VOLUME 19

PENNSYLVANIA-AMERICAN WATER COMPANY

2020 GENERAL BASE RATE CASE
R-2020-3019369 (WATER)
R-2020-3019371 (WASTEWATER)

EXHIBITS NO. 12-F, 12-G, 12-H
WASTEWATER CSS SCRANTON OPERATIONS
WASTEWATER CSS MCKEESPORT OPERATIONS
WASTEWATER CSS KANE OPERATIONS
COST OF SERVICE AS OF DECEMBER 31, 2021, 2022

EXHIBIT NO. 12-F -

SCRANTON WASTEWATER CSS OPERATIONS

COST OF SERVICE AS OF DECEMBER 31, 2021

AND DECEMBER 31, 2022

Exhibit No. 12-F
Witness: C. Heppenstall

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

SCRANTON WASTEWATER CSS OPERATIONS

WASTEWATER COST OF SERVICE

ALLOCATION STUDY

AS OF DECEMBER 31, 2021 AND 2022

AND

PROPOSED CUSTOMER RATES

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania

April 22, 2020

Pennsylvania-American Water Company
852 Wesley Drive
Mechanicsburg, PA 17055

Attention: Ashley E. Everette
Director, Rates & Regulatory

Ladies and Gentlemen:

Pursuant to your request, we have conducted a wastewater cost of service allocation study for Scranton Wastewater Operations based on pro forma revenue requirements estimated for the test year ended December 31, 2021 and December 31, 2022, and have prepared proposed wastewater rate schedules designed to produce pro forma revenues more commensurate with the allocated costs.

The attached report presents the results of the allocation study, as well as supporting schedules which set forth the detailed cost allocation calculations and the proposed schedule of rates. Schedule A on page 6 presents a comparison of the cost of service by customer classification with the pro forma revenues produced by each classification under present and proposed rates. The proof of revenue calculations are set forth in Exhibit No. 12-N.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

CONSTANCE E. HEPPENSTALL
Senior Project Manager, Rate Studies

CEH:mle

066548.200

WASTEWATER COST OF SERVICE

ALLOCATION STUDY

AS OF DECEMBER 31, 2021

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2021

Customer Classification	Cost of Service Amount (Schedule D)	Cost of Service Percent	Revenues, Present Rates Amount	Revenues, Present Rates Percent	Revenues, 2021 Rates Amount	Revenues, 2021 Rates Percent	Proposed Increase Amount	Proposed Increase Percent Increase
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Residential	$ 15,458,920	59.3%	$13,423,016	57.6%	$ 14,646,246	56.2%	$ 1,223,230	9.1%
Non-Residential	9,750,912	37.4%	8,836,514	37.9%	10,197,345	39.1%	1,360,831	15.4%
Industrial	865,333	3.3%	1,056,234	4.5%	1,231,574	4.7%	175,340	16.6%
Total Sales	26,075,165	100.0%	23,315,764	100.0%	26,075,165	100.0%	2,759,401	11.8%
COS Recovered from Water	8,457,047							
Other Revenues	222,100		152,010		222,100		70,090	46.1%
Total	$ 34,754,312		$ 23,467,774		$ 26,297,265		$ 2,829,491	12.1%

PENNSYLVANIA-AMERICAN WATER COMPANY
SCRANTON WASTEWATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PRESENT RATES

Item	Cost of Service	Residential	Non-Residential	Industrial
(1)	(2)	(3)	(4)	(5)
1. Revenues From Sales	$ 23,315,764	$ 13,423,016	$ 8,836,514	$ 1,056,234
2. Other Revenues	152,010	87,513	57,611	6,886
3. Total Operating Revenues	23,467,774	13,510,529	8,894,125	1,063,120
4. Less: Operating Expenses	18,003,064	10,538,191	6,824,239	640,634
5. Return and Income Taxes	5,464,710	2,972,338	2,069,886	422,486
6. Less: Taxable Exclusions - Allocated on Rate Base	3,585,869	2,141,197	1,332,867	111,805
7. Taxable Income	1,878,841	831,141	737,019	310,681
8. Less: Income Taxes (Based on Taxable Income, Line 7.)	98,957	43,776	38,818	16,363
9. Net Return (Line 5 - Line 8)	5,365,753	2,928,563	2,031,068	406,123
10. Original Cost Measure of Value	177,383,173	105,919,182	65,933,301	5,530,689
11. Rate Of Return, Percent	3.02	2.76	3.08	7.34
12. Relative Rate of Return	1.00	0.91	1.02	2.43

PENNSYLVANIA-AMERICAN WATER COMPANY
SCRANTON WASTEWATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PROPOSED RATES

Item	Cost of Service	Residential	Non-Residential	Industrial
(1)	(2)	(3)	(4)	(5)
1. Revenues From Sales	$ 26,075,165	$ 14,646,246	$ 10,197,345	$ 1,231,574
2. Other Revenues	222,100	124,752	86,858	10,490
3. Total Operating Revenues	26,297,265	14,770,998	10,284,203	1,242,064
4. Less: Operating Expenses (Net of cost of service recovered from water)	9,747,210	5,701,604	3,687,534	358,071
5. Return and Income Taxes	16,550,055	9,069,394	6,596,669	883,993
6. Less: Taxable Exclusions - Allocated on Rate Base	3,589,532	2,144,607	1,333,201	111,724
7. Taxable Income	12,960,523	6,924,787	5,263,468	772,268
8. Less: Income Taxes (Based on Taxable Income, Line 7.)	3,303,747	1,765,187	1,341,702	196,858
9. Net Return (Line 5 - Line 8)	13,246,308	7,304,207	5,254,966	687,135
10. Original Cost Measure of Value	177,564,450	106,087,913	65,949,840	5,526,697
11. Rate Of Return, Percent	7.46	6.89	7.97	12.43
12. Relative Rate of Return	1.00	0.92	1.07	1.67

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Industrial (6)	CSO Stormwater (7)
OPERATION AND MAINTENANCE EXPENSES							
	SEWAGE TREATMENT						
601.3	Salary and Wages	2	$ 1,360,149	$ 457,690	$ 336,093	$ 36,996	$ 529,370
601.4	Salary and Wages	2	618,797	208,225	152,905	16,831	240,836
615.3	Purchased Power	2	426,253	143,434	105,327	11,594	165,898
618.3	Chemicals	1	1,420,177	782,517	574,461	63,198	0
620.3	Materials and Supplies - Operation	2	13,099	4,408	3,237	356	5,098
635.3	Contract Services Test	2	66,034	22,220	16,317	1,796	25,700
636.3	Contract Services - Operation	2	74,811	25,174	18,486	2,035	29,116
641.3	Rental of Building	2	-	0	0	0	0
642.3	Rental of Equipment	2	-	0	0	0	0
650.3	Transportation	2	-	0	0	0	0
620.4	Materials and Supplies - Maintenance	2	31,786	10,696	7,854	865	12,371
636.4	Contract Sevices - Maintenance	2	8,463	2,848	2,091	230	3,294
650.4	Transportation	2	34,014	11,446	8,405	925	13,238
675.4	Misc. Maint. Expense	2	26,349	8,866	6,511	717	10,255
675.3	Waste Disposal	1	1,141,620	629,033	461,785	50,802	0
675.3	Misc. Operating Expense	2	-	0	0	0	0
	TOTAL SEWAGE TREATMENT EXPENSE		5,221,552	2,306,557	1,693,472	186,345	1,035,177
	COLLECTION EXPENSES						
601.5	Salary and Wages	2	(213)	(72)	(53)	(6)	(83)
601.6	Salary and Wages	2	1,418,254	477,242	350,451	38,577	551,984
601.6	Salary and Wages - CSO	DA	144,720				144,720
615.5	Purchased Power	2	(2,888)	(972)	(714)	(79)	(1,124)
620.5	Materials and Supplies	2	0	0	0	0	0
636.5	Contract Services	2	627	211	155	17	244
642.5	Rental of Equipment	2	0	0	0	0	0
	TOTAL COLLECTION EXPENSE OPERATION		1,560,500	476,410	349,839	38,509	695,742

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Industrial (6)	CSO Stormwater (7)
620.6	Materials and Supplies	2	33,859	11,394	8,367	921	13,178
636.6	Contract Services	2	40,468	13,617	10,000	1,101	15,750
675.6	Miscellaneous Maintenance Expense	2	41,923	14,107	10,359	1,140	16,316
675.5	Miscellaneous Operating Expense	2	52,078	17,524	12,868	1,417	20,269
	TOTAL COLLECTION - MAINTENANCE		168,328	56,642	41,594	4,579	65,513
	TOTAL COLLECTION EXPENSE		1,728,828	533,052	391,433	43,088	761,255
	CUSTOMER ACCOUNTS						
601.7	Salary and Wages	6	0	0	0	0	0
670.7	Bad Debts	6	418,789	346,674	71,739	377	0
675.7	Miscellaneous Expense	6	7,771	6,433	1,331	7	0
	TOTAL CUSTOMER ACCOUNTING EXPENSE		426,560	353,106	73,070	384	0
	ADMINISTRATIVE AND GENERAL EXPENSES						
601.8	Salaries and Wages	11	1,005,756	375,348	232,933	23,836	373,638
603.8	Salaries of Officiers	11	0	0	0	0	0
604.8	Employee Pension & Benefits	7	1,300,294	434,168	306,609	33,288	526,229
615.8	Purchased Power	11	0	0	0	0	0
620.8	Materials and Supplies	11	1,252	467	290	30	465
631.8	Contractual Services	11	125,315	46,768	29,023	2,970	46,555
632.8	Contractual Services - Legal	11	0	0	0	0	0
636.8	Contractual Services	11	69,572	25,964	16,113	1,649	25,846
641.8	Rental of Building	11	1,220	455	283	29	453
642.8	Rental of Equipment	11	15,986	5,966	3,702	379	5,939
650.8	Transportation	11	294,920	110,064	68,303	6,990	109,563
657.8	Insurance	11	463,902	173,128	107,440	10,994	172,340
658.8	Workers Compensation	7	57,649	19,249	13,594	1,476	23,331
666.8	Rate Case Expense	10	48,132	16,731	10,859	1,040	19,503
675.8	Miscellaneous Expense	11	254,369	94,931	58,912	6,029	94,498
	TOTAL A & G EXPENSE		3,638,367	1,303,239	848,060	88,708	1,398,359
	Total Operation & Maintenance Expenses		11,015,307	4,495,956	3,006,035	318,525	3,194,791

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021

Account (1)		Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Industrial (6)	CSO Stormwater (7)
DEPRECIATION EXPENSE							
354.20	Structures and Improvements - Collection	4	110,733	27,085	17,485	1,572	64,591
354.30	Structures and Improvements - Pumping						
	Froude Ave - Sanitary Only	3	8,757	5,140	3,319	298	0
	Combined System	4	190,161	46,513	30,026	2,700	110,921
354.40	Structures and Improvements - Treatment						
	Sewage Treatment	3	1,184,534	695,321	448,938	40,274	0
	CSO Stormwater	DA	195,758				195,758
355.00	Power Generation Equipment	4	0	0	0	0	0
360.10	Force Mains	4	5,104	1,248	806	72	2,977
361.10	Gravity Mains						
	Gravity Mains - Sanitary Only	3	369,584	216,946	140,072	12,566	0
	Gravity Mains - Combined Sewers	4	629,292	153,925	99,365	8,936	367,066
	CSO Assets	DA	629,072				629,072
361.20	Manholes						
	Sanitary Only	3	124,550	73,111	47,204	4,235	0
	Combined System	4	212,071	51,873	33,486	3,011	123,701
	CSO Stormwater	DA	6,539				6,539
362.00	Special Collection Structures	DA	277,801				277,801
363.00	Service Laterals	5	250,706	162,583	84,087	4,036	0
364.00	Flow Measuring Devices	4	100,511	24,585	15,871	1,427	58,628
371.00	Pumping Equipment	4	268,510	65,677	42,398	3,813	156,622
380.00	Treatment Equipment						
	Sewage Treatment	3	651,040	382,160	246,744	22,135	0
	CSO Stormwater	DA	185,194				185,194
382.00	Outfall Sewer Lines	DA	37,262				37,262
389.10	Other Plant and Misc. Equip. - Intangible	11	252,498	94,232	58,479	5,984	93,803
389.60	Other Plant and Misc. Equipment - CPS	11	24,000	8,957	5,558	569	8,916
390.00	Office Furniture and Equipment	11	64,287	23,992	14,889	1,524	23,883
391.00	Transportation Equipment	11	319,932	119,399	74,096	7,582	118,855
391.00	Transportation Equipment - CSO Related	DA	29,495				29,495
393.00	Tools, Shop and Garage Equipment	11	88,197	32,915	20,426	2,090	32,765
394.00	Laboratory Equipment	1	16,363	9,016	6,619	728	0
395.00	Power Operated Equipment	11	17,738	6,620	4,108	420	6,590
396.00	Communication Equipment	11	39,543	14,757	9,158	937	14,690
397.00	Miscellaneous Equipment	11	23,402	8,733	5,420	555	8,694
	Total Depreciation Expense		6,312,629	2,224,789	1,408,554	125,466	2,553,819

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Industrial (6)	CSO Stormwater (7)
	Amortization Expense	9	(156,664)	(48,033)	(30,612)	(2,710)	(75,308)
	Taxes Other Than Income						
685100	Utility Reg Assessment Fee	10	200,123	69,563	45,148	4,323	81,090
685200	Property Taxes	9	474,695	145,541	92,755	8,212	228,186
685320	Payroll Taxes	7	358,167	119,592	84,456	9,169	144,950
	Total Taxes, Other Than Income		1,032,985	334,696	222,359	21,704	454,226
	Total Operating Expense		18,204,257	7,007,408	4,606,337	462,985	6,127,527
4091	**Income Taxes**	9	3,303,747	1,012,929	645,552	57,155	1,588,111
	Utility Income Available for Return	9	13,246,308	4,061,318	2,588,329	229,161	6,367,500
	Total Cost of Service		34,754,312	12,081,654	7,840,217	749,301	14,083,139
	Less: Other Revenues	10	(222,100)	(77,202)	(50,106)	(4,797)	(89,995)
	Total Cost of Service Related to Sales of Wastewater Services		34,532,212	12,004,453	7,790,112	744,504	13,993,144
	Reallocation of CSO Stormwater Costs	1A	0	8,468,651	5,122,890	401,603	(13,993,144)
	Less: Cost of Service Recovered from Water Rates	10A	(8,457,047)	(5,014,183)	(3,162,090)	(280,774)	0
	Total		$ 26,075,165	$ 15,458,920	$ 9,750,912	$ 865,333	$ -

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTORS 1 and 2. ALLOCATION OF COSTS ASSOCIATED WITH AVERAGE DAILY FLOWS.

Factors are based on the pro forma test year average daily consumption for each customer classification.

Classification	Total Average Daily Customer Flow 100 gallons (a)	I&I Average Day 100 gallons (b)	Total Sanitary Average Flow	Allocation Factor 1	Average Day CSO 100 gallons	Total Average Day Wastewater Flow	Allocation Factor 2
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)	(7)=(4)+(6)	(8)
Residential	27,157	19,022	46,179	0.5510		46,179	0.3365
Non-Residential	22,399	11,507	33,906	0.4045		33,906	0.2471
Industrial	2,829	902	3,731	0.0445		3,731	0.0272
Stormwater CSO	-	-	-	-	53,404	53,404	0.3892
Total	52,385	31,431	83,816	1.0000	53,404	137,220	1.0000

(a) Customer water usage from bill analysis, adjusted to reflect 88% returned to sewer system. See below.
(b) Allocation based on Factor 1A for Residential, Non-Residential and Industrial.

Classification	Annual Usage 100 gallons	Average Day 100 gallons	Percent to Sewer System	Adjusted Average Day 100 gallons
(1)	(2)	(3)=(2)/365	(6)	(7)
Residential	11,264,108	30,861	88.0%	27,157
Non-Residential	9,290,567	25,454	88.0%	22,399
Industrial	1,173,293	3,215	88.0%	2,829
Total	21,727,968	59,529		52,385

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1A. ALLOCATION OF INFILTRATION AND INFLOW BY CUSTOMER CLASS.

Factors are based on a 1/3-2/3 weighting of flow and number of customers, as follows:

Customer Classification	Total Average Daily Flow 100 gallons	Average Daily Flow		Service Equivalents (Factor 5)			Allocation Factor 1A
		Factor	Weight	Number	Factor 5	Weight	
(1)	(2)	(3)	(4)=(3) x 0.3333	(5)	(6)	(7)=(6) x 0.6667	(8)=(4)+(7)
Residential	27,157	0.5185	0.1728	28,575	0.6485	0.4324	0.6052
Non-Residential	22,399	0.4276	0.1425	14,779	0.3354	0.2236	0.3661
Industrial	2,829	0.0540	0.0180	710	0.0161	0.0107	0.0287
Total	52,385	1.0001	0.3333	44,064	1.0000	0.6667	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTORS 3 and 4. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PEAK DAILY FLOW.

Factors are based on the peak daily flow for each customer classification.

Classification	Total Average Daily Customer Flow 100 gallons (a)	I&I Peak Day 100 gallons (b)	Total Sanitary Peak Flow	Allocation Factor 3	Peak Day CSO 100 gallons	Total Peak Day Wastewater Flow	Allocation Factor 4
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)	(7)=(4)+(6)	(8)
Residential	27,157	119,596	146,753	0.5870		146,753	0.2446
Non-Residential	22,399	72,347	94,746	0.3790		94,746	0.1579
Industrial	2,829	5,672	8,501	0.0340		8,501	0.0142
Stormwater CSO	-	-	-	-	350,000	350,000	0.5833
Total	52,385	197,615	250,000	1.0000	350,000	600,000	1.0000

(a) See Factor 1.
(b) Allocated based on Factor 1A

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH CUSTOMER FACILITIES.

Factors are based on the estimated relative cost of customer facilities, as follows:

Customer Classification	Number of Customers	Service Equiv. Ratio	Service Equivalents	Allocation Factor
(1)	(2)	(3)	(2)X(3)=(4)	(5)
Residential	28,575	1.0	28,575	0.6485
Non-Residential	5,911	2.5	14,779	0.3354
Industrial	28	25.0	710	0.0161
Stormwater CSO	-	-	-	-
Total	34,514		44,064	1.0000

FACTOR 6. ALLOCATION OF COSTS ASSOCIATED WITH BILLING AND COLLECTING.

Factors are based on the number of customers.

Customer Classification	Number of Customers	Allocation Factor
(1)	(2)	(3)
Residential	28,575	0.8278
Non-Residential	5,911	0.1713
Industrial	28	0.0009
Stormwater CSO	-	-
Total	34,514	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 7. ALLOCATION OF LABOR RELATED TAXES AND BENEFITS.

Factors are based on the allocation of direct labor expense.

Customer Classification	Direct Labor Expense	Allocation Factor
(1)	(2)	(3)
Residential	$ 1,518,434	0.3339
Non-Residential	1,072,329	0.2358
Industrial	116,234	0.0256
Stormwater CSO	1,840,466	0.4047
Total	$ 4,547,463	1.0000

FACTOR 8. ALLOCATION OF ORGANIZATION, FRANCHISES AND CONSENTS, MISCELLANEOUS INTANGIBLE PLANT AND OTHER RATE BASE ELEMENTS.

Factors are based on the allocation of the original cost less depreciation other than those items being allocated, as follows:

Customer Classification	Original Cost Less Depreciation	Allocation Factor
(1)	(2)	(3)
Residential	$ 57,017,684	0.3062
Non-Residential	36,343,868	0.1952
Industrial	3,220,168	0.0173
Stormwater CSO	89,606,559	0.4813
Total	$ 186,188,280	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 9. ALLOCATION OF INCOME TAXES AND INCOME AVAILABLE FOR RETURN.

Factors are based on the allocation of the original cost measure of value rate base as shown on the following pages and summarized below.

Customer Classification (1)	Original Cost Measure of Value (2)	Allocation Factor (3)
Residential	$ 54,429,428	0.3066
Non-Residential	34,700,383	0.1954
Industrial	3,076,931	0.0173
Stormwater CSO	85,357,708	0.4807
Total	$ 177,564,450	1.0000

FACTOR 10 and 10A. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS, OTHER WATER REVENUES.

The factors are based on the allocation of the total cost of service, excluding those items being allocated.

Customer Classification (1)	Total Cost of Service (2)	Allocation Factor 10 (3)	Total Cost of Service with Stormwater Reallocated (4)	Allocation Factor 10A (5)
Residential	$ 11,995,361	0.3476	$ 20,473,103	0.5929
Non-Residential	7,784,211	0.2256	12,913,001	0.3739
Industrial	743,939	0.0216	1,146,107	0.0332
Stormwater CSO	13,982,546	0.4052	-	-
Total	$ 34,506,057	1.0000	$ 34,532,212	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Industrial (6)	CSO Stormwater (7)
RATE BASE							
353.20	Land and Land Rights - Collection	4	599,223	146,570	94,617	8,509	349,527
353.30	Land and Land Rights - Pumping	4	43,570	10,657	6,880	619	25,414
353.40	Land and Land Rights - Treatment	3	110,020	64,581	41,697	3,741	0
354.20	Structures and Improvements - Collection	4	3,942,468	964,328	622,516	55,983	2,299,641
354.30	Structures and Improvements - Pumping						
	Froude Ave - Sanitary Only	3	252,175	148,027	95,574	8,574	0
	Combined System	4	5,571,287	1,362,737	879,706	79,112	3,249,732
354.40	Structures and Improvements - Treatment						
	Sewage Treatment	3	36,211,707	21,256,272	13,724,237	1,231,198	0
	CSO Stormwater	DA	6,288,542				6,288,542
355.00	Power Generation Equipment	4	0	0	0	0	0
360.10	Force Mains	4	189,501	46,352	29,922	2,691	110,536
361.10	Gravity Mains						
	Gravity Mains - Sanitary Only	3	14,424,784	8,467,348	5,466,993	490,443	0
	Gravity Mains - Combined Sewers	4	24,561,119	6,007,650	3,878,201	348,768	14,326,501
	CSO Assets	DA	35,141,570				35,141,570
361.20	Manholes						
	Sanitary Only	3	3,101,803	1,820,759	1,175,583	105,461	0
	Combined System	4	5,281,449	1,291,843	833,941	74,997	3,080,669
	CSO Stormwater	DA	303,874				303,874
362.00	Special Collection Structures	DA	12,382,698				12,382,698
363.00	Service Laterals	5	4,785,833	3,103,613	1,605,168	77,052	0
364.00	Flow Measuring Devices	4	904,676	221,284	142,848	12,846	527,698
371.00	Pumping Equipment	4	4,811,408	1,176,870	759,721	68,322	2,806,494
380.00	Treatment Equipment						
	Sewage Treatment	3	13,273,171	7,791,351	5,030,532	451,288	0
	CSO Stormwater	DA	3,966,529				3,966,529
382.00	Outfall Sewer Lines	DA	1,481,291				1,481,291

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Industrial (6)	CSO Stormwater (7)
389.10	Other Plant and Misc. Equip. - Intangible	11	2,728,188	1,018,160	631,848	64,658	1,013,522
389.60	Other Plant and Misc. Equipment - CPS	11	96,000	35,827	22,234	2,275	35,664
390.00	Office Furniture and Equipment	11	881,975	329,153	204,265	20,903	327,654
391.00	Transportation Equipment	11	2,377,745	887,375	550,686	56,353	883,332
391.00	Transportation Equipment - CSO Related	DA	218,966				218,966
393.00	Tools, Shop and Garage Equipment	11	1,259,833	470,170	291,777	29,858	468,028
394.00	Laboratory Equipment	1	139,062	76,623	56,251	6,188	0
395.00	Power Operated Equipment	11	208,096	77,661	48,195	4,932	77,308
396.00	Communication Equipment	11	371,580	138,674	86,058	8,806	138,042
397.00	Miscellaneous Equipment	11	278,136	103,800	64,416	6,592	103,328
	TOTAL SEWER UTILITY PLANT IN SERVICE		186,188,280	57,017,684	36,343,868	3,220,168	89,606,559
	Other Rate Base Items:						
	Cash Working Capital	12	513,340	209,545	140,090	14,836	148,869
	Materials and Supplies	8	91,445	28,000	17,850	1,582	44,012
	Acquisition Adjustments	8	2,716,919	831,920	530,343	47,003	1,307,653
	Tax Cuts and Jobs Act -Stub Period	8	(577,751)	(176,907)	(112,777)	(9,995)	(278,072)
	Deferred, Accrued and Prepaid Taxes	8	(11,367,783)	(3,480,815)	(2,218,991)	(196,663)	(5,471,314)
	Total Other Rate Base Elements		(8,623,831)	(2,588,256)	(1,643,485)	(143,238)	(4,248,852)
	Total Original Cost Measure of Value		$ 177,564,450	$ 54,429,428	$ 34,700,383	$ 3,076,931	$ 85,357,708

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 11. ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSES

Factors are based on the allocation of all other operation and maintenance expenses excluding purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 1,638,704	0.3732
Non-Residential	1,017,115	0.2316
Industrial	104,301	0.0237
Stormwater CSO	1,631,658	0.3715
Total	$ 4,391,778	1.0000

FACTOR 12. ALLOCATION OF CASH WORKING CAPITAL

Factors are based on the allocation of operation and maintenance expenses including purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 4,495,956	0.4082
Commercial	3,006,035	0.2729
Industrial	318,525	0.0289
Stormwater CSO	3,194,791	0.2900
Total	$ 11,015,307	1.0000

WASTEWATER COST OF SERVICE

ALLOCATION STUDY

AS OF DECEMBER 31, 2022

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2022

	Cost of Service		Revenues, 2021 Rates		Revenues, Proposed 2022 Rates		Proposed Increase	
Customer Classification	Amount (Schedule D)	Percent	Amount	Percent	Amount	Percent	Amount	Percent Increase
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Residential	$ 15,356,517	59.0%	$14,353,955	56.4%	$ 14,487,845	55.6%	$ 133,890	0.9%
Non-Residential	9,815,474	37.7%	9,729,912	38.2%	10,305,609	39.6%	575,696	5.9%
Industrial	873,728	3.4%	1,364,958	5.4%	1,252,266	4.8%	(112,692)	-8.3%
Total Sales	26,045,719	100.1%	25,448,825	100.0%	26,045,719	100.0%	596,894	2.3%
COS Recovered from Water	10,843,561							
Other Revenues	236,816		220,015		236,816		16,801	7.6%
Total	$ 37,126,096		$ 25,668,840		$ 26,282,535		$ 613,695	2.4%

PENNSYLVANIA-AMERICAN WATER COMPANY
SCRANTON WASTEWATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PRESENT RATES

Item	Cost of Service	Residential	Non-Residential	Industrial
(1)	(2)	(3)	(4)	(5)
1. Revenues From Sales	$ 25,448,825	$ 14,353,955	$ 9,729,912	$ 1,364,958
2. Other Revenues	220,015	124,096	84,119	11,801
3. Total Operating Revenues	25,668,840	14,478,050	9,814,031	1,376,758
4. Less: Operating Expenses	19,064,294	11,150,056	7,237,421	676,818
5. Return and Income Taxes	6,604,546	3,327,995	2,576,610	699,941
6. Less: Taxable Exclusions - Allocated on Rate Base	3,830,460	2,274,237	1,435,247	120,975
7. Taxable Income	2,774,086	1,053,757	1,141,363	578,965
8. Less: Income Taxes (Based on Taxable Income, Line 7.)	2,802,988	1,064,736	1,153,255	584,997
9. Net Return (Line 5 - Line 8)	3,801,558	2,263,259	1,423,356	114,943
10. Original Cost Measure of Value	193,554,337	114,917,920	72,523,497	6,112,921
11. Rate Of Return, Percent	1.96	1.97	1.96	1.88
12. Relative Rate of Return	1.00	1.00	1.00	0.96

PENNSYLVANIA-AMERICAN WATER COMPANY
SCRANTON WASTEWATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PROPOSED RATES

Item	Cost of Service	Residential	Non-Residential	Industrial
(1)	(2)	(3)	(4)	(5)
1. Revenues From Sales	$ 26,045,719	$ 14,487,845	$ 10,305,609	$ 1,252,266
2. Other Revenues	236,816	131,728	93,702	11,386
3. Total Operating Revenues	26,282,535	14,619,573	10,399,310	1,263,652
4. Less: Operating Expenses (Net of cost of service recovered from water)	8,268,959	4,799,882	3,156,695	312,382
5. Return and Income Taxes	18,013,576	9,819,691	7,242,615	951,270
6. Less: Taxable Exclusions - Allocated on Rate Base	3,831,320	2,274,984	1,435,361	120,975
7. Taxable Income	14,182,256	7,544,707	5,807,254	830,295
8. Less: Income Taxes (Based on Taxable Income, Line 7.)	3,571,181	1,899,805	1,462,303	209,073
9. Net Return (Line 5 - Line 8)	14,442,395	7,919,886	5,780,312	742,197
10. Original Cost Measure of Value	193,597,796	114,955,645	72,529,228	6,112,924
11. Rate Of Return, Percent	7.46	6.89	7.97	12.14
12. Relative Rate of Return	1.00	0.92	1.07	1.63

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Industrial (6)	CSO Stormwater (7)
OPERATION AND MAINTENANCE EXPENSES							
	SEWAGE TREATMENT						
601.3	Salary and Wages	2	$ 1,393,518	$ 456,377	$ 341,691	$ 37,904	$ 557,547
601.4	Salary and Wages	2	633,978	207,628	155,451	17,244	253,655
615.3	Purchased Power	2	420,637	137,759	103,140	11,441	168,297
618.3	Chemicals	1	1,470,014	802,480	600,942	66,592	0
620.3	Materials and Supplies - Operation	2	13,099	4,290	3,212	356	5,241
635.3	Contract Services Test	2	66,034	21,626	16,192	1,796	26,420
636.3	Contract Services - Operation	2	74,811	24,501	18,344	2,035	29,932
641.3	Rental of Building	2	-	0	0	0	0
642.3	Rental of Equipment	2	-	0	0	0	0
650.3	Transportation	2	-	0	0	0	0
620.4	Materials and Supplies - Maintenance	2	31,786	10,410	7,794	865	12,718
636.4	Contract Sevices - Maintenance	2	8,463	2,772	2,075	230	3,386
650.4	Transportation	2	34,014	11,140	8,340	925	13,609
675.4	Misc. Maint. Expense	2	26,349	8,629	6,461	717	10,542
675.3	Waste Disposal	1	1,141,620	623,210	466,694	51,715	0
675.3	Misc. Operating Expense	2	-	0	0	0	0
	TOTAL SEWAGE TREATMENT EXPENSE		5,314,323	2,310,821	1,730,335	191,820	1,081,346
	COLLECTION EXPENSES						
601.5	Salary and Wages	2	(218)	(71)	(53)	(6)	(87)
601.6	Salary and Wages	2	1,453,045	475,872	356,287	39,523	581,363
601.6	Salary and Wages - CSO	DA	148,270				148,270
615.5	Purchased Power	2	(2,727)	(893)	(669)	(74)	(1,091)
620.5	Materials and Supplies	2	0	0	0	0	0
636.5	Contract Services	2	627	205	154	17	251
642.5	Rental of Equipment	2	0	0	0	0	0
	TOTAL COLLECTION EXPENSE OPERATION		1,598,997	475,113	355,718	39,460	728,706

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Industrial (6)	CSO Stormwater (7)
620.6	Materials and Supplies	2	46,915	15,365	11,504	1,276	18,771
636.6	Contract Services	2	40,468	13,253	9,923	1,101	16,191
675.6	Miscellaneous Maintenance Expense	2	41,923	13,730	10,280	1,140	16,773
675.5	Miscellaneous Operating Expense	2	52,078	17,056	12,770	1,417	20,836
	TOTAL COLLECTION - MAINTENANCE		181,384	59,403	44,475	4,934	72,572
	TOTAL COLLECTION EXPENSE		1,780,381	534,516	400,194	44,393	801,278
	CUSTOMER ACCOUNTS						
601.7	Salary and Wages	6	0	0	0	0	0
670.7	Bad Debts	6	447,369	369,840	77,126	403	0
675.7	Miscellaneous Expense	6	7,771	6,424	1,340	7	0
	TOTAL CUSTOMER ACCOUNTING EXPENSE		455,140	376,264	78,466	410	0
	ADMINISTRATIVE AND GENERAL EXPENSES						
601.8	Salaries and Wages	11	1,030,430	378,168	236,793	24,421	391,048
603.8	Salaries of Officiers	11	0	0	0	0	0
604.8	Employee Pension & Benefits	7	1,362,928	444,042	318,925	34,891	565,070
615.8	Purchased Power	11	0	0	0	0	0
620.8	Materials and Supplies	11	1,252	459	288	30	475
631.8	Contractual Services	11	127,904	46,941	29,392	3,031	48,540
632.8	Contractual Services - Legal	11	0	0	0	0	0
636.8	Contractual Services	11	69,572	25,533	15,988	1,649	26,403
641.8	Rental of Building	11	1,220	448	280	29	463
642.8	Rental of Equipment	11	15,986	5,867	3,674	379	6,067
650.8	Transportation	11	301,390	110,610	69,259	7,143	114,378
657.8	Insurance	11	473,134	173,640	108,726	11,213	179,554
658.8	Workers Compensation	7	58,802	19,158	13,760	1,505	24,379
666.8	Rate Case Expense	10	48,132	16,620	10,931	1,049	19,532
675.8	Miscellaneous Expense	11	276,096	101,327	63,447	6,543	104,778
	TOTAL A & G EXPENSE		3,766,846	1,322,813	871,463	91,884	1,480,687
	Total Operation & Maintenance Expenses		11,316,690	4,544,415	3,080,458	328,507	3,363,310

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Industrial (6)	CSO Stormwater (7)
DEPRECIATION EXPENSE							
354.20	Structures and Improvements - Collection	4	122,937	29,898	19,572	1,758	71,709
354.30	Structures and Improvements - Pumping						
	Froude Ave - Sanitary Only	3	8,430	4,919	3,221	290	0
	Combined System	4	209,085	50,849	33,286	2,990	121,959
354.40	Structures and Improvements - Treatment						
	Sewage Treatment	3	1,317,426	768,718	503,388	45,319	0
	CSO Stormwater	DA	230,532				230,532
355.00	Power Generation Equipment	4	0	0	0	0	0
360.10	Force Mains	4	5,041	1,226	803	72	2,940
361.10	Gravity Mains						
	Gravity Mains - Sanitary Only	3	336,691	196,459	128,650	11,582	0
	Gravity Mains - Combined Sewers	4	573,285	139,423	91,267	8,198	334,397
	CSO Assets	DA	820,322				820,322
361.20	Manholes						
	Sanitary Only	3	120,378	70,241	45,996	4,141	0
	Combined System	4	204,968	49,848	32,631	2,931	119,558
	CSO Stormwater	DA	11,792				11,792
362.00	Special Collection Structures	DA	296,864				296,864
363.00	Service Laterals	5	253,955	164,207	85,634	4,114	0
364.00	Flow Measuring Devices	4	94,130	22,892	14,985	1,346	54,906
371.00	Pumping Equipment	4	322,812	78,508	51,392	4,616	188,296
380.00	Treatment Equipment						
	Sewage Treatment	3	783,916	457,415	299,534	26,967	0
	CSO Stormwater	DA	206,244				206,244
382.00	Outfall Sewer Lines	DA	72,676				72,676
389.10	Other Plant and Misc. Equip. - Intangible	11	244,548	89,749	56,197	5,796	92,806
389.60	Other Plant and Misc. Equipment - CPS	11	24,000	8,808	5,515	569	9,108
390.00	Office Furniture and Equipment	11	63,888	23,447	14,681	1,514	24,245
391.00	Transportation Equipment	11	298,167	109,427	68,519	7,067	113,154
391.00	Transportation Equipment - CSO Related	DA	27,255				27,255
393.00	Tools, Shop and Garage Equipment	11	101,455	37,234	23,314	2,404	38,502
394.00	Laboratory Equipment	1	13,402	7,316	5,479	607	0
395.00	Power Operated Equipment	11	16,631	6,104	3,822	394	6,311
396.00	Communication Equipment	11	38,394	14,091	8,823	910	14,571
397.00	Miscellaneous Equipment	11	23,284	8,545	5,351	552	8,836
	Total Depreciation Expense		6,842,508	2,339,325	1,502,060	134,137	2,866,985

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Industrial (6)	CSO Stormwater (7)
	Amortization Expense	9	(156,664)	(48,942)	(31,662)	(2,820)	(73,240)
	Taxes Other Than Income						
685100	Utility Reg Assessment Fee	10	213,784	73,820	48,550	4,660	86,754
685200	Property Taxes	9	529,658	165,465	107,044	9,534	247,615
685320	Payroll Taxes	7	366,544	119,420	85,771	9,384	151,969
	Total Taxes, Other Than Income		1,109,986	358,705	241,366	23,578	486,338
	Total Operating Expense		19,112,520	7,193,503	4,792,221	483,403	6,643,393
4091	**Income Taxes**	9	3,571,181	1,115,637	721,736	64,281	1,669,527
	Utility Income Available for Return	9	14,442,395	4,511,804	2,918,808	259,963	6,751,820
	Total Cost of Service		37,126,096	12,820,944	8,432,765	807,647	15,064,740
	Less: Other Revenues	10	(236,816)	(81,773)	(53,781)	(5,163)	(96,100)
	Total Cost of Service Related to Sales of Wastewater Services		36,889,280	12,739,172	8,378,984	802,484	14,968,640
	Reallocation of CSO Stormwater Costs	1A	0	9,009,624	5,523,428	435,587	(14,968,640)
	Less: Cost of Service Recovered from Water Rates	10A	(10,843,561)	(6,392,279)	(4,086,938)	(364,344)	0
	Total		$ 26,045,719	$ 15,356,517	$ 9,815,474	$ 873,728	$ -

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTORS 1 and 2. ALLOCATION OF COSTS ASSOCIATED WITH AVERAGE DAILY FLOWS.

Factors are based on the pro forma test year average daily consumption for each customer classification.

Classification (1)	Total Average Daily Customer Flow 100 gallons (a) (2)	I&I Average Day 100 gallons (b) (3)	Total Sanitary Average Flow (4)=(2)+(3)	Allocation Factor 1 (5)	Average Day CSO 100 gallons (6)	Total Average Day Wastewater Flow (7)=(4)+(6)	Allocation Factor 2 (8)
Residential	26,363	18,581	44,944	0.5459		44,944	0.3275
Non-Residential	22,260	11,391	33,651	0.4088		33,651	0.2452
Industrial	2,829	898	3,727	0.0453		3,727	0.0272
Stormwater CSO	-	-	-	-	54,897	54,897	0.4001
Total	51,452	30,870	82,322	1.0000	54,897	137,219	1.0000

(a) Customer water usage from bill analysis, adjusted to reflect 88% returned to sewer system. See below.
(b) Allocation based on Factor 1A for Residential, Non-Residential and Industrial.

Classification (1)	Annual Usage 100 gallons (2)	Average Day 100 gallons (3)=(2)/365	Percent to Sewer System (6)	Adjusted Average Day 100 gallons (7)
Residential	10,934,747	29,958	88.0%	26,363
Non-Residential	9,232,666	25,295	88.0%	22,260
Industrial	1,173,293	3,215	88.0%	2,829
Total	21,340,706	58,468		51,452

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1A. ALLOCATION OF INFILTRATION AND INFLOW BY CUSTOMER CLASS.

Factors are based on a 1/3-2/3 weighting of flow and number of customers, as follows:

Customer Classification	Total Average Daily Flow 100 gallons	Average Daily Flow		Service Equivalents (Factor 5)			Allocation Factor 1A
		Factor	Weight	Number	Factor 5	Weight	
(1)	(2)	(3)	(4)=(3) x 0.3333	(5)	(6)	(7)=(6) x 0.6667	(8)=(4)+(7)
Residential	26,363	0.5125	0.1708	28,341	0.6466	0.4311	0.6019
Non-Residential	22,260	0.4326	0.1442	14,779	0.3372	0.2248	0.3690
Industrial	2,829	0.0550	0.0183	710	0.0162	0.0108	0.0291
Total	51,452	1.0001	0.3333	43,830	1.0000	0.6667	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTORS 3 and 4. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PEAK DAILY FLOW.

Factors are based on the peak daily flow for each customer classification.

Classification	Total Average Daily Customer Flow 100 gallons (a)	I&I Peak Day 100 gallons (b)	Total Sanitary Peak Flow	Allocation Factor 3	Peak Day CSO 100 gallons	Total Peak Day Wastewater Flow	Allocation Factor 4
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)	(7)=(4)+(6)	(8)
Residential	26,363	119,506	145,869	0.5835		145,869	0.2432
Non-Residential	22,260	73,264	95,524	0.3821		95,524	0.1592
Industrial	2,829	5,778	8,607	0.0344		8,607	0.0143
Stormwater CSO	-	-	-	-	350,000	350,000	0.5833
Total	51,452	198,548	250,000	1.0000	350,000	600,000	1.0000

(a) See Factor 1.
(b) Allocated based on Factor 1A

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH CUSTOMER FACILITIES.

Factors are based on the estimated relative cost of customer facilities, as follows:

Customer Classification	Number of Customers	Service Equiv. Ratio	Service Equivalents	Allocation Factor
(1)	(2)	(3)	(2)X(3)=(4)	(5)
Residential	28,341	1.0	28,341	0.6466
Non-Residential	5,911	2.5	14,779	0.3372
Industrial	28	25.0	710	0.0162
Stormwater CSO	-	-	-	-
Total	34,280		43,830	1.0000

FACTOR 6. ALLOCATION OF COSTS ASSOCIATED WITH BILLING AND COLLECTING.

Factors are based on the number of customers.

Customer Classification	Number of Customers	Allocation Factor
(1)	(2)	(3)
Residential	28,341	0.8267
Non-Residential	5,911	0.1724
Industrial	28	0.0009
Stormwater CSO	-	-
Total	34,280	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 7. ALLOCATION OF LABOR RELATED TAXES AND BENEFITS.

Factors are based on the allocation of direct labor expense.

Customer Classification	Direct Labor Expense	Allocation Factor
(1)	(2)	(3)
Residential	$ 1,517,974	0.3258
Non-Residential	1,090,168	0.2340
Industrial	119,086	0.0256
Stormwater CSO	1,931,795	0.4146
Total	$ 4,659,023	1.0000

FACTOR 8. ALLOCATION OF ORGANIZATION, FRANCHISES AND CONSENTS, MISCELLANEOUS INTANGIBLE PLANT AND OTHER RATE BASE ELEMENTS.

Factors are based on the allocation of the original cost less depreciation other than those items being allocated, as follows:

Customer Classification	Original Cost Less Depreciation	Allocation Factor
(1)	(2)	(3)
Residential	$ 63,494,195	0.3122
Non-Residential	41,076,220	0.2020
Industrial	3,648,905	0.0179
Stormwater CSO	95,168,079	0.4679
Total	$ 203,387,399	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 9. ALLOCATION OF INCOME TAXES AND INCOME AVAILABLE FOR RETURN.

Factors are based on the allocation of the original cost measure of value rate base as shown on the following pages and summarized below.

Customer Classification	Original Cost Measure of Value	Allocation Factor
(1)	(2)	(3)
Residential	$ 60,483,884	0.3124
Non-Residential	39,134,843	0.2021
Industrial	3,479,383	0.0180
Stormwater CSO	90,499,687	0.4675
Total	$ 193,597,796	1.0000

FACTOR 10 and 10A. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS, OTHER WATER REVENUES.

The factors are based on the allocation of the total cost of service, excluding those items being allocated.

Customer Classification	Total Cost of Service	Allocation Factor 10	Total Cost of Service with Stormwater Reallocated	Allocation Factor 10A
(1)	(2)	(3)	(4)	(5)
Residential	$ 12,730,505	0.3453	$ 21,748,796	0.5895
Non-Residential	8,373,284	0.2271	13,902,412	0.3769
Industrial	801,937	0.0218	1,238,072	0.0336
Stormwater CSO	14,958,454	0.4058	-	-
Total	$ 36,864,181	1.0000	$ 36,889,280	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Industrial (6)	CSO Stormwater (7)
RATE BASE							
353.20	Land and Land Rights - Collection	4	599,223	145,731	95,396	8,569	349,527
353.30	Land and Land Rights - Pumping	4	43,570	10,596	6,936	623	25,414
353.40	Land and Land Rights - Treatment	3	110,020	64,196	42,038	3,785	0
354.20	Structures and Improvements - Collection	4	4,288,528	1,042,970	682,734	61,326	2,501,498
354.30	Structures and Improvements - Pumping						
	Froude Ave - Sanitary Only	3	247,942	144,674	94,739	8,529	0
	Combined System	4	6,149,481	1,495,554	978,997	87,938	3,586,992
354.40	Structures and Improvements - Treatment						
	Sewage Treatment	3	40,614,827	23,698,752	15,518,925	1,397,150	0
	CSO Stormwater	DA	7,107,060				7,107,060
355.00	Power Generation Equipment	4	0	0	0	0	0
360.10	Force Mains	4	181,874	44,232	28,954	2,601	106,087
361.10	Gravity Mains						
	Gravity Mains - Sanitary Only	3	16,491,755	9,622,939	6,301,500	567,316	0
	Gravity Mains - Combined Sewers	4	28,080,556	6,829,191	4,470,425	401,552	16,379,388
	CSO Assets	DA	34,256,041				34,256,041
361.20	Manholes						
	Sanitary Only	3	3,022,856	1,763,836	1,155,033	103,986	0
	Combined System	4	5,147,025	1,251,756	819,406	73,602	3,002,260
	CSO Stormwater	DA	286,089				286,089
362.00	Special Collection Structures	DA	13,468,981				13,468,981
363.00	Service Laterals	5	4,972,622	3,215,297	1,676,768	80,556	0
364.00	Flow Measuring Devices	4	754,944	183,602	120,187	10,796	440,359
371.00	Pumping Equipment	4	5,749,248	1,398,217	915,280	82,214	3,353,536
380.00	Treatment Equipment						
	Sewage Treatment	3	16,873,193	9,845,508	6,447,247	580,438	0
	CSO Stormwater	DA	4,439,249				4,439,249
382.00	Outfall Sewer Lines	DA	2,924,098				2,924,098

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Industrial (6)	CSO Stormwater (7)
389.10	Other Plant and Misc. Equip. - Intangible	11	2,350,701	862,707	540,191	55,712	892,091
389.60	Other Plant and Misc. Equipment - CPS	11	60,000	22,020	13,788	1,422	22,770
390.00	Office Furniture and Equipment	11	785,654	288,335	180,543	18,620	298,156
391.00	Transportation Equipment	11	1,932,107	709,083	443,998	45,791	733,235
391.00	Transportation Equipment - CSO Related	DA	176,614				176,614
393.00	Tools, Shop and Garage Equipment	11	1,419,944	521,119	326,303	33,653	538,869
394.00	Laboratory Equipment	1	116,004	63,327	47,422	5,255	0
395.00	Power Operated Equipment	11	181,695	66,682	41,754	4,306	68,953
396.00	Communication Equipment	11	312,453	114,670	71,802	7,405	118,576
397.00	Miscellaneous Equipment	11	243,046	89,198	55,852	5,760	92,236
	TOTAL SEWER UTILITY PLANT IN SERVICE		203,387,399	63,494,195	41,076,220	3,648,905	95,168,079
	Other Rate Base Items:						
	Cash Working Capital	12	514,572	206,652	140,066	14,923	152,931
	Materials and Supplies	8	91,445	28,549	18,472	1,637	42,787
	Acquisition Adjustments	8	2,605,264	813,364	526,263	46,634	1,219,003
	Tax Cuts and Jobs Act -Stub Period	8	(231,101)	(72,150)	(46,682)	(4,137)	(108,132)
	Deferred, Accrued and Prepaid Taxes	8	(12,769,783)	(3,986,726)	(2,579,496)	(228,579)	(5,974,981)
	Total Other Rate Base Elements		(9,789,603)	(3,010,311)	(1,941,377)	(169,522)	(4,668,393)
	Total Original Cost Measure of Value		$ 193,597,796	$ 60,483,884	$ 39,134,843	$ 3,479,383	$ 90,499,687

PENNSYLVANIA AMERICAN WATER COMPANY
SCRANTON WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 11. ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSES

Factors are based on the allocation of all other operation and maintenance expenses excluding purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 1,659,046	0.3670
Non-Residential	1,038,888	0.2298
Industrial	106,949	0.0237
Stormwater CSO	1,715,418	0.3795
Total	$ 4,520,300	1.0000

FACTOR 12. ALLOCATION OF CASH WORKING CAPITAL

Factors are based on the allocation of operation and maintenance expenses including purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 4,544,415	0.4016
Commercial	3,080,458	0.2722
Industrial	328,507	0.0290
Stormwater CSO	3,363,310	0.2972
Total	$ 11,316,690	1.0000

EXHIBIT NO. 12-G -

MCKEESPORT WASTEWATER CSS OPERATIONS

COST OF SERVICE AS OF DECEMBER 31, 2021

AND DECEMBER 31, 2022

Exhibit No. 12-G
Witness: C. Heppenstall

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

MCKEESPORT WASTEWATER OPERATIONS

WASTEWATER COST OF SERVICE

ALLOCATION STUDY

AS OF DECEMBER 31, 2021 (RATE YEAR 1) AND DECEMBER 31, 2022 (RATE YEAR 2)

AND

PROPOSED CUSTOMER RATES

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC
Camp Hill, Pennsylvania

Gannett Fleming

Excellence Delivered ***As Promised***

April 22, 2020

Pennsylvania-American Water Company
852 Wesley Drive
Mechanicsburg, PA 17055

Attention: Ashley E. Everette
Director, Rates & Regulatory

Ladies and Gentlemen:

Pursuant to your request, we have conducted a wastewater cost of service allocation study for McKeesport Wastewater Operations based on pro forma revenue requirements estimated for the test year ended December 31, 2021 and December 31, 2022, and have prepared proposed wastewater rate schedules designed to produce pro forma revenues more commensurate with the allocated costs.

The attached report presents the results of the allocation study, as well as supporting schedules which set forth the detailed cost allocation calculations and the proposed schedule of rates. Schedule A presents a comparison of the cost of service by customer classification with the pro forma revenues produced by each classification under present and proposed rates. The proof of revenue calculations are set forth in Exhibit No. 12-O.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

CONSTANCE E. HEPPENSTALL
Senior Project Manager, Rate Studies

CEH:mle

066548.200

Gannett Fleming Valuation and Rate Consultants, LLC
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WASTEWATER COST OF SERVICE

ALLOCATION STUDY

AS OF DECEMBER 31, 2021

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2021

Customer Classification	Cost of Service		Revenues, Present Rates		Revenues, 2021 Rates		Proposed Increase	
	Amount (Schedule D)	Percent	Amount	Percent	Amount	Percent	Amount	Percent Increase
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Residential	$ 8,835,576	61.8%	$ 5,736,969	46.8%	$ 7,452,190	52.1%	$ 1,715,222	29.9%
Non-Residential	2,703,265	18.9%	2,801,473	22.8%	2,685,676	18.8%	(115,797)	-4.1%
Bulk	2,760,025	19.3%	3,736,092	30.4%	4,160,999	29.1%	424,907	11.4%
Total Sales	14,298,866	100.0%	12,274,534	100.0%	14,298,866	100.0%	2,024,332	16.5%
COS Recovered from Water	15,544,509							
Other Revenues	204,207		94,525		204,207		109,682	116.0%
Total	$ 30,047,582		$ 12,369,059		$ 14,503,073		$ 2,134,014	17.3%

PENNSYLVANIA-AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PRESENT RATES

Item	Cost of Service	Residential	Non-Residential	Bulk
(1)	(2)	(3)	(4)	(5)
1. Revenues From Sales	$ 12,274,534	$ 5,736,969	$ 2,801,473	$ 3,736,092
2. Other Revenues	94,525	44,180	21,574	28,771
3. Total Operating Revenues	12,369,059	5,781,148	2,823,047	3,764,864
4. Less: Operating Expenses	13,767,400	8,385,652	2,597,587	2,784,160
5. Return and Income Taxes	(1,398,341)	(2,604,504)	225,460	980,704
6. Less: Taxable Exclusions - Allocated on Rate Base	3,370,350	2,071,964	649,974	648,412
7. Taxable Income	(4,768,691)	(4,676,468)	(424,515)	332,292
8. Less: Income Taxes (Based on Taxable Income, Line 7.)	(1,508,364)	(1,479,193)	(134,276)	105,106
9. Net Return (Line 5 - Line 8)	110,023	(1,125,311)	359,736	875,598
10. Original Cost Measure of Value	166,722,091	102,494,432	32,152,474	32,075,185
11. Rate Of Return, Percent	0.07	(1.10)	1.12	2.73
12. Relative Rate of Return	1.00	(16.64)	16.95	41.37

PENNSYLVANIA-AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PROPOSED RATES

Item	Cost of Service	Residential	Non-Residential	Bulk
(1)	(2)	(3)	(4)	(5)
1. Revenues From Sales	$ 14,298,866	$ 7,452,190	$ 2,685,676	$ 4,160,999
2. Other Revenues	204,207	106,427	38,355	59,425
3. Total Operating Revenues	14,503,073	7,558,618	2,724,031	4,220,424
4. Less: Operating Expenses (Net of cost of service recovered from water)	(1,462,266)	(859,841)	(334,908)	(267,517)
5. Return and Income Taxes	15,965,339	8,418,459	3,058,940	4,487,941
6. Less: Taxable Exclusions - Allocated on Rate Base	3,376,085	2,076,723	650,684	648,678
7. Taxable Income	12,589,254	6,341,736	2,408,256	3,839,262
8. Less: Income Taxes (Based on Taxable Income, Line 7.)	3,506,712	1,766,478	670,815	1,069,419
9. Net Return (Line 5 - Line 8)	12,458,627	6,651,981	2,388,125	3,418,522
10. Original Cost Measure of Value	167,005,729	102,729,827	32,187,557	32,088,345
11. Rate Of Return, Percent	7.46	6.48	7.42	10.65
12. Relative Rate of Return	1.00	0.87	0.99	1.43

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk (6)	CSO Stormwater (7)
OPERATION AND MAINTENANCE EXPENSES							
	SEWAGE TREATMENT						
601.3	Salary and Wages	2	$ 720,156	$ 93,116	$ 38,528	$ 68,055	$ 520,457
601.4	Salary and Wages	2	73,432	9,495	3,929	6,939	53,069
615.3	Purchased Power	2	690,366	89,264	36,935	65,240	498,928
618.3	Chemicals	1	14,643	6,831	2,823	4,989	0
620.3	Materials and Supplies - Operation	2	43,858	5,671	2,346	4,145	31,696
635.3	Contract Services Test	2	(5,185)	(670)	(277)	(490)	(3,747)
636.3	Contract Services - Operation	2	271,031	35,044	14,500	25,612	195,874
641.3	Rental of Building	2	-	0	0	0	0
642.3	Rental of Equipment	2	-	0	0	0	0
650.3	Transportation	2	(13,639)	(1,764)	(730)	(1,289)	(9,857)
620.4	Materials and Supplies - Maintenance	2	76	10	4	7	55
636.4	Contract Sevices - Maintenance	2	33,915	4,385	1,814	3,205	24,510
650.4	Transportation	2	-	0	0	0	0
675.4	Misc. Maint. Expense	2	321	42	17	30	232
675.3	Waste Disposal	1	358,521	167,250	69,123	122,148	0
675.3	Misc. Operating Expense	2	-	0	0	0	0
	TOTAL SEWAGE TREATMENT EXPENSE		2,187,495	408,674	169,013	298,591	1,311,217
	COLLECTION EXPENSES						
601.5	Salary and Wages	2	334,651	43,270	17,904	31,625	241,852
601.6	Salary and Wages	2	875	113	47	83	632
601.6	Salary and Wages - CSO	DA	83,882				83,882
615.5	Purchased Power	2	12,950	1,674	693	1,224	9,359
620.5	Materials and Supplies	2	9,422	1,218	504	890	6,809
636.5	Contract Services	2	16,149	2,088	864	1,526	11,671
642.5	Rental of Equipment/Transportation	2	25,320	3,274	1,355	2,393	18,299
	TOTAL COLLECTION EXPENSE OPERATION		483,249	51,638	21,366	37,740	372,505

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk (6)	CSO Stormwater (7)
620.6	Materials and Supplies	2	29,032	3,754	1,553	2,744	20,981
636.6	Contract Services	2	0	0	0	0	0
675.6	Miscellaneous Maintenance Expense	2	72,924	9,429	3,901	6,891	52,702
675.5	Miscellaneous Operating Expense	2	124,613	16,112	6,667	11,776	90,058
	TOTAL COLLECTION - MAINTENANCE		226,569	29,295	12,121	21,411	163,741
	TOTAL COLLECTION EXPENSE		709,818	80,934	33,488	59,151	536,246
	CUSTOMER ACCOUNTS						
636.7	Contract Services	6	2,499	2,263	230	6	0
670.7	Bad Debts	6	362,073	327,821	33,383	869	0
675.7	Miscellaneous Expense	6	54,077	48,961	4,986	130	0
	TOTAL CUSTOMER ACCOUNTING EXPENSE		418,649	379,045	38,599	1,005	0
	ADMINISTRATIVE AND GENERAL EXPENSES						
601.8	Salaries and Wages	11	1,018,839	274,679	59,806	75,088	609,266
603.8	Salaries of Officiers	11	0	0	0	0	0
604.8	Employee Pension & Benefits	7	668,017	126,456	36,006	54,377	451,179
615.8	Purchased Power	11	297,876	80,307	17,485	21,953	178,130
620.8	Materials and Supplies	11	21,520	5,802	1,263	1,586	12,869
631.8	Contractual Services	11	855,058	230,524	50,192	63,018	511,325
632.8	Contractual Services - Legal	11	0	0	0	0	0
636.8	Contractual Services	11	64,151	17,295	3,766	4,728	38,362
641.8	Rental of Building	11	0	0	0	0	0
642.8	Rental of Equipment	11	0	0	0	0	0
650.8	Transportation	11	76,561	20,641	4,494	5,643	45,783
657.8	Insurance	11	479,000	129,138	28,117	35,302	286,442
658.8	Workers Compensation	7	59,525	11,268	3,208	4,845	40,203
666.8	Rate Case Expense	10	17,327	4,803	1,464	1,672	9,388
675.8	Miscellaneous Expense	11	284,349	76,661	16,691	20,957	170,041
	TOTAL A & G EXPENSE		3,842,224	977,574	222,493	289,169	2,352,988
	Total Operation & Maintenance Expenses		7,158,186	1,846,226	463,593	647,916	4,200,451

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021

Account (1)		Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk (6)	CSO Stormwater (7)
DEPRECIATION EXPENSE							
354.20	Structures and Improvements - Collection	4	0	0	0	0	0
354.30	Structures and Improvements - Pumping	4	317,875	67,962	21,902	23,650	204,362
		3	0	0	0	0	0
		4	0	0	0	0	0
354.40	Structures and Improvements - Treatment						
	Sewage Treatment	3	668,581	400,346	129,036	139,198	0
	CSO Stormwater	DA	104,578				104,578
355.00	Power Generation Equipment	4	36,623	7,830	2,523	2,725	23,545
360.10	Force Mains	4	37,544	8,027	2,587	2,793	24,137
361.10	Gravity Mains						
	Gravity Mains - Sanitary Only	3	60,774	36,391	11,729	12,653	0
	Gravity Mains - Combined Sewers	4	2,904,696	621,024	200,134	216,109	1,867,429
	CSO Assets	DA	55,180				55,180
361.20	Manholes						
	Sanitary Only	3	3,421	2,048	660	712	0
	Combined System	4	163,166	34,885	11,242	12,140	104,899
	CSO Stormwater	DA	3,106				3,106
362.00	Special Collection Structures	DA	0				0
363.00	Service Laterals	5	0	0	0	0	0
364.00	Flow Measuring Devices	4	49,816	10,651	3,432	3,706	32,027
371.00	Pumping Equipment	4	356,526	76,225	24,565	26,526	229,211
380.00	Treatment Equipment						
	Sewage Treatment	3	753,953	451,467	145,513	156,973	0
	CSO Stormwater	DA	202,948				202,948
382.00	Outfall Sewer Lines	DA	1,055				1,055
389.10	Other Plant and Misc. Equip. - Intangible	11	736	198	43	54	440
389.60	Other Plant and Misc. Equipment - CPS	11	0	0	0	0	0
390.00	Office Furniture and Equipment	11	25,832	6,964	1,516	1,904	15,447
391.00	Transportation Equipment	11	48,944	13,195	2,873	3,607	29,269
391.00	Transportation Equipment - CSO Related	DA	26,655				26,655
393.00	Tools, Shop and Garage Equipment	11	22,038	5,941	1,294	1,624	13,179
394.00	Laboratory Equipment	1	10,805	5,040	2,083	3,681	0
395.00	Power Operated Equipment	11	27,276	7,354	1,601	2,010	16,311
396.00	Communication Equipment	11	64,674	17,436	3,796	4,766	38,675
397.00	Miscellaneous Equipment	11	0	0	0	0	0
	Total Depreciation Expense		5,946,797	1,772,985	566,529	614,833	2,992,450

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk (6)	CSO Stormwater (7)
	Amortization Expense	9	301,857	84,188	27,016	29,220	161,433
	Taxes Other Than Income						
685100	Utility Reg Assessment Fee	10	172,951	47,942	14,614	16,690	93,705
685200	Property Taxes	9	325,577	90,803	29,139	31,516	174,119
685320	Payroll Taxes	7	176,875	33,482	9,534	14,398	119,461
	Total Taxes, Other Than Income		675,403	172,228	53,287	62,603	387,285
	Total Operating Expense		14,082,243	3,875,627	1,110,426	1,354,572	7,741,618
4091	**Income Taxes**	9	3,506,712	978,022	313,851	339,450	1,875,390
	Utility Income Available for Return	9	12,458,627	3,474,711	1,115,047	1,205,995	6,662,874
	Total Cost of Service		30,047,582	8,328,360	2,539,324	2,900,016	16,279,882
	Less: Other Revenues	10	(204,207)	(56,606)	(17,255)	(19,706)	(110,639)
	Total Cost of Service Related to Sales of Wastewater Services		29,843,375	8,271,754	2,522,068	2,880,310	16,169,242
	Reallocation of CSO Stormwater Costs	1A	0	10,167,220	3,120,664	2,881,359	(16,169,242)
	Less: Cost of Service Recovered from Water Rates	10A	(15,544,509)	(9,603,398)	(2,939,467)	(3,001,645)	0
	Total		$ 14,298,866	$ 8,835,576	$ 2,703,265	$ 2,760,025	$ -

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTORS 1 and 2. ALLOCATION OF COSTS ASSOCIATED WITH AVERAGE DAILY FLOWS.

Factors are based on the pro forma test year average daily consumption for each customer classification.

Classification	Total Average Daily Customer Flow 100 gallons (a)	I&I Average Day 100 gallons (b)	Total Sanitary Average Flow	Allocation Factor 1	Average Day CSO 100 gallons	Total Average Day Wastewater Flow	Allocation Factor 2
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)	(7)=(4)+(6)	(8)
Residential	8,514	8,701	17,215	0.4665		17,215	0.1293
Non-Residential	4,443	2,671	7,114	0.1928		7,114	0.0535
Bulk	10,107	2,466	12,573	0.3407		12,573	0.0945
Stormwater CSO	-	-	-	-	96,158	96,158	0.7227
Total	23,064	13,838	36,902	1.0000	96,158	133,060	1.0000

(a) Customer water usage from bill analysis, adjusted to reflect 88% returned to sewer system. See below.
(b) Allocation based on Factor 1A for Residential, Non-Residential and Bulk.

Classification	Annual Usage 100 gallons	Average Day 100 gallons	Percent to Sewer System	Adjusted Average Day 100 gallons
(1)	(2)	(3)=(2)/365	(6)	(7)
Residential	3,531,281	9,675	88.0%	8,514
Non-Residential	1,842,647	5,048	88.0%	4,443
Bulk	4,192,130	11,485	88.0%	10,107
Total	9,566,059	26,208		23,064

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1A. ALLOCATION OF INFILTRATION AND INFLOW BY CUSTOMER CLASS.

Factors are based on a 1/3-2/3 weighting of flow and number of customers, as follows:

Customer Classification	Total Average Daily Flow 100 gallons	Average Daily Flow		Service Equivalents (Factor 5)			Allocation Factor 1A
		Factor	Weight	Number	Factor 5	Weight	
(1)	(2)	(3)	(4)=(3) x 0.3333	(5)	(6)	(7)=(6) x 0.6667	(8)=(4)+(7)
Residential	8,514	0.3692	0.1230	8,649	0.7587	0.5058	0.6288
Non-Residential	4,443	0.1926	0.0642	2,202	0.1932	0.1288	0.1930
Bulk	10,107	0.4382	0.1461	548	0.0481	0.0321	0.1782
Total	23,064	1.0000	0.3333	11,399	1.0000	0.6667	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTORS 3 and 4. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PEAK DAILY FLOW.

Factors are based on the peak daily flow for each customer classification.

Classification	Total Average Daily Customer Flow 100 gallons (a)	I&I Peak Day 100 gallons (b)	Total Sanitary Peak Flow	Allocation Factor 3	Peak Day CSO 100 gallons	Total Peak Day Wastewater Flow	Allocation Factor 4
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)	(7)=(4)+(6)	(8)
Residential	8,514	111,257	119,771	0.5988		119,771	0.2138
Non-Residential	4,443	34,149	38,592	0.1930		38,592	0.0689
Bulk	10,107	31,530	41,637	0.2082		41,637	0.0744
Stormwater CSO	-	-	-	-	360,000	360,000	0.6429
Total	23,064	176,936	200,000	1.0000	360,000	560,000	1.0000

(a) See Factor 1.
(b) Allocated based on Factor 1A

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH CUSTOMER FACILITIES.

Factors are based on the estimated relative cost of customer facilities, as follows:

Customer Classification	Number of Customers	Service Equiv. Ratio	Service Equivalents	Allocation Factor
(1)	(2)	(3)	(2)X(3)=(4)	(5)
Residential	8,649	1.0	8,649	0.7587
Non-Residential	881	2.5	2,202	0.1932
Bulk	22	25.0	548	0.0481
Stormwater CSO	-	-	-	-
Total	9,552		11,399	1.0000

FACTOR 6. ALLOCATION OF COSTS ASSOCIATED WITH BILLING AND COLLECTING.

Factors are based on the number of customers.

Customer Classification	Number of Customers	Allocation Factor
(1)	(2)	(3)
Residential	8,649	0.9054
Non-Residential	881	0.0922
Bulk	22	0.0024
Stormwater CSO	-	-
Total	9,552	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 7. ALLOCATION OF LABOR RELATED TAXES AND BENEFITS.

Factors are based on the allocation of direct labor expense.

Customer Classification	Direct Labor Expense	Allocation Factor
(1)	(2)	(3)
Residential	$ 422,936	0.1893
Non-Residential	120,444	0.0539
Bulk	181,796	0.0814
Stormwater CSO	1,509,158	0.6754
Total	$ 2,234,334	1.0000

FACTOR 8. ALLOCATION OF ORGANIZATION, FRANCHISES AND CONSENTS, MISCELLANEOUS INTANGIBLE PLANT AND OTHER RATE BASE ELEMENTS.

Factors are based on the allocation of the original cost less depreciation other than those items being allocated, as follows:

Customer Classification	Original Cost Less Depreciation	Allocation Factor
(1)	(2)	(3)
Residential	$ 48,804,111	0.2789
Non-Residential	15,673,864	0.0896
Bulk	16,947,987	0.0968
Stormwater CSO	93,570,005	0.5347
Total	$ 174,995,967	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 9. ALLOCATION OF INCOME TAXES AND INCOME AVAILABLE FOR RETURN.

Factors are based on the allocation of the original cost measure of value rate base as shown on the following pages and summarized below.

Customer Classification	Original Cost Measure of Value	Allocation Factor
(1)	(2)	(3)
Residential	$ 46,568,764	0.2789
Non-Residential	14,949,826	0.0895
Bulk	16,172,471	0.0968
Stormwater CSO	89,314,668	0.5348
Total	$ 167,005,729	1.0000

FACTOR 10 and 10A. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS, OTHER WATER REVENUES.

The factors are based on the allocation of the total cost of service, excluding those items being allocated.

Customer Classification	Total Cost of Service	Allocation Factor 10	Total Cost of Service with Stormwater Reallocated	Allocation Factor 10A
(1)	(2)	(3)	(4)	(5)
Residential	$ 8,275,615	0.2772	$ 18,438,973	0.6178
Non-Residential	2,523,245	0.0845	5,642,732	0.1891
Bulk	2,881,655	0.0965	5,761,669	0.1931
Stormwater CSO	16,176,789	0.5418	-	-
Total	$ 29,857,303	1.0000	$ 29,843,375	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021

Account (1)		Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk (6)	CSO Stormwater (7)
RATE BASE							
353.20	Land and Land Rights - Collection	4	0	0	0	0	0
353.30	Land and Land Rights - Pumping	4	1,110,000	237,318	76,479	82,584	713,619
353.40	Land and Land Rights - Treatment	3	0	0	0	0	0
354.20	Structures and Improvements - Collection	4	0	0	0	0	0
354.30	Structures and Improvements - Pumping	4	10,192,886	2,179,239	702,290	758,351	6,553,007
354.40	Structures and Improvements - Treatment						
	Sewage Treatment	3	20,415,252	12,224,653	3,940,144	4,250,455	0
	CSO Stormwater	DA	3,193,308				3,193,308
355.00	Power Generation Equipment	4	775,788	165,863	53,452	57,719	498,754
360.10	Force Mains	4	1,878,805	401,689	129,450	139,783	1,207,884
361.10	Gravity Mains						
	Gravity Mains - Sanitary Only	3	2,258,914	1,352,638	435,970	470,306	0
	Gravity Mains - Combined Sewers	4	107,967,473	23,083,446	7,438,959	8,032,780	69,412,288
	CSO Assets	DA	2,050,968				2,050,968
361.20	Manholes						
	Sanitary Only	3	40,522	24,265	7,821	8,437	0
	Combined System	4	1,933,079	413,292	133,189	143,821	1,242,777
	CSO Stormwater	DA	36,792				36,792
362.00	Special Collection Structures	DA	0				0
363.00	Service Laterals	5	0	0	0	0	0
364.00	Flow Measuring Devices	4	357,029	76,333	24,599	26,563	229,534
371.00	Pumping Equipment	4	6,111,495	1,306,638	421,082	454,695	3,929,080
380.00	Treatment Equipment						
	Sewage Treatment	3	11,281,522	6,755,375	2,177,334	2,348,813	0
	CSO Stormwater	DA	3,036,739				3,036,739
382.00	Outfall Sewer Lines	DA	44,019				44,019

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk (6)	CSO Stormwater (7)
389.10	Other Plant and Misc. Equip. - Intangible	11	0	0	0	0	0
389.60	Other Plant and Misc. Equipment - CPS	11	0	0	0	0	0
390.00	Office Furniture and Equipment	11	388,689	104,790	22,816	28,646	232,436
391.00	Transportation Equipment	11	360,346	97,149	21,152	26,557	215,487
391.00	Transportation Equipment - CSO Related	DA	196,242				196,242
393.00	Tools, Shop and Garage Equipment	11	400,281	107,916	23,496	29,501	239,368
394.00	Laboratory Equipment	1	66,650	31,092	12,850	22,708	0
395.00	Power Operated Equipment	11	308,300	83,118	18,097	22,722	184,363
396.00	Communication Equipment	11	590,868	159,298	34,684	43,547	353,339
397.00	Miscellaneous Equipment	11	0	0	0	0	0
	TOTAL SEWER UTILITY PLANT IN SERVICE		174,995,967	48,804,111	15,673,864	16,947,987	93,570,005
	Other Rate Base Items:						
	Cash Working Capital	12	327,139	84,369	21,199	29,606	191,965
	Materials and Supplies	8	2,159	602	193	209	1,154
	Acquisition Adjustments	8	1,050,254	292,916	94,103	101,665	561,571
	Tax Cuts and Jobs Act -Stub Period	8	0	0	0	0	0
	Deferred, Accrued and Prepaid Taxes	8	(9,369,790)	(2,613,234)	(839,533)	(906,996)	(5,010,027)
	Total Other Rate Base Elements		(7,990,238)	(2,235,347)	(724,038)	(775,516)	(4,255,336)
	Total Original Cost Measure of Value		$ 167,005,729	$ 46,568,764	$ 14,949,826	$ 16,172,471	$ 89,314,668

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 11. ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSES

Factors are based on the allocation of all other operation and maintenance expenses excluding purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 603,632	0.2696
Non-Residential	131,526	0.0587
Bulk	165,147	0.0737
Stormwater CSO	1,339,176	0.5980
Total	$ 2,239,482	1.0000

FACTOR 12. ALLOCATION OF CASH WORKING CAPITAL

Factors are based on the allocation of operation and maintenance expenses including purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 1,846,226	0.2579
Commercial	463,593	0.0648
Bulk	647,916	0.0905
Stormwater CSO	4,200,451	0.5868
Total	$ 7,158,186	1.0000

WASTEWATER COST OF SERVICE

ALLOCATION STUDY

AS OF DECEMBER 31, 2022

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2022

	Cost of Service		Revenues, 2021 Rates		Revenues, Proposed Rates		Proposed Increase	
Customer Classification	Amount (Schedule D)	Percent	Amount	Percent	Amount	Percent	Amount	Percent Increase
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Residential	$ 9,351,718	61.7%	$ 7,332,680	51.9%	$ 7,834,973	51.7%	$ 502,293	6.9%
Non-Residential	2,859,265	18.9%	2,661,546	18.8%	2,870,351	18.9%	208,805	7.8%
Bulk	2,947,399	19.4%	4,160,999	29.4%	4,453,058	29.4%	292,059	7.0%
Total Sales	15,158,382	100.0%	14,155,225	100.1%	15,158,382	100.0%	1,003,157	7.1%
COS Recovered from Water	14,619,421							
Other Revenues	203,797		203,310		203,797		487	0.2%
Total	$ 29,981,600		$ 14,358,535		$ 15,362,179		$ 1,003,644	7.0%

PENNSYLVANIA-AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PRESENT RATES

Item	Cost of Service	Residential	Non-Residential	Bulk
(1)	(2)	(3)	(4)	(5)
1. Revenues From Sales	$ 14,155,225	$ 7,332,680	$ 2,661,546	$ 4,160,999
2. Other Revenues	203,310	105,319	38,227	59,764
3. Total Operating Revenues	14,358,535	7,437,999	2,699,773	4,220,763
4. Less: Operating Expenses	14,224,829	8,816,332	2,625,654	2,782,844
5. Return and Income Taxes	133,706	(1,378,333)	74,119	1,437,920
6. Less: Taxable Exclusions - Allocated on Rate Base	3,280,917	2,015,731	630,891	634,295
7. Taxable Income	(3,147,211)	(3,394,064)	(556,772)	803,625
8. Less: Income Taxes (Based on Taxable Income, Line 7.)	3,365,377	3,629,342	595,368	(859,332)
9. Net Return (Line 5 - Line 8)	(3,231,671)	(5,007,675)	(521,248)	2,297,252
10. Original Cost Measure of Value	165,785,782	101,855,517	31,879,142	32,051,123
11. Rate Of Return, Percent	(1.95)	(4.92)	(1.64)	7.17
12. Relative Rate of Return	1.00	2.52	0.84	(3.68)

PENNSYLVANIA-AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PROPOSED RATES

Item	Cost of Service	Residential	Non-Residential	Bulk
(1)	(2)	(3)	(4)	(5)
1. Revenues From Sales	$ 15,158,382	$ 7,834,973	$ 2,870,351	$ 4,453,058
2. Other Revenues	203,797	105,337	38,590	59,869
3. Total Operating Revenues	15,362,179	7,940,311	2,908,941	4,512,927
4. Less: Operating Expenses (Net of cost of service recovered from water)	(393,194)	(201,955)	(131,615)	(59,624)
5. Return and Income Taxes	15,755,373	8,142,266	3,040,556	4,572,551
6. Less: Taxable Exclusions - Allocated on Rate Base	3,280,941	2,015,756	630,893	634,292
7. Taxable Income	12,474,432	6,126,510	2,409,663	3,938,259
8. Less: Income Taxes (Based on Taxable Income, Line 7.)	3,387,663	1,663,767	654,389	1,069,507
9. Net Return (Line 5 - Line 8)	12,367,710	6,478,499	2,386,167	3,503,044
10. Original Cost Measure of Value	165,787,002	101,856,775	31,879,242	32,050,985
11. Rate Of Return, Percent	7.46	6.36	7.49	10.93
12. Relative Rate of Return	1.00	0.85	1.00	1.47

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk (6)	CSO Stormwater (7)
OPERATION AND MAINTENANCE EXPENSES							
	SEWAGE TREATMENT						
601.3	Salary and Wages	2	$ 745,388	$ 94,962	$ 39,431	$ 70,365	$ 540,630
601.4	Salary and Wages	2	76,005	9,683	4,021	7,175	55,126
615.3	Purchased Power	2	677,843	86,357	35,858	63,988	491,640
618.3	Chemicals	1	15,265	7,080	2,939	5,247	0
620.3	Materials and Supplies - Operation	2	43,858	5,588	2,320	4,140	31,810
635.3	Contract Services Test	2	(5,185)	(661)	(274)	(489)	(3,761)
636.3	Contract Services - Operation	2	271,031	34,529	14,338	25,585	196,579
641.3	Rental of Building	2	-	0	0	0	0
642.3	Rental of Equipment	2	-	0	0	0	0
650.3	Transportation	2	(13,639)	(1,738)	(722)	(1,288)	(9,892)
620.4	Materials and Supplies - Maintenance	2	76	10	4	7	55
636.4	Contract Sevices - Maintenance	2	33,915	4,321	1,794	3,202	24,599
650.4	Transportation	2	-	0	0	0	0
675.4	Misc. Maint. Expense	2	321	41	17	30	233
675.3	Waste Disposal	1	358,521	166,282	69,015	123,224	0
675.3	Misc. Operating Expense	2	-	0	0	0	0
	TOTAL SEWAGE TREATMENT EXPENSE		2,203,399	406,455	168,740	301,186	1,327,018
	COLLECTION EXPENSES						
601.5	Salary and Wages	2	346,376	44,128	18,323	32,698	251,227
601.6	Salary and Wages	2	906	115	48	86	657
601.6	Salary and Wages - CSO	DA	86,820				86,820
615.5	Purchased Power	2	12,493	1,592	661	1,179	9,061
620.5	Materials and Supplies	2	9,422	1,200	498	889	6,834
636.5	Contract Services	2	16,149	2,057	854	1,524	11,713
642.5	Rental of Equipment/Transportation	2	25,320	3,226	1,339	2,390	18,365
	TOTAL COLLECTION EXPENSE OPERATION		497,486	52,319	21,724	38,767	384,676

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk (6)	CSO Stormwater (7)
620.6	Materials and Supplies	2	37,064	4,722	1,961	3,499	26,883
636.6	Contract Services	2	0	0	0	0	0
675.6	Miscellaneous Maintenance Expense	2	72,924	9,291	3,858	6,884	52,892
675.5	Miscellaneous Operating Expense	2	124,613	15,876	6,592	11,763	90,382
	TOTAL COLLECTION - MAINTENANCE		234,601	29,888	12,410	22,146	170,156
	TOTAL COLLECTION EXPENSE		732,087	82,207	34,135	60,913	554,832
	CUSTOMER ACCOUNTS						
636.7	Contract Services	6	2,499	2,264	229	6	0
670.7	Bad Debts	6	361,278	327,246	33,165	867	0
675.7	Miscellaneous Expense	6	54,077	48,983	4,964	130	0
	TOTAL CUSTOMER ACCOUNTING EXPENSE		417,854	378,492	38,359	1,003	0
	ADMINISTRATIVE AND GENERAL EXPENSES						
601.8	Salaries and Wages	11	1,054,947	279,244	61,187	78,066	636,450
603.8	Salaries of Officiers	11	0	0	0	0	0
604.8	Employee Pension & Benefits	7	703,102	130,777	37,475	57,303	477,547
615.8	Purchased Power	11	297,876	78,848	17,277	22,043	179,709
620.8	Materials and Supplies	11	21,520	5,696	1,248	1,592	12,983
631.8	Contractual Services	11	872,725	231,010	50,618	64,582	526,515
632.8	Contractual Services - Legal	11	0	0	0	0	0
636.8	Contractual Services	11	64,151	16,981	3,721	4,747	38,702
641.8	Rental of Building	11	0	0	0	0	0
642.8	Rental of Equipment	11	0	0	0	0	0
650.8	Transportation	11	78,055	20,661	4,527	5,776	47,091
657.8	Insurance	11	488,533	129,315	28,335	36,151	294,732
658.8	Workers Compensation	7	60,715	11,293	3,236	4,948	41,238
666.8	Rate Case Expense	10	17,327	4,777	1,455	1,679	9,416
675.8	Miscellaneous Expense	11	309,058	81,808	17,925	22,870	186,455
	TOTAL A & G EXPENSE		3,968,009	990,410	227,005	299,758	2,450,836
	Total Operation & Maintenance Expenses		7,321,349	1,857,564	468,239	662,860	4,332,686

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022

Account (1)		Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk (6)	CSO Stormwater (7)
DEPRECIATION EXPENSE							
354.20	Structures and Improvements - Collection	4	0	0	0	0	0
354.30	Structures and Improvements - Pumping	4	327,093	69,834	22,504	24,467	210,288
		3	0	0	0	0	0
		4	0	0	0	0	0
354.40	Structures and Improvements - Treatment						
	Sewage Treatment	3	710,382	424,879	136,749	148,754	0
	CSO Stormwater	DA	111,116				111,116
355.00	Power Generation Equipment	4	34,975	7,467	2,406	2,616	22,485
360.10	Force Mains	4	50,309	10,741	3,461	3,763	32,344
361.10	Gravity Mains						
	Gravity Mains - Sanitary Only	3	59,801	35,767	11,512	12,522	0
	Gravity Mains - Combined Sewers	4	2,915,804	622,524	200,607	218,102	1,874,570
	CSO Assets	DA	54,297				54,297
361.20	Manholes						
	Sanitary Only	3	2,964	1,773	571	621	0
	Combined System	4	142,653	30,456	9,815	10,670	91,712
	CSO Stormwater	DA	2,692				2,692
362.00	Special Collection Structures	DA	0				0
363.00	Service Laterals	5	0	0	0	0	0
364.00	Flow Measuring Devices	4	43,245	9,233	2,975	3,235	27,802
371.00	Pumping Equipment	4	337,606	72,079	23,227	25,253	217,047
380.00	Treatment Equipment						
	Sewage Treatment	3	689,324	412,285	132,695	144,344	0
	CSO Stormwater	DA	185,551				185,551
382.00	Outfall Sewer Lines	DA	1,036				1,036
389.10	Other Plant and Misc. Equip. - Intangible	11	736	195	43	54	444
389.60	Other Plant and Misc. Equipment - CPS	11	0	0	0	0	0
390.00	Office Furniture and Equipment	11	29,102	7,703	1,688	2,154	17,557
391.00	Transportation Equipment	11	45,829	12,131	2,658	3,391	27,649
391.00	Transportation Equipment - CSO Related	DA	24,959				24,959
393.00	Tools, Shop and Garage Equipment	11	34,358	9,095	1,993	2,542	20,728
394.00	Laboratory Equipment	1	10,799	5,009	2,079	3,712	0
395.00	Power Operated Equipment	11	25,592	6,774	1,484	1,894	15,440
396.00	Communication Equipment	11	67,034	17,744	3,888	4,961	40,442
397.00	Miscellaneous Equipment	11	0	0	0	0	0
	Total Depreciation Expense		5,907,257	1,755,689	560,354	613,055	2,978,159

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk (6)	CSO Stormwater (7)
	Amortization Expense	9	301,857	84,128	26,986	29,431	161,312
	Taxes Other Than Income						
685100	Utility Reg Assessment Fee	10	172,570	47,578	14,496	16,722	93,775
685200	Property Taxes	9	340,306	94,843	30,423	33,180	181,860
685320	Payroll Taxes	7	182,888	34,017	9,748	14,905	124,218
	Total Taxes, Other Than Income		695,764	176,438	54,667	64,807	399,852
	Total Operating Expense		14,226,227	3,873,818	1,110,246	1,370,154	7,872,009
4091	**Income Taxes**	9	3,387,663	944,142	302,857	330,297	1,810,367
	Utility Income Available for Return	9	12,367,710	3,446,881	1,105,673	1,205,852	6,609,304
	Total Cost of Service		29,981,600	8,264,841	2,518,777	2,906,302	16,291,680
	Less: Other Revenues	10	(203,797)	(56,187)	(17,119)	(19,748)	(110,743)
	Total Cost of Service Related to Sales of Wastewater Services		29,777,803	8,208,654	2,501,658	2,886,554	16,180,937
	Reallocation of CSO Stormwater Costs	1A	0	10,163,247	3,114,830	2,902,860	(16,180,937)
	Less: Cost of Service Recovered from Water Rates	10A	(14,619,421)	(9,020,183)	(2,757,223)	(2,842,015)	0
	Total		$ 15,158,382	$ 9,351,718	$ 2,859,265	$ 2,947,399	$ -

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTORS 1 and 2. ALLOCATION OF COSTS ASSOCIATED WITH AVERAGE DAILY FLOWS.

Factors are based on the pro forma test year average daily consumption for each customer classification.

Classification	Total Average Daily Customer Flow 100 gallons (a)	I&I Average Day 100 gallons (b)	Total Sanitary Average Flow	Allocation Factor 1	Average Day CSO 100 gallons	Total Average Day Wastewater Flow	Allocation Factor 2
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)	(7)=(4)+(6)	(8)
Residential	8,343	8,611	16,954	0.4638		16,954	0.1274
Non-Residential	4,398	2,639	7,037	0.1925		7,037	0.0529
Bulk	10,107	2,459	12,566	0.3437		12,566	0.0944
Stormwater CSO	-	-	-	-	96,503	96,503	0.7253
Total	22,848	13,709	36,557	1.0000	96,503	133,060	1.0000

(a) Customer water usage from bill analysis, adjusted to reflect 88% returned to sewer system. See below.
(b) Allocation based on Factor 1A for Residential, Non-Residential and Bulk.

Classification	Annual Usage 100 gallons	Average Day 100 gallons	Percent to Sewer System	Adjusted Average Day 100 gallons
(1)	(2)	(3)=(2)/365	(6)	(7)
Residential	3,460,577	9,481	88.0%	8,343
Non-Residential	1,824,085	4,997	88.0%	4,398
Bulk	4,192,130	11,485	88.0%	10,107
Total	9,476,793	25,964		22,848

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1A. ALLOCATION OF INFILTRATION AND INFLOW BY CUSTOMER CLASS.

Factors are based on a 1/3-2/3 weighting of flow and number of customers, as follows:

Customer Classification	Total Average Daily Flow 100 gallons	Average Daily Flow		Service Equivalents (Factor 5)			Allocation Factor 1A
		Factor	Weight	Number	Factor 5	Weight	
(1)	(2)	(3)	(4)=(3) x 0.3333	(5)	(6)	(7)=(6) x 0.6667	(8)=(4)+(7)
Residential	8,343	0.3651	0.1216	8,688	0.7596	0.5065	0.6281
Non-Residential	4,398	0.1925	0.0642	2,202	0.1925	0.1283	0.1925
Bulk	10,107	0.4424	0.1475	548	0.0479	0.0319	0.1794
Total	22,848	1.0000	0.3333	11,438	1.0000	0.6667	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTORS 3 and 4. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PEAK DAILY FLOW.

Factors are based on the peak daily flow for each customer classification.

Classification	Total Average Daily Customer Flow 100 gallons (a)	I&I Peak Day 100 gallons (b)	Total Sanitary Peak Flow	Allocation Factor 3	Peak Day CSO 100 gallons	Total Peak Day Wastewater Flow	Allocation Factor 4
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)	(7)=(4)+(6)	(8)
Residential	8,343	111,269	119,612	0.5981		119,612	0.2135
Non-Residential	4,398	34,102	38,500	0.1925		38,500	0.0688
Bulk	10,107	31,781	41,888	0.2094		41,888	0.0748
Stormwater CSO	-	-	-	-	360,000	360,000	0.6429
Total	22,848	177,152	200,000	1.0000	360,000	560,000	1.0000

(a) See Factor 1.
(b) Allocated based on Factor 1A

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH CUSTOMER FACILITIES.

Factors are based on the estimated relative cost of customer facilities, as follows:

Customer Classification (1)	Number of Customers (2)	Service Equiv. Ratio (3)	Service Equivalents (2)X(3)=(4)	Allocation Factor (5)
Residential	8,688	1.0	8,688	0.7596
Non-Residential	881	2.5	2,202	0.1925
Bulk	22	25.0	548	0.0479
Stormwater CSO	-	-	-	-
Total	9,591		11,438	1.0000

FACTOR 6. ALLOCATION OF COSTS ASSOCIATED WITH BILLING AND COLLECTING.

Factors are based on the number of customers.

Customer Classification (1)	Number of Customers (2)	Allocation Factor (3)
Residential	8,688	0.9058
Non-Residential	881	0.0918
Bulk	22	0.0024
Stormwater CSO	-	-
Total	9,591	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 7. ALLOCATION OF LABOR RELATED TAXES AND BENEFITS.

Factors are based on the allocation of direct labor expense.

Customer Classification	Direct Labor Expense	Allocation Factor
(1)	(2)	(3)
Residential	$ 430,397	0.1860
Non-Residential	123,239	0.0533
Bulk	188,395	0.0815
Stormwater CSO	1,570,910	0.6792
Total	$ 2,312,941	1.0000

FACTOR 8. ALLOCATION OF ORGANIZATION, FRANCHISES AND CONSENTS, MISCELLANEOUS INTANGIBLE PLANT AND OTHER RATE BASE ELEMENTS.

Factors are based on the allocation of the original cost less depreciation other than those items being allocated, as follows:

Customer Classification	Original Cost Less Depreciation	Allocation Factor
(1)	(2)	(3)
Residential	$ 48,880,443	0.2788
Non-Residential	15,688,227	0.0895
Bulk	17,090,045	0.0975
Stormwater CSO	93,664,595	0.5342
Total	$ 175,323,310	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 9. ALLOCATION OF INCOME TAXES AND INCOME AVAILABLE FOR RETURN.

Factors are based on the allocation of the original cost measure of value rate base as shown on the following pages and summarized below.

Customer Classification (1)	Original Cost Measure of Value (2)	Allocation Factor (3)
Residential	$ 46,212,544	0.2787
Non-Residential	14,825,405	0.0894
Bulk	16,157,696	0.0975
Stormwater CSO	88,591,357	0.5344
Total	$ 165,787,002	1.0000

FACTOR 10 and 10A. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS, OTHER WATER REVENUES.

The factors are based on the allocation of the total cost of service, excluding those items being allocated.

Customer Classification (1)	Total Cost of Service (2)	Allocation Factor 10 (3)	Total Cost of Service with Stormwater Reallocated (4)	Allocation Factor 10A (5)
Residential	$ 8,212,486	0.2757	$ 18,371,901	0.6170
Non-Residential	2,502,825	0.0840	5,616,488	0.1886
Bulk	2,887,901	0.0969	5,789,415	0.1944
Stormwater CSO	16,188,490	0.5434	-	-
Total	$ 29,791,703	1.0000	$ 29,777,803	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk (6)	CSO Stormwater (7)
RATE BASE						
353.20 Land and Land Rights - Collection	4	0	0	0	0	0
353.30 Land and Land Rights - Pumping	4	1,110,000	236,985	76,368	83,028	713,619
353.40 Land and Land Rights - Treatment	3	0	0	0	0	0
354.20 Structures and Improvements - Collection	4	0	0	0	0	0
354.30 Structures and Improvements - Pumping	4	10,447,617	2,230,566	718,796	781,482	6,716,773
354.40 Structures and Improvements - Treatment						
Sewage Treatment	3	21,681,829	12,967,902	4,173,752	4,540,175	0
CSO Stormwater	DA	3,391,417				3,391,417
355.00 Power Generation Equipment	4	721,163	153,968	49,616	53,943	463,635
360.10 Force Mains	4	2,377,338	507,562	163,561	177,825	1,528,391
361.10 Gravity Mains						
Gravity Mains - Sanitary Only	3	2,222,039	1,329,002	427,743	465,295	0
Gravity Mains - Combined Sewers	4	108,342,637	23,131,153	7,453,973	8,104,029	69,653,481
CSO Assets	DA	2,017,489				2,017,489
361.20 Manholes						
Sanitary Only	3	37,811	22,614	7,279	7,918	0
Combined System	4	1,819,480	388,459	125,180	136,097	1,169,743
CSO Stormwater	DA	34,330				34,330
362.00 Special Collection Structures	DA	0				0
363.00 Service Laterals	5	0	0	0	0	0
364.00 Flow Measuring Devices	4	283,410	60,508	19,499	21,199	182,204
371.00 Pumping Equipment	4	5,580,395	1,191,414	383,931	417,414	3,587,636
380.00 Treatment Equipment						
Sewage Treatment	3	10,164,337	6,079,290	1,956,635	2,128,412	0
CSO Stormwater	DA	2,736,018				2,736,018
382.00 Outfall Sewer Lines	DA	42,444				42,444

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk (6)	CSO Stormwater (7)
389.10	Other Plant and Misc. Equip. - Intangible	11	0	0	0	0	0
389.60	Other Plant and Misc. Equipment - CPS	11	0	0	0	0	0
390.00	Office Furniture and Equipment	11	418,200	110,698	24,256	30,947	252,300
391.00	Transportation Equipment	11	287,355	76,063	16,667	21,264	173,361
391.00	Transportation Equipment - CSO Related	DA	156,491				156,491
393.00	Tools, Shop and Garage Equipment	11	605,703	160,330	35,131	44,822	365,421
394.00	Laboratory Equipment	1	50,447	23,398	9,711	17,339	0
395.00	Power Operated Equipment	11	267,653	70,848	15,524	19,806	161,475
396.00	Communication Equipment	11	527,708	139,684	30,607	39,050	318,366
397.00	Miscellaneous Equipment	11	0	0	0	0	0
	TOTAL SEWER UTILITY PLANT IN SERVICE		175,323,310	48,880,443	15,688,227	17,090,045	93,664,595
	Other Rate Base Items:						
	Cash Working Capital	12	365,583	92,748	23,397	33,085	216,352
	Materials and Supplies	8	2,159	602	193	211	1,153
	Acquisition Adjustments	8	1,010,370	281,691	90,428	98,511	539,740
	Tax Cuts and Jobs Act -Stub Period	8	0	0	0	0	0
	Deferred, Accrued and Prepaid Taxes	8	(10,914,420)	(3,042,940)	(976,841)	(1,064,156)	(5,830,483)
	Total Other Rate Base Elements		(9,536,308)	(2,667,899)	(862,822)	(932,349)	(5,073,238)
	Total Original Cost Measure of Value		$ 165,787,002	$ 46,212,544	$ 14,825,405	$ 16,157,696	$ 88,591,357

PENNSYLVANIA AMERICAN WATER COMPANY
MCKEESPORT WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 11. ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSES

Factors are based on the allocation of all other operation and maintenance expenses excluding purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 605,843	0.2647
Non-Residential	132,761	0.0580
Bulk	169,464	0.0740
Stormwater CSO	1,381,150	0.6033
Total	$ 2,289,218	1.0000

FACTOR 12. ALLOCATION OF CASH WORKING CAPITAL

Factors are based on the allocation of operation and maintenance expenses including purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 1,857,564	0.2537
Commercial	468,239	0.0640
Bulk	662,860	0.0905
Stormwater CSO	4,332,686	0.5918
Total	$ 7,321,349	1.0000

EXHIBIT NO. 12-H -

KANE WASTEWATER CSS OPERATIONS

COST OF SERVICE AS OF DECEMBER 31, 2021

AND DECEMBER 31, 2022

Exhibit No. 12-H
Witness: C. Heppenstall

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

KANE WASTEWATER CSS OPERATIONS

WASTEWATER COST OF SERVICE

ALLOCATION STUDY

AS OF DECEMBER 31, 2021 (RATE YEAR 1) AND DECEMBER 31, 2022 (RATE YEAR 2)

AND

PROPOSED CUSTOMER RATES

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania

Gannett Fleming

Excellence Delivered ***As Promised***

April 22, 2020

Pennsylvania-American Water Company
852 Wesley Drive
Mechanicsburg, PA 17055

Attention: Ashley E. Everette
Director, Rates & Regulatory

Ladies and Gentlemen:

Pursuant to your request, we have conducted a wastewater cost of service allocation study for Kane Wastewater Operations based on pro forma revenue requirements estimated for the test year ended December 31, 2021 and December 31, 2022, and have prepared proposed wastewater rate schedules designed to produce pro forma revenues more commensurate with the allocated costs.

The attached report presents the results of the allocation study, as well as supporting schedules which set forth the detailed cost allocation calculations and the proposed schedule of rates. Schedule A presents a comparison of the cost of service by customer classification with the pro forma revenues produced by each classification under present and proposed rates. The proof of revenue calculations are set forth in Exhibit No. 12-P.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

CONSTANCE E. HEPPENSTALL
Senior Project Manager, Rate Studies

CEH:mle

066548.200

Gannett Fleming Valuation and Rate Consultants, LLC
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WASTEWATER COST OF SERVICE

ALLOCATION STUDY

AS OF DECEMBER 31, 2021

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2021

Customer Classification	Cost of Service Amount (Schedule D)	Cost of Service Percent	Revenues, Present Rates Amount	Revenues, Present Rates Percent	Revenues, 2021 Rates Amount	Revenues, 2021 Rates Percent	Proposed Increase Amount	Proposed Increase Percent Increase
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Residential	$ 1,387,447	77.8%	$ 1,179,875	80.4%	$ 1,432,176	80.3%	$ 252,301	21.4%
Non-Residential	395,639	22.2%	287,635	19.6%	350,910	19.7%	63,275	22.0%
Total Sales	1,783,086	100.0%	1,467,510	100.0%	1,783,086	100.0%	315,576	21.5%
COS Recovered from Water	1,483,984							
Other Revenues	20,396		9,146		20,396		11,250	123.0%
Total	$ 3,287,466		$ 1,476,656		$ 1,803,482		$ 326,826	22.1%

PENNSYLVANIA-AMERICAN WATER COMPANY
KANE WASTEWATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PRESENT RATES

Item (1)	Cost of Service (2)	Residential (3)	Non-Residential (4)
1. Revenues From Sales	$ 1,467,510	$ 1,179,875	$ 287,635
2. Other Revenues	9,146	7,353	1,793
3. Total Operating Revenues	1,476,656	1,187,228	289,428
4. Less: Operating Expenses	1,455,156	1,130,600	324,556
5. Return and Income Taxes	21,500	56,628	(35,128)
6. Less: Taxable Exclusions - Allocated on Rate Base	386,939	300,504	86,435
7. Taxable Income	(365,439)	(243,876)	(121,563)
8. Less: Income Taxes (Based on Taxable Income, Line 7.)	(144,455)	(96,402)	(48,053)
9. Net Return (Line 5 - Line 8)	165,955	153,030	12,925
10. Original Cost Measure of Value	19,140,824	14,865,110	4,275,714
11. Rate Of Return, Percent	0.87	1.03	0.30
12. Relative Rate of Return	1.00	1.19	0.35

PENNSYLVANIA-AMERICAN WATER COMPANY
KANE WASTEWATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PROPOSED RATES

Item (1)	Cost of Service (2)	Residential (3)	Non-Residential (4)
1. Revenues From Sales	$ 1,783,086	$ 1,432,176	$ 350,910
2. Other Revenues	20,396	16,382	4,014
3. Total Operating Revenues	1,803,482	1,448,558	354,924
4. Less: Operating Expenses (Net of cost of service recovered from water)	3,466	4,785	(1,319)
5. Return and Income Taxes	1,800,016	1,443,773	356,243
6. Less: Taxable Exclusions - Allocated on Rate Base	387,528	301,072	86,456
7. Taxable Income	1,412,488	1,142,701	269,787
8. Less: Income Taxes (Based on Taxable Income, Line 7.)	369,939	299,280	70,659
9. Net Return (Line 5 - Line 8)	1,430,077	1,144,492	285,585
10. Original Cost Measure of Value	19,169,939	14,893,181	4,276,758
11. Rate Of Return, Percent	7.46	7.68	6.68
12. Relative Rate of Return	1.00	1.03	0.90

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2021

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	CSO Stormwater (6)
OPERATION AND MAINTENANCE EXPENSES						
	SEWAGE TREATMENT					
601.3	Salary and Wages	2	$ 124,837	$ 28,038	$ 9,737	$ 87,061
601.4	Salary and Wages	2	-	0	0	0
615.3	Purchased Power	2	115,310	25,899	8,994	80,417
618.3	Chemicals	1	27,508	20,419	7,089	0
620.3	Materials and Supplies - Operation	2	-	0	0	0
635.3	Contract Services Test	2	-	0	0	0
636.3	Contract Services - Operation	2	17,905	4,021	1,397	12,487
641.3	Rental of Building	2	-	0	0	0
642.3	Rental of Equipment	2	-	0	0	0
650.3	Transportation	2	-	0	0	0
620.4	Materials and Supplies - Maintenance	2	-	0	0	0
636.4	Contract Sevices - Maintenance	2	-	0	0	0
650.4	Transportation	2	-	0	0	0
675.4	Misc. Maint. Expense	2	-	0	0	0
675.3	Waste Disposal	1	26,260	19,493	6,767	0
675.3	Misc. Operating Expense	2	-	0	0	0
	TOTAL SEWAGE TREATMENT EXPENSE		311,820	97,870	33,984	179,966
	COLLECTION EXPENSES					
601.5	Salary and Wages	2	0	0	0	0
601.6	Salary and Wages	2	0	0	0	0
601.6	Salary and Wages - CSO	DA	0			0
615.5	Purchased Power	2	6,370	1,431	497	4,442
620.5	Materials and Supplies	2	0	0	0	0
636.5	Contract Services	2	0	0	0	0
642.5	Rental of Equipment/Transportation	2	0	0	0	0
	TOTAL COLLECTION EXPENSE OPERATION		6,370	1,431	497	4,442

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2021

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	CSO Stormwater (6)
620.6	Materials and Supplies	2	117,133	26,308	9,136	81,689
636.6	Contract Services	2	0	0	0	0
675.6	Miscellaneous Maintenance Expense	2	0	0	0	0
675.5	Miscellaneous Operating Expense	2	0	0	0	0
	TOTAL COLLECTION - MAINTENANCE		117,133	26,308	9,136	81,689
	TOTAL COLLECTION EXPENSE		123,503	27,739	9,633	86,131
	CUSTOMER ACCOUNTS					
636.7	Contract Services	6	0	0	0	0
670.7	Bad Debts	6	39,614	36,294	3,320	0
675.7	Miscellaneous Expense	6	14,578	13,356	1,222	0
	TOTAL CUSTOMER ACCOUNTING EXPENSE		54,192	49,651	4,541	0
	ADMINISTRATIVE AND GENERAL EXPENSES					
601.8	Salaries and Wages	11	0	0	0	0
603.8	Salaries of Officiers	11	0	0	0	0
604.8	Employee Pension & Benefits	7	48,162	10,817	3,757	33,588
615.8	Purchased Power	11	0	0	0	0
620.8	Materials and Supplies	11	0	0	0	0
631.8	Contractual Services	11	9,041	3,109	714	5,218
632.8	Contractual Services - Legal	11	0	0	0	0
636.8	Contractual Services	11	0	0	0	0
641.8	Rental of Building	11	0	0	0	0
642.8	Rental of Equipment	11	0	0	0	0
650.8	Transportation	11	0	0	0	0
657.8	Insurance	11	29,146	10,023	2,303	16,820
658.8	Workers Compensation	7	0	0	0	0
666.8	Rate Case Expense	10	3,538	2,092	600	846
675.8	Miscellaneous Expense	11	7,715	2,653	609	4,452
	TOTAL A & G EXPENSE		97,602	28,695	7,983	60,924
	Total Operation & Maintenance Expenses		587,117	203,955	56,142	327,021

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2021

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	CSO Stormwater (6)
DEPRECIATION EXPENSE					
354.20 Structures and Improvements - Collection	4	0	0	0	0
354.30 Structures and Improvements - Pumping	4	44,036	22,749	6,610	14,677
354.40 Structures and Improvements - Treatment					
Sewage Treatment	3	214,084	165,872	48,212	0
CSO Stormwater	DA	7,059			7,059
355.00 Power Generation Equipment	4	0	0	0	0
360.10 Force Mains	4	7,448	3,848	1,118	2,482
361.10 Gravity Mains					
Gravity Mains - Sanitary Only	3	72,190	55,932	16,257	0
Gravity Mains - Combined Sewers	4	62,791	32,438	9,425	20,928
CSO Assets	DA	0			0
361.20 Manholes					
Sanitary Only	3	26,721	20,703	6,017	0
Combined System	4	2,477	1,279	372	825
CSO Stormwater	DA	0			0
362.00 Special Collection Structures	DA	0			0
363.00 Service Laterals	5	8,869	7,217	1,651	0
364.00 Flow Measuring Devices	4	3,086	1,594	463	1,028
371.00 Pumping Equipment	4	51,080	26,388	7,667	17,025
380.00 Treatment Equipment					
Sewage Treatment	3	177,831	137,783	40,048	0
CSO Stormwater	DA	47,869			47,869
381.00 Plant Sewers - Sewage Treatment	3	20,519	15,898	4,621	0
381.00 Plant Sewers - CSO Related	DA	12,155			12,155
389.10 Other Plant and Misc. Equip. - Intangible	11	86	30	7	50
389.60 Other Plant and Misc. Equipment - CPS	11	0	0	0	0
390.00 Office Furniture and Equipment	11	532	183	42	307
391.00 Transportation Equipment	11	1,419	488	112	819
391.00 Transportation Equipment - CSO Related	DA	0			0
392.00 Stores Equipment	11	275	95	22	159
393.00 Tools, Shop and Garage Equipment	11	10,441	3,590	825	6,025
394.00 Laboratory Equipment	1	0	0	0	0
395.00 Power Operated Equipment	11	127	44	10	73
396.00 Communication Equipment	11	21,056	7,241	1,663	12,151
397.00 Miscellaneous Equipment	11	13,643	4,692	1,078	7,873
Total Depreciation Expense		805,787	508,063	146,219	151,505

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2021

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	CSO Stormwater (6)
	Amortization Expense	9	19,675	12,856	3,711	3,109
	Taxes Other Than Income					
685100	Utility Reg Assessment Fee	10	18,934	11,194	3,213	4,527
685200	Property Taxes	9	43,880	28,671	8,276	6,933
685320	Payroll Taxes	7	12,057	2,708	940	8,409
	Total Taxes, Other Than Income		74,871	42,573	12,429	19,869
	Total Operating Expense		1,487,450	767,446	218,501	501,503
4091	**Income Taxes**	9	369,939	241,718	69,770	58,450
	Utility Income Available for Return	9	1,430,077	934,412	269,713	225,952
	Total Cost of Service		3,287,466	1,943,576	557,984	785,906
	Less: Other Revenues	10	(20,396)	(12,058)	(3,461)	(4,877)
	Total Cost of Service Related to Sales of Wastewater Services		3,267,070	1,931,518	554,523	781,029
	Reallocation of CSO Stormwater Costs	1A	0	610,765	170,264	(781,029)
	Less: Cost of Service Recovered from Water Rates	10A	(1,483,984)	(1,154,836)	(329,148)	0
	Total		$ 1,783,086	$ 1,387,447	$ 395,639	$ -

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTORS 1 and 2. ALLOCATION OF COSTS ASSOCIATED WITH AVERAGE DAILY FLOWS.

Factors are based on the pro forma test year average daily consumption for each customer classification.

Classification	Total Average Daily Customer Flow 100 gallons (a)	I&I Average Day 100 gallons (b)	Total Sanitary Average Flow	Allocation Factor 1	Average Day CSO 100 gallons	Total Average Day Wastewater Flow	Allocation Factor 2
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)	(7)=(4)+(6)	(8)
Residential	1,622	1,060	2,682	0.7423		2,682	0.2246
Non-Residential	636	295	931	0.2577		931	0.0780
Stormwater CSO	-	-	-	-	8,326	8,326	0.6974
Total	2,258	1,355	3,613	1.0000	8,326	11,939	1.0000

(a) Customer water usage from bill analysis, adjusted to reflect 88% returned to sewer system. See below.
(b) Allocation based on Factor 1A for Residential, Non-Residential and Bulk.

Classification	Annual Usage 100 gallons	Average Day 100 gallons	Percent to Sewer System	Adjusted Average Day 100 gallons
(1)	(2)	(3)=(2)/365	(6)	(7)
Residential	672,729	1,843	88.0%	1,622
Non-Residential	263,896	723	88.0%	636
Total	936,625	2,566		2,258

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1A. ALLOCATION OF INFILTRATION AND INFLOW BY CUSTOMER CLASS.

Factors are based on a 1/3-2/3 weighting of flow and number of customers, as follows:

Customer Classification	Total Average Daily Flow 100 gallons	Average Daily Flow		Service Equivalents (Factor 5)			Allocation Factor 1A
		Factor	Weight	Number	Factor 5	Weight	
(1)	(2)	(3)	(4)=(3) x 0.3333	(5)	(6)	(7)=(6) x 0.6667	(8)=(4)+(7)
Residential	1,622	0.7183	0.2394	1,862	0.8138	0.5426	0.7820
Non-Residential	636	0.2817	0.0939	426	0.1862	0.1241	0.2180
Total	2,258	1.0000	0.3333	2,288	1.0000	0.6667	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTORS 3 and 4. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PEAK DAILY FLOW.

Factors are based on the peak daily flow for each customer classification.

Classification	Total Average Daily Customer Flow 100 gallons (a)	I&I Peak Day 100 gallons (b)	Total Sanitary Peak Flow	Allocation Factor 3	Peak Day CSO 100 gallons	Total Peak Day Wastewater Flow	Allocation Factor 4
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)	(7)=(4)+(6)	(8)
Residential	1,622	13,874	15,496	0.7748		15,496	0.5166
Non-Residential	636	3,868	4,504	0.2252		4,504	0.1501
Stormwater CSO	-	-	-	-	10,000	10,000	0.3333
Total	2,258	17,742	20,000	1.0000	10,000	30,000	1.0000

(a) See Factor 1.
(b) Allocated based on Factor 1A

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH CUSTOMER FACILITIES.

Factors are based on the estimated relative cost of customer facilities, as follows:

Customer Classification	Number of Customers	Service Equiv. Ratio	Service Equivalents	Allocation Factor
(1)	(2)	(3)	(2)X(3)=(4)	(5)
Residential	1,862	1.0	1,862	0.8138
Non-Residential	170	2.5	426	0.1862
Stormwater CSO	-	-	-	-
Total	2,032		2,288	1.0000

FACTOR 6. ALLOCATION OF COSTS ASSOCIATED WITH BILLING AND COLLECTING.

Factors are based on the number of customers.

Customer Classification	Number of Customers	Allocation Factor
(1)	(2)	(3)
Residential	1,862	0.9162
Non-Residential	170	0.0838
Stormwater CSO	-	-
Total	2,032	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 7. ALLOCATION OF LABOR RELATED TAXES AND BENEFITS.

Factors are based on the allocation of direct labor expense.

Customer Classification	Direct Labor Expense	Allocation Factor
(1)	(2)	(3)
Residential	$ 28,038	0.2246
Non-Residential	9,737	0.0780
Stormwater CSO	87,061	0.6974
Total	$ 124,837	1.0000

FACTOR 8. ALLOCATION OF ORGANIZATION, FRANCHISES AND CONSENTS, MISCELLANEOUS INTANGIBLE PLANT AND OTHER RATE BASE ELEMENTS.

Factors are based on the allocation of the original cost less depreciation other than those items being allocated, as follows:

Customer Classification	Original Cost Less Depreciation	Allocation Factor
(1)	(2)	(3)
Residential	$ 12,243,961	0.6531
Non-Residential	3,535,359	0.1886
Stormwater CSO	2,967,806	0.1583
Total	$ 18,747,126	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 9. ALLOCATION OF INCOME TAXES AND INCOME AVAILABLE FOR RETURN.

Factors are based on the allocation of the original cost measure of value rate base as shown on the following pages and summarized below.

Customer Classification	Original Cost Measure of Value	Allocation Factor
(1)	(2)	(3)
Residential	$ 12,524,277	0.6534
Non-Residential	3,616,372	0.1886
Stormwater CSO	3,029,290	0.1580
Total	$ 19,169,939	1.0000

FACTOR 10 and 10A. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS, OTHER WATER REVENUES.

The factors are based on the allocation of the total cost of service, excluding those items being allocated.

Customer Classification	Total Cost of Service	Allocation Factor 10	Total Cost of Service with Stormwater Reallocated	Allocation Factor 10A
(1)	(2)	(3)	(4)	(5)
Residential	$ 1,930,291	0.5912	$ 2,542,283	0.7782
Non-Residential	554,170	0.1697	724,787	0.2218
Stormwater CSO	780,532	0.2391	-	-
Total	$ 3,264,994	1.0000	$ 3,267,070	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2021

Account (1)		Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	CSO Stormwater (6)
RATE BASE						
353.20	Land and Land Rights - Collection	4	38,022	19,642	5,707	12,673
353.30	Land and Land Rights - Pumping	4	0	0	0	0
353.40	Land and Land Rights - Treatment	3	0	0	0	0
354.20	Structures and Improvements - Collection	4	0	0	0	0
354.30	Structures and Improvements - Pumping	4	1,278,387	660,415	191,886	426,086
354.40	Structures and Improvements - Treatment					
	Sewage Treatment	3	6,215,025	4,815,401	1,399,624	0
	CSO Stormwater	DA	204,911			204,911
355.00	Power Generation Equipment	4	0	0	0	0
360.10	Force Mains	4	333,381	172,225	50,040	111,116
361.10	Gravity Mains					
	Gravity Mains - Sanitary Only	3	2,998,066	2,322,901	675,164	0
	Gravity Mains - Combined Sewers	4	2,607,108	1,346,832	391,327	868,949
	CSO Assets	DA	0			0
361.20	Manholes					
	Sanitary Only	3	583,085	451,774	131,311	0
	Combined System	4	54,006	27,900	8,106	18,000
	CSO Stormwater	DA	0			0
362.00	Special Collection Structures	DA	0			0
363.00	Service Laterals	5	210,238	171,091	39,146	0
364.00	Flow Measuring Devices	4	10,497	5,423	1,576	3,499
371.00	Pumping Equipment	4	628,651	324,761	94,361	209,530
380.00	Treatment Equipment					
	Sewage Treatment	3	1,694,695	1,313,049	381,645	0
	CSO Stormwater	DA	456,183			456,183
381.00	Plant Sewers - Sewage Treatment	3	523,149	405,336	117,813	0
381.00	Plant Sewers - CSO Related	DA	309,897			309,897

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2021

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	CSO Stormwater (6)
389.10	Other Plant and Misc. Equip. - Intangible	11	413	142	33	238
389.60	Other Plant and Misc. Equipment - CPS	11	0	0	0	0
390.00	Office Furniture and Equipment	11	4,867	1,674	384	2,809
391.00	Transportation Equipment	11	11,676	4,015	922	6,738
391.00	Transportation Equipment - CSO Related	DA	0			0
392.00	Stores Equipment	11	5,771	1,985	456	3,331
393.00	Tools, Shop and Garage Equipment	11	89,699	30,847	7,086	51,765
394.00	Laboratory Equipment	1	609	452	157	0
395.00	Power Operated Equipment	11	1,670	574	132	964
396.00	Communication Equipment	11	293,912	101,076	23,219	169,617
397.00	Miscellaneous Equipment	11	193,208	66,444	15,263	111,500
	TOTAL SEWER UTILITY PLANT IN SERVICE		18,747,126	12,243,961	3,535,359	2,967,806
	Other Rate Base Items:					
	Cash Working Capital	12	(13,664)	(4,747)	(1,306)	(7,611)
	Materials and Supplies	8	6,259	4,088	1,180	991
	Acquisition Adjustments	8	777,162	507,565	146,573	123,025
	Tax Cuts and Jobs Act -Stub Period	8	0	0	0	0
	Deferred, Accrued and Prepaid Taxes	8	(346,944)	(226,589)	(65,434)	(54,921)
	Total Other Rate Base Elements		422,813	280,316	81,013	61,483
	Total Original Cost Measure of Value		$ 19,169,939	$ 12,524,277	$ 3,616,372	$ 3,029,290

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 11. ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSES

Factors are based on the allocation of all other operation and maintenance expenses excluding purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 108,019	0.3439
Non-Residential	24,812	0.0790
Stormwater CSO	181,237	0.5771
Total	$ 314,067	1.0000

FACTOR 12. ALLOCATION OF CASH WORKING CAPITAL

Factors are based on the allocation of operation and maintenance expenses including purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 203,955	0.3474
Commercial	56,142	0.0956
Stormwater CSO	327,021	0.5570
Total	$ 587,117	1.0000

WASTEWATER COST OF SERVICE

ALLOCATION STUDY

AS OF DECEMBER 31, 2022

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2022

Customer Classification	Cost of Service Amount (Schedule C)	Cost of Service Percent	Revenues, 2021 Rates Amount	Revenues, 2021 Rates Percent	Revenues, Proposed Rates Amount	Revenues, Proposed Rates Percent	Proposed Increase Amount	Proposed Increase Percent Increase
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Residential	$ 1,666,048	78.1%	$ 1,432,176	80.3%	$ 1,713,488	80.3%	$ 281,312	19.6%
Non-Residential	467,295	21.9%	350,910	19.7%	419,855	19.7%	68,945	19.6%
Total Sales	2,133,343	100.0%	1,783,086	100.0%	2,133,343	100.0%	350,257	19.6%
COS Recovered from Water	1,655,831							
Other Revenues	23,655		20,396		23,655		3,259	16.0%
Total	$ 3,812,829		$ 1,803,482		$ 2,156,998		$ 353,516	19.6%

PENNSYLVANIA-AMERICAN WATER COMPANY
KANE WASTEWATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PRESENT RATES

Item	Cost of Service	Residential	Non-Residential
(1)	(2)	(3)	(4)
1. Revenues From Sales	$ 1,783,086	$ 1,432,176	$ 350,910
2. Other Revenues	20,396	16,382	4,014
3. Total Operating Revenues	1,803,482	1,448,558	354,924
4. Less: Operating Expenses	1,822,487	1,426,133	396,354
5. Return and Income Taxes	(19,005)	22,425	(41,430)
6. Less: Taxable Exclusions - Allocated on Rate Base	423,606	329,713	93,893
7. Taxable Income	(442,611)	(307,288)	(135,323)
8. Less: Income Taxes (Based on Taxable Income, Line 7.)	234,510	162,811	71,699
9. Net Return (Line 5 - Line 8)	(253,515)	(140,386)	(113,129)
10. Original Cost Measure of Value	21,404,931	16,660,480	4,744,451
11. Rate Of Return, Percent	(1.18)	(0.84)	(2.38)
12. Relative Rate of Return	1.00	0.71	2.01

PENNSYLVANIA-AMERICAN WATER COMPANY
KANE WASTEWATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PROPOSED RATES

Item	Cost of Service	Residential	Non-Residential
(1)	(2)	(3)	(4)
1. Revenues From Sales	$ 2,133,343	$ 1,713,488	$ 419,855
2. Other Revenues	23,655	19,000	4,655
3. Total Operating Revenues	2,156,998	1,732,487	424,511
4. Less: Operating Expenses (Net of cost of service recovered from water)	176,013	142,142	33,871
5. Return and Income Taxes	1,980,985	1,590,346	390,639
6. Less: Taxable Exclusions - Allocated on Rate Base	423,773	329,952	93,821
7. Taxable Income	1,557,212	1,260,394	296,818
8. Less: Income Taxes (Based on Taxable Income, Line 7.)	383,547	310,440	73,107
9. Net Return (Line 5 - Line 8)	1,597,438	1,279,906	317,532
10. Original Cost Measure of Value	21,413,379	16,672,554	4,740,825
11. Rate Of Return, Percent	7.46	7.68	6.70
12. Relative Rate of Return	1.00	1.03	0.90

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES
FOR THE TWELVE MONTH ENDED DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	CSO Stormwater (6)
OPERATION AND MAINTENANCE EXPENSES						
	SEWAGE TREATMENT					
601.3	Salary and Wages	2	$ 124,837	$ 28,038	$ 9,737	$ 87,061
601.4	Salary and Wages	2	-	0	0	0
615.3	Purchased Power	2	115,310	25,899	8,994	80,417
618.3	Chemicals	1	28,900	21,452	7,448	0
620.3	Materials and Supplies - Operation	2	-	0	0	0
635.3	Contract Services Test	2	-	0	0	0
636.3	Contract Services - Operation	2	17,905	4,021	1,397	12,487
641.3	Rental of Building	2	-	0	0	0
642.3	Rental of Equipment	2	-	0	0	0
650.3	Transportation	2	-	0	0	0
620.4	Materials and Supplies - Maintenance	2	-	0	0	0
636.4	Contract Sevices - Maintenance	2	-	0	0	0
650.4	Transportation	2	-	0	0	0
675.4	Misc. Maint. Expense	2	-	0	0	0
675.3	Waste Disposal	1	26,785	19,883	6,902	0
675.3	Misc. Operating Expense	2	-	0	0	0
	TOTAL SEWAGE TREATMENT EXPENSE		313,737	99,293	34,478	179,966
	COLLECTION EXPENSES					
601.5	Salary and Wages	2	0	0	0	0
601.6	Salary and Wages	2	0	0	0	0
601.6	Salary and Wages - CSO	DA	0			0
615.5	Purchased Power	2	6,370	1,431	497	4,442
620.5	Materials and Supplies	2	0	0	0	0
636.5	Contract Services	2	0	0	0	0
642.5	Rental of Equipment/Transportation	2	0	0	0	0
	TOTAL COLLECTION EXPENSE OPERATION		6,370	1,431	497	4,442

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES
FOR THE TWELVE MONTH ENDED DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	CSO Stormwater (6)
620.6	Materials and Supplies	2	117,133	26,308	9,136	81,689
636.6	Contract Services	2	0	0	0	0
675.6	Miscellaneous Maintenance Expense	2	0	0	0	0
675.5	Miscellaneous Operating Expense	2	0	0	0	0
	TOTAL COLLECTION - MAINTENANCE		117,133	26,308	9,136	81,689
	TOTAL COLLECTION EXPENSE		123,503	27,739	9,633	86,131
	CUSTOMER ACCOUNTS					
636.7	Contract Services	6	0	0	0	0
670.7	Bad Debts	6	45,945	42,095	3,850	0
675.7	Miscellaneous Expense	6	14,578	13,356	1,222	0
	TOTAL CUSTOMER ACCOUNTING EXPENSE		60,523	55,451	5,072	0
	ADMINISTRATIVE AND GENERAL EXPENSES					
601.8	Salaries and Wages	11	0	0	0	0
603.8	Salaries of Officiers	11	0	0	0	0
604.8	Employee Pension & Benefits	7	48,162	10,817	3,757	33,588
615.8	Purchased Power	11	0	0	0	0
620.8	Materials and Supplies	11	0	0	0	0
631.8	Contractual Services	11	9,041	3,211	715	5,114
632.8	Contractual Services - Legal	11	0	0	0	0
636.8	Contractual Services	11	0	0	0	0
641.8	Rental of Building	11	0	0	0	0
642.8	Rental of Equipment	11	0	0	0	0
650.8	Transportation	11	0	0	0	0
657.8	Insurance	11	29,146	10,353	2,305	16,488
658.8	Workers Compensation	7	0	0	0	0
666.8	Rate Case Expense	10	3,538	2,002	563	973
675.8	Miscellaneous Expense	11	7,715	2,740	610	4,364
	TOTAL A & G EXPENSE		97,602	29,124	7,950	60,528
	Total Operation & Maintenance Expenses		595,365	211,607	57,133	326,625

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES
FOR THE TWELVE MONTH ENDED DECEMBER 31, 2022

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	CSO Stormwater (6)
DEPRECIATION EXPENSE					
354.20 Structures and Improvements - Collection	4	0	0	0	0
354.30 Structures and Improvements - Pumping	4	44,620	23,051	6,697	14,872
354.40 Structures and Improvements - Treatment					
Sewage Treatment	3	217,102	168,211	48,891	0
CSO Stormwater	DA	6,965			6,965
355.00 Power Generation Equipment	4	0	0	0	0
360.10 Force Mains	4	7,392	3,819	1,110	2,464
361.10 Gravity Mains					
Gravity Mains - Sanitary Only	3	90,744	70,308	20,436	0
Gravity Mains - Combined Sewers	4	66,376	34,290	9,963	22,123
CSO Assets	DA	0			0
361.20 Manholes					
Sanitary Only	3	29,511	22,865	6,646	0
Combined System	4	2,395	1,237	359	798
CSO Stormwater	DA	0			0
362.00 Special Collection Structures	DA	0			0
363.00 Service Laterals	5	10,113	8,230	1,883	0
364.00 Flow Measuring Devices	4	1,897	980	285	632
371.00 Pumping Equipment	4	48,916	25,270	7,342	16,304
380.00 Treatment Equipment					
Sewage Treatment	3	155,930	120,815	35,115	0
CSO Stormwater	DA	41,974			41,974
381.00 Plant Sewers - Sewage Treatment	3	20,088	15,564	4,524	0
381.00 Plant Sewers - CSO Related	DA	11,900			11,900
389.10 Other Plant and Misc. Equip. - Intangible	11	68	24	5	38
389.60 Other Plant and Misc. Equipment - CPS	11	317,069	112,623	25,080	179,366
390.00 Office Furniture and Equipment	11	1,085	385	86	614
391.00 Transportation Equipment	11	1,403	498	111	794
391.00 Transportation Equipment - CSO Related	DA	0			0
392.00 Stores Equipment	11	275	98	22	156
393.00 Tools, Shop and Garage Equipment	11	8,605	3,056	681	4,868
394.00 Laboratory Equipment	1	0	0	0	0
395.00 Power Operated Equipment	11	120	43	9	68
396.00 Communication Equipment	11	26,516	9,418	2,097	15,000
397.00 Miscellaneous Equipment	11	27,843	9,890	2,202	15,751
Total Depreciation Expense		1,138,907	630,675	173,546	334,686

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES
FOR THE TWELVE MONTH ENDED DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	CSO Stormwater (6)
	Amortization Expense	9	19,675	12,509	3,573	3,593
	Taxes Other Than Income					
685100	Utility Reg Assessment Fee	10	21,960	12,427	3,492	6,041
685200	Property Taxes	9	43,880	27,899	7,969	8,012
685320	Payroll Taxes	7	12,057	2,708	940	8,409
	Total Taxes, Other Than Income		77,897	43,034	12,401	22,462
	Total Operating Expense		1,831,844	897,826	246,653	687,366
4091	**Income Taxes**	9	383,547	243,859	69,652	70,036
	Utility Income Available for Return	9	1,597,438	1,015,651	290,095	291,692
	Total Cost of Service		3,812,829	2,157,336	606,399	1,049,093
	Less: Other Revenues	10	(23,655)	(13,386)	(3,761)	(6,507)
	Total Cost of Service Related to Sales of Wastewater Services		3,789,174	2,143,950	602,638	1,042,586
	Reallocation of CSO Stormwater Costs	1A	0	815,302	227,284	(1,042,586)
	Less: Cost of Service Recovered from Water Rates	10A	(1,655,831)	(1,293,204)	(362,627)	0
	Total		$ 2,133,343	$ 1,666,048	$ 467,295	$ -

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTORS 1 and 2. ALLOCATION OF COSTS ASSOCIATED WITH AVERAGE DAILY FLOWS.

Factors are based on the pro forma test year average daily consumption for each customer classification.

Classification	Total Average Daily Customer Flow 100 gallons (a)	I&I Average Day 100 gallons (b)	Total Sanitary Average Flow	Allocation Factor 1	Average Day CSO 100 gallons	Total Average Day Wastewater Flow	Allocation Factor 2
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)	(7)=(4)+(6)	(8)
Residential	1,622	1,060	2,682	0.7423		2,682	0.2246
Non-Residential	636	295	931	0.2577		931	0.0780
Stormwater CSO	-	-	-	-	8,326	8,326	0.6974
Total	2,258	1,355	3,613	1.0000	8,326	11,939	1.0000

(a) Customer water usage from bill analysis, adjusted to reflect 88% returned to sewer system. See below.
(b) Allocation based on Factor 1A for Residential, Non-Residential and Bulk.

Classification	Annual Usage 100 gallons	Average Day 100 gallons	Percent to Sewer System	Adjusted Average Day 100 gallons
(1)	(2)	(3)=(2)/365	(6)	(7)
Residential	672,729	1,843	88.0%	1,622
Non-Residential	263,896	723	88.0%	636
Total	936,625	2,566		2,258

PENNSYLVANIA AMERICAN WATER COMPANY
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FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1A. ALLOCATION OF INFILTRATION AND INFLOW BY CUSTOMER CLASS.

Factors are based on a 1/3-2/3 weighting of flow and number of customers, as follows:

Customer Classification	Total Average Daily Flow 100 gallons	Average Daily Flow		Service Equivalents (Factor 5)			Allocation Factor 1A
		Factor	Weight	Number	Factor 5	Weight	
(1)	(2)	(3)	(4)=(3) x 0.3333	(5)	(6)	(7)=(6) x 0.6667	(8)=(4)+(7)
Residential	1,622	0.7183	0.2394	1,862	0.8138	0.5426	0.7820
Non-Residential	636	0.2817	0.0939	426	0.1862	0.1241	0.2180
Total	2,258	1.0000	0.3333	2,288	1.0000	0.6667	1.0000

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KANE WASTEWATER
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTORS 3 and 4. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PEAK DAILY FLOW.

Factors are based on the peak daily flow for each customer classification.

Classification	Total Average Daily Customer Flow 100 gallons (a)	I&I Peak Day 100 gallons (b)	Total Sanitary Peak Flow	Allocation Factor 3	Peak Day CSO 100 gallons	Total Peak Day Wastewater Flow	Allocation Factor 4
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)	(7)=(4)+(6)	(8)
Residential	1,622	13,874	15,496	0.7748		15,496	0.5166
Non-Residential	636	3,868	4,504	0.2252		4,504	0.1501
Stormwater CSO	-	-	-	-	10,000	10,000	0.3333
Total	2,258	17,742	20,000	1.0000	10,000	30,000	1.0000

(a) See Factor 1.
(b) Allocated based on Factor 1A

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH CUSTOMER FACILITIES.

Factors are based on the estimated relative cost of customer facilities, as follows:

Customer Classification	Number of Customers	Service Equiv. Ratio	Service Equivalents	Allocation Factor
(1)	(2)	(3)	(2)X(3)=(4)	(5)
Residential	1,862	1.0	1,862	0.8138
Non-Residential	170	2.5	426	0.1862
Stormwater CSO	-	-	-	-
Total	2,032		2,288	1.0000

FACTOR 6. ALLOCATION OF COSTS ASSOCIATED WITH BILLING AND COLLECTING.

Factors are based on the number of customers.

Customer Classification	Number of Customers	Allocation Factor
(1)	(2)	(3)
Residential	1,862	0.9162
Non-Residential	170	0.0838
Stormwater CSO	-	-
Total	2,032	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 7. ALLOCATION OF LABOR RELATED TAXES AND BENEFITS.

Factors are based on the allocation of direct labor expense.

Customer Classification	Direct Labor Expense	Allocation Factor
(1)	(2)	(3)
Residential	$ 28,038	0.2246
Non-Residential	9,737	0.0780
Stormwater CSO	87,061	0.6974
Total	$ 124,837	1.0000

FACTOR 8. ALLOCATION OF ORGANIZATION, FRANCHISES AND CONSENTS, MISCELLANEOUS INTANGIBLE PLANT AND OTHER RATE BASE ELEMENTS.

Factors are based on the allocation of the original cost less depreciation other than those items being allocated, as follows:

Customer Classification	Original Cost Less Depreciation	Allocation Factor
(1)	(2)	(3)
Residential	$ 13,417,916	0.6356
Non-Residential	3,832,099	0.1815
Stormwater CSO	3,861,600	0.1829
Total	$ 21,111,615	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
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FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 9. ALLOCATION OF INCOME TAXES AND INCOME AVAILABLE FOR RETURN.

Factors are based on the allocation of the original cost measure of value rate base as shown on the following pages and summarized below.

Customer Classification	Original Cost Measure of Value	Allocation Factor
(1)	(2)	(3)
Residential	$ 13,614,338	0.6358
Non-Residential	3,888,279	0.1816
Stormwater CSO	3,910,762	0.1826
Total	$ 21,413,379	1.0000

FACTOR 10 and 10A. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS, OTHER WATER REVENUES.

The factors are based on the allocation of the total cost of service, excluding those items being allocated.

Customer Classification	Total Cost of Service	Allocation Factor 10	Total Cost of Service with Stormwater Reallocated	Allocation Factor 10A
(1)	(2)	(3)	(4)	(5)
Residential	$ 2,142,907	0.5659	$ 2,959,252	0.7810
Non-Residential	602,345	0.1590	829,922	0.2190
Stormwater CSO	1,042,079	0.2751	-	-
Total	$ 3,787,331	1.0000	$ 3,789,174	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER
COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES
FOR THE TWELVE MONTH ENDED DECEMBER 31, 2022

Account (1)		Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	CSO Stormwater (6)
RATE BASE						
353.20	Land and Land Rights - Collection	4	38,022	19,642	5,707	12,673
353.30	Land and Land Rights - Pumping	4	0	0	0	0
353.40	Land and Land Rights - Treatment	3	0	0	0	0
354.20	Structures and Improvements - Collection	4	0	0	0	0
354.30	Structures and Improvements - Pumping	4	1,278,522	660,484	191,906	426,131
354.40	Structures and Improvements - Treatment					
	Sewage Treatment	3	6,221,033	4,820,057	1,400,977	0
	CSO Stormwater	DA	199,583			199,583
355.00	Power Generation Equipment	4	0	0	0	0
360.10	Force Mains	4	322,190	166,443	48,361	107,386
361.10	Gravity Mains					
	Gravity Mains - Sanitary Only	3	3,792,427	2,938,372	854,055	0
	Gravity Mains - Combined Sewers	4	2,774,031	1,433,064	416,382	924,584
	CSO Assets	DA	0			0
361.20	Manholes					
	Sanitary Only	3	676,007	523,770	152,237	0
	Combined System	4	54,858	28,340	8,234	18,284
	CSO Stormwater	DA	0			0
362.00	Special Collection Structures	DA	0			0
363.00	Service Laterals	5	249,363	202,932	46,431	0
364.00	Flow Measuring Devices	4	6,104	3,153	916	2,034
371.00	Pumping Equipment	4	597,385	308,609	89,668	199,108
380.00	Treatment Equipment					
	Sewage Treatment	3	1,446,999	1,121,135	325,864	0
	CSO Stormwater	DA	389,508			389,508
381.00	Plant Sewers - Sewage Treatment	3	492,461	381,559	110,902	0
381.00	Plant Sewers - CSO Related	DA	291,718			291,718

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COST OF SERVICE ALLOCATED TO CUSTOMER CLASSES
FOR THE TWELVE MONTH ENDED DECEMBER 31, 2022

	Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	CSO Stormwater (6)
389.10	Other Plant and Misc. Equip. - Intangible	11	287	102	23	162
389.60	Other Plant and Misc. Equipment - CPS	11	1,426,810	506,803	112,861	807,146
390.00	Office Furniture and Equipment	11	14,453	5,134	1,143	8,176
391.00	Transportation Equipment	11	9,551	3,393	755	5,403
391.00	Transportation Equipment - CSO Related	DA	0			0
392.00	Stores Equipment	11	5,359	1,904	424	3,032
393.00	Tools, Shop and Garage Equipment	11	107,619	38,226	8,513	60,880
394.00	Laboratory Equipment	1	0	0	0	0
395.00	Power Operated Equipment	11	1,482	526	117	838
396.00	Communication Equipment	11	339,646	120,642	26,866	192,138
397.00	Miscellaneous Equipment	11	376,195	133,625	29,757	212,814
	TOTAL SEWER UTILITY PLANT IN SERVICE		21,111,615	13,417,916	3,832,099	3,861,600
	Other Rate Base Items:					
	Cash Working Capital	12	(16,491)	(5,861)	(1,583)	(9,047)
	Materials and Supplies	8	6,259	3,978	1,136	1,145
	Acquisition Adjustments	8	747,650	475,206	135,698	136,745
	Tax Cuts and Jobs Act -Stub Period	8	0	0	0	0
	Deferred, Accrued and Prepaid Taxes	8	(435,654)	(276,902)	(79,071)	(79,681)
	Total Other Rate Base Elements		301,764	196,422	56,180	49,162
	Total Original Cost Measure of Value		$ 21,413,379	$ 13,614,338	$ 3,888,279	$ 3,910,762

PENNSYLVANIA AMERICAN WATER COMPANY
KANE WASTEWATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 11. ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSES

Factors are based on the allocation of all other operation and maintenance expenses excluding purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 113,819	0.3552
Non-Residential	25,342	0.0791
Stormwater CSO	181,237	0.5657
Total	$ 320,398	1.0000

FACTOR 12. ALLOCATION OF CASH WORKING CAPITAL

Factors are based on the allocation of operation and maintenance expenses including purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 211,607	0.3554
Commercial	57,133	0.0960
Stormwater CSO	326,625	0.5486
Total	$ 595,365	1.0000