

ATTACHMENT I (PL-9)

Fixed Fee Proportion vs. Volumetric Charge Proportion

Residential (5/8" Meter, 7,092 Gal. Water, 5,668 Gal. Sewer) - 2019 Rates

	Austin		Dallas		Houston *		SAWS	
	Charge	%	Charge	%	Charge	%	Charge	%
Water Fixed	\$ 7.25	13.9%	\$ 5.33	21.2%	\$ -	0.0%	\$ 13.02	35.3%
Water Volumetric	44.80	86.1%	19.81	78.8%	41.40	100.0%	23.91	64.7%
Total Water	\$ 52.05	100.0%	\$ 25.14	100.0%	\$ 41.40	100.0%	\$ 36.93	100.0%
Sewer Fixed	\$ 10.30	18.0%	\$ 4.78	13.6%	\$ -	0.0%	\$ 14.59	46.0%
Sewer Volumetric	47.01	82.0%	30.38	86.4%	52.97	100.0%	17.10	54.0%
Total Sewer	\$ 57.31	100.0%	\$ 35.16	100.0%	\$ 52.97	100.0%	\$ 31.69	100.0%
Total Fixed	\$ 17.55	16.0%	\$ 10.11	16.8%	\$ -	0.0%	\$ 27.61	40.2%
Total Volumetric	91.81	84.0%	50.19	83.2%	94.37	100.0%	41.01	59.8%
Total Water/Sewer Charge	\$ 109.36	100.0%	\$ 60.30	100.0%	\$ 94.37	100.0%	\$ 68.62	100.0%

* Houston assesses residential sewer volumetric charges on full water consumption, not the winter average.

Commercial (2" Meter, 50,000 Gal. Water, 50,000 Gal. Sewer) - 2019 Rates

	Austin		Dallas		Houston		SAWS	
	Charge	%	Charge	%	Charge	%	Charge	%
Water Fixed	\$ 83.40	22.2%	\$ 32.54	14.0%	\$ 12.71	5.3%	\$ 96.79	31.9%
Water Volumetric	293.00	77.8%	199.30	86.0%	227.00	94.7%	206.56	68.1%
Total Water	\$ 376.40	100.0%	\$ 231.84	100.0%	\$ 239.71	100.0%	\$ 303.35	100.0%
Sewer Fixed	\$ 10.30	2.2%	\$ 28.50	12.2%	\$ 12.84	3.8%	\$ 36.31	15.2%
Sewer Volumetric	462.50	97.8%	205.50	87.8%	321.50	96.2%	201.79	84.8%
Total Sewer	\$ 472.80	100.0%	\$ 234.00	100.0%	\$ 334.34	100.0%	\$ 238.10	100.0%
Total Fixed	\$ 93.70	11.0%	\$ 61.04	13.1%	\$ 25.55	4.5%	\$ 133.10	24.6%
Total Volumetric	755.50	89.0%	404.80	86.9%	548.50	95.5%	408.35	75.4%
Total Water/Sewer Charge	\$ 849.20	100.0%	\$ 465.84	100.0%	\$ 574.05	100.0%	\$ 541.45	100.0%

ATTACHMENT II (PL-10 & PL-11)

San Antonio Water System
 Schedule 8 - Residential Class Rates (Inside City Limits)

	Fiscal Year									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Water										
Service Availability Charge by meter size										
5/8"	\$ 12.77	\$ 11.64	\$ 10.72	\$ 7.57	\$ 7.31	\$ 7.14	\$ 7.14	\$ 6.91	\$ 6.91	\$ 6.77
3/4"	\$ 16.90	\$ 15.41	\$ 14.19	\$ 10.63	\$ 10.26	\$ 10.01	\$ 10.01	\$ 9.68	\$ 9.68	\$ 8.59
1"	\$ 25.12	\$ 22.90	\$ 21.09	\$ 16.72	\$ 16.14	\$ 15.75	\$ 15.75	\$ 15.23	\$ 15.23	\$ 12.49
1-1/2"	\$ 45.67	\$ 41.63	\$ 38.33	\$ 31.94	\$ 30.83	\$ 30.09	\$ 30.09	\$ 29.10	\$ 29.10	\$ 22.25
2"	\$ 70.30	\$ 64.08	\$ 59.01	\$ 50.18	\$ 48.44	\$ 47.28	\$ 47.28	\$ 45.73	\$ 45.73	\$ 33.95
3"	\$ 127.83	\$ 116.53	\$ 107.30	\$ 92.80	\$ 89.58	\$ 87.44	\$ 87.44	\$ 84.56	\$ 84.56	\$ 61.27
4"	\$ 209.99	\$ 191.42	\$ 176.26	\$ 153.67	\$ 148.33	\$ 144.78	\$ 144.78	\$ 140.02	\$ 140.02	\$ 100.30
6"	\$ 415.41	\$ 378.67	\$ 348.68	\$ 305.86	\$ 295.23	\$ 288.17	\$ 288.17	\$ 278.69	\$ 278.69	\$ 197.89
8"	\$ 661.90	\$ 603.37	\$ 555.39	\$ 488.47	\$ 471.50	\$ 460.22	\$ 460.22	\$ 445.09	\$ 445.09	\$ 314.96
10"	\$ 949.47	\$ 865.51	\$ 796.97	\$ 701.52	\$ 677.14	\$ 660.95	\$ 660.95	\$ 639.22	\$ 639.22	\$ 451.57
12"	\$ 1,771.12	\$ 1,614.51	\$ 1,486.66	\$ 1,310.24	\$ 1,264.71	\$ 1,234.47	\$ 1,234.47	\$ 1,193.88	\$ 1,193.88	\$ 841.86
Reduction applied if usage is less than 2,993 gallons	\$ (2.55)	\$ (2.32)	\$ (2.14)							
Usage (per 100 gallons)										
First 2,992 Gallons	\$ 0.0737	\$ 0.0672	\$ 0.0619							
Next 1,497 Gallons	\$ 0.1290	\$ 0.1176	\$ 0.1083							
Next 1,496 Gallons	\$ 0.1658	\$ 0.1511	\$ 0.1391							
Next 1,496 Gallons	\$ 0.2026	\$ 0.1847	\$ 0.1701							
Next 2,992 Gallons	\$ 0.2395	\$ 0.2183	\$ 0.2010							
Next 4,489 Gallons	\$ 0.2764	\$ 0.2520	\$ 0.2320							
Next 5,237 Gallons	\$ 0.3316	\$ 0.3023	\$ 0.2784							
Over 20,199 Gallons	\$ 0.4790	\$ 0.4366	\$ 0.4020							
Standard:										
First 5,985 gallons				\$ 0.1006	\$ 0.0971	\$ 0.0948	\$ 0.0948	\$ 0.0917	\$ 0.0917	
Next 6,732 gallons				\$ 0.1457	\$ 0.1406	\$ 0.1372	\$ 0.1372	\$ 0.1327	\$ 0.1327	
Next 4,488 gallons				\$ 0.2053	\$ 0.1982	\$ 0.1935	\$ 0.1935	\$ 0.1871	\$ 0.1871	
Over 17,205 gallons				\$ 0.3596	\$ 0.3471	\$ 0.3388	\$ 0.3388	\$ 0.3277	\$ 0.3277	
Seasonal (a):										
First 5,985 gallons				\$ 0.1006	\$ 0.0971	\$ 0.0948	\$ 0.0948	\$ 0.0917	\$ 0.0917	
Next 6,732 gallons				\$ 0.1584	\$ 0.1529	\$ 0.1492	\$ 0.1492	\$ 0.1443	\$ 0.1443	
Next 4,488 gallons				\$ 0.2355	\$ 0.2273	\$ 0.2219	\$ 0.2219	\$ 0.2146	\$ 0.2146	
Over 17,205 gallons				\$ 0.4880	\$ 0.4710	\$ 0.4597	\$ 0.4597	\$ 0.4446	\$ 0.4446	
Standard:										
First 7,481 gallons										\$ 0.0906
Next 5,236 gallons										\$ 0.1309
Next 4,488 gallons										\$ 0.2058
Over 17,205 gallons										\$ 0.3288
Seasonal (a):										
First 7,481 gallons										\$ 0.0906
Next 5,236 gallons										\$ 0.1423
Next 4,488 gallons										\$ 0.2217
Over 17,205 gallons										\$ 0.4246
Sewer										
Service Availability Charge by meter size (b)										
5/8"	\$ 13.45	\$ 12.98	\$ 12.29	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
3/4"	\$ 14.79	\$ 14.28	\$ 13.52	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
1"	\$ 16.80	\$ 16.22	\$ 15.36	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
1-1/2"	\$ 23.53	\$ 22.71	\$ 21.51	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
2"	\$ 33.62	\$ 32.45	\$ 30.73	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
3"	\$ 67.23	\$ 64.89	\$ 61.45	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
4"	\$ 100.84	\$ 97.34	\$ 92.18	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
6"	\$ 168.07	\$ 162.23	\$ 153.63	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
8"	\$ 268.90	\$ 259.56	\$ 245.80	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
10"	\$ 403.38	\$ 389.36	\$ 368.71	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
12"	\$ 537.83	\$ 519.14	\$ 491.61	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
Usage per 100 gallons (c)										
1,497 gallons - 2,992 gallons	\$ 0.2874	\$ 0.2774	\$ 0.2627							
Over 2,992 Gallons	\$ 0.4312	\$ 0.4162	\$ 0.3941							
All gallons in excess of 1,496				\$ 0.3365	\$ 0.3163	\$ 0.3047	\$ 0.2615	\$ 0.2302	\$ 0.2302	\$ 0.2057

(a) Prior to 2016, Seasonal rates were applied to all billings beginning May 1 and ending on or about September 30 of each year. At all other times, the Standard rate was applied.
 (b) Includes the first 1,496 gallons.
 (c) Residential sewer charges are computed on the basis of average winter usage for 90 days during three consecutive billing periods beginning after November 15 and ending on or before March 15 of each year.

San Antonio Water System
 Schedule 9 - Residential Class Rates (Outside City Limits)

	Fiscal Year									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Water										
Service Availability Charge by meter size										
5/8"	\$ 16.60	\$ 15.14	\$ 13.94	\$ 9.86	\$ 9.52	\$ 9.29	\$ 9.29	\$ 8.98	\$ 8.98	\$ 8.78
3/4"	\$ 21.97	\$ 20.03	\$ 18.44	\$ 13.82	\$ 13.34	\$ 13.02	\$ 13.02	\$ 12.59	\$ 12.59	\$ 11.16
1"	\$ 32.66	\$ 29.78	\$ 27.42	\$ 21.72	\$ 20.97	\$ 20.47	\$ 20.47	\$ 19.80	\$ 19.80	\$ 16.23
1-1/2"	\$ 59.37	\$ 54.12	\$ 49.83	\$ 41.52	\$ 40.08	\$ 39.12	\$ 39.12	\$ 37.83	\$ 37.83	\$ 28.92
2"	\$ 91.38	\$ 83.30	\$ 76.70	\$ 65.26	\$ 62.99	\$ 61.48	\$ 61.48	\$ 59.46	\$ 59.46	\$ 44.14
3"	\$ 166.18	\$ 151.49	\$ 139.49	\$ 120.66	\$ 116.47	\$ 113.68	\$ 113.68	\$ 109.94	\$ 109.94	\$ 79.65
4"	\$ 272.97	\$ 248.84	\$ 229.13	\$ 199.78	\$ 192.84	\$ 188.23	\$ 188.23	\$ 182.04	\$ 182.04	\$ 130.39
6"	\$ 540.02	\$ 492.27	\$ 453.29	\$ 397.62	\$ 383.80	\$ 374.62	\$ 374.62	\$ 362.30	\$ 362.30	\$ 257.24
8"	\$ 860.45	\$ 784.37	\$ 722.26	\$ 635.03	\$ 612.96	\$ 598.30	\$ 598.30	\$ 578.63	\$ 578.63	\$ 409.45
10"	\$ 1,234.30	\$ 1,125.16	\$ 1,036.06	\$ 911.98	\$ 880.29	\$ 859.24	\$ 859.24	\$ 830.99	\$ 830.99	\$ 587.03
12"	\$ 2,302.46	\$ 2,098.87	\$ 1,932.66	\$ 1,703.33	\$ 1,644.14	\$ 1,604.82	\$ 1,604.82	\$ 1,552.05	\$ 1,552.05	\$ 1,094.42
Reduction applied if usage is less than 2,993 gallons	\$ (3.32)	\$ (3.03)	\$ (2.79)							
Usage (per 100 gallons)										
First 2,992 Gallons	\$ 0.0958	\$ 0.0873	\$ 0.0804							
Next 1,497 Gallons	\$ 0.1676	\$ 0.1528	\$ 0.1407							
Next 1,496 Gallons	\$ 0.2156	\$ 0.1965	\$ 0.1809							
Next 1,496 Gallons	\$ 0.2634	\$ 0.2401	\$ 0.2211							
Next 2,992 Gallons	\$ 0.3113	\$ 0.2838	\$ 0.2613							
Next 4,489 Gallons	\$ 0.3593	\$ 0.3275	\$ 0.3016							
Next 5,237 Gallons	\$ 0.4311	\$ 0.3930	\$ 0.3619							
Over 20,199 Gallons	\$ 0.6228	\$ 0.5677	\$ 0.5227							
Standard:										
First 5,985 gallons				\$ 0.1310	\$ 0.1264	\$ 0.1234	\$ 0.1234	\$ 0.1193	\$ 0.1193	
Next 6,732 gallons				\$ 0.1894	\$ 0.1828	\$ 0.1784	\$ 0.1784	\$ 0.1725	\$ 0.1725	
Next 4,488 gallons				\$ 0.2671	\$ 0.2578	\$ 0.2516	\$ 0.2516	\$ 0.2433	\$ 0.2433	
Over 17,205 gallons				\$ 0.4675	\$ 0.4513	\$ 0.4405	\$ 0.4405	\$ 0.4260	\$ 0.4260	
Seasonal (a)										
First 5,985 gallons				\$ 0.1310	\$ 0.1264	\$ 0.1234	\$ 0.1234	\$ 0.1193	\$ 0.1193	
Next 6,732 gallons				\$ 0.2060	\$ 0.1988	\$ 0.1940	\$ 0.1940	\$ 0.1876	\$ 0.1876	
Next 4,488 gallons				\$ 0.3062	\$ 0.2956	\$ 0.2885	\$ 0.2885	\$ 0.2790	\$ 0.2790	
Over 17,205 gallons				\$ 0.6341	\$ 0.6121	\$ 0.5975	\$ 0.5975	\$ 0.5779	\$ 0.5779	
Standard:										
First 7,481 gallons										\$ 0.1176
Next 5,236 gallons										\$ 0.1702
Next 4,488 gallons										\$ 0.2674
Over 17,205 gallons										\$ 0.4274
Seasonal (a)										
First 7,481 gallons										\$ 0.1176
Next 5,236 gallons										\$ 0.1850
Next 4,488 gallons										\$ 0.2882
Over 17,205 gallons										\$ 0.5519
Sewer										
Service Availability Charge by meter size (b)										
5/8"	\$ 16.14	\$ 15.58	\$ 14.75	\$ 15.25	\$ 14.33	\$ 13.81	\$ 11.85	\$ 10.43	\$ 10.43	\$ 9.32
3/4"	\$ 17.76	\$ 17.14	\$ 16.23	\$ 15.25	\$ 14.33	\$ 13.81	\$ 11.85	\$ 10.43	\$ 10.43	\$ 9.32
1"	\$ 20.17	\$ 19.47	\$ 18.44	\$ 15.25	\$ 14.33	\$ 13.81	\$ 11.85	\$ 10.43	\$ 10.43	\$ 9.32
1-1/2"	\$ 28.24	\$ 27.26	\$ 25.81	\$ 15.25	\$ 14.33	\$ 13.81	\$ 11.85	\$ 10.43	\$ 10.43	\$ 9.32
2"	\$ 40.35	\$ 38.95	\$ 36.88	\$ 15.25	\$ 14.33	\$ 13.81	\$ 11.85	\$ 10.43	\$ 10.43	\$ 9.32
3"	\$ 80.67	\$ 77.87	\$ 73.74	\$ 15.25	\$ 14.33	\$ 13.81	\$ 11.85	\$ 10.43	\$ 10.43	\$ 9.32
4"	\$ 121.02	\$ 116.81	\$ 110.62	\$ 15.25	\$ 14.33	\$ 13.81	\$ 11.85	\$ 10.43	\$ 10.43	\$ 9.32
6"	\$ 201.69	\$ 194.68	\$ 184.36	\$ 15.25	\$ 14.33	\$ 13.81	\$ 11.85	\$ 10.43	\$ 10.43	\$ 9.32
8"	\$ 322.70	\$ 311.49	\$ 294.97	\$ 15.25	\$ 14.33	\$ 13.81	\$ 11.85	\$ 10.43	\$ 10.43	\$ 9.32
10"	\$ 484.05	\$ 467.23	\$ 442.45	\$ 15.25	\$ 14.33	\$ 13.81	\$ 11.85	\$ 10.43	\$ 10.43	\$ 9.32
12"	\$ 645.40	\$ 622.97	\$ 589.93	\$ 15.25	\$ 14.33	\$ 13.81	\$ 11.85	\$ 10.43	\$ 10.43	\$ 9.32
Usage per 100 gallons (c)										
1,497 gallons - 2,992 gallons	\$ 0.3450	\$ 0.3330	\$ 0.3153	\$ 0.4038	\$ 0.3795	\$ 0.3656	\$ 0.3138	\$ 0.2762	\$ 0.2762	\$ 0.2468
Over 2,992 Gallons	\$ 0.5174	\$ 0.4994	\$ 0.4729	\$ 0.4038	\$ 0.3795	\$ 0.3656	\$ 0.3138	\$ 0.2762	\$ 0.2762	\$ 0.2468

(a) Prior to 2016, Seasonal rates were applied to all billings beginning May 1 and ending on or about September 30 of each year. At all other times, the Standard rate was applied.

(b) Includes the first 1,496 gallons.

(c) Residential sewer charges are computed on the basis of average winter usage for 90 days during three consecutive billing periods beginning after November 15 and ending on or before March 15 of each year.

San Antonio Water System
 Schedule 10 - General Class Rates (Inside City Limits)

	Fiscal Year									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Water										
Service Availability Charge by meter size:										
5/8"	\$ 13.80	\$ 12.58	\$ 11.58	\$ 10.53	\$ 10.16	\$ 9.92	\$ 9.92	\$ 9.59	\$ 9.59	\$ 9.81
3/4"	\$ 19.71	\$ 17.97	\$ 16.55	\$ 15.05	\$ 14.53	\$ 14.18	\$ 14.18	\$ 13.71	\$ 13.71	\$ 13.16
1"	\$ 31.53	\$ 28.74	\$ 26.46	\$ 24.08	\$ 23.24	\$ 22.68	\$ 22.68	\$ 21.93	\$ 21.93	\$ 19.21
1-1/2"	\$ 61.05	\$ 55.65	\$ 51.24	\$ 46.65	\$ 45.03	\$ 43.95	\$ 43.95	\$ 42.50	\$ 42.50	\$ 35.03
2"	\$ 96.40	\$ 87.88	\$ 80.92	\$ 73.74	\$ 71.18	\$ 69.48	\$ 69.48	\$ 67.20	\$ 67.20	\$ 52.83
3"	\$ 179.02	\$ 163.19	\$ 150.27	\$ 136.96	\$ 132.20	\$ 129.04	\$ 129.04	\$ 124.80	\$ 124.80	\$ 106.92
4"	\$ 297.00	\$ 270.74	\$ 249.30	\$ 227.28	\$ 219.38	\$ 214.13	\$ 214.13	\$ 207.09	\$ 207.09	\$ 176.40
6"	\$ 591.95	\$ 539.61	\$ 496.88	\$ 453.06	\$ 437.32	\$ 426.86	\$ 426.86	\$ 412.82	\$ 412.82	\$ 350.03
8"	\$ 945.95	\$ 862.31	\$ 794.02	\$ 723.99	\$ 698.83	\$ 682.12	\$ 682.12	\$ 659.69	\$ 659.69	\$ 543.20
10"	\$ 1,358.90	\$ 1,238.74	\$ 1,140.64	\$ 1,040.08	\$ 1,003.94	\$ 979.93	\$ 979.93	\$ 947.71	\$ 947.71	\$ 755.89
12"	\$ 2,538.80	\$ 2,314.31	\$ 2,131.04	\$ 1,943.21	\$ 1,875.69	\$ 1,830.83	\$ 1,830.83	\$ 1,770.63	\$ 1,770.63	\$ 1,191.85
Usage (per 100 gallons)										
Base (a)	\$ 0.1803	\$ 0.1644	\$ 0.1514	\$ 0.1218	\$ 0.1176	\$ 0.1148	\$ 0.1148	\$ 0.1110	\$ 0.1110	
100-125% of base	\$ 0.2076	\$ 0.1892	\$ 0.1742	\$ 0.1457	\$ 0.1406	\$ 0.1372	\$ 0.1372	\$ 0.1327	\$ 0.1327	
125-175% of base	\$ 0.2706	\$ 0.2467	\$ 0.2272	\$ 0.2042	\$ 0.1971	\$ 0.1924	\$ 0.1924	\$ 0.1861	\$ 0.1861	
Over 175% of base	\$ 0.3158	\$ 0.2879	\$ 0.2651	\$ 0.2991	\$ 0.2887	\$ 0.2818	\$ 0.2818	\$ 0.2725	\$ 0.2725	
Usage (per 100 gallons)										
Below base (b)										\$ 0.1086
100-125% of base										\$ 0.1257
125-150% of base										\$ 0.1633
150-200% of base										\$ 0.2138
Over 200% of base										\$ 0.3160
Sewer										
Service Availability Charge by meter size (c):										
By meter size:										
5/8"	\$ 13.45	\$ 12.98	\$ 12.29	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
3/4"	\$ 14.79	\$ 14.28	\$ 13.52	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
1"	\$ 16.80	\$ 16.22	\$ 15.36	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
1-1/2"	\$ 23.53	\$ 22.71	\$ 21.51	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
2"	\$ 33.62	\$ 32.45	\$ 30.73	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
3"	\$ 67.23	\$ 64.89	\$ 61.45	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
4"	\$ 100.84	\$ 97.34	\$ 92.18	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
6"	\$ 168.07	\$ 162.23	\$ 153.63	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
8"	\$ 268.90	\$ 259.56	\$ 245.80	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
10"	\$ 403.38	\$ 389.36	\$ 368.71	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
12"	\$ 537.83	\$ 519.14	\$ 491.61	\$ 12.69	\$ 11.93	\$ 11.49	\$ 9.86	\$ 8.68	\$ 8.68	\$ 7.76
Usage (per 100 gallons)										
All gallons in excess of 1,496	\$ 0.3851	\$ 0.3717	\$ 0.3520	\$ 0.3365	\$ 0.3163	\$ 0.3047	\$ 0.2615	\$ 0.2302	\$ 0.2302	\$ 0.2057

(a) Since 2010, base has been defined as 100% of the previous year's annual usage divided by 12.

(b) Base was defined as 90% of the previous year's annual usage divided by 12.

(c) Per 100 gallons. Includes the first 1,496 gallons.

San Antonio Water System
 Schedule 11 - General Class Rates (Outside City Limits)

	Fiscal Year									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Water										
Service Availability Charge by meter size:										
5/8"	\$ 16.87	\$ 15.38	\$ 14.16	\$ 13.69	\$ 13.21	\$ 12.89	\$ 12.89	\$ 12.47	\$ 12.47	\$ 11.83
3/4"	\$ 24.02	\$ 21.90	\$ 20.17	\$ 19.56	\$ 18.88	\$ 18.43	\$ 18.43	\$ 17.82	\$ 17.82	\$ 15.72
1"	\$ 38.30	\$ 34.91	\$ 32.15	\$ 31.29	\$ 30.20	\$ 29.48	\$ 29.48	\$ 28.51	\$ 28.51	\$ 22.94
1-1/2"	\$ 73.97	\$ 67.43	\$ 62.09	\$ 60.65	\$ 58.54	\$ 57.14	\$ 57.14	\$ 55.26	\$ 55.26	\$ 41.69
2"	\$ 116.73	\$ 106.41	\$ 97.98	\$ 95.87	\$ 92.54	\$ 90.33	\$ 90.33	\$ 87.36	\$ 87.36	\$ 63.01
3"	\$ 216.60	\$ 197.45	\$ 181.81	\$ 178.06	\$ 171.87	\$ 167.76	\$ 167.76	\$ 162.24	\$ 162.24	\$ 125.31
4"	\$ 359.21	\$ 327.45	\$ 301.52	\$ 295.46	\$ 285.19	\$ 278.37	\$ 278.37	\$ 269.22	\$ 269.22	\$ 206.48
6"	\$ 715.81	\$ 652.52	\$ 600.85	\$ 588.98	\$ 568.51	\$ 554.91	\$ 554.91	\$ 536.66	\$ 536.66	\$ 409.39
8"	\$ 1,143.74	\$ 1,042.61	\$ 960.05	\$ 941.20	\$ 908.49	\$ 886.76	\$ 886.76	\$ 857.60	\$ 857.60	\$ 637.69
10"	\$ 1,642.97	\$ 1,497.69	\$ 1,379.09	\$ 1,352.11	\$ 1,305.13	\$ 1,273.92	\$ 1,273.92	\$ 1,232.03	\$ 1,232.03	\$ 891.35
12"	\$ 3,069.37	\$ 2,797.97	\$ 2,576.40	\$ 2,526.17	\$ 2,438.39	\$ 2,380.08	\$ 2,380.08	\$ 2,301.82	\$ 2,301.82	\$ 1,444.41
Usage (per 100 gallons)										
Base (a)	\$ 0.2345	\$ 0.2138	\$ 0.1969	\$ 0.1584	\$ 0.1529	\$ 0.1492	\$ 0.1492	\$ 0.1443	\$ 0.1443	
100-125% of base	\$ 0.2699	\$ 0.2460	\$ 0.2265	\$ 0.1893	\$ 0.1827	\$ 0.1783	\$ 0.1783	\$ 0.1724	\$ 0.1724	
125-175% of base	\$ 0.3519	\$ 0.3208	\$ 0.2954	\$ 0.2654	\$ 0.2562	\$ 0.2501	\$ 0.2501	\$ 0.2419	\$ 0.2419	
Over 175% of base	\$ 0.4105	\$ 0.3742	\$ 0.3446	\$ 0.3887	\$ 0.3752	\$ 0.3662	\$ 0.3662	\$ 0.3542	\$ 0.3542	
Usage (per 100 gallons)										
Below base (b)										\$ 0.1410
100-125% of base										\$ 0.1635
125-150% of base										\$ 0.2121
150-200% of base										\$ 0.2778
Over 200% of base										\$ 0.4109
Sewer										
Service Availability Charge by meter size (c):										
By meter size:										
5/8"	\$ 16.14	\$ 15.58	\$14.75	\$15.25	\$14.33	\$13.81	\$11.85	\$10.43	\$10.43	\$9.32
3/4"	\$ 17.76	\$ 17.14	\$16.23	\$15.25	\$14.33	\$13.81	\$11.85	\$10.43	\$10.43	\$9.32
1"	\$ 20.17	\$ 19.47	\$18.44	\$15.25	\$14.33	\$13.81	\$11.85	\$10.43	\$10.43	\$9.32
1-1/2"	\$ 28.24	\$ 27.26	\$25.81	\$15.25	\$14.33	\$13.81	\$11.85	\$10.43	\$10.43	\$9.32
2"	\$ 40.35	\$ 38.95	\$36.88	\$15.25	\$14.33	\$13.81	\$11.85	\$10.43	\$10.43	\$9.32
3"	\$ 80.67	\$ 77.87	\$73.74	\$15.25	\$14.33	\$13.81	\$11.85	\$10.43	\$10.43	\$9.32
4"	\$ 121.02	\$ 116.81	\$110.62	\$15.25	\$14.33	\$13.81	\$11.85	\$10.43	\$10.43	\$9.32
6"	\$ 201.69	\$ 194.68	\$184.36	\$15.25	\$14.33	\$13.81	\$11.85	\$10.43	\$10.43	\$9.32
8"	\$ 322.70	\$ 311.49	\$294.97	\$15.25	\$14.33	\$13.81	\$11.85	\$10.43	\$10.43	\$9.32
10"	\$ 484.05	\$ 467.23	\$442.45	\$15.25	\$14.33	\$13.81	\$11.85	\$10.43	\$10.43	\$9.32
12"	\$ 645.40	\$ 622.97	\$589.93	\$15.25	\$14.33	\$13.81	\$11.85	\$10.43	\$10.43	\$9.32
Usage (per 100 gallons)										
All gallons in excess of 1,496	\$ 0.4622	\$ 0.4461	\$ 0.4224	\$ 0.4038	\$ 0.3795	\$ 0.3656	\$ 0.3138	\$ 0.2762	\$ 0.2762	\$ 0.2468

(a) Since 2010, base has been defined as 100% of the previous year's annual usage divided by 12.

(b) Base was defined as 90% of the previous year's annual usage divided by 12.

(c) Per 100 gallons. Includes the first 1,496 gallons.

San Antonio Water System
 Schedule 12 - Wholesale Class Rates

	Fiscal Year										
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	
Water											
Service Availability Charge by meter size:											
6"	\$ 536.70	\$ 489.24	\$ 450.50	\$ 397.62	\$ 383.80	\$ 374.62	\$ 374.62	\$ 362.30	\$ 362.30	\$ 257.24	
8"	\$ 857.15	\$ 781.36	\$ 719.48	\$ 635.03	\$ 612.96	\$ 598.30	\$ 598.30	\$ 578.63	\$ 578.63	\$ 409.45	
10"	\$ 1,230.99	\$ 1,122.14	\$ 1,033.28	\$ 911.98	\$ 880.29	\$ 859.24	\$ 859.24	\$ 830.99	\$ 830.99	\$ 587.03	
12"	\$ 2,299.15	\$ 2,095.85	\$ 1,929.88	\$ 1,703.33	\$ 1,644.14	\$ 1,604.82	\$ 1,604.82	\$ 1,552.05	\$ 1,552.05	\$ 1,094.42	
Usage (per 100 gallons)											
Base (a)	\$ 0.2091	\$ 0.1906	\$ 0.1755								
Over Base	\$ 0.6274	\$ 0.5719	\$ 0.5266								
Usage (per 100 gallons)											
Base (a)			\$ 0.1098	\$ 0.1060	\$ 0.1035	\$ 0.1035	\$ 0.1001	\$ 0.1001			
100-125% of base			\$ 0.1650	\$ 0.1593	\$ 0.1555	\$ 0.1555	\$ 0.1504	\$ 0.1504			
125-175% of base			\$ 0.2383	\$ 0.2300	\$ 0.2245	\$ 0.2245	\$ 0.2171	\$ 0.2171			
Over 175% of base			\$ 0.3369	\$ 0.3252	\$ 0.3174	\$ 0.3174	\$ 0.3070	\$ 0.3070			
Below base (b)									\$ 0.1025		
100-125% of base									\$ 0.1279		
125-150% of base									\$ 0.1760		
150-200% of base									\$ 0.2346		
Over 200% of base									\$ 0.3075		
Sewer											
Service Availability Charge	\$ 314.88	\$ 303.94	\$ 287.82	\$ 149.02	\$ 140.06	\$ 134.93	\$ 115.82	\$ 101.95	\$ 101.95	\$ 91.11	
Usage (per 100 gallons)	\$ 0.4109	\$ 0.3966	\$ 0.3756	\$ 0.3641	\$ 0.3422	\$ 0.3297	\$ 0.2830	\$ 0.2491	\$ 0.2491	\$ 0.2226	

(a) Base is defined as 100% of the previous year's average annual usage divided by twelve or (effective June 18, 2015) as agreed to by the wholesale customer and approved by the SAWS Board of Trustees.

(b) Base was defined as 90% of the previous year's average annual usage divided by twelve.

San Antonio Water System
 Schedule 13 - Irrigation Class Rates

	Fiscal Year									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Inside City Limits										
Service Availability Charge by meter size:										
5/8"	\$ 13.80	\$ 12.58	\$ 11.58	\$ 10.53	\$ 10.16	\$ 9.92	\$ 9.92	\$ 9.59	\$ 9.59	\$ 9.81
3/4"	\$ 19.71	\$ 17.97	\$ 16.55	\$ 15.05	\$ 14.53	\$ 14.18	\$ 14.18	\$ 13.71	\$ 13.71	\$ 13.16
1"	\$ 31.53	\$ 28.74	\$ 26.46	\$ 24.08	\$ 23.24	\$ 22.68	\$ 22.68	\$ 21.93	\$ 21.93	\$ 19.21
1-1/2"	\$ 61.05	\$ 55.65	\$ 51.24	\$ 46.65	\$ 45.03	\$ 43.95	\$ 43.95	\$ 42.50	\$ 42.50	\$ 35.03
2"	\$ 96.40	\$ 87.88	\$ 80.92	\$ 73.74	\$ 71.18	\$ 69.48	\$ 69.48	\$ 67.20	\$ 67.20	\$ 52.83
3"	\$ 179.02	\$ 163.19	\$ 150.27	\$ 136.96	\$ 132.20	\$ 129.04	\$ 129.04	\$ 124.80	\$ 124.80	\$ 106.92
4"	\$ 297.00	\$ 270.74	\$ 249.30	\$ 227.28	\$ 219.38	\$ 214.13	\$ 214.13	\$ 207.09	\$ 207.09	\$ 176.40
6"	\$ 591.95	\$ 539.61	\$ 496.88	\$ 453.06	\$ 437.32	\$ 426.86	\$ 426.86	\$ 412.82	\$ 412.82	\$ 350.03
8"	\$ 945.95	\$ 862.31	\$ 794.02	\$ 723.99	\$ 698.83	\$ 682.12	\$ 682.12	\$ 659.69	\$ 659.69	\$ 543.20
10"	\$ 1,358.90	\$ 1,238.74	\$ 1,140.64	\$ 1,040.08	\$ 1,003.94	\$ 979.93	\$ 979.93	\$ 947.71	\$ 947.71	\$ 755.89
12"	\$ 2,538.80	\$ 2,314.31	\$ 2,131.04	\$ 1,943.21	\$ 1,875.69	\$ 1,830.83	\$ 1,830.83	\$ 1,770.63	\$ 1,770.63	\$ 1,191.85
Usage (per 100 gallons)										
First 8,229 gallons	\$ 0.3279	\$ 0.2989	\$ 0.2752							
Next 9,725 gallons	\$ 0.4589	\$ 0.4183	\$ 0.3852							
Next 144,362 gallons	\$ 0.5901	\$ 0.5379	\$ 0.4953							
Over 162,316 gallons	\$ 0.7540	\$ 0.6873	\$ 0.6329							
Standard:										
First 6,732 gallons				\$ 0.1713	\$ 0.1653	\$ 0.1613	\$ 0.1613	\$ 0.1560	\$ 0.1560	
Next 10,473 gallons				\$ 0.2053	\$ 0.1982	\$ 0.1935	\$ 0.1935	\$ 0.1871	\$ 0.1871	
Over 17,205 gallons				\$ 0.3596	\$ 0.3471	\$ 0.3388	\$ 0.3388	\$ 0.3277	\$ 0.3277	
Seasonal (a):										
First 6,732 gallons				\$ 0.1713	\$ 0.1653	\$ 0.1613	\$ 0.1613	\$ 0.1560	\$ 0.1560	
Next 10,473 gallons				\$ 0.2384	\$ 0.2301	\$ 0.2246	\$ 0.2246	\$ 0.2172	\$ 0.2172	
Over 17,205 gallons				\$ 0.4936	\$ 0.4764	\$ 0.4650	\$ 0.4650	\$ 0.4497	\$ 0.4497	
First 12,717 gallons										\$ 0.1526
Next 4,488 gallons										\$ 0.2290
Over 17,205 gallons										\$ 0.3160
Outside City Limits										
Service Availability Charge by meter size:										
5/8"	\$ 16.87	\$ 15.38	\$ 14.16	\$ 13.69	\$ 13.21	\$ 12.89	\$ 12.89	\$ 12.47	\$ 12.47	\$ 11.83
3/4"	\$ 24.02	\$ 21.90	\$ 20.17	\$ 19.56	\$ 18.88	\$ 18.43	\$ 18.43	\$ 17.82	\$ 17.82	\$ 15.72
1"	\$ 38.30	\$ 34.91	\$ 32.15	\$ 31.29	\$ 30.20	\$ 29.48	\$ 29.48	\$ 28.51	\$ 28.51	\$ 22.94
1-1/2"	\$ 73.97	\$ 67.43	\$ 62.09	\$ 60.65	\$ 58.54	\$ 57.14	\$ 57.14	\$ 55.26	\$ 55.26	\$ 41.69
2"	\$ 116.73	\$ 106.41	\$ 97.98	\$ 95.87	\$ 92.54	\$ 90.33	\$ 90.33	\$ 87.36	\$ 87.36	\$ 63.01
3"	\$ 216.60	\$ 197.45	\$ 181.81	\$ 178.06	\$ 171.87	\$ 167.76	\$ 167.76	\$ 162.24	\$ 162.24	\$ 125.31
4"	\$ 359.21	\$ 327.45	\$ 301.52	\$ 295.46	\$ 285.19	\$ 278.37	\$ 278.37	\$ 269.22	\$ 269.22	\$ 206.48
6"	\$ 715.81	\$ 652.52	\$ 600.85	\$ 588.98	\$ 568.51	\$ 554.91	\$ 554.91	\$ 536.66	\$ 536.66	\$ 409.39
8"	\$ 1,143.74	\$ 1,042.61	\$ 960.05	\$ 941.20	\$ 908.49	\$ 886.76	\$ 886.76	\$ 857.60	\$ 857.60	\$ 637.69
10"	\$ 1,642.97	\$ 1,497.69	\$ 1,379.09	\$ 1,352.11	\$ 1,305.13	\$ 1,273.92	\$ 1,273.92	\$ 1,232.03	\$ 1,232.03	\$ 891.35
12"	\$ 3,069.37	\$ 2,797.97	\$ 2,576.40	\$ 2,526.17	\$ 2,438.39	\$ 2,380.08	\$ 2,380.08	\$ 2,301.82	\$ 2,301.82	\$ 1,444.41
Usage (per 100 gallons)										
First 8,229 gallons	\$ 0.4262	\$ 0.3885	\$ 0.3577							
Next 9,725 gallons	\$ 0.5967	\$ 0.5439	\$ 0.5008							
Next 144,362 gallons	\$ 0.7671	\$ 0.6993	\$ 0.6439							
Over 162,316 gallons	\$ 0.9802	\$ 0.8935	\$ 0.8227							
Standard:										
First 6,732 gallons				\$ 0.2225	\$ 0.2148	\$ 0.2097	\$ 0.2097	\$ 0.2028	\$ 0.2028	
Next 10,473 gallons				\$ 0.2670	\$ 0.2577	\$ 0.2515	\$ 0.2515	\$ 0.2432	\$ 0.2432	
Over 17,205 gallons				\$ 0.4675	\$ 0.4513	\$ 0.4405	\$ 0.4405	\$ 0.4260	\$ 0.4260	
Seasonal (a):										
First 6,732 gallons				\$ 0.2225	\$ 0.2148	\$ 0.2097	\$ 0.2097	\$ 0.2028	\$ 0.2028	
Next 10,473 gallons				\$ 0.3100	\$ 0.2992	\$ 0.2920	\$ 0.2920	\$ 0.2824	\$ 0.2824	
Over 17,205 gallons				\$ 0.6416	\$ 0.6193	\$ 0.6045	\$ 0.6045	\$ 0.5846	\$ 0.5846	
First 12,717 gallons										\$ 0.1982
Next 4,488 gallons										\$ 0.2976
Over 17,205 gallons										\$ 0.4109

(a) Seasonal rates were applied to all billings beginning May 1 and ending on or about September 30 of each year. At all other times, the Standard rate was applied.

San Antonio Water System
Schedule 14 - Other Fees

	Fiscal Year									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Water Supply Fee (a):										
Usage (per 100 gallons)										
Residential Class										
First 2,992 Gallons	\$ 0.0997	\$ 0.0954	\$ 0.0892							
Next 1,497 Gallons	\$ 0.1744	\$ 0.1669	\$ 0.1561							
Next 1,496 Gallons	\$ 0.2242	\$ 0.2145	\$ 0.2007							
Next 1,496 Gallons	\$ 0.2741	\$ 0.2623	\$ 0.2454							
Next 2,992 Gallons	\$ 0.3240	\$ 0.3100	\$ 0.2900							
Next 4,489 Gallons	\$ 0.3738	\$ 0.3577	\$ 0.3346							
Next 5,237 Gallons	\$ 0.4485	\$ 0.4292	\$ 0.4015							
Over 20,199 Gallons	\$ 0.6477	\$ 0.6198	\$ 0.5798							
First 5,985 gallons				\$ 0.1285	\$ 0.1223	\$ 0.1080	\$ 0.1054	\$ 0.1023	\$ 0.1023	
Next 6,732 gallons				\$ 0.1858	\$ 0.1768	\$ 0.1562	\$ 0.1524	\$ 0.1480	\$ 0.1480	
Next 4,488 gallons				\$ 0.2622	\$ 0.2495	\$ 0.2204	\$ 0.2150	\$ 0.2087	\$ 0.2087	
Over 17,205 gallons				\$ 0.4589	\$ 0.4366	\$ 0.3857	\$ 0.3763	\$ 0.3653	\$ 0.3653	
All usage										\$ 0.1529
General Class										
Base (b)	\$ 0.1880	\$ 0.1799	\$ 0.1683	\$ 0.1976	\$ 0.1880	\$ 0.1661	\$ 0.1620	\$ 0.1573	\$ 0.1573	\$ 0.1529
100-125% of base	\$ 0.2163	\$ 0.2070	\$ 0.1936	\$ 0.1976	\$ 0.1880	\$ 0.1661	\$ 0.1620	\$ 0.1573	\$ 0.1573	\$ 0.1529
125-175% of base	\$ 0.2820	\$ 0.2699	\$ 0.2525	\$ 0.1976	\$ 0.1880	\$ 0.1661	\$ 0.1620	\$ 0.1573	\$ 0.1573	\$ 0.1529
Over 175% of base	\$ 0.3291	\$ 0.3149	\$ 0.2946	\$ 0.1976	\$ 0.1880	\$ 0.1661	\$ 0.1620	\$ 0.1573	\$ 0.1573	\$ 0.1529
Wholesale Class										
Base (c)	\$ 0.2449	\$ 0.2344	\$ 0.2193	\$ 0.1976	\$ 0.1880	\$ 0.1661	\$ 0.1620	\$ 0.1573	\$ 0.1573	\$ 0.1529
Over Base	\$ 0.7349	\$ 0.7033	\$ 0.6579	\$ 0.1976	\$ 0.1880	\$ 0.1661	\$ 0.1620	\$ 0.1573	\$ 0.1573	\$ 0.1529
Irrigation Class										
First 8,229 gallons	\$ 0.2460	\$ 0.2354	\$ 0.2202							
Next 9,725 gallons	\$ 0.3444	\$ 0.3296	\$ 0.3083							
Next 144,362 gallons	\$ 0.4429	\$ 0.4238	\$ 0.3964							
Over 162,316 gallons	\$ 0.5660	\$ 0.5416	\$ 0.5066							
First 6,732 gallons				\$ 0.1976	\$ 0.1880	\$ 0.1661	\$ 0.1620	\$ 0.1573	\$ 0.1573	\$ 0.1529
Next 10,473 gallons				\$ 0.2622	\$ 0.2495	\$ 0.2204	\$ 0.2150	\$ 0.2087	\$ 0.2087	\$ 0.1529
Over 17,205 gallons				\$ 0.4976	\$ 0.4735	\$ 0.4183	\$ 0.4081	\$ 0.3962	\$ 0.3962	\$ 0.1529
EAA Fee (d)	\$ 0.03533	\$ 0.03612	\$ 0.04259	\$ 0.03311	\$ 0.03295	\$ 0.03425	\$ 0.03901	\$ 0.01407	\$ 0.01841	\$ 0.01222
State-Imposed TCEQ Fees (e)										
Water Connection Fee	\$ 0.20	\$ 0.18	\$ 0.18	\$ 0.18	\$ 0.18	\$ 0.17	\$ 0.17	\$ 0.19	\$ 0.19	
Wastewater Connection Fee	\$ 0.06	\$ 0.06	\$ 0.06	\$ 0.06	\$ 0.06	\$ 0.06	\$ 0.06	\$ 0.05	\$ 0.05	

(a) Applies to all billed potable water.

(b) Base is defined as 100% of the previous year's average annual usage divided by twelve.

(c) Base is defined as 100% of the previous year's average annual usage divided by twelve or (effective June 18, 2015) as agreed to by the wholesale customer and approved by the SAWS Board of Trustees.

(d) Per 100 gallons. Applies to all billed potable water. Purpose of fee is to recover fees paid to Edwards Aquifer Authority for permitted water rights. Annual rate takes into account any cumulative deficit or surplus in the recovery, number of EAA water rights, and projected potable water sales in gallons for the year.

(e) Purpose is to recover fees paid to Texas Commission on Environmental Quality (TCEQ). Each fee is assessed monthly to all Residential, General, and Wholesale accounts as well as each apartment account based on the number of units. Annual rate takes into account any cumulative deficit or surplus in the recovery.

San Antonio Water System
Schedule 15 - Recycled Water Rates

	Fiscal Year									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Edwards Exchange Customers (a)										
Service Availability Charge by meter size:										
5/8"	\$ 12.12	\$ 11.24	\$ 10.42	\$ 9.51	\$ 9.26	\$ 9.04	\$ 9.04	\$ 8.74	\$ 8.74	\$ 8.74
3/4"	\$ 15.77	\$ 14.63	\$ 13.56	\$ 12.37	\$ 12.05	\$ 11.76	\$ 11.76	\$ 11.37	\$ 11.37	\$ 11.37
1"	\$ 20.55	\$ 19.06	\$ 17.66	\$ 16.11	\$ 15.69	\$ 15.31	\$ 15.31	\$ 14.81	\$ 14.81	\$ 14.81
1-1/2"	\$ 32.65	\$ 30.29	\$ 28.07	\$ 25.61	\$ 24.95	\$ 24.35	\$ 24.35	\$ 23.55	\$ 23.55	\$ 23.55
2"	\$ 47.74	\$ 44.29	\$ 41.05	\$ 37.45	\$ 36.48	\$ 35.61	\$ 35.61	\$ 34.44	\$ 34.44	\$ 34.44
3"	\$ 126.98	\$ 117.79	\$ 109.17	\$ 99.61	\$ 97.03	\$ 94.71	\$ 94.71	\$ 91.60	\$ 91.60	\$ 91.60
4"	\$ 188.75	\$ 175.09	\$ 162.27	\$ 148.06	\$ 144.22	\$ 140.77	\$ 140.77	\$ 136.14	\$ 136.14	\$ 136.14
6"	\$ 360.05	\$ 334.00	\$ 309.55	\$ 282.44	\$ 275.12	\$ 268.54	\$ 268.54	\$ 259.71	\$ 259.71	\$ 259.71
8"	\$ 542.73	\$ 503.46	\$ 466.60	\$ 425.73	\$ 414.70	\$ 404.78	\$ 404.78	\$ 391.47	\$ 391.47	\$ 391.47
10"	\$ 744.20	\$ 690.35	\$ 639.81	\$ 583.77	\$ 568.64	\$ 555.04	\$ 555.04	\$ 536.79	\$ 536.79	\$ 536.79
12"	\$ 918.22	\$ 851.78	\$ 789.42	\$ 720.27	\$ 701.61	\$ 684.83	\$ 684.83	\$ 662.31	\$ 662.31	\$ 662.31
Usage (per 100 gallons)										
Standard:										
Transferred amount	\$ 0.0319	\$ 0.0296	\$ 0.0274	\$ 0.0250	\$ 0.0244	\$ 0.0238	\$ 0.0238	\$ 0.0230	\$ 0.0230	\$ 0.0230
In excess of transferred amount	\$ 0.1196	\$ 0.1109	\$ 0.1028	\$ 0.0938	\$ 0.0914	\$ 0.0892	\$ 0.0892	\$ 0.0863	\$ 0.0863	\$ 0.0863
Seasonal (b):										
Transferred amount	\$ 0.0319	\$ 0.0296	\$ 0.0274	\$ 0.0250	\$ 0.0244	\$ 0.0238	\$ 0.0238	\$ 0.0230	\$ 0.0230	\$ 0.0230
In excess of transferred amount	\$ 0.1271	\$ 0.1179	\$ 0.1093	\$ 0.0997	\$ 0.0971	\$ 0.0948	\$ 0.0948	\$ 0.0917	\$ 0.0917	\$ 0.0917
Non-exchange Customers										
Service Availability Charge by meter size:										
5/8"	\$ 12.12	\$ 11.24	\$ 10.42	\$ 9.51	\$ 9.26	\$ 9.04	\$ 9.04	\$ 8.74	\$ 8.74	\$ 8.74
3/4"	\$ 15.77	\$ 14.63	\$ 13.56	\$ 12.37	\$ 12.05	\$ 11.76	\$ 11.76	\$ 11.37	\$ 11.37	\$ 11.37
1"	\$ 20.55	\$ 19.06	\$ 17.66	\$ 16.11	\$ 15.69	\$ 15.31	\$ 15.31	\$ 14.81	\$ 14.81	\$ 14.81
1-1/2"	\$ 32.65	\$ 30.29	\$ 28.07	\$ 25.61	\$ 24.95	\$ 24.35	\$ 24.35	\$ 23.55	\$ 23.55	\$ 23.55
2"	\$ 47.74	\$ 44.29	\$ 41.05	\$ 37.45	\$ 36.48	\$ 35.61	\$ 35.61	\$ 34.44	\$ 34.44	\$ 34.44
3"	\$ 126.98	\$ 117.79	\$ 109.17	\$ 99.61	\$ 97.03	\$ 94.71	\$ 94.71	\$ 91.60	\$ 91.60	\$ 91.60
4"	\$ 188.75	\$ 175.09	\$ 162.27	\$ 148.06	\$ 144.22	\$ 140.77	\$ 140.77	\$ 136.14	\$ 136.14	\$ 136.14
6"	\$ 360.05	\$ 334.00	\$ 309.55	\$ 282.44	\$ 275.12	\$ 268.54	\$ 268.54	\$ 259.71	\$ 259.71	\$ 259.71
8"	\$ 542.73	\$ 503.46	\$ 466.60	\$ 425.73	\$ 414.70	\$ 404.78	\$ 404.78	\$ 391.47	\$ 391.47	\$ 391.47
10"	\$ 744.20	\$ 690.35	\$ 639.81	\$ 583.77	\$ 568.64	\$ 555.04	\$ 555.04	\$ 536.79	\$ 536.79	\$ 536.79
12"	\$ 918.22	\$ 851.78	\$ 789.42	\$ 720.27	\$ 701.61	\$ 684.83	\$ 684.83	\$ 662.31	\$ 662.31	\$ 662.31
Usage (per 100 gallons)										
Standard:										
First 748,000 gallons	\$ 0.1280	\$ 0.1187	\$ 0.1100	\$ 0.1004	\$ 0.0978	\$ 0.0955	\$ 0.0955	\$ 0.0924	\$ 0.0924	\$ 0.0924
Over 748,000 gallons	\$ 0.1308	\$ 0.1213	\$ 0.1124	\$ 0.1026	\$ 0.0999	\$ 0.0975	\$ 0.0975	\$ 0.0943	\$ 0.0943	\$ 0.0943
Seasonal (b):										
First 748,000 gallons	\$ 0.1376	\$ 0.1276	\$ 0.1183	\$ 0.1079	\$ 0.1051	\$ 0.1026	\$ 0.1026	\$ 0.0992	\$ 0.0992	\$ 0.0992
Over 748,000 gallons	\$ 0.1388	\$ 0.1288	\$ 0.1194	\$ 0.1089	\$ 0.1061	\$ 0.1036	\$ 0.1036	\$ 0.1002	\$ 0.1002	\$ 0.1002

(a) Customers that have transferred Edwards Aquifer water rights to SAWS in exchange for recycled water.

(b) Prior to 2012, Seasonal rates were applied to all billings beginning July 1 and ending on or about October 31 of each year. At all other times the Standard rate was utilized. Beginning in 2012 rate is applied to all billings beginning May 1 and ending on or about September 30 of each year. At all other times the Standard rate is utilized.

San Antonio Water System
Schedule 16 - Impact Fees

	Fiscal Year									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Water										
Flow - All Areas	\$ 1,182.00	\$ 1,182.00	\$ 1,182.00	\$ 1,182.00	\$ 1,182.00	\$ 1,247.00	\$ 1,247.00	\$ 1,247.00	\$ 1,098.00	\$ 1,098.00
System Development										
Low Elevation Service Area	\$ 619.00	\$ 619.00	\$ 619.00	\$ 619.00	\$ 619.00	\$ 579.00	\$ 579.00	\$ 579.00	\$ 668.00	\$ 668.00
Middle Elevation Service Area	\$ 799.00	\$ 799.00	\$ 799.00	\$ 799.00	\$ 799.00	\$ 774.00	\$ 774.00	\$ 774.00	\$ 591.00	\$ 591.00
High Elevation Service Area	\$ 883.00	\$ 883.00	\$ 883.00	\$ 883.00	\$ 883.00	\$ 966.00	\$ 966.00	\$ 966.00	\$ 1,356.00	\$ 1,356.00
Wastewater										
Treatment:										
Dos Rios/Leon Creek Service Area	\$ 786.00	\$ 786.00	\$ 786.00	\$ 786.00	\$ 786.00	\$ 552.00	\$ 552.00	\$ 552.00		
Medio Creek	\$ 1,429.00	\$ 1,429.00	\$ 1,429.00	\$ 1,429.00	\$ 1,429.00	\$ 1,379.00	\$ 1,379.00	\$ 1,379.00		
Upper and Lower Service Areas									\$ 453.00	\$ 453.00
Far West-Medio Service Areas									\$ 901.00	\$ 901.00
Collection:										
Medio Creek	\$ 838.00	\$ 838.00	\$ 838.00	\$ 838.00	\$ 838.00	\$ 582.00	\$ 582.00	\$ 582.00		
Upper Medina	\$ 1,565.00	\$ 1,565.00	\$ 1,565.00	\$ 1,565.00	\$ 1,565.00	\$ 1,053.00	\$ 1,053.00	\$ 1,053.00		
Lower Medina	\$ 475.00	\$ 475.00	\$ 475.00	\$ 475.00	\$ 475.00	\$ 594.00	\$ 594.00	\$ 594.00		
Upper Collection	\$ 2,520.00	\$ 2,520.00	\$ 2,520.00	\$ 2,520.00	\$ 2,520.00	\$ 1,795.00	\$ 1,795.00	\$ 1,795.00		
Middle Collection	\$ 1,469.00	\$ 1,469.00	\$ 1,469.00	\$ 1,469.00	\$ 1,469.00	\$ 1,142.00	\$ 1,142.00	\$ 1,142.00		
Lower Collection	\$ 719.00	\$ 719.00	\$ 719.00	\$ 719.00	\$ 719.00	\$ 552.00	\$ 552.00	\$ 552.00		
Lower Service Area									\$ 413.00	\$ 413.00
Upper Service Area									\$ 691.00	\$ 691.00
Far West-Medio Service Areas									\$ 394.00	\$ 394.00
Far West-Potranco, Big Saus, & Lucas Service Area									\$ 772.00	\$ 772.00
Water Supply - All Areas (a)	\$ 2,796.00	\$ 2,796.00	\$ 2,796.00	\$ 2,796.00	\$ 1,590.00	\$ 1,297.00	\$ 1,297.00	\$ 1,297.00	\$ 1,242.00	\$ 1,242.00

Impact fees are assessed per equivalent dwelling unit

Meter Size	EQUIVALENT DWELLING UNITS									
5/8"	1	1	1	1	1	1	1	1	1	1
3/4"	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
1"	2	2	2	2	2	2	2	2	2	2
1 1/2"	5	5	5	5	5	5	5	5	5	5
2"	14	14	14	14	14	14	14	14	14	14
3"	30	30	30	30	30	30	30	30	30	30
4"	50	50	50	50	50	50	50	50	50	50
6"	105	105	105	105	105	105	105	105	105	105
8"	135	135	135	135	135	135	135	135	135	135
10"	190	190	190	190	190	190	190	190	190	190
12"	360	360	360	360	360	360	360	360	360	360

(a) 2015 rate effective June 1, 2015

ATTACHMENT III (PL-11)

STORM WATER UTILITY FEE
RATE SCHEDULE

Description	Ordinance 77949 May 13, 1993 original rate		Ordinance 90499 September 16, 1999 15% increase		Ordinance 96515 October 3, 2002 30% increase		Ordinance 99836 December 18, 2003 3.38% increase		Ordinance 100065 December 9, 2004 19.5% increase		Ordinance 2006-11-09-1281 November 9, 2006 6.6% increase		Ordinance 2007-09-20-0988 September 20, 2007 8.24% increase	
	Category	Lot Size (sq. ft.)	Category	Lot Size (sq. ft.)	Category	Lot Size (sq. ft.)	Category	Lot Size (sq. ft.)	Category	Lot Size (sq. ft.)	Category	Lot Size (sq. ft.)	Category	Lot Size (sq. ft.)
Residential	Tier 1	< 5,000	Tier 1	< 5,000	Tier 1	< 5,000	Tier 1	< 5,000	Tier 1	< 5,000	Tier 1	< 5,000	Tier 1	< 5,000
	Tier 2	≥ 5,000	Tier 2	≥ 5,000	Tier 2	≥ 5,000	Tier 2	≥ 5,000	Tier 2	≥ 5,000	Tier 2	≥ 5,000	Tier 2	≥ 5,000
	Category	Lot Size (sq. ft.)	Category	Lot Size (sq. ft.)	Category	Lot Size (sq. ft.)	Category	Lot Size (sq. ft.)	Category	Lot Size (sq. ft.)	Category	Lot Size (sq. ft.)	Category	Lot Size (sq. ft.)
Multifamily	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000
	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000
	Tier 3	≥ 44,000 - 132,000	Tier 3	≥ 44,000 - 132,000	Tier 3	≥ 44,000 - 132,000	Tier 3	≥ 44,000 - 132,000	Tier 3	≥ 44,000 - 132,000	Tier 3	≥ 44,000 - 132,000	Tier 3	≥ 44,000 - 132,000
	Tier 4	≥ 132,000	Tier 4	≥ 132,000	Tier 4	≥ 132,000	Tier 4	≥ 132,000	Tier 4	≥ 132,000	Tier 4	≥ 132,000	Tier 4	≥ 132,000
Commercial	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000
	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000
	Tier 3	≥ 44,000 - 87,000	Tier 3	≥ 44,000 - 87,000	Tier 3	≥ 44,000 - 87,000	Tier 3	≥ 44,000 - 87,000	Tier 3	≥ 44,000 - 87,000	Tier 3	≥ 44,000 - 87,000	Tier 3	≥ 44,000 - 87,000
	Tier 4	≥ 87,000 - 132,000	Tier 4	≥ 87,000 - 132,000	Tier 4	≥ 87,000 - 132,000	Tier 4	≥ 87,000 - 132,000	Tier 4	≥ 87,000 - 132,000	Tier 4	≥ 87,000 - 132,000	Tier 4	≥ 87,000 - 132,000
	Tier 5	≥ 132,000	Tier 5	≥ 132,000	Tier 5	≥ 132,000	Tier 5	≥ 132,000	Tier 5	≥ 132,000	Tier 5	≥ 132,000	Tier 5	≥ 132,000
Public	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000	Tier 1	< 22,000
	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000	Tier 2	≥ 22,000 - 44,000
	Tier 3	≥ 44,000 - 87,000	Tier 3	≥ 44,000 - 87,000	Tier 3	≥ 44,000 - 87,000	Tier 3	≥ 44,000 - 87,000	Tier 3	≥ 44,000 - 87,000	Tier 3	≥ 44,000 - 87,000	Tier 3	≥ 44,000 - 87,000
	Tier 4	≥ 87,000	Tier 4	≥ 87,000	Tier 4	≥ 87,000	Tier 4	≥ 87,000	Tier 4	≥ 87,000	Tier 4	≥ 87,000	Tier 4	≥ 87,000

PRIOR TO JANUARY 1, 2016, THE FEE WAS BASED ON PARCEL SIZE (NOT BASED ON IMPERVIOUS COVER).

**STORM WATER UTILITY FEE
RATE SCHEDULE**

**RATE STRUCTURE CHANGE EFFECTIVE JANUARY 1, 2016.
FEE BASED ON AREA OF IMPERVIOUS COVER.**

Description	Ordinance 2015-09-10-0761 Effective January 1, 2016 10% Increase		Ordinance 2016-09-29-0737 Effective October 1, 2016 7% Increase		Ordinance 2017-09-14-0656 Effective October 1, 2017 4.22% Increase		FY2019 Effective October 1, 2018 2% Increase		FY2020 Effective October 1, 2019 2.25% Increase		
	Residential Impervious Area (sq. ft.)	Fee	Residential Impervious Area (sq. ft.)	Fee	Residential Impervious Area (sq. ft.)	Fee	Residential Impervious Area (sq. ft.)	Fee	Residential Impervious Area (sq. ft.)	Fee	
Tier 1	≤ 2,750	\$ 3.22	3,45	\$ 3.60	3,60	\$ 3.67	3,67	\$ 3.75	3,75	\$ 3.83	
Tier 2	> 2,750 - 4,220	\$ 4.25	4,55	\$ 4.74	4,74	\$ 4.83	4,83	\$ 4.94	4,94	\$ 5.05	
Tier 3	> 4,220	\$ 8.98	9,61	\$ 10.02	10,02	\$ 10.22	10,22	\$ 10.45	10,45	\$ 10.68	
Non-Residential Base Fee		55.77	61.92	64.53	65.82	67.30					
Category	Percent Impervious Area (%)	Impervious Fee (\$ per 1,000 sq. ft. Impervious Area)									
Tier 1	≤ 20%	\$ 0.25	\$ 0.28	\$ 0.29	\$ 0.30	\$ 0.31	\$ 0.31	\$ 0.31	\$ 0.31	\$ 0.31	
Tier 2	> 20% - 40%	\$ 0.37	\$ 0.41	\$ 0.43	\$ 0.44	\$ 0.45	\$ 0.45	\$ 0.45	\$ 0.45	\$ 0.45	
Tier 3	> 40% - 65%	\$ 0.50	\$ 0.54	\$ 0.56	\$ 0.57	\$ 0.58	\$ 0.58	\$ 0.58	\$ 0.58	\$ 0.58	
Tier 4	> 65%	\$ 0.62	\$ 0.68	\$ 0.71	\$ 0.72	\$ 0.74	\$ 0.74	\$ 0.74	\$ 0.74	\$ 0.74	

ATTACHMENT IV (PL-12)

San Antonio Water System
Schedule 27 - Monthly Residential Service Charges for Ten Major Texas Cities - Water
Unaudited

CITY	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Arlington										
6000 Gallons	\$25.50	\$24.20	\$24.20	\$22.40	\$21.12	\$19.49	\$19.49	\$19.49	\$19.47	\$18.99
9000 Gallons	\$33.87	\$32.57	\$32.57	\$29.78	\$27.96	\$25.55	\$25.55	\$25.55	\$25.53	\$24.84
Austin										
6000 Gallons	\$37.02	\$38.35	\$38.35	\$37.37	\$37.21	\$29.74	\$26.16	\$26.16	\$20.34	\$19.18
9000 Gallons	\$68.34	\$70.30	\$70.30	\$66.88	\$62.60	\$51.74	\$35.40	\$35.40	\$28.68	\$27.04
Corpus Christi ¹										
6000 Gallons	\$44.05	\$42.37	\$42.37	\$34.76	\$34.76	\$32.25	\$30.55	\$28.97	\$27.76	\$25.54
9000 Gallons	\$68.93	\$66.29	\$66.29	\$55.78	\$55.78	\$51.79	\$48.76	\$45.67	\$43.30	\$39.10
Dallas										
6000 Gallons	\$20.77	\$21.69	\$21.35	\$20.86	\$19.87	\$19.39	\$18.58	\$17.62	\$16.72	\$16.16
9000 Gallons	\$32.77	\$34.71	\$34.10	\$33.25	\$31.60	\$30.70	\$29.23	\$27.67	\$26.17	\$25.16
El Paso ²										
6000 Gallons	\$27.19	\$25.23	\$23.82	\$21.62	\$17.84	\$17.84	\$17.01	\$16.53	\$16.53	\$16.53
9000 Gallons	\$35.82	\$33.21	\$31.28	\$28.42	\$24.10	\$24.10	\$22.99	\$22.34	\$22.34	\$22.34
Ft. Worth										
6000 Gallons	\$30.82	\$29.39	\$28.60	\$26.62	\$24.82	\$23.32	\$23.32	\$22.33	\$22.25	\$21.75
9000 Gallons	\$42.73	\$41.14	\$40.77	\$38.49	\$36.05	\$34.55	\$34.55	\$33.08	\$32.92	\$32.42
Houston										
6000 Gallons	\$34.46	\$33.52	\$32.42	\$31.97	\$30.62	\$30.26	\$27.78	\$25.51	\$23.65	\$21.91
9000 Gallons	\$50.42	\$49.03	\$47.42	\$46.76	\$44.78	\$44.27	\$40.62	\$37.30	\$34.60	\$30.67
Lubbock										
6000 Gallons	\$41.09	\$44.56	\$44.56	\$45.18	\$43.86	\$45.00	\$45.00	\$40.02	\$40.02	\$34.02
9000 Gallons	\$62.00	\$58.84	\$58.84	\$63.72	\$56.79	\$57.00	\$57.00	\$48.03	\$48.03	\$43.99
Plano										
6000 Gallons	\$29.48	\$29.48	\$25.98	\$25.98	\$25.41	\$23.10	\$22.55	\$20.50	\$20.50	\$19.35
9000 Gallons	\$40.07	\$40.07	\$35.28	\$35.28	\$33.72	\$30.66	\$29.18	\$26.53	\$26.53	\$25.05
San Antonio (Standard) ²										
6000 Gallons	\$30.72	\$28.65	\$27.09	\$23.50	\$22.65	\$21.54	\$21.67	\$19.59	\$19.85	\$22.11
9000 Gallons	\$47.40	\$44.37	\$41.96	\$34.43	\$33.16	\$31.37	\$31.53	\$28.44	\$28.83	\$30.40

Source: Based on rates posted on each respective city's website.

Note - Most charges are for a 5/8" meter; Arlington, Lubbock, and Plano charges are for a 3/4" meter.

¹ Includes Raw Water Pass Through Charge of \$0.992 per 1,000 gallons.

² Assumes Standard rates for all periods in 2015 and prior and includes Water Supply Fee in all periods.

**San Antonio Water System
Schedule 29 - Monthly Residential Service Charges for Ten Major Texas Cities - Wastewater
Unaudited**

<u>CITY</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
Arlington										
6000 Gallons	\$38.02	\$34.98	\$31.56	\$31.10	\$30.26	\$28.03	\$28.03	\$27.37	\$26.89	\$25.97
9000 Gallons	\$50.56	\$47.52	\$42.69	\$42.20	\$41.24	\$38.02	\$38.02	\$37.03	\$36.31	\$35.03
Austin										
6000 Gallons	\$60.66	\$62.30	\$62.30	\$59.86	\$55.84	\$54.40	\$54.30	\$50.35	\$48.77	\$46.28
9000 Gallons	\$90.93	\$93.35	\$93.95	\$89.68	\$83.23	\$81.22	\$81.06	\$75.49	\$73.22	\$69.47
Corpus Christi										
6000 Gallons	\$45.60	\$60.79	\$60.79	\$52.23	\$52.23	\$46.96	\$43.21	\$43.21	\$40.80	\$35.95
9000 Gallons	\$60.15	\$80.86	\$80.86	\$69.48	\$69.48	\$62.71	\$57.69	\$57.69	\$54.47	\$48.01
Dallas										
6000 Gallons	\$36.94	\$37.06	\$36.56	\$35.78	\$34.15	\$33.80	\$33.00	\$31.70	\$29.99	\$29.33
9000 Gallons	\$53.02	\$53.20	\$52.49	\$51.38	\$49.00	\$48.50	\$47.40	\$45.50	\$43.01	\$42.11
El Paso										
6000 Gallons	\$22.82	\$21.14	\$19.73	\$17.79	\$16.48	\$16.48	\$15.68	\$15.22	\$15.22	\$15.22
9000 Gallons	\$30.48	\$28.23	\$26.35	\$23.77	\$22.01	\$22.01	\$20.93	\$20.31	\$20.31	\$20.31
Ft. Worth										
6000 Gallons	\$38.10	\$35.53	\$34.49	\$30.60	\$27.96	\$27.96	\$26.84	\$26.27	\$26.27	\$25.67
9000 Gallons	\$53.90	\$50.05	\$48.49	\$43.16	\$39.39	\$39.39	\$37.70	\$36.86	\$36.86	\$36.26
Houston										
6000 Gallons	\$42.39	\$41.23	\$39.87	\$39.31	\$37.65	\$37.20	\$34.15	\$31.38	\$29.09	\$24.84
9000 Gallons	\$67.53	\$65.68	\$63.51	\$62.62	\$59.97	\$59.25	\$54.40	\$49.98	\$46.34	\$36.69
Lubbock										
6000 Gallons	\$38.26	\$35.02	\$35.02	\$28.70	\$27.50	\$27.50	\$27.50	\$24.30	\$24.30	\$22.10
9000 Gallons	\$49.39	\$44.53	\$44.53	\$36.05	\$34.25	\$34.25	\$34.25	\$30.45	\$30.45	\$28.25
Plano										
6000 Gallons	\$41.57	\$41.57	\$39.23	\$37.40	\$34.40	\$33.54	\$33.54	\$33.54	\$33.54	\$33.54
9000 Gallons	\$58.13	\$58.13	\$54.86	\$52.31	\$47.51	\$46.32	\$46.32	\$46.32	\$46.32	\$46.32
San Antonio										
6000 Gallons	\$30.78	\$29.71	\$28.13	\$27.91	\$26.24	\$25.26	\$21.70	\$19.12	\$19.10	\$17.02
9000 Gallons	\$43.72	\$42.20	\$39.96	\$38.00	\$35.73	\$34.40	\$29.54	\$26.02	\$26.00	\$23.20

Source: Based on rates posted on each respective city's website.

ATTACHMENT V (PL-13)

2019

2019 Gross Annual Income Eligibility Table

Eligibility is based on Household Family Size and Income at or below 125% Federal Assistance Guideline (updated 2-22-2019)

Affordability Program Discounts						
Family Size	Income at or below 25% Poverty *	Income at or below 50% Poverty *	Income at or below 75% Poverty *	Income at or below 100% Poverty *	Income at or below 125% Poverty *	Income above 125% Poverty *
1	\$3,123	\$6,245	\$9,368	\$12,490	\$15,613	\$15,614
2	\$4,228	\$8,455	\$12,683	\$16,910	\$21,138	\$21,139
3	\$5,333	\$10,665	\$15,998	\$21,330	\$26,663	\$26,664
4	\$6,438	\$12,875	\$19,313	\$25,750	\$32,188	\$32,189
5	\$7,543	\$15,085	\$22,628	\$30,170	\$37,713	\$37,714
6	\$8,648	\$17,295	\$25,943	\$34,590	\$43,238	\$43,239
7	\$9,753	\$19,505	\$29,258	\$39,010	\$48,763	\$48,764
8	\$10,858	\$21,715	\$32,573	\$43,430	\$54,288	\$54,289
9	\$11,963	\$23,925	\$35,888	\$47,850	\$59,813	\$59,814
10	\$13,068	\$26,135	\$39,203	\$52,270	\$65,338	\$65,339
11	\$14,173	\$28,345	\$42,518	\$56,690	\$70,863	\$70,864
12	\$15,278	\$30,555	\$45,833	\$61,110	\$76,388	\$76,389

2019 Discount is based on type of service	A, K, R	B, L, S	C, M, T	D, N, U	Z
Water and Sewer	\$25.75 (A)	\$17.95 (B)	\$11.55 (C)	\$9.05 (D)	None
Water only	\$11.25 (K)	\$ 8.15 (L)	\$5.30 (M)	\$4.15 (N)	None
Sewer only	\$14.50 (R)	\$ 9.80 (S)	\$6.25 (T)	\$4.90 (U)	None

* Poverty level figures based on U.S. Dept. of Health & Human Services 2019 guidelines.

2018

2018 Gross Annual Income Eligibility Table

Eligibility is based on Household Family Size and Income at or below 125% Federal Assistance Guidelines Updated 1/26/18

Affordability Program Discounts						
Family Size	Income at or below 25% Poverty *	Income at or below 50% Poverty *	Income at or below 75% Poverty *	Income at or below 100% Poverty *	Income at or below 125% Poverty *	Income above 125% Poverty *
1	\$3,035	\$6,070	\$9,105	\$12,140	\$15,175	\$15,176
2	\$4,115	\$8,230	\$12,345	\$16,460	\$20,575	\$20,576
3	\$5,195	\$10,390	\$15,585	\$20,780	\$25,975	\$25,976
4	\$6,275	\$12,550	\$18,825	\$25,100	\$31,375	\$31,376
5	\$7,355	\$14,710	\$22,065	\$29,420	\$36,775	\$36,776
6	\$8,435	\$16,870	\$25,305	\$33,740	\$42,175	\$42,176
7	\$9,515	\$19,030	\$28,545	\$38,060	\$47,575	\$47,576
8	\$10,595	\$21,190	\$31,785	\$42,380	\$52,975	\$52,976
9	\$11,675	\$23,350	\$35,025	\$46,700	\$58,375	\$58,376
10	\$12,755	\$25,510	\$38,265	\$51,020	\$63,775	\$63,776
11	\$13,835	\$27,670	\$41,505	\$55,340	\$69,175	\$69,176
12	\$14,915	\$29,830	\$44,745	\$59,660	\$74,575	\$74,576
13	\$15,995	\$31,990	\$47,985	\$63,980	\$79,975	\$79,976
14	\$17,075	\$34,150	\$51,225	\$68,300	\$85,375	\$85,376

2018 Discount is based on type of service	A, K, R	B, L, S	C, M, T	D, N, U	Z
Water and Sewer	\$24.50 (A)	\$17.00 (B)	\$11.00 (C)	\$8.72 (D)	None
Water only	\$11.25 (K)	\$8.00 (L)	\$5.20 (M)	\$4.10 (N)	None
Sewer only	\$13.25 (R)	\$9.00 (S)	\$5.80 (T)	\$4.62 (U)	None

* Poverty level figures based on U.S. Dept. of Health & Human Services

2018

2017

I Income Eligibility Table

Eligibility is based on Household Family Size and Income at or below 125% Federal Assistance Guidelines Updated 1/30/17

Affordability Program Discounts						
Family Size	Income at or below 25% Poverty *	Income at or below 50% Poverty *	Income at or below 75% Poverty *	Income at or below 100% Poverty *	Income at or below 125% Poverty *	Income above 125% Poverty *
1	\$3,015	\$6,030	\$9,045	\$12,060	\$15,075	\$15,076
2	\$4,060	\$8,120	\$12,180	\$16,240	\$20,300	\$20,301
3	\$5,105	\$10,210	\$15,315	\$20,420	\$25,525	\$25,526
4	\$6,150	\$12,300	\$18,450	\$24,600	\$30,750	\$30,751
5	\$7,195	\$14,390	\$21,585	\$28,780	\$35,975	\$35,976
6	\$8,240	\$16,480	\$24,720	\$32,960	\$41,200	\$41,201
7	\$9,285	\$18,570	\$27,855	\$37,140	\$46,425	\$46,426
8	\$10,330	\$20,660	\$30,990	\$41,320	\$51,650	\$51,651
9	\$11,375	\$22,750	\$34,125	\$45,500	\$56,875	\$56,876
10	\$12,420	\$24,840	\$37,260	\$49,680	\$62,100	\$62,101
11	\$13,465	\$26,930	\$40,395	\$53,860	\$67,325	\$67,326
12	\$14,510	\$29,020	\$43,530	\$58,040	\$72,550	\$72,551
13	\$15,555	\$31,110	\$46,665	\$62,220	\$77,775	\$77,776
14	\$16,600	\$33,200	\$49,800	\$66,400	\$83,000	\$83,001

2017 Discount is based on type of service	A, K	B, L	C, M	D, N	Z
Water and Sewer	\$21.40 (A)	\$14.30 (B)	\$8.81 (C)	\$6.99 (D)	None
Water only	\$9.32 (K)	\$6.26 (L)	\$4.32 (M)	\$3.73 (N)	None

* Poverty level figures based on U.S. Dept. of Health & Human Services 2017 guidelines

2016

2016 Gross Annual Income Eligibility Table

Eligibility is based on Household Family Size and Income at or below 125% Federal Assistance Guidelines Updated 2/4/16

Affordability Program Discounts

Family Size	Income at or below 25% Poverty *	Income at or below 50% Poverty *	Income at or below 75% Poverty *	Income at or below 100% Poverty *	Income at or below 125% Poverty *	Income above 125% Poverty *
1	\$2,970	\$5,940	\$8,910	\$11,880	\$14,850	\$14,851
2	\$4,005	\$8,010	\$12,015	\$16,020	\$20,025	\$20,026
3	\$5,040	\$10,080	\$15,120	\$20,160	\$25,200	\$25,201
4	\$6,075	\$12,150	\$18,225	\$24,300	\$30,375	\$30,376
5	\$7,110	\$14,220	\$21,330	\$28,440	\$35,550	\$35,551
6	\$8,145	\$16,290	\$24,435	\$32,580	\$40,725	\$40,726
7	\$9,183	\$18,365	\$27,548	\$36,730	\$45,913	\$45,914
8	\$10,223	\$20,445	\$30,668	\$40,890	\$51,113	\$51,114
9	\$11,263	\$22,525	\$33,788	\$45,050	\$56,313	\$56,314
10	\$12,303	\$24,605	\$36,908	\$49,210	\$61,513	\$61,514
11	\$13,343	\$26,685	\$40,028	\$53,370	\$66,713	\$66,714
12	\$14,383	\$28,765	\$43,148	\$57,530	\$71,913	\$71,914
13	\$15,423	\$30,845	\$46,268	\$61,690	\$77,113	\$77,114
14	\$16,463	\$32,925	\$49,388	\$65,850	\$82,313	\$82,314
15	\$17,503	\$35,005	\$52,508	\$70,010	\$87,513	\$87,514

2016 Discount is based on type of service	A, K, R	B, L, S	C, M, T	D, N, U	Z
Water and Sewer	\$18.00 (A)	\$12.60 (B)	\$8.25 (C)	\$6.55 (D)	None
Water only	\$8.00 (K)	\$5.61 (L)	\$4.00 (M)	\$3.73 (N)	None
Sewer only	\$10.00 (R)	\$7.00 (S)	\$4.25 (T)	\$3.63 (U)	None

* Poverty level figures based on U.S. Dept. of Health & Human Services 2016 guidelines

2015

Income Eligibility Table

Eligibility is based on Household Family Size and Income at or below 125% Federal Assistance Guidelines Updated 3/5/15

Affordability Program Discounts

Family Size	Income at or below 25% Poverty *	Income at or below 50% Poverty *	Income at or below 75% Poverty *	Income at or below 100% Poverty *	Income at or below 125% Poverty *	Income above 125% Poverty *
1	\$2,943	\$5,885	\$8,828	\$11,770	\$14,712	\$14,713
2	\$3,983	\$7,965	\$11,948	\$15,930	\$19,912	\$19,913
3	\$5,023	\$10,455	\$15,068	\$20,090	\$25,112	\$25,113
4	\$6,063	\$12,125	\$18,188	\$24,250	\$30,312	\$30,313
5	\$7,103	\$14,205	\$21,308	\$28,410	\$35,512	\$35,513
6	\$8,143	\$16,285	\$24,428	\$32,570	\$40,712	\$40,713
7	\$9,183	\$18,365	\$27,548	\$36,730	\$45,912	\$45,913
8	\$10,223	\$20,445	\$30,668	\$40,890	\$51,112	\$51,113
9	\$11,263	\$22,525	\$33,788	\$45,050	\$56,312	\$56,313
10	\$12,303	\$24,605	\$36,908	\$49,210	\$61,512	\$61,513
11	\$13,343	\$26,685	\$40,028	\$53,370	\$66,712	\$66,713
12	\$14,383	\$28,765	\$43,148	\$57,530	\$71,912	\$71,913
13	\$15,423	\$30,845	\$46,268	\$61,690	\$77,112	\$77,113
14	\$16,463	\$32,925	\$49,388	\$65,850	\$82,312	\$82,313
15	\$17,503	\$35,005	\$52,508	\$70,010	\$87,512	\$87,513

2015 Discount is based on type of service	A, K, R	B, L, S	C, M, T	D, N, U	Z
Water and Sewer	\$14.35 (A)	\$10.04 (B)	\$7.18 (C)	\$5.72 (D)	None
Water only	\$7.40 (K)	\$5.17 (L)	\$3.84 (M)	\$3.73 (N)	None
Sewer only	\$6.95 (R)	\$4.86 (S)	\$3.75 (T)	\$3.63 (U)	None

* Poverty level figures based on U.S. Dept. of Health & Human Services 2015 guidelines

2014

2014 Federal Assistance Guidelines

Updated 2/28/14

Affordability Program Discounts						
Family Size	Income at or below 25% Poverty *	Income at or below 50% Poverty *	Income at or below 75% Poverty *	Income at or below 100% Poverty *	Income at or below 125% Poverty *	Income above 125% Poverty *
1	\$2,918	\$5,835	\$8,753	\$11,670	\$14,588	\$14,589
2	\$3,933	\$7,865	\$11,798	\$15,730	\$19,663	\$19,664
3	\$4,948	\$9,895	\$14,843	\$19,790	\$24,738	\$24,739
4	\$5,963	\$11,925	\$17,888	\$23,850	\$29,813	\$29,814
5	\$6,978	\$13,955	\$20,933	\$27,910	\$34,888	\$34,889
6	\$7,993	\$15,985	\$23,978	\$31,970	\$39,963	\$39,964
7	\$9,008	\$18,015	\$27,023	\$36,030	\$45,038	\$45,039
8	\$10,023	\$20,045	\$30,068	\$40,090	\$50,113	\$50,114
9	\$11,038	\$22,075	\$33,113	\$44,150	\$55,188	\$55,189
10	\$12,053	\$24,105	\$36,158	\$48,210	\$60,263	\$60,264
11	\$13,068	\$26,135	\$39,203	\$52,270	\$65,338	\$65,339
12	\$14,083	\$28,165	\$42,248	\$56,330	\$70,413	\$70,414
13	\$15,098	\$30,195	\$45,293	\$60,390	\$75,488	\$75,489
14	\$16,113	\$32,225	\$48,338	\$64,450	\$80,563	\$80,564
15	\$17,128	\$34,255	\$51,383	\$68,510	\$85,638	\$85,639

2014 Discount	A, K, R	B, L, S	C, M, T	D, N, U	Z
Water and Sewer	\$13.63 (A)	\$9.53 (B)	\$6.82 (C)	\$5.43 (D)	None
Water only	\$7.11 (K)	\$4.97 (L)	\$3.84 (M)	\$3.73 (N)	None
Sewer only	\$6.53 (R)	\$4.57 (S)	\$3.75 (T)	\$3.63 (U)	None

* Poverty level figures based on U.S. Dept. of Health & Human Services 2014 guidelines

Affordability Program Discounts at 125% Federal Poverty Level Annual Household Income

Family Size	Income at or below 25% Poverty *	Income at or below 50% Poverty *	Income at or below 75% Poverty *	Income at or below 100% Poverty *	Income at or below 125% Poverty *	Over Income above 125% Poverty *
1	\$2,873	\$5,745	\$8,618	\$11,490	\$14,363	\$14,363
2	\$3,878	\$7,755	\$11,633	\$15,510	\$19,388	\$19,388
3	\$4,883	\$9,765	\$14,648	\$19,530	\$24,413	\$24,413
4	\$5,888	\$11,775	\$17,663	\$23,550	\$29,438	\$29,438
5	\$6,893	\$13,785	\$20,678	\$27,570	\$34,463	\$34,463
6	\$7,898	\$15,795	\$23,693	\$31,590	\$39,488	\$39,488
7	\$8,903	\$17,805	\$26,708	\$35,610	\$44,513	\$44,513
8	\$9,908	\$19,815	\$29,723	\$39,630	\$49,538	\$49,538
9	\$10,913	\$21,825	\$32,738	\$43,650	\$54,563	\$54,563
10	\$11,918	\$23,835	\$35,753	\$47,670	\$59,588	\$59,588
11	\$12,923	\$25,845	\$38,768	\$51,690	\$64,613	\$64,613
12	\$13,928	\$27,855	\$41,783	\$55,710	\$69,638	\$69,638
13	\$14,933	\$29,865	\$44,798	\$59,730	\$74,663	\$74,663
14	\$15,938	\$31,875	\$47,813	\$63,750	\$79,688	\$79,688
15	\$16,943	\$33,885	\$50,828	\$67,770	\$84,713	\$84,713
2013 Discount is based on the type of service provided	A, K, R	B, L, S	C, M, T	D, N, U	Z	
	Water and Sewer	\$12.97 (A)	\$9.07 (B)	\$6.49 (C)	\$5.17 (D)	None
	Water only	\$6.68 (K)	\$4.67 (L)	\$3.61 (M)	\$3.50 (N)	None
	Sewer only	\$6.29 (R)	\$4.40 (S)	\$3.61 (T)	\$3.50 (U)	None

2012
Federal Assistance Guidelines

Family Size	Affordability Program Discounts					
	Income at or below 25%	Income at or below 50%	Income at or below 75%	Income at or below 100%	Income at or below 125%	Income above 125%
	Poverty *	Poverty *	Poverty *	Poverty *	Poverty *	Poverty *
1	\$2,722	\$5,445	\$8,168	\$10,890	\$13,613	\$13,614
2	\$3,677	\$7,355	\$11,033	\$14,710	\$18,388	\$18,389
3	\$4,632	\$9,265	\$13,898	\$18,530	\$23,163	\$23,164
4	\$5,587	\$11,175	\$16,763	\$22,350	\$27,938	\$27,939
5	\$6,542	\$13,085	\$19,628	\$26,170	\$32,713	\$32,714
6	\$7,497	\$14,995	\$22,493	\$29,990	\$37,488	\$37,489
7	\$8,452	\$16,905	\$25,358	\$33,810	\$42,263	\$42,264
8	\$9,407	\$18,815	\$28,223	\$37,630	\$47,038	\$47,039
9	\$10,362	\$20,725	\$31,088	\$41,450	\$51,813	\$51,814
10	\$11,317	\$22,635	\$33,953	\$45,270	\$56,588	\$56,589
11	\$12,272	\$24,545	\$36,818	\$49,090	\$61,363	\$61,364
12	\$13,227	\$26,455	\$39,683	\$52,910	\$66,138	\$66,139
13	\$14,182	\$28,365	\$42,548	\$56,730	\$70,913	\$70,914
14	\$15,137	\$30,275	\$45,413	\$60,550	\$75,688	\$75,689
15	\$16,092	\$32,185	\$48,278	\$64,370	\$80,463	\$80,464

2012 Discount	A, K, R	B, L, S	C, M, T	D, N, U	Z
Water and Sewer	\$11.80 (A)	\$8.25 (B)	\$5.90 (C)	\$4.70 (D)	None
Water only	\$6.36 (K)	\$4.44 (L)	\$3.61 (M)	\$3.50 (N)	None
Sewer only	\$5.55 (R)	\$4.23 (S)	\$3.61 (T)	\$3.50 (U)	None

* Poverty level figures based on U.S. Dept. of Health & Human Services 2011 guidelines

2011
Federal Assistance Guidelines

Family Size	Affordability Program Discounts					
	Income at or below 25% Poverty *	Income at or below 50% Poverty *	Income at or below 75% Poverty *	Income at or below 100% Poverty *	Income at or below 125% Poverty *	Income above 125% Poverty *
	1	\$2,722	\$5,445	\$8,168	\$10,890	\$13,613
2	\$3,677	\$7,355	\$11,033	\$14,710	\$18,388	\$18,389
3	\$4,632	\$9,265	\$13,898	\$18,530	\$23,163	\$23,164
4	\$5,587	\$11,175	\$16,763	\$22,350	\$27,938	\$27,939
5	\$6,542	\$13,085	\$19,628	\$26,170	\$32,713	\$32,714
6	\$7,497	\$14,995	\$22,493	\$29,990	\$37,488	\$37,489
7	\$8,452	\$16,905	\$25,358	\$33,810	\$42,263	\$42,264
8	\$9,407	\$18,815	\$28,223	\$37,630	\$47,038	\$47,039
9	\$10,362	\$20,725	\$31,088	\$41,450	\$51,813	\$51,814
10	\$11,317	\$22,635	\$33,953	\$45,270	\$56,588	\$56,589
11	\$12,272	\$24,545	\$36,818	\$49,090	\$61,363	\$61,364
12	\$13,227	\$26,455	\$39,683	\$52,910	\$66,138	\$66,139
13	\$14,182	\$28,365	\$42,548	\$56,730	\$70,913	\$70,914
14	\$15,137	\$30,275	\$45,413	\$60,550	\$75,688	\$75,689
15	\$16,092	\$32,185	\$48,278	\$64,370	\$80,463	\$80,464

2011 Discount	A, K, R	B, L, S	C, M, T	D, N, U	Z
Water and Sewer	\$9.30 (A)	\$6.45 (B)	\$4.23 (C)	\$3.49 (D)	None
Water only	\$5.55 (K)	\$4.23 (L)	\$3.59 (M)	\$3.49 (N)	None
Sewer only	\$5.55 (R)	\$4.23 (S)	\$3.59 (T)	\$3.49 (U)	None

* Poverty level figures based on U.S. Dept. of Health & Human Services 2011 guidelines

2009

Federal Assistance Guidelines

Affordability Program Discounts						
Family Size	Income at or below 25% Poverty *	Income at or below 50% Poverty *	Income at or below 75% Poverty *	Income at or below 100% Poverty *	Income at or below 125% Poverty *	Income above 125% Poverty *
1	\$2,707	\$5,415	\$8,123	\$10,830	\$13,538	\$13,539
2	\$35,642	\$7,285	\$10,928	\$14,570	\$18,213	\$18,214
3	\$4,577	\$9,155	\$13,733	\$18,310	\$22,888	\$22,889
4	\$5,512	\$11,025	\$16,538	\$22,050	\$27,563	\$27,564
5	\$6,447	\$12,895	\$19,343	\$25,790	\$32,238	\$32,239
6	\$7,382	\$14,765	\$22,148	\$29,530	\$36,913	\$36,914
7	\$8,317	\$16,635	\$24,953	\$33,270	\$41,588	\$41,589
8	\$9,252	\$18,505	\$27,758	\$37,010	\$46,263	\$46,264
9	\$10,187	\$20,375	\$30,563	\$40,750	\$50,938	\$50,939
10	\$11,122	\$22,245	\$33,368	\$44,490	\$55,613	\$55,614
11	\$12,057	\$24,115	\$36,173	\$48,230	\$60,288	\$60,289
12	\$12,992	\$25,985	\$38,978	\$51,970	\$64,963	\$64,964
13	\$13,927	\$27,855	\$41,783	\$55,710	\$69,638	\$69,639
14	\$14,862	\$29,725	\$44,588	\$59,450	\$74,313	\$74,314
15	\$15,797	\$31,595	\$47,393	\$63,190	\$78,988	\$78,989

2009 Discount	A, K, R	B, L, S	C, M, T	D, N, U	Z
Water and Sewer	\$8.80 (A)	\$6.10 (B)	\$4.00 (C)	\$3.30 (D)	None
Water only	\$5.25 (K)	\$4.00 (L)	\$3.40 (M)	\$3.30 (N)	None
Sewer only	\$5.25 (R)	\$4.00 (S)	\$3.40 (T)	\$3.30 (U)	None

* Poverty level figures based on U.S. Dept. of Health & Human Services 2009

ATTACHMENT VI (PL-14)

Response to Mr. Meza's water quality questions.

SAWS works with several departments and entities to ensure the highest water quality for our customers, including numerous checks and balances that ensure accurate and transparent data is available to the public and regulators.

The SAWS Resource Protection and Compliance Department (RPC) is responsible for regulatory sampling requirements for SAWS Public Water Systems. RPC is responsible for collecting at least 490 bacteriological samples per month, 5880 samples per year for the drinking water program. Samples are collected throughout the year and are spread throughout numerous locations in the system. A variety of analyses are performed either in the field, at the SAWS lab, or by third party contract laboratory. Besides the sampling performed by SAWS, the TCEQ hires a third-party sampler to take samples at all PWS wells, tanks and other infrastructure. Sampling occurs every quarter for all distribution and source points per TCEQ's schedule. Third party sampling is currently performed by TCEQ's contractor, Third Coast Environmental Services and sent to the Texas Department of Health for analysis. Every three years, TCEQ performs an extensive inspection of all of SAWS Production facility and a detailed review of all monitoring and testing that is required in what is called a Comprehensive Compliance Investigation.

As stated in the federal and state rules, SAWS must also comply with the Lead and Copper Rule. The purpose of this rule is to protect public health by minimizing lead and copper levels in drinking water for safe consumption, primarily by reducing water corrosivity. When a new water source or new treatment technique is added, testing is performed to ensure the changes do not impact the water source(s). In addition to customer sampling, SAWS staff collects approximately 125 samples a month from numerous SAWS water supply sources for this purpose. It is through this sampling that we look at various corrosivity indices for water to recommend operational adjustments to ensure that iron and other metals are not leached from the pipe. Indices were developed by third party consultants in the design phase, and as each water source was brought on line. For additional information regarding the lead and copper rule, visit www.epa.gov/dwreginfo/lead-and-copper-rule.

Over 90% of the samples are received and analyzed by the SAWS Environmental Laboratory Services (ELS) Department which is an accredited laboratory and performs over 200,000 analyses per year in support of both wastewater and potable water. The other 10% of samples are sent to the contract laboratory, Pace Analytical, which has laboratories all over the country. Samples sent to Pace are generally tests that are not performed by SAWS or when sample workload is such that ELS staff is not able to complete testing in a timely manner.

As a part of the accreditation process the state, Texas Commission on Environmental Quality (TCEQ) performs an audit of the SAWS laboratory every other year. In addition to the state audit, the laboratory is audited annually by a third-party contractor, Labtopia, Inc., who is responsible for ensuring the laboratory meets accreditation requirements. Attached are the Draft 2018 Laboratory Management Review Document and a list of tests performed. Additionally, the below websites may be of interest in answering questions regarding regulations that govern potable water.

Consumer Confident Report: <https://www.saws.org/your-water/water-quality/>

TCEQ regulations regarding Revised Total Coliform Rules, Lead/Copper Rule and Water Quality Parameter Rule: <https://www.tceq.texas.gov/drinkingwater/pwss.html>

**SAN ANTONIO WATER SYSTEM
LIST OF ANALYSES PERFORMED**

As of 10/10/2019

Matrix: Drinking water	Matrix: Non-Potable Water (Wastewater, Industrial Waste, etc)	
Aluminum	Fats Oil and Grease	Total Kjeldahl Nitrogen
Antimony	Turbidity	Phosphorus
Arsenic	Aluminum	Biological Oxygen Demand
Barium	Antimony	Carbonaceous Oxygen Demand
Beryllium	Arsenic	Chemical Oxygen Demand
Boron	Barium	Heterotrophic Plate Count
Cadmium	Beryllium	Biomonitoring
Calcium	Boron	Radiological
Chromium	Cadmium	Ammonia
Cobalt	Chromium	pH
Copper	Cobalt	
Iron	Copper	
Lead	Iron	
Lithium	Lead	
Magnesium	Lithium	
Manganese	Magnesium	
Mercury	Manganese	
Molybdenum	Mercury	
Nickel	Molybdenum	
Potassium	Nickel	
Selenium	Potassium	
Silica as SiO ₂	Selenium	
Silver	Silica as SiO ₂	
Sodium	Silver	
Strontium	Sodium	
Thallium	Strontium	
Uranium	Thallium	
Vanadium	Uranium	
Zinc	Vanadium	
Mercury	Zinc	
Chloride	Hexavalent Chromium	
Fluoride	Bromide	
Nitrate	Chloride	
Nitrite	Fluoride	
Sulfate	Nitrate	
Total Hardness	Nitrite	
Conductivity	Sulfate	
Total Dissolve Solids	Total Cyanide	
Heterotrophic Place Count	Ammonia	
Total Coliforms	Total Cyanide	
Turbidity	Total Organic Carbon	
Esherichia Coli	Total Phenolics	
Alkalinity	Volatiles	
Volatiles	Semi-Volatiles/Pesticides	
Radiological	Esherichia Coli (enumeration)	
Free Chlorine	Chlorophyll A	
Temperature	Alkalinity as CaCO ₃	
pH	Total Hardness as CaCO ₃	
Halo-acetic Acids	Conductivity	
Semi-Volatiles/Pesticides	Total Solids	
	Total Dissolved Solids	
	Total Suspended Solids	



DRAFT

**Annual Management Review Report
San Antonio Water System
Environmental Laboratory Services Department
January 1 – December 31, 2018**

2	Preface
3	Executive Summary
5	Operational Review
8	Performance
15	Appendix A: Value of Laboratory Services
16	Appendix B Workload by Client and Department
17	Appendix C: Training

Preface

In accordance with the requirements of the 2009 TNI Standard we are pleased to submit the Annual Laboratory Management Review for the year ended December 31, 2018. We believe that the information in the report is accurate and that all disclosures are necessary to enable the reader to gain an understanding of the Environmental Laboratory's operational status. The Environmental Laboratory Services (ELS) Department management review process is performed annually in order to determine the suitability and effectiveness of the laboratory's quality management system. The review serves to identify any changes required to meet the needs of clients, and any action needed to ensure the continuation of services provided by ELS. The review shall include executive management, clients and staff members.

Items that shall be discussed during the review include:

- Review of the laboratory quality policy statement.
- The suitability of policies and procedures.
- Reports from managerial and supervisory personnel.
- Resources and staffing levels.
- Changes in volume and type of work.
- The outcome of recent internal audits.
- Non-conformances and corrective/preventive actions.
- Assessment by external organizations.
- Results of proficiency test studies.
- Customer feedback.

Executive Summary

On February 13, 1992, the City council determined that it was in the best interest of the citizens of San Antonio (the City) and the customers served by the water and wastewater systems to consolidate all water systems, agencies and activities into one institution. The final City Council approval for such consolidation was given on April 30, 1992 with the approval of Ordinance No. 75686 which provided for the consolidation of all city owned utilities related to water, including the water, wastewater, and the water reuse systems, into the San Antonio Water System.

SAWS includes all water resources, properties, facilities, and plants owned, operated and maintained by the City relating to supply, storage, treatment, transmission, and distribution of treated potable water; collection and treatment of wastewater; and distribution of recycled water. Additionally, SAWS owns and operates five thermal energy facilities providing chilled water services to governmental and private entities. In 2018, SAWS provided potable water service to over 502,000 customer connections which represents nearly all of the water utility customers in Bexar County while providing wastewater services to more than 449,000 customer connections representing 93% of the wastewater customers in Bexar County not utilizing septic systems.

The management and control of SAWS has been vested in the San Antonio Water System Board of Trustees (“the Board”). The Board consists of the Mayor (ex-Officio) and six trustees who are residents of the City of San Antonio or reside within the area serviced by SAWS. With the exception of the Mayor, all other trustees are appointed by the City Council for four-year staggered terms. The general operations of SAWS are under the supervision of the President/Chief Executive Officer who is employed by the Board.

The mission, vision and values of San Antonio *Water System* are as follows:

Mission

Sustainable Affordable Water Services

Vision

To be leaders in delivering responsible water services for life

Values

Excellence, Integrity and Respect

The operations of the Environmental Laboratory Services Department are critical for SAWS to accomplish its mission, vision and values. The mission of the ELS Department is to respond to the needs of SAWS operations by providing reliable, responsive, and accurate analytical services with a strong emphasis on data integrity. ELS maintains a broad scope of analytical expertise in order to provide full-service environmental testing for SAWS. This testing includes a variety of microbiological, inorganic, and organic chemical tests in support of water and wastewater services. The laboratory analyzes samples for monitoring compliance under several programs such as: Texas Pollutant Discharge Elimination System (TPDES) for wastewater, including pretreatment, industrial waste, and stormwater; Environmental Protection Agency (EPA) Part 503 Rule for biosolids, Ground Water Rule (GWR) for groundwater and Revised Total Coliform Rule (RTCR) and Lead and Copper Rule for drinking water. ELS performs analysis to monitor process control for the water recycling centers as well as for water quality research projects undertaken by other SAWS departments. The laboratory may, at the direction of senior management, provide analytical support for research projects sponsored by other organizations.

ELS was originally accredited by the Texas Commission on Environmental Quality (TCEQ) under the National Environmental Laboratory Accreditation Program (NELAP) in 2008 to perform total coliform analysis. In 2012, TCEQ performed a comprehensive audit on the SAWS Pretreatment Program identifying a deficiency that the laboratory was not accredited for the analyses required by the program. In March 2013, the laboratory expanded its accreditation to a total of 174 analyses in potable and non-potable water matrices to address this deficiency. The laboratory's current scope of accreditation stands at 194 analytes.

An annual review of lab services is conducted in order to meet the 2009 NELAC Institute Standard. It also periodically evaluates the continuing suitability and effectiveness of the laboratory management system and testing activities, and provides recommendations for improvement.

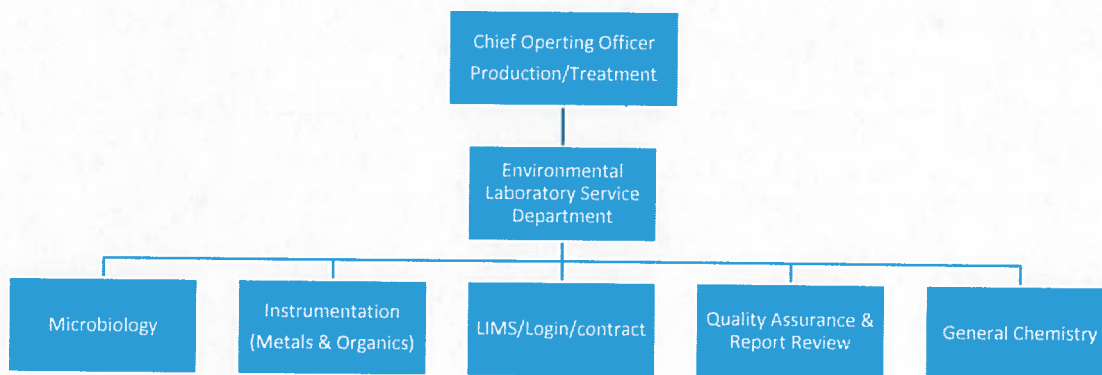
In meeting the standard, ELS is aligned with SAWS value statement of excellence, integrity and respect through continuous improvement and development of staff, processes and procedures used to generate analytical results, as outlined in this document. The laboratory is located at 3610 Valley Road; San Antonio, TX 78221 and measures approximately 15,000 square feet, with 9,000 square feet dedicated to analytical work.

Operational Review

Organization

The Environmental Laboratory Service (ELS) Department provides full-service environmental testing that is accredited by The NELAC Institute (TNI) body for various types of water and wastewater analyses.

ELS is structured with four sections: Login, General Chemistry, Microbiology, and Instrumentation. The Quality Assurance Officers oversees and manages the quality and defensibility of laboratory activities and data.



The three analytical Sections provide:

- Sample analysis to measure various constituents in water, wastewater, soils, and sludges, in support of the production, treatment, distribution and collection of the systems.
- Development and validation of sample preparation and testing methods
- Consult in special projects

The Log in Section provides support to the Analytical Sections by:

- Performing all tasks related to the receipt of samples
- Subcontracting of any work to other laboratories that is not performed by the ELS
- Distributing bottle sets to samplers for all projects.

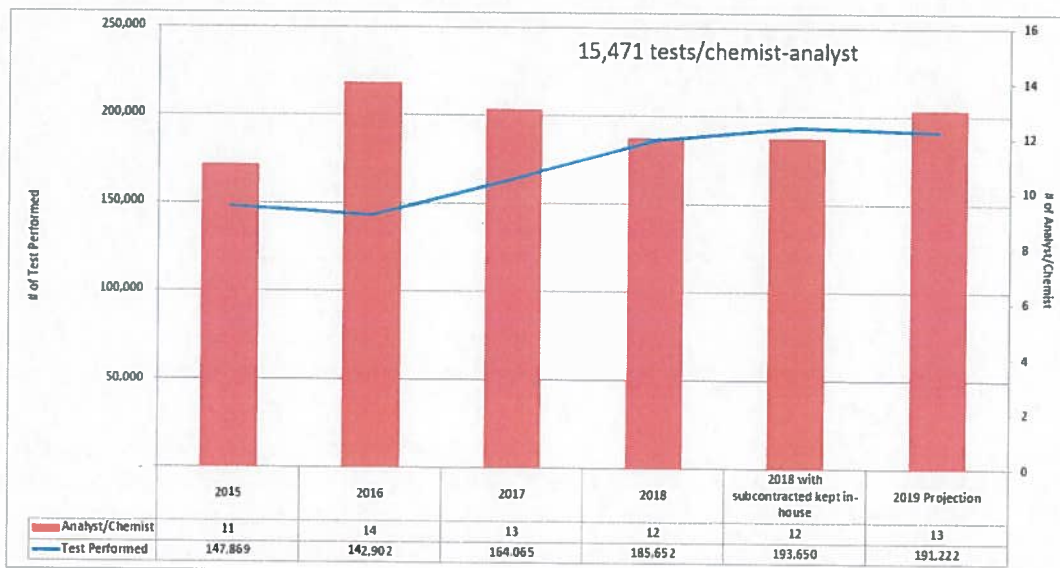
From January through December 2018 the laboratory received 32,548 samples and performed 185,652 analyses. The major workload for ELS can be divided into the following areas:

- Wastewater analyses accounts for 56.8% of the overall laboratory workload.
- Water analyses accounts for 43.2% of the overall laboratory workload

Less than 6.6% of the CY 2018 laboratory budget covered analytical costs for work subcontracted to outside laboratories.

As of December 31, 2018, the total number of positions budgeted was 20 Full Time Equivalent (FTE) and 1 intern position. Of the 20 FTE positions, 14 positions were responsible for ensuring that analyses are received, logged in, and analyzed on a daily basis. This staff is responsible for effectively maintaining equipment, documenting information in the Laboratory Information Management System (LIMS), and ensuring that all analyses are

Staffing Performance



performed in accordance with quality assurance plan requirements. The remaining positions are assigned to the technical services team. The technical services team consists of management, quality control/quality assurance, data operations and statistics, and reporting administrative functions.

As the laboratory became fully staffed throughout 2018, the rate of test/analyst increased to 15,471. This increase was due to the copper/lead program and the implementation of the Vista Ridge project.

Instrumentation

Throughout 2018 instrumentation/equipment was added and/or replaced within the laboratory. The major replacement was that of the Analytik Jena Inductively Coupled Plasma Mass Spectrophotometer (ICPMS) with a Thermo-Fisher Scientific ICPMS. The ICPMS is primarily used to analyze metals in drinking water. In addition, the laboratory purchased a Metrohm auto-titrator, replaced a Type I water purification system, and replaced an air incubator. The auto-titrator will be used to perform pH, total hardness, alkalinity, and conductivity analyses.

Training

The work performed in the laboratory could not be accomplished without an effective training program. Currently the laboratory training program consists primarily of technical training on specific analytical methods and is provided in-house. Plans are in development to enhance the training program by creating a more comprehensive formal training curriculum. During 2018, staff received 1,161 training hours, down from 1,366 in 2017 (see appendix C).

To further enhance knowledge, skills and abilities, staff routinely participates in the following professional organizations:

- Alamo Laboratory Analysts' Chapter (ALAC)
- Association of Laboratory Managers (ALMA)
- The NELAC Institute (TNI)

Lab staff also attended the Environmental Trade Fair and the 2018 Public Drinking Water Conference sponsored by TCEQ, the quarterly TCEQ Drinking Water and Water Quality Advisory Work Group (DWAAG and WQAAG) meetings, TNI Assessor training and webinars for the Revised Total Coliform Rule and Lead and Copper Rule.

These organizations provide opportunities to network with professional peers from a variety of environmental laboratories and to stay abreast of current issues related to water and wastewater.

In addition, staff were provided with internal training for safety and professional development sessions related to communication, leadership and conflict management.

During 2018, tours were given to more than 150 visitors to the ELS. Visitors included students and instructors. The tours demonstrate the breadth of testing performed in the fields of microbiology, general chemistry, metals and organics. In addition, staff participates in Confluence, an education conference for local high school students, to inspire students who will be the next generation of scientists and technicians in laboratories such as ELS.

Performance

As part of monitoring activities within the laboratory and identifying areas of improvement, the following key performance indicators were monitored throughout the year:

- Quality
 - Corrective and Preventive Action Reports/Business Process Improvements
 - Standard Operating Procedures
 - Internal/External Audits
 - Proficiency Testing
- Customer Satisfaction
 - Survey

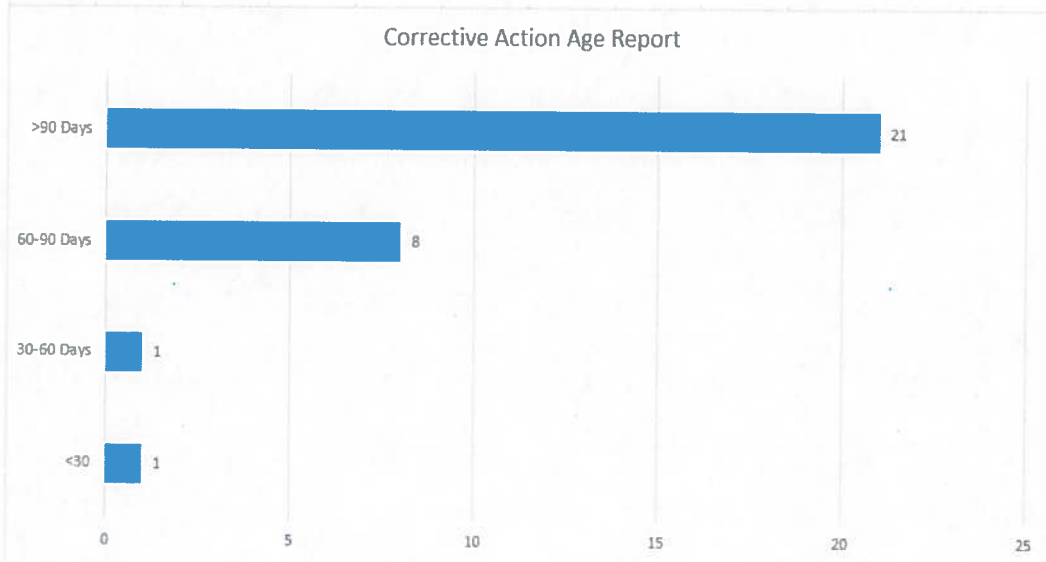
Quality

There are four main areas that are monitored within the quality assurance program: Corrective and Preventive Action Reports, Standard Operating Procedures, Internal/External Audits and Proficiency Testing.

Corrective/Preventive Action Reports

The 2009 TNI standard emphasizes the need to monitor the implementation of corrective and preventive actions and verify their effectiveness. In order to better fulfill this requirement, the laboratory enhanced its procedures for monitoring the timeliness and efficacy of corrective/preventive actions. Therefore, the laboratory tracks the number of days it takes from the time a CAR is opened until a corrective plan is approved, from approval to implementation and from implementation to verification of effectiveness, from which the overall closure rate can be calculated. The average time to close a Corrective Action Report (CAR) was 190 days. It takes an average of 36 days to complete the root cause analysis which is a key step within the process. The root cause analysis leads to the recommended corrective action plan (RCAP). After the RCAP is

approved, the next phase is implementation. The time required to implement recommended corrective actions is highly dependent on the magnitude of the problem. This step takes an average of 110 days, and thus accounts for over half of the total time required to complete a CAR. The time from implementation of the corrective action plan until its effectiveness can be verified is the shortest phase of the process, 46 days on average, but the time required for individual CARs varies significantly, depending on how frequently the relevant processes are performed and the complexity of the corrective action plan.



As part of its responsibilities as an accredited laboratory, SAWS ELS seeks to continuously improve its quality management system, business processes and customer service. The laboratory management team is asked to determine ways to provide cost-effective solutions, meet customer needs and adapt to increasing regulatory requirements and complexity of work (such as lower detection limit requirements). As each area has been addressed, the laboratory continued to identify and implement processes to achieve further effectiveness within that function. This process includes the preventive actions that laboratory staff have submitted for consideration.

Five preventive actions were implemented in 2018:

- Developed detailed technical instructions for preparing control cultures used in *E. coli* analysis.
- Demonstrated through comparison studies that one type of absorbent pad provided improved recovery of *E. coli* in the membrane filtration analytical method and implemented routine use of these absorbent pads.

- Replaced the bottle in which the matrix standard for Chemical Oxygen Demand analysis was stored with a dark bottle to decrease the photosensitivity of the chemical solution, thus improving its stability.
- Revised the SOP and benchsheet for oil and grease method to include documentation of the time pans are placed in and taken out of the desiccator as part of the analytical process. This serves to improve the traceability of the analytical steps as required by the accreditation standard.
- Created a macro to improve the accuracy and efficiency of the data transfer process from the Ion Chromatograph software to the LIMS, by eliminating a manual entry process.

Standard Operating Procedures (SOPs)

Standard operating procedures are a combination of administrative and technical documents that the laboratory follows. During 2018, trend analysis was developed to assist in identifying bottlenecks in the process, and SOP status was reviewed during the monthly Key Performance Indicator (KPI) meetings. Based on these regular reviews, laboratory management could determine when staff members needed to be scheduled to work on updating procedures that were past due or scheduled for review and revision. As a result of this allocation of resources, 40 SOPs were revised in 2018, up from 26 in 2017, and the backlog of overdue SOPs was eliminated.



Internal/External Audits

The 2009 TNI accreditation standard requires the laboratory to perform internal audits. These audits must incorporate review of the analytical work being done as well as all other elements of the quality management system and assess compliance with the standard.

The consulting firm Labtopia, Inc. is under contract to provide audit services to the laboratory and performed an onsite assessment Nov. 5-8, 2018. There were eight individual findings, down from 13 in 2017, **none** of which were deemed by the assessor to be critical. A corrective action was issued for each finding to document the steps taken to correct the deficiency. Corrective action plans have been developed and approved for all of the findings; two of the CARs have been completed and closed out, three are pending verification of effectiveness, and three are in the process of being implemented. No external audit was performed in 2018.

Proficiency Testing Program

It is essential that accurate and precise results be reported by ELS for decision-making in support of SAWS operations. Tracking performance is one of the ways in which the lab evaluates and documents the quality of the data that is generated. To ensure the quality of reported data, ELS demonstrates the accuracy and precision of its analyses by performing required quality control tests with each batch of samples. In addition to the use of routine quality control measures, the laboratory participates in Performance Evaluation studies twice a year. Because the laboratory is accredited through the National Environmental Laboratory Accreditation Program administered by Texas Commission on Environmental Quality (TCEQ), it must meet the NELAP requirement to pass two of the last three single-blind, proficiency testing studies for each field of testing per year. Laboratories are considered proficient if the score is 80% or above. Over the past five years, ELS has achieved an average overall score of 96.1%. During CY 2018, the overall passing rate was 94.5 percent.

Department	Drinking Water			Wastewater			Soil		
	# Analytes	# Pass	%	# Analytes	# Pass	%	# Analytes	# Pass	%
Microbiology	42	42	100	12	12	100	N/A	N/A	N/A
General Chemistry	26	25	96.2	59	57	96.6	8	8	100
Metals	98	82	83.7	94	92	97.9	28	27	96.4
Organics	52	49	94.2	74	72	97.3	N/A	N/A	N/A

Table 1

Customer Satisfaction

ELS recognizes its role as a provider of analytical support for the successful operation of various groups within SAWS. As such, the lab has continued to make every effort to be proactive in determining customers' needs. Utilizing Survey Monkey again in 2018, the lab sent out the survey to all data users within SAWS.

In 2017 the laboratory introduced the Laboratory Promoter Score which is modeled after the Net Promoter Score. The purpose is to provide an overall score that measures the laboratory customer satisfaction from year to year and to identify areas where trending indicates the laboratory is either exceeding or lacking in a particular area with customers. The model was adapted to suit the laboratory environment due to a lack of a similar performance indicator as an industry standard. In 2017 the results of the overall scoring suggest that the laboratory is consistent in delivering accurate, sound data in the requested turn-around timeframe. The laboratory scores dipped below 80% in the areas of data being in a manageable format, a basic understanding if the laboratory adds value to their department, and if the laboratory's accreditation adds credibility to SAWS. However, the survey also shows that in 2017 there was a 50% decrease in participation than in previous years which is believed to be attributed to personnel changes, departures, or issues with the email messaging.

In 2018 there were only 4 customers who completed the survey which rendered the laboratory unable to calculate the LPS and compare data over the last 4 years. The following comments were made and these will be addressed throughout 2019:

- Technical assessment: The laboratory met and/or exceed expectations of the quality, scope of services, usefulness of report and analytical capabilities. However, 1 respondent with the following statement: Would like the LIMS (LIMSVIEWER) to be expanded so that all results for a particular company or report them all to the same spreadsheet rather than just one event at a time. Notification on when things like MDL or test methods change would also be helpful.
 - Response: Staff will work with I.S. to determine if the LIMS Viewer can be expanded to meet the needs of the customer. This will be a 2020 initiative. Staff will seek clarification regarding the MDLs and changes occurring during the login process. Test methods are generally dictated by the customer or regulations.

Laboratory management reviews and shares these results with lab staff, discusses these concerns with senior management and implements changes if deemed necessary

Challenges

The responsibilities of the laboratory expands outside of just receiving and testing analyses. This includes evaluating and purchasing equipment, complying with regulations, managing human resources, developing safety programs, resolving building

issues, and so on. Throughout 2018, the laboratory was faced with challenges related to the operations of the building, unexpected regulatory requirements and unplanned interruptions. Below outlines some of the challenges faced during 2018.

- Temperature fluctuations with the Biological Oxygen Demand Incubator room
- Replacement of both walk-in coolers
- Replacement of chillers
- Unplanned interruptions
- Implementation of Viacon Software System
- Replacement of chill water pumps.

Appendix A

Value of Laboratory Services 2018 Analytical Cost

Value of service provided to all clients (including expedited costs)	\$4,001,504
<i>Total Number of Tests Performed</i>	185,652
Value of service to Water Recycling Centers (WRCs) – Process Control only	
Standard rates >6 Days	\$160,714
Premium rates (2x) 3-6 Days	\$495,258
Premium rates (3x) <=2 Days	\$1,688,874
Total	\$2,344,846
<i>Total Number of Tests Performed for WRC's</i>	75,279
Value of service for non-process control samples	\$1,656,658
<i>Total Number of Tests Performed for non-WRC</i>	110373
Total Value of Analytical Services	\$4,001,504
2018 Lab Expenses	\$2,284,902
Savings	\$1,716,602

Appendix B Workload by Client and Department

CLIENT	Samples			Analyses*		
	2016	2017	2018	2016	2017	2018
ASR	457	326	169	3678	5240	3386
CONSTR_INSP	0	3	3	0	6	6
DOS_RIOS_WRC**	10,407	10,585	10,499	38,354	38,715	38,189
ENGINEERING	672	631	656	2059	1929	2344
LEON_CREEK_WRC**	3961	3884	3819	21,325	20,427	20,188
MEDIO_CREEK_WRC**	2688	3166	3870	13,562	13,681	16,113
RESOURCE_PROT_COMP	7947	8892	9781	44,726	64,921	80,493
SALADO_CREEK_WRC**	366	365	365	2404	2398	2400
SERVICE_CENTERS	342	325	677	1014	982	2682
TRT_TECH_SVCS	283	259	200	3251	2718	2213
WATER_RESOURCES	44	44	23	2201	2192	1173
LAB QUALITY ASSURANCE (PT)	148	152	137	907	873	756
DISTRICT SPECIAL PROJECT	2520	2320	2332	9421	9940	14857
Misc.	0	1	17	0	43	852
	29,835	30,953	32,548	142,902	164,065	185,652

*Includes non-invoiceable analysis codes.

**Includes special project samples that are not part of process control

	2016	2017	2018	% change, 2016-2017	% change, 2017-2018
Samples	29,835	30,953	32,548	3.75%	5.15%
Analyses + QC	264,083	305,641	329,954	15.74%	7.95%
Total Analyses	142,902	164,065	185,652	14.81%	13.16%
Chemistry	60,074	67,136	68,945	11.76%	2.69%
Microbiology	59,099	56,298	65,388	-4.74%	16.14%
Metals	17,690	32,470	41,134	83.55%	26.68%
Organics	6,039	8,061	10,185	33.48%	26.35%
% Analyses	54.11%	53.68%	56.27%		
% QC	45.89%	46.32%	43.73%		

APPENDIX C
Training Data

<u>Course Title</u>	<u>Date(s) Taken</u>	<u>Hours</u>	<u>Staff #</u>	<u>Total Hrs</u>
Total Phosphorus, SM 4500-P B, F, New Analyst	Jan. 3- May 31, 2018	24.00	1	24.0
Anions by EPA Method 300.0, New Analyst	Jan. 9-Apr. 25, 2018	32.00	1	32.0
TKN, SM 4500 Norg B/4500 NH3 B,C, New Analyst	Jan. 11-May 7, 2018	16.00	3	48.0
Quality Manual, Refresher and Updates	January 23, 2018	0.75	5	3.8
Data Entry and Verification, Refresher and Updates	Mar. 27-28, 2018	0.50	5	2.5
Records Management, Refresher and Updates	January 23, 2018	0.25	5	1.3
Laboratory Ethics and Data Integrity	Feb. 1-21, 2018	1.00	20	20.0
Mercury by CVAA, EPA 245.1, Refresher and Updates	Feb. 12-Jun. 7, 2018	1.00	4	4.0
Specific Gravity, New Analyst	February 15, 2018	0.25	2	0.5
Data Integrity and Ethics Training (Labtopia)	February 16, 2018	2.00	3	6.0
Metals by ICP-MS, EPA 200.8, Refresher and Updates	February 21, 2018	0.50	2	1.0
Metals by ICP, EPA 200.7, Refresher and Updates	February 21, 2018	0.50	2	1.0
Conductivity SM 2510B, Benchsheet Update	Feb. 21-28, 2018	0.17	7	1.2
Sample Handling SOP, Refresher and Updates	Feb. 22-Mar. 1, 2018	1.00	17	17.0
Introduction to Labworks + Analysis Codes (Training Webcast 1)	February 27, 2018	1.00	2	2.0
ICP-MS Verification Sheet - Liquids, Updates	March 2, 2018	0.25	2	0.5
Calibration of Volumetric Dispensing Devices, New Analyst	March 6, 2018	8.00	1	8.0
Mercury by CVAA, EPA 245.1, New Analyst	Mar. 7-Dec. 13, 2018	24.00	2	48.0
pH SM 4500 H+B/SW846 9045D and Soluble Salts SW 846 9050A, Benchsheet Update	Mar. 13-20, 2018	0.25	5	1.3
Total and Bicarbonate Alkalinity, SM 2320B, New Analyst	Mar. 13-30, 2018	16.00	1	16.0
Total Hardness by Titration, SM 2340C, New Analyst	Mar. 13-Jun. 28, 2018	16.00	1	16.0
Total Phosphorus, SM 4500-P B, F, Refresher and Updates	Mar. 15-23, 2018	1.00	4	4.0
TKN, SM 4500 Norg B/4500 NH3 B, C, Refresher and Updates	Mar. 15-Apr. 12, 2018	1.00	8	8.0



Turbidity, EPA Method 180.1, Nephelometric, New Analyst	Mar. 20-Oct. 24, 2018	4.00	3	12.0
BOD/CBOD, SM 5210B, New Analyst	Mar. 20-Oct. 23, 2018	80.00	3	240.0
COD SM 5220D, New Analyst	Mar. 20-Oct. 22, 2018	16.00	3	48.0
Data Entry and Verification, Refresher and Updates	Mar. 27-28, 2018	0.50	4	2.0
Autoclave Operation, Refresher and Updates	March 28, 2018	0.50	1	0.5
Waste Accumulation Site Weekly Inspection	March 29, 2018	0.25	3	0.8
Hazardous Waste Tracking Form	Mar. 29-30, 2018	0.50	13	6.5
m-ColiBlue24 Counting Procedure, Refresher	March 30, 2018	0.50	1	0.5
Total Hardness by Titration, SM 2340C, Refresher and Updates	Apr. 6-17, 2018	1.00	4	4.0
pH, SM 4500-H+B, Refresher and Updates	Apr. 6-17, 2018	1.00	5	5.0
pH, SM 4500-H+B, New Analyst	April 11, 2018	4.00	1	4.0
Conductivity SM 2510B, New Analyst	Apr. 12-May 10, 2018	4.00	2	8.0
Total Cyanide, EPA Method 335.4, New Analyst	Apr. 12-Jun 15, 2018	24.00	1	24.0
Total Phenolics, EPA Method 420.1, Refresher and Updates	April 23, 2018	1.00	3	3.0
Hexavalent Chromium, SM21 3500-Cr B, New Analyst	Apr. 23-Sept. 13, 2018	16.00	1	16.0
Support Equipment, Refresher and Updates	Apr. 24-28, 2018	1.00	19	19.0
TCEQ Environmental Trade Fair	May 15-16, 2018	16.00	2	32.0
Ammonia, Gas Diffusion SFA, EPA 350.1, Refresher and Updates	May 15-21, 2018	1.00	9	9.0
Ion Chromatography Training	May 17, 2018	8.00	3	24.0
Coilert, Quanti-Tray, SM 9223B, Refresher and Updates	May 24-Jun. 5, 2018	0.50	14	7.0
Volatiles in Drinking Water, EPA 524.2, Refresher and Updates	June 6, 2018	0.50	2	1.0
Subcontracting, Refresher and Updates	June 7, 2018	0.25	3	0.8
Oil and Grease, EPA Method 1664A, New Analyst	Jun. 7-19, 2018	20.00	1	20.0
Ammonia, Titration, Post Distillation SM 4500NH3 B,C, Refresher and Updates	Jun. 11-14, 2018	0.50	11	5.5
Chemicals and Standards Traceability, Refresher and Updates	Jun. 12-20, 2018	1.00	19	19.0
Subsampling, Refresher and Updates	Jun. 12-22, 2018	0.50	17	8.5
Heterotrophic Plate Count, SM 9215B, New Analyst	Jun. 23-Dec. 18, 2018	16.00	3	48.0
Document Control, Refresher and Updates	Jun. 28-July 25, 2018	0.50	18	9.0

Fecal Coliform by Membrane Filtration, SM 9222D, New Analyst	Jul. 23-27, 2018	8.00	1	8.0
Volatiles in Wastewater, EPA 624, Refresher and Updates	July 27, 2018	0.50	1	0.5
BOD/CBOD, SM 5210B, Refresher and Updates	Aug. 2-6, 2018	0.50	9	4.5
Internal Audits and Management Review, Refresher and Updates	August 7, 2018	0.50	2	1.0
Data Validation, Refresher	August 7, 2018	0.75	10	7.5
Sample Handling SOP, Updates (for sample couriers only)	Aug. 6-8, 2018	0.25	4	1.0
TCEQ Laboratory Stakeholders Meeting	August 8, 2018	8.00	3	24.0
Total Phenolics, EPA Method 420.1, New Analyst	Aug. 7-9, 2018	16.00	1	16.0
Basic Assessor Training	Aug. 21-23, 2018	24.00	3	72.0
Total Coliform/E. Coli, SM 9223 (Colilert-24), New Analyst	Aug. 23-30, 2018	8.00	1	8.0
Total Coliform/E. Coli, SM 9223 (Colilert-18), New Analyst	Aug. 23-30, 2018	8.00	1	8.0
Total Coliform/E. Coli, SM 9223 (Colilert-24 and Colilert-18), Benchsheet Update	Aug. 30-Sept. 24, 2018	0.50	14	7.0
Oil and Grease, EPA Method 1664A, Refresher and Updates	September 4, 2018	0.50	3	1.5
Oil and Grease Verification Sheet, Updates	September 6, 2018	0.25	3	0.8
Total Cyanide, EPA Method 335.4, Refresher and Updates	Sept. 19-Oct. 25, 2018	0.50	4	2.0
Anions by EPA Method 300.0, Refresher and Updates	September 11, 2018	1.00	7	7.0
Purchasing SOP, Refresher and Updates	Sept. 12-18, 2018	0.50	15	7.5
Fecal Coliform by Membrane Filtration, SM 9222D, Refresher and Updates	September 13, 2018	0.50	2	1.0
Fecal Streptococcus by Membrane Filtration, SM 9230C, Refresher and Updates	September 13, 2018	0.50	2	1.0
E. coli by Hach m-ColiBlue24, Refresher and Updates	Sept. 13-28, 2018	0.50	15	7.5
Data Entry Into Labworks, Refresher	Sept. 18-19, 2018	0.50	11	5.5
Colilert, Quanti-Tray, SM 9223B, Refresher	Sept. 19-20, 2018	1.00	1	1.0
Quality Assurance Training - Regulations and Standards	September 25, 2018	1.00	17	17.0
Fecal Coliform Verification, Refresher and Updates	September 26, 2018	0.50	2	1.0
Ammonia, Gas Diffusion SFA, EPA 350.1, New Analyst	Oct. 1-4, 2018	32.00	1	32.0
Calibration of Volumetric Dispensing Devices, Refresher and Updates	October 3, 2018	0.50	4	2.0
Thermometer Calibration, Refresher and Updates	October 4, 2018	0.50	2	1.0
Total Coliform/E. Coli, SM 9223-97 (Colilert-24), Refresher and Updates	Oct. 16-30, 2018	0.50	15	7.5



Total Coliform/E. Coli, SM 9223-97 (Colilert-24), Refresher and Updates	0.50	15	7.5
Oil and Grease, EPA Method 1664A, Returning Analyst	8.00	1	8.0
Heterotrophic Plate Count, SM 9215B, Refresher and Updates	0.50	5	2.5
Field Chlorine, Benchsheet Update	0.25	2	0.5
Colilert, Quanti-Tray, SM 9223B, New Analyst	8.00	1	8.0
Stock Culture Maintenance, Refresher and Updates	1.00	1	1.0
BOD/CBOD, SM 5210B, Troubleshooting Blank Issues	0.50	10	5.0
COD SM 5220D, Refresher and Updates	0.25	10	2.5
Turbidity, EPA Method 180.1, Nephelometric, Refresher and Updates	0.25	10	2.5
Advanced Microsoft Word	7.00	4	28.0

Grand Total 2018 1161

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ATTACHMENT VII (PL-16)

Response to Mr. Lara's Questions

1. **How are these cities charged and how are the individual meters checked for billing?**
 - Rates. Customer shall be charged the highest bill calculated based on the metered usage on the interconnect line of the Customer applied to the Water Rates of the System and the Water Rates of the Customer, and
 - Standby Charge. Customer shall be charged monthly for the ability of System to provide standby services at the System's meter fee rate on the interconnect meter. If water usage is metered for two consecutive months or for more than three months during a calendar year, then the System shall charge additional standby services of ten times the applicable meter fee rate or Monthly Service Availability Charge for each month of metered usage in the calendar year, and
 - Time and Material Charges. Customer shall be charged monthly for all time and material charges incurred to service the interconnect infrastructure. Such billing shall detail the reason for the charges in addition to the time and unit costs.
 - The meters will be turned on by SAWS staff at the time of activation as well as the entity staff will need to open receiving valves and check the entity's meter.

2. **Can an overview of the agreement and the actual system be briefed at some point?**

There is only one active agreement in effect today:

Country Bend (Southwest Water Company) Interconnect Agreement

- Signed 03/30/2010 – 10 year contract
 - Either party can cancel at any time by providing prior written notice
 - SAWS can deny water if SAWS customers will be adversely impacted
 - All emergency interconnections are charged the interconnect water service rate
 - Use of interconnect is limited to conditions necessitated by mechanical failure and will be temporary
 - Each activation of interconnect cannot exceed 30 days unless granted by SAWS with written request
 - Interconnect water use is limited to domestic indoor use – no landscape watering
 - Interconnect cannot be used to supplement water shortages due to declining supply or unwillingness to find new supplies or build redundant infrastructure
 - If Country Bend can't meet customer demand, regular connection should be requested
 - Regular connection will require engineering study
 - Regular connection will require payment of impact fees
3. **Is there a tier system that regulates the pricing for high volume users?**
 - No. There is no outdoor usage permitted. Only emergency water permitted to sustain human life.
 4. **Is there a tier system that regulates more frequent users of the interconnect agreement?**
 - No. Contractually you cannot be a frequent user. Frequent use would constitute a wholesale agreement. Each emergency interconnect activation is limited to 30 calendar days.

EMERGENCY INTERCONNECT AGREEMENT


This Emergency Interconnect Agreement (the "Agreement") is entered into on this 30th day of ~~January~~ ^{May} 2010 (the "Effective Date") by and between The San Antonio Water System ("SAWS") and SWWC Utilities, Inc., a Delaware corporation ("SWWC"), with respect to SAWS providing an emergency interconnect to SWWC under the following conditions:

1. The requesting purveyor agrees that SAWS has the obligation to first provide water service to its customers not located in the area to be served through the emergency interconnect. SAWS has the right to not sell water through the emergency interconnect if it has determined that first priority customers would be adversely impacted. The requesting purveyor understands and agrees that SAWS, in its sole discretion, may terminate the emergency interconnect at anytime and reject any future emergency interconnects.
2. All emergency interconnections shall be charged the interconnect water service rate and billed in accordance with City of San Antonio Ordinance # 101684 and as may be amended from time to time. Impact fees will not be charged by SAWS for an emergency interconnect.
3. Physical connections to the SAWS system for the emergency interconnect shall be funded entirely by the requesting purveyor. SAWS must approve the engineering plans and inspect the construction of the connection prior to activating the emergency interconnect.
4. Activation of the connection is temporary and shall be limited to conditions necessitated by mechanical failure.
 - a. The emergency connection shall not be used as the mechanism to delay repairs or modifications to the requesting purveyors system.
 - b. Activation of the connection shall be performed by SAWS staff.
5. Each activation of the emergency interconnect shall not exceed 30 days. If more than 30 days is needed to repair the mechanical failure with the system, the requesting purveyor shall submit a written request to SAWS. SAWS will then reassess the request to determine if adequate water supply is available for SAWS first priority customers and also for the emergency interconnect.
6. Water use by the requesting purveyor shall be limited to domestic indoor use -- not for landscape watering.
7. The emergency interconnect is not intended to serve as a supplemental source due to declining water supply and cannot be used to avoid acquiring additional water supplies or to avoid building redundant infrastructure.

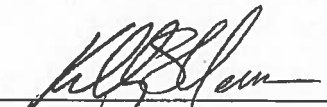
- a. The emergency interconnect cannot be used to satisfy any redundancy or back-up infrastructure or water supply requirements, including, those that may be prescribed by TCEQ.
 - b. If the purveyor does not have an adequate water supply to meet customer demand, a regular connection should be requested.
 - c. A regular connection will require an engineering study to determine compatibility with the System's master plan, the availability of capacity and if additional facilities will be required.
 - d. A regular connection will require the payment of impact fees.
8. The term of this Agreement commences on the Effective Date and shall remain in full force and effect for a period of ten (10) years.
9. Either party may terminate this Agreement by providing prior written notice to the other with an immediate effective date.

IN WITNESS WHEREOF, SAWS and SWWC have duly executed this Agreement as of the Effective Date.

SWWC UTILITIES, INC.

By: 
Name: David Stanton
Title: President

THE SAN ANTONIO WATER SYSTEM

By: 
Name: Kelley Neumann
Title: Vice President

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AN ORDINANCE 101684

AUTHORIZING THE ADDITION OF AN INTERCONNECT WATER SERVICE RATE TO CITY CODE OF SAN ANTONIO, TEXAS CHAPTER 34, TO BE CHARGED BY THE SAN ANTONIO WATER SYSTEM; AND AMENDING THE CITY CODE ACCORDINGLY.

* * * * *

WHEREAS, Ordinance No. 75686, authorized and approved by the City Council of the City of San Antonio, Texas ("City Council") on April 30, 1992, requires that the San Antonio Water System Board of Trustees (the "Board") determine the rates, fees and charges for services rendered by the San Antonio Water System ("SAWS"); and

WHEREAS, the Board had determined that the rates and charges for water customers are in need of revision to establish a Water Service Interconnect Rate; and

WHEREAS, such revisions will require amendments and additions to certain sections of and accompanying schedules to Chapter 34 of the San Antonio City Code, which must be approved by the City Council of the City of San Antonio; and

WHEREAS, if authorized, the Water Service Interconnect Rate will provide a charge for unscheduled potable water delivered to water purveyors or entities that connect to SAWS system on a temporary or short-term basis; and

WHEREAS, connection to the system and the application of the proposed rate are intended only for the time needed by the customer to resolve or mitigate the situation that caused the customer to request a connection; and

WHEREAS, water purveyors and entities outside of the SAWS system have and will continue to request connections to the system to receive potable water services on a short-term, unscheduled basis and the purveyors then resell the water provided by SAWS to their customers; and

WHEREAS, supplying water under the Water Service Interconnect Rate is not intended to be an indefinite source of water to the customer and, therefore, the rate is structured to provide short term temporary water service, yet encourage long term water service agreements which will help SAWS and the benefiting water purveyor to work together at providing the necessary water supply for the community in need; and

WHEREAS, customers who connect to the SAWS system under the Water Service Interconnect Rate shall pay for all services related to connecting into the infrastructure of the system, including capital and operational costs; and

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WHEREAS, in addition to providing short term relief and encouraging long term relationships, the proposed rate will ensure that the water purveyors purchasing water under this rate schedule will not profit when reselling the water to their own customers; and

WHEREAS, it is in the best interest of the City for the City Council to approve and adopt such rates and charges in order to continue to maintain its covenants and obligations;
NOW THEREFORE:

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SAN ANTONIO:

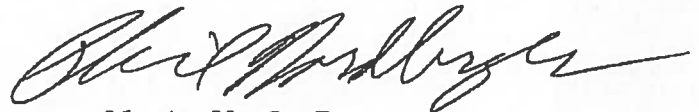
SECTION 1. The Water Service Interconnect Rate set forth in Attachment I to this Ordinance is authorized and approved.

SECTION 2. The rate shall be effective for all SAWS billings on and after January 1, 2006.

SECTION 3. The City Code shall be amended in accordance with Attachment I to this Ordinance.

SECTION 4. This Ordinance shall be effective on and after the tenth day after passage.

PASSED AND APPROVED this 17th day of November, 2005.

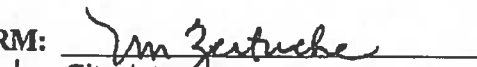


M A Y O R
PHIL HARDBERGER

ATTEST:


City Clerk

APPROVED AS TO FORM:


City Attorney

Attachment
I

ATTACHMENT I

AMENDMENTS TO CHAPTER 34 OF THE SAN ANTONIO CITY CODE

The City Code of the City of San Antonio Chapter 34, Water and Sewers, Article II, Water Service and Rates, Section 34-122, Rate Schedules, is hereby amended by adding the language that is underlined (added) as set forth herein.

Article II. Water Service and Rates

Section 34-122.4. Water Service Interconnect Rate

Section 34-122.4.01 Definitions

For the purpose of this chapter the following terms, phrases, words, and their derivations shall have the meaning in this section.

Customers. The application of the water service interconnect rate shall apply to customers or entities that request to interconnect into the System to receive water services on a temporary basis that: a) do not have a current contract for wholesale water service with the System at the point of service that is included in the request; and b) plan to resell the water provided by the System to its own customers. The System shall have the discretion to determine whether or not a particular request for temporary water service qualifies as either a wholesale water service request or a request for temporary water service under this temporary interconnection rate. In making such a determination, the System may consider whether or not the requirements for service included in the request are within the System's long-term capabilities and consistent with the System's master plan.

Water Rates of the System. The water rates shall be herein defined as those water rates and charges in effect for residential customers as defined under Chapter 34 Article II and amended from time to time. The water rates shall include but not be limited to the Water Supply Fee, all applicable water rates, and Edwards Aquifer Authority Fees.

Water Rates of the Customer. The water rates shall be herein defined as those water rates and charges in effect for residential customers of the Customer at the time of the billing of the water service interconnect rate by the System. The water rates shall include but not be limited to all applicable water rates, surcharges, and charges for the procurement of existing or additional water sources.

Section 34-122.4.02 Application of Water Service Interconnect Rate

a) *Billing of Customer.* The System shall bill Customer in accordance with the provisions in Chapter 34, Article II.

b) *Systems' Right to Sell Water.* System has an obligation to serve its customers who are not under the water service interconnect rate. System shall have the right not to sell to Customer in any event that it deems necessary to preserve the capacity to serve customers who are not under the water service interconnect rate. When possible, System shall

notify Customer in advance that it will not be able serve Customer under the interconnect arrangement for a designated time period.

c) *Required Documentation.* Customer shall provide to System on a monthly basis its monthly forecast for the next twelve-month time period of water usage needs required of the interconnection infrastructure. The forecast documentation is necessary for System to determine its ability to service Customer under the water service interconnect rate.

Customer shall also provide to System on a monthly basis its current rate schedules then in effect for its residential customers, including all applicable charges and fees that would be charged to its residential customers for that month. If billing to Customer is not according to the applicable rate schedules then in effect at time of billing, System reserves the right to bill Customer on the applicable rates for all usage that was applied to the incorrect rate schedules.

d) *System's Ability to Provide Standby Services.* System recognizes that the interconnect services are necessary to provide services that are on a standby basis and the rate should incorporate a provision for the standby service.

e) *Payment for the Interconnection Infrastructure.* Customer shall pay for all services related to connecting into the infrastructure of the System, to include capital and operations costs. Customer shall pay for the pipeline costs in advance of receiving water services from System. In the event System must incur operations costs to service the interconnect infrastructure, System shall bill Customer the current costs of time and materials.

f) *Assignment of Water under Water Service Interconnect Rate.* Water service provided to Customer through the interconnect line is intended for the use of the Customer on a temporary or emergency basis. Customer shall not assign the provisions of the water service to other water purveyors.

Section 34-122.4.03 Water Service Interconnect Rate

The Water Service Interconnect Rate is hereby established and is applicable to the use of potable water.

Customer shall be charged on a monthly basis for the preceding monthly metered usage based on the following calculations:

a) *Rates.* Customer shall be charged the highest bill calculated based on the metered usage on the interconnect line of the Customer applied to the Water Rates of the System and the Water Rates of the Customer, and

b) *Standby Charge.* Customer shall be charged monthly for the ability of System to provide standby services at the System's meter fee rate on the interconnect meter. If water usage is metered for two consecutive months or for more than three months during a calendar year, then the System shall charge additional standby services of ten times the applicable meter fee rate or Monthly Service Availability Charge for each month of metered usage in the calendar year, and

c) *Time and Material Charges.* Customer shall be charged monthly for all time and material charges incurred to service the interconnect infrastructure. Such billing shall detail the reason for the charges in addition to the time and unit costs.