%	\$0	0.0%	\$0	\$0	\$0
130 Supplies and Expenses										
53510 Gasoline, Oil, Grease Etc.	\$20,000	100.0%	\$13,000	\$7,000	0.0%	\$0	0.0%	\$0	\$0	\$0
53940 Other (Manhole repairs, inspect)	\$65,000	100.0%	\$42,250	\$22,750	0.0%	\$0	0.0%	\$0	\$0	\$0
Subtotal Sewer Maintenance	\$1,152,865	100.0%	\$749,362	\$403,503	0.0%	\$0	0.0%	\$0	0.0%	\$0
Sewer Plant Operations (7388)										
110 Personal Services										
51170 Accrued Compensatory time	\$0	35.0%	\$0	\$0	30.0%	\$0	25.0%	\$0	5.0%	\$0
51180 Accrued Vacation	\$0	35.0%	\$0	\$0	30.0%	\$0	25.0%	\$0	5.0%	\$0
51190 Sick Leave Accrual	\$0	35.0%	\$0	\$0	30.0%	\$0	25.0%	\$0	5.0%	\$0
51210 Wages Permanent	\$949,901	35.0%	\$216,102	\$116,363	30.0%	\$284,970	25.0%	\$237,475	5.0%	\$47,495
51220 Overtime	\$80,000	35.0%	\$18,200	\$9,800	30.0%	\$24,000	25.0%	\$20,000	5.0%	\$4,000
51250 Wages Temporary	\$19,253	35.0%	\$4,380	\$2,358	30.0%	\$5,776	25.0%	\$4,813	5.0%	\$963
51510 Social Security	\$79,067	35.0%	\$17,988	\$9,686	30.0%	\$23,720	25.0%	\$19,767	5.0%	\$3,953
51520 Retirement	\$67,459	35.0%	\$15,347	\$8,264	30.0%	\$20,238	25.0%	\$16,865	5.0%	\$3,373
51540 Health Insurance	\$238,938	35.0%	\$54,358	\$29,270	30.0%	\$71,681	25.0%	\$59,735	5.0%	\$11,947
51550 Life Insurance	\$3,069	35.0%	\$698	\$376	30.0%	\$921	25.0%	\$767	5.0%	\$153
51560 Dental Insurance	\$14,028	35.0%	\$3,191	\$1,718	30.0%	\$4,208	25.0%	\$3,507	5.0%	\$701
120 Contractual Services										
52190 Lab Testing	\$23,500	0.0%	\$0	\$0	30.0%	\$7,050	20.0%	\$4,700	27.5%	\$6,463
52210 Water And Sewer	\$30,000	100.0%	\$19,500	\$10,500	0.0%	\$0	0.0%	\$0	0.0%	\$0
52220 Electric	\$778,505	17.5%	\$88,555	\$47,683	57.5%	\$447,640	15.0%	\$116,776	5.0%	\$38,925
52240 Heat	\$112,500	25.0%	\$18,281	\$9,844	25.0%	\$28,125	25.0%	\$28,125	12.5%	\$14,063
52410 Vehicle Maintenance	\$35,000	25.0%	\$5,688	\$3,063	25.0%	\$8,750	25.0%	\$8,750	12.5%	\$4,375
52430 Computer Hardware Maint	\$22,000	25.0%	\$3,575	\$1,925	25.0%	\$5,500	25.0%	\$5,500	12.5%	\$2,750
52450 Grounds Maintenance & Improv	\$115,000	25.0%	\$18,688	\$10,063	25.0%	\$28,750	25.0%	\$28,750	12.5%	\$14,375
52490 Equipment Maintenance	\$185,000	15.0%	\$18,038	\$9,713	30.0%	\$55,500	30.0%	\$55,500	12.5%	\$23,125
52990 Environmental Permit Fee	\$15,000	25.0%	\$2,438	\$1,313	25.0%	\$3,750	25.0%	\$3,750	12.5%	\$1,875
130 Supplies and Expenses										
53140 Small Equipment	\$5,000	15.0%	\$488	\$263	30.0%	\$1,500	30.0%	\$1,500	12.5%	\$625
53420 Chemistry/Lab/Medical Supplies	\$28,000	0.0%	\$0	\$0	25.0%	\$7,000	25.0%	\$7,000	25.0%	\$7,000
53422 WWTP Processing Chemicals	\$250,000	0.0%	\$0	\$0	50.0%	\$125,000	25.0%	\$62,500	25.0%	\$62,500
53440 Janitorial Supplies	\$8,000	10.0%	\$520	\$280	25.0%	\$2,000	25.0%	\$2,000	20.0%	\$1,600
53460 Clothing And Uniforms	\$10,000	10.0%	\$650	\$350	25.0%	\$2,500	25.0%	\$2,500	20.0%	\$2,000
53490 Other Operating Supplies	\$0	10.0%	\$0	\$0	25.0%	\$0	25.0%	\$0	20.0%	\$0
53510 Gasoline, Oil, Grease Etc.	\$14,000	10.0%	\$910	\$490	25.0%	\$3,500	25.0%	\$3,500	20.0%	\$2,800
53620 Consumable Tools	\$8,000	10.0%	\$520	\$280	25.0%	\$2,000	25.0%	\$2,000	20.0%	\$1,600
53910 Sludge Disposal	\$160,000	0.0%	\$0	\$0	55.0%	\$88,000	40.0%	\$64,000	5.0%	\$8,000

Table 3 - Allocation of Costs to Function

	Flow		BOD		TSS		P		TKN	
	2019 Budget	%	Cost - User Charge	Cost - Customer	%	Cost	%	Cost	%	Cost
150 Fixed Charges										
55110 Property/Boiler Ins.& Expense	\$71,301	20.0%	\$9,269	\$4,991	20.0%	\$14,260	20.0%	\$14,260	20.0%	\$14,260
Subtotal Sewer Plant Operations	\$3,322,521	24.0%	\$517,383	\$278,591	38.1%	\$1,266,340	23.3%	\$774,040	8.4%	\$278,921
Pre-treatment Sampling (7381)										
110 Personal Services										
51110 Salaries	\$86,852	15.0%	\$8,468	\$4,560	25.0%	\$21,713	20.0%	\$17,370	20.0%	\$17,370
51210 Wages Permanent	\$71,049	15.0%	\$6,927	\$3,730	25.0%	\$17,762	20.0%	\$14,210	20.0%	\$14,210
51510 Social Security	\$12,079	15.0%	\$1,178	\$634	25.0%	\$3,020	20.0%	\$2,416	20.0%	\$2,416
51520 Retirement	\$10,342	15.0%	\$1,008	\$543	25.0%	\$2,586	20.0%	\$2,068	20.0%	\$2,068
51540 Health Insurance	\$39,655	15.0%	\$3,866	\$2,082	25.0%	\$9,914	20.0%	\$7,931	20.0%	\$7,931
51550 Life Insurance	\$989	15.0%	\$96	\$52	25.0%	\$247	20.0%	\$198	20.0%	\$198
51560 Dental Insurance	\$2,280	15.0%	\$222	\$120	25.0%	\$570	20.0%	\$456	20.0%	\$456
120 Contractual Services										
52190 Pre-Treatment Sampling	\$10,000	15.0%	\$975	\$525	25.0%	\$2,500	20.0%	\$2,000	20.0%	\$2,000
52410 Vehicle Maintenance	\$1,000	15.0%	\$98	\$53	25.0%	\$250	20.0%	\$200	20.0%	\$200
52430 Computer Hardware Maint	\$0	15.0%	\$0	\$0	25.0%	\$0	20.0%	\$0	20.0%	\$0
130 Supplies and Expenses										
53120 Office Supplies	\$100	15.0%	\$10	\$5	25.0%	\$25	20.0%	\$20	20.0%	\$20
53220 Subscriptions-Office	\$0	15.0%	\$0	\$0	25.0%	\$0	20.0%	\$0	20.0%	\$0
53260 Advertising	\$50	15.0%	\$5	\$3	25.0%	\$13	20.0%	\$10	20.0%	\$10
53510 Gasoline, Oil, Grease Etc.	\$1,200	15.0%	\$117	\$63	25.0%	\$300	20.0%	\$240	20.0%	\$240
Subtotal Pretreatment Sampling	\$ 235,596.00	15.0%	\$22,971	\$12,369	25.0%	\$58,899	20.0%	\$47,119	20.0%	\$47,119
Subtotal Collector and Treatment	\$ 4,710,982.00	42.1%	\$1,289,716	\$694,462	28.1%	\$1,325,239	17.4%	\$821,159	6.9%	\$326,040
Sewer Administration (7380)										
110 Personal Services										
51110 Salaries	\$351,098	42.1%	\$96,119	\$51,757	28.1%	\$98,767	17.4%	\$61,199	6.9%	\$24,299
51180 Accrued Vacation	\$0	42.1%	\$0	\$0	28.1%	\$0	17.4%	\$0	6.9%	\$0
51190 Sick Leave Accrual	\$0	42.1%	\$0	\$0	28.1%	\$0	17.4%	\$0	6.9%	\$0
51210 Wages Permanent	\$277,439	42.1%	\$75,954	\$40,898	28.1%	\$78,046	17.4%	\$48,360	6.9%	\$19,201
51220 Overtime	\$3,000	42.1%	\$821	\$442	28.1%	\$844	17.4%	\$523	6.9%	\$208
51510 Social Security	\$48,313	42.1%	\$13,227	\$7,122	28.1%	\$13,591	17.4%	\$8,421	6.9%	\$3,344
51520 Retirement	\$41,366	42.1%	\$11,325	\$6,098	28.1%	\$11,637	17.4%	\$7,210	6.9%	\$2,863
51525 Retirement-GASB 68	\$150,000	42.1%	\$41,065	\$22,112	28.1%	\$42,196	17.4%	\$26,146	6.9%	\$10,381
51540 Health Insurance	\$145,019	42.1%	\$39,702	\$21,378	28.1%	\$40,795	17.4%	\$25,278	6.9%	\$10,037
51550 Life Insurance	\$1,821	42.1%	\$499	\$268	28.1%	\$512	17.4%	\$317	6.9%	\$126
51560 Dental Insurance	\$8,352	42.1%	\$2,287	\$1,231	28.1%	\$2,349	17.4%	\$1,456	6.9%	\$578
51570 OPEB Expense	\$125,000	42.1%	\$34,221	\$18,427	28.1%	\$35,164	17.4%	\$21,788	6.9%	\$8,651
120 Contractual Services										
52130 Accounting And Auditing	\$83,325	42.1%	\$22,812	\$12,283	28.1%	\$23,440	17.4%	\$14,524	6.9%	\$5,767
52131 Utility Billing	\$695,000	42.1%	\$190,269	\$102,452	28.1%	\$195,509	17.4%	\$121,144	6.9%	\$48,100
52135 Consulting	\$100,000	42.1%	\$27,377	\$14,741	28.1%	\$28,131	17.4%	\$17,431	6.9%	\$6,921
52180 Management Services	\$52,530	42.1%	\$14,381	\$7,744	28.1%	\$14,777	17.4%	\$9,156	6.9%	\$3,636
52190 Other Other Professional Services	\$120,000	42.1%	\$32,852	\$17,690	28.1%	\$33,757	17.4%	\$20,917	6.9%	\$8,305
52250 Telephone	\$20,000	42.1%	\$5,475	\$2,948	28.1%	\$5,626	17.4%	\$3,486	6.9%	\$1,384
52270 Trunk Radio System Startup F	\$230	42.1%	\$63	\$34	28.1%	\$65	17.4%	\$40	6.9%	\$16
52430 Computer Hardware Maint	\$4,000	42.1%	\$1,095	\$590	28.1%	\$1,125	17.4%	\$697	6.9%	\$277
130 Supplies and Expenses										
53110 Postage and Box Rent	\$1,000	42.1%	\$274	\$147	28.1%	\$281	17.4%	\$174	6.9%	\$69
53120 Office Supplies	\$2,400	42.1%	\$657	\$354	28.1%	\$675	17.4%	\$418	6.9%	\$166
53130 Printing/Photocopying	\$6,000	42.1%	\$1,643	\$884	28.1%	\$1,688	17.4%	\$1,046	6.9%	\$415
53135 Internal Printing	\$5,380	42.1%	\$1,473	\$793	28.1%	\$1,513	17.4%	\$938	6.9%	\$372
53220 Subscriptions-Office	\$600	42.1%	\$164	\$88	28.1%	\$169	17.4%	\$105	6.9%	\$42
53240 Membership Dues	\$3,500	42.1%	\$958	\$516	28.1%	\$985	17.4%	\$610	6.9%	\$242

Table 3 - Allocation of Costs to Function

	Flow			BOD			TSS			P			TKN		
	Cost -			Cost -											
	2019 Budget	%	User Charge	Customer	%	Cost	%	Cost	%	Cost	%	Cost	%	Cost	
53250 Conference And Training	\$15,000	42.1%	\$4,107	\$2,211	28.1%	\$4,220	17.4%	\$2,615	6.9%	\$1,038	5.4%	\$810			
53260 Advertising	\$3,000	42.1%	\$821	\$442	28.1%	\$844	17.4%	\$523	6.9%	\$208	5.4%	\$162			
53940 Other Chg	\$0	42.1%	\$0	\$0	28.1%	\$0	17.4%	\$0	6.9%	\$0	5.4%	\$0			
150 Fixed Charges															
55120 Auto And Fleet Insurance	\$5,976	42.1%	\$1,636	\$881	28.1%	\$1,681	17.4%	\$1,042	6.9%	\$414	5.4%	\$323			
55160 Workman's Comp Insurance	\$75,061	42.1%	\$20,549	\$11,065	28.1%	\$21,115	17.4%	\$13,084	6.9%	\$5,195	5.4%	\$4,053			
55190 General Liability Insurance	\$39,480	42.1%	\$10,808	\$5,820	28.1%	\$11,106	17.4%	\$6,882	6.9%	\$2,732	5.4%	\$2,132			
184 Interdepartmental Charges															
78422 Data Processing-Allocated	\$250,690	42.1%	\$68,631	\$36,955	28.1%	\$70,521	17.4%	\$43,697	6.9%	\$17,350	5.4%	\$13,536			
78650 Employee Safety Programs	\$14,000	42.1%	\$3,833	\$2,064	28.1%	\$3,938	17.4%	\$2,440	6.9%	\$969	5.4%	\$756			
78690 Other Employee Benefits	\$0	42.1%	\$0	\$0	28.1%	\$0	17.4%	\$0	6.9%	\$0	5.4%	\$0			
89280 TranSklt	\$13,982	42.1%	\$3,828	\$2,061	28.1%	\$3,933	17.4%	\$2,437	6.9%	\$968	5.4%	\$755			
Subtotal	\$ 2,662,562.00	42.1%	\$728,924	\$392,498	28.1%	\$749,001	17.4%	\$464,104	6.9%	\$184,272	5.4%	\$143,763			
Total O & M	\$ 7,373,544.00	42.1%	\$2,018,640	\$1,086,960	28.1%	\$2,074,240	17.4%	\$1,285,263	6.9%	\$ 510,312.55	5.4%	\$ 398,128.13			
Capital Costs															
Depreciation	\$5,500,000	42.1%	\$2,316,498	\$0	28.1%	\$1,547,197	17.4%	\$958,691	6.9%	\$380,647	5.4%	\$296,968			
Return on Investment (ROI)	\$3,941,353	42.1%	\$1,660,025	\$0	28.1%	\$1,108,736	17.4%	\$687,007	6.9%	\$272,775	5.4%	\$212,810			
Total Capital Costs	\$9,441,353		\$3,976,523	\$0		\$2,655,932		\$1,645,697		\$653,423		\$509,778			
Subtotal Revenue Requirements	\$16,814,897		\$5,995,163	\$1,086,960		\$4,730,173		\$2,930,961		\$ 1,163,735.25		\$907,906			
Other Income															
Delinquent Fees	(\$60,000)	42.1%	(\$16,426)	(\$8,845)	28.1%	(\$16,879)	17.4%	(\$10,458)	6.9%	(\$4,153)	5.4%	(\$3,240)			
Pre-Treatment Charges - Public Charges	(\$63,000)	42.1%	(\$17,247)	(\$9,287)	28.1%	(\$17,722)	17.4%	(\$10,981)	6.9%	(\$4,360)	5.4%	(\$3,402)			
Investment Income	\$0	42.1%	\$0	\$0	28.1%	\$0	17.4%	\$0	6.9%	\$0	5.4%	\$0			
Total Other Income	(\$123,000)		(\$33,673)	(\$18,132)		(\$34,601)		(\$21,440)		(\$8,513)		(\$6,641)			
Total Net Revenue Requirements	\$16,691,897		\$5,961,489	\$1,068,828		\$4,695,572		\$2,909,521		\$1,155,223		\$901,265			

Summary

Allocation of Costs to Function and Classification for City Rates

	Flow	Fixed	BOD	SS	P	TKN
O&M and Replacement	\$7,373,544	\$2,018,640	\$2,074,240	\$1,285,263	\$510,313	\$398,128
Capital	\$9,441,353	\$3,976,523	\$2,655,932	\$1,645,697	\$653,423	\$509,778
Other Revenues	(\$123,000)	(\$33,673)	(\$34,601)	(\$21,440)	(\$8,513)	(\$6,641)
Total	16,691,897	5,961,489	4,695,572	2,909,521	1,155,223	901,265

Allocation of Costs to Function and Classification for Extraterritorial Rates

	Flow	Fixed	BOD	SS	P	TKN
Total Allocation for City Rates	\$16,691,897	\$5,961,489	\$4,695,572	\$2,909,521	\$1,155,223	\$901,265
Deduct ROI for City	(\$3,941,353)	(\$1,660,025)	(\$1,108,736)	(\$687,007)	(\$272,775)	(\$212,810)
Add ROI for Computation of Extra Rates	\$11,824,060	\$4,980,075	\$3,326,208	\$2,061,021	\$818,326	\$638,430
Total	24,574,604	9,281,539	6,913,044	4,283,535	1,700,774	1,326,884

Table 4 - Comparison of Operating Expenses and Customer Flows and Loadings

2018-2019 Operating and Maintenance Comparison

Operating and Maintenance Category	2018	2019	Difference	Percentage Change
Sewer Maintenance	\$ 1,168,814	\$ 1,152,865	(\$15,949)	-1.36%
Sewer Plant Operations	\$ 3,360,747	\$ 3,322,521	(\$38,226)	-1.14%
Pre-treatment Sampling	\$ 232,275	\$ 235,596	\$3,321	1.43%
Subtotal Collection and Treatment	\$ 4,761,836	\$ 4,710,982	(\$50,854)	-1.07%
Sewer Administration	\$ 2,457,809	\$ 2,662,562	\$204,753	8.33%
Total Operating and Maintenance Expenses	\$ 7,219,645	\$ 7,373,544	\$153,899	2.13%

2018-2019 Billable Flows Comparison

Customer Class	Billable Flow (1,000 Gal) 2018	2019	Difference (1,000 gal)	Percentage Change
Residential	868,330	867,570	(760)	-0.09%
Commercial and Multi-Family	711,220	675,000	(36,220)	-5.09%
Industrial	129,460	120,000	(9,460)	-7.31%
Public	73,000	64,000	(9,000)	-12.33%
Septic Tank Waste	7,340	7,120	(220)	-3.00%
Holding Tank Waste	8,000	7,760	(240)	-3.00%
Total	1,797,350	1,741,450	(55,900)	-3.11%

Total Loadings all Customer Classes	2018	2019	Difference (Lbs)	Percentage Change
BOD (Lbs)	4,963,014	5,036,971	73,957	1.49%
TSS (Lbs)	5,866,539	5,857,424	(9,115)	-0.16%
P (Lbs)	137,451	130,937	(6,514)	-4.74%
TKN (Lbs)	502,416	492,741	(9,675)	-1.93%

Table 5 - Wastewater Utility Assets and Depreciation

Estimated Asset Detail at 12/31/17

Description	Original Cost ⁽¹⁾	Accumulated Depreciation ⁽²⁾	Est. 2018	Est. 2019	Est. Accumulated Depreciation at 12/31/2019	Net Book Value
Subtotal	\$160,896,215	\$50,188,183	\$4,714,475	\$5,046,066	\$59,948,724	\$100,947,491
2018 Capital Projects ⁽³⁾	\$6,130,000		\$85,525	\$171,050	\$256,575	\$5,873,425
2019 Capital Projects ⁽³⁾	\$24,840,408		\$0	\$282,884	\$282,884	\$24,557,524
Total	\$191,866,623		\$4,800,000	\$5,500,000	\$60,488,183	\$131,378,440

Notes:

(1) From City of Waukesha 12/31/2017 Fixed Asset Master List.

(2) At 12/31/2017

(3) Source: City Finance Department.

Table 6 - Recovery of Depreciation and ROI

Return on Investment - City Customers

Asset Costs	\$191,866,623
Accumulated Depreciation	\$60,488,183
Estimated 2018 Net Investment Rate Base (NIRB)	<u>\$131,378,440</u>

Return on Investment (ROI) % 3.00%

ROI for test year \$3,941,353

Depreciation Expense for test year \$5,500,000

Total Capital Recovery \$9,441,353

Return on Investment - Extraterritorial Customers

Asset Costs	\$191,866,623
Accumulated Depreciation	\$60,488,183
Estimated 2018 Net Investment Rate Base (NIRB)	<u>\$131,378,440</u>

Return on Investment (ROI) % 9.00%

ROI for test year \$11,824,060

Depreciation Expense for test year \$5,500,000

Total Capital Recovery \$17,324,060

Table 7 - Rate Computation Worksheet

	City (Inside) Rates			Extraterritorial (Outside) Rates		
	Costs	Billable Units	City Rate	Costs	Billable Units	Extra. Rate
Fixed Charges						
Fixed Charge	1,068,828	20,385	\$52.43	1,068,828	20,385	\$52.43
 Volumetric Charges						
Flow Charge per 1,000 gallons	5,961,489	1,766,505	\$3.37	9,281,539	1,762,675	\$5.27
BOD Charge per lb.	4,695,572	5,044,477	\$0.93	6,913,044	5,036,971	\$1.37
TSS Charge per lb.	2,909,521	5,868,284	\$0.50	4,283,535	5,857,424	\$0.73
P Charge per lb.	1,155,223	131,192	\$8.81	1,700,774	130,937	\$12.99
TKN Charge per lb.	901,265	493,699	\$1.83	1,326,884	492,741	\$2.69
BOD Charge per 1,000 gallons			\$1.82			\$2.69
TSS Charge per 1,000 gallons			\$1.41			\$2.07
P Charge per 1,000 gallons			\$0.59			\$0.87
TKN Charge per 1,000 gallons			\$0.46			\$0.67
Total Volumetric Rate per 1,000 gal			\$7.65			\$11.57
 Wastehauler Charges						
Septic Charges						
Flow Charge per 1,000 gallons			\$3.37			\$5.27
BOD Charge per 1,000 gallons			\$11.61			\$17.12
TSS Charge per 1,000 gallons			\$25.20			\$37.17
P Charge per 1,000 gallons			\$3.45			\$5.09
TKN Charge per 1,000 gallons			\$3.04			\$4.49
Total			\$46.69			\$69.15
 Holding Tank Charges						
Flow Charge per 1,000 gallons			\$3.37			\$5.27
BOD Charge per 1,000 gallons			\$5.00			\$7.37
TSS Charge per 1,000 gallons			\$3.78			\$5.58
P Charge per 1,000 gallons			\$1.91			\$2.82
TKN Charge per 1,000 gallons			\$1.43			\$2.11
Total			\$15.50			\$23.15
 Chemical Toilet Waste Charges						
Flow Charge per 1,000 gallons			\$3.37			\$5.27
BOD Charge per 1,000 gallons			\$64.14			\$94.57
TSS Charge per 1,000 gallons			\$37.34			\$55.08
P Charge per 1,000 gallons			\$18.65			\$27.52
TKN Charge per 1,000 gallons			\$43.04			\$63.49
Total			\$166.55			\$245.92
 Rate Summary						
		City (Inside)			Extraterritorial (Outside)	
Fixed charge per connection		\$52.43			\$52.43	
Rate per 1,000 gallons		\$7.65			\$11.57	
BOD rate per lb.		\$0.93			\$1.37	
TSS rate per lb.		\$0.50			\$0.73	
P rate per lb.		\$8.81			\$12.99	
TKN rate per lb.		\$1.83			\$2.69	

Table 8 - Rate Summary

		COS	2019 Proposed
City (Inside)	Fixed charge per connection (annual)	\$52.43	\$63.66
	Volumetric Rate per 1,000 Gallons	\$7.65	\$7.25
	BOD rate per lb.	\$0.93	\$0.93
	TSS rate per lb.	\$0.50	\$0.50
	P rate per lb.	\$8.81	\$8.48
	TKN rate per lb.	\$1.83	\$1.72
	Unmetered quarterly flat charge	\$229.48	\$217.53
Extraterritorial (Outside)	Fixed charge per connection (annual)	\$52.43	\$63.66
	Volumetric Rate per 1,000 Gallons	\$11.57	\$9.70
	BOD rate per lb.	\$1.37	\$1.37
	TSS rate per lb.	\$0.73	\$0.73
	P rate per lb.	\$12.99	\$12.99
	TKN rate per lb.	\$2.69	\$2.69
	Unmetered quarterly flat charge	\$347.09	\$290.96
Wastehauler	Septic Rate per 1,000 Gallons	\$69.15	\$59.52
	Chemical Toilet Rate per 1,000 Gallons	\$166.55	\$166.55
	Holding Tank Rate per 1,000 Gallons	\$23.15	\$19.67

Table 9 - Revenue Check (Based on COS)

		Units	Rate	Annual Total
Fixed Charge				
Residential	cust	17,948	\$52.43	\$941,051
Commercial and Multi-Family	cust	2,180	\$52.43	\$114,302
Industrial	cust	151	\$52.43	\$7,917
Public	cust	106	\$52.43	\$5,558
Subtotal		20,385		\$1,068,828
Volumetric Charges-Inside Customers				
Residential	Flow (000 gal)	867,570	\$7.65	\$6,636,248
Commercial & Multiple	Flow (000 gal)	675,000	\$7.65	\$5,163,234
Industrial	Flow (000 gal)	120,000	\$7.65	\$917,908
Public	Flow (000 gal)	64,000	\$7.65	\$489,551
Septic Waste Haulers	Flow (000 gal)	7,120	\$46.69	\$332,408
Chemical Toilet Waste Haulers	Flow (000 gal)	131	\$166.55	\$21,810
Holding Tank Waste Haulers	Flow (000 gal)	7,760	\$15.50	\$120,267
Subtotal		1,741,581		\$13,681,426
Industrial Excess BOD	Lbs	1,472,190	\$0.93	\$1,370,365
Industrial Excess TSS	Lbs	470,750	\$0.50	\$233,400
Industrial Excess P	Lbs	9,582	\$8.81	\$84,373
Industrial Excess TKN	Lbs	34,429	\$1.83	\$62,850
Subtotal		1,986,950		\$1,750,989
Unmetered Customers	cust	115	\$917.91	\$105,559
Volumetric Charges-Outside Customers				
Residential	Flow (000 gal)	2,637	\$11.57	\$30,507
Commercial & Multiple	Flow (000 gal)	4,519	\$11.57	\$52,278
Industrial	Flow (000 gal)	139	\$11.57	\$1,610
Subtotal				\$84,395
Total Revenues				\$16,691,198
Revenue Requirements				\$16,691,897
Difference				(\$699)

Table 10 - Revenue Summary

		Units	Rate	Annual Total
Fixed Charge				
Residential	cust	17,948	\$63.66	\$1,142,570
Commercial and Multi-Family	cust	2,180	\$63.66	\$138,779
Industrial	cust	151	\$63.66	\$9,613
Public	cust	106	\$63.66	\$6,748
Subtotal		20,385		\$1,297,709
Volumetric Charges - Inside Customers				
Residential	Flow (000 gal)	867,570	\$7.25	\$6,289,883
Commercial & Multiple	Flow (000 gal)	675,000	\$7.25	\$4,893,750
Industrial	Flow (000 gal)	120,000	\$7.25	\$870,000
Public	Flow (000 gal)	64,000	\$7.25	\$464,000
Septic Waste Haulers	Flow (000 gal)	7,120	\$59.52	\$423,770
Holding Tank Waste Haulers	Flow (000 gal)	7,760	\$19.67	\$152,639
Chemical Toilet Waste Haulers	Flow (000 gal)	131	\$166.55	\$21,810
Subtotal		1,741,450		\$13,115,852
Industrial Excess BOD	Lbs	1,472,190	\$0.93	\$1,369,137
Industrial Excess TSS	Lbs	470,750	\$0.50	\$235,375
Industrial Excess P	Lbs	9,582	\$8.48	\$81,254
Industrial Excess TKN	Lbs	34,429	\$1.72	\$59,217
Subtotal		1,986,950		\$1,744,983
Unmetered Customers	cust	115	\$870.13	\$100,065
Volumetric Charges - Outside Customers				
Residential	Flow (000 gal)	2,637	\$9.70	\$25,577
Commercial & Multiple	Flow (000 gal)	4,519	\$9.70	\$43,830
Industrial	Flow (000 gal)	139	\$9.70	\$1,350
Subtotal				\$70,758
Total Revenues				\$16,329,366
Revenue Requirements COS				\$16,691,897
Difference				(\$362,531)
Revenues as % of COS				97.8%

Table 11 - Test Year Cash Flow Analysis

	2019
Cash Sources	
Revenues from User Rates	\$16,329,366
Allowance for Unknowns (ie. Timing of billing, customer loss)	(\$571,528)
Other Income	\$123,000
Investment Income on Unrestricted Cash	\$38,369
Other Fees	\$60,000
Total Cash Sources	\$15,979,208
Cash Uses	
O&M	\$7,373,544
Net Before Debt Service	\$8,605,664
Debt Service	
Pension State Trust Fund	\$27,261
2012 G.O. Promisary Note	\$343,200
2014 Sewer Revenue Bonds	\$550,625
2014 Clean Water Fund Loan	\$2,209,520
2015 Clean Water Fund Loan	\$968,998
2016 Sewer Revenue Bond	\$255,050
2017 Sewer Revenue Bond	\$456,475
2018 Sewer Revenue Bond	\$389,188
2018 Clean Water Fund Loan (Interceptor Project)	\$1,264,964
2019 Revenue Bond (Refinanced 2018 NAN)	\$319,745
2019 Bond Anticipation Note (Refinanced in 2020)	\$0
Total Debt Service	\$6,785,026
Capital Outlay (non reserve)	\$1,255,000
Addition to Replacement Fund	\$250,000
Net Cash Flow	\$315,638
Unrestricted Cash Balances	
Estimated Beginning Year Balance	\$18,760,204
Net Additions	\$315,638
End of Year Balance	\$19,075,842
Replacement Fund Balances	
Beginning Year Balance	\$3,562,155
Additions from Rates	\$250,000
Fund Expenditures	(\$72,000)
Interest Income ⁽²⁾	\$7,302
End Year Replacement Fund Balance	\$3,747,457

Notes:

- (1) Subtotal delinquent fees plus pre-treatment sampling fees.
- (2) Estimate of investment income assuming an interest rate of 0.3%.
- (3) Other charges includes connection fees, impact fees and special assessments.
- (4) Estimated user rate projections assume that user rates are taking effect 1/1.
- (5) Links to Long Range Capital Improvement Plan.