

**PENNSYLVANIA-AMERICAN WATER COMPANY**

**2020 GENERAL BASE RATE CASE**

**R-2020-3019369 (WATER)**

**R-2020-3019371 (WASTEWATER)**

**EXHIBITS NO. 12-C, 12-D, 12-E**

**WASTEWATER SSS OPERATIONS EXCLUDING SADBURY AND EXETER**

**WASTEWATER SSS SADBURY OPERATIONS**

**WASTEWATER SSS EXETER OPERATIONS**

**COST OF SERVICE AS OF DECEMBER 31, 2021, 2022**

**EXHIBIT NO. 12-C -**

**WASTEWATER SSS OPERATIONS**

**EXCLUDING SADS BURY AND EXETER**

**WASTEWATER OPERATIONS**

**COST OF SERVICE AS OF DECEMBER 31, 2021**

**AND DECEMBER 31, 2022**

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

WASTEWATER OPERATIONS  
EXCLUDING SADSURY AND EXETER 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 cost of service allocation study based on pro forma revenue requirements estimated for the test year ended December 31, 2018 and have prepared proposed water 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-K.

Respectfully submitted,

GANNETT FLEMING VALUATION  
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## PART I. INTRODUCTION

PENNSYLVANIA-AMERICAN WATER COMPANY  
WASTEWATER OPERATION  
EXCLUDING SADBURY AND EXETER OPERATIONS

COST OF SERVICE ALLOCATION STUDY AS OF  
DECEMBER 31, 2021 (RATE YEAR 1) AND  
DECEMBER 31, 2022 (RATE YEAR 2)  
AND  
PROPOSED CUSTOMER RATES

PART I. INTRODUCTION

PLAN OF REPORT

The report sets forth the results of the cost of service allocation study for the water operations and the Wastewater Operation Excluding Sadsbury and Exeter Operations based on pro forma costs as of December 31, 2021 and December 31, 2022, for Pennsylvania-American Water Company. Part I, Introduction, contains statements with respect to the basis of the study, the procedures employed, and a summary of the results of the study. Schedule A Rate Year 1 (RY1) and Rate Year 2 (RY2) summarizes the cost allocation for the wastewater operations and total revenues under present and proposed rates. Part II, Cost of Service by Customer Classification - Wastewater Operations, presents detailed schedules of the allocation of costs to customer classifications, as well as the basis for the allocations. Part III, Comparisons of Present and Proposed Customer Rates, sets forth the proposed rate schedules for wastewater service.

BASIS OF STUDY

The method used for the allocation of wastewater cost of service incorporates the functional cost allocation methodology described in the text "Financing and Charges for

Wastewater Systems”, Manual of Practice No. 27, published by the Water Environment Federation. This method is recognized for allocating the cost of providing wastewater service to customer classifications in proportion to the classifications' use of the commodity, facilities, and services. It is generally accepted as a sound method for allocating the cost of wastewater service. Under the functional cost method, costs are assigned to cost components using predominant operational purposes as cost-causative factors.

Each element of the cost of service is allocated to customer classifications according to the functional categories. The cost functions are flow, infiltration and inflow (I&I), customer facilities and customer accounting. The functional costs are allocated to customer classifications based on the amount of flow contributed to the system, the amount of I&I allocated to each class, and the number and relative size of customers.

The results for RY1 and RY2 of the allocation of wastewater cost of service is summarized on Schedule A, column 2. The cost allocation results can be compared with revenues under present and proposed rates in columns 4 and 6 of Schedule A. The proposed increase and percentage increase in revenues are shown in columns 8 and 9.

The cost of service by customer classification for each rate year is developed in Schedule D. The allocation factors referenced in column 2 are applied to the costs by account in column 3. The allocation factors are set forth in Schedule E.

The proposed wastewater rates for RY1 and RY2 as well as the remaining wastewater service areas are shown in Schedule F.



PART II. RATE YEAR 1 COST OF SERVICE BY CUSTOMER CLASSIFICATION

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

Customer Classification (1)	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
Residential	\$ 19,431,118	66.1%	\$ 15,202,739	59.0%	\$ 17,879,377	60.8%	\$ 2,676,639	17.6%
Non-Residential	5,732,111	19.5%	4,596,617	17.8%	5,343,806	18.2%	747,189	16.3%
Large Industrial	679,189	2.3%	662,645	2.6%	706,879	2.4%	44,235	6.7%
Bulk Users/VA Hospital	3,569,034	12.1%	5,305,895	20.6%	5,481,390	18.6%	175,495	3.3%
Total Sales	29,411,453	100.0%	25,767,896	100.0%	29,411,453	100.0%	3,643,557	14.1%
Other Revenues	1,373,558		826,409		1,373,558		547,149	66.2%
Cost Recovered from Sadsbury	671,275						0	
COS Recovered from Water Rates	2,428,123						0	
Total	\$ 33,884,409		\$ 26,594,305		\$ 30,785,011		\$ 4,190,706	15.8%

PENNSYLVANIA-AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBUURY AND EXETER WASTEWATER  
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION  
UNDER PRESENT RATES

ITEM (1)	COST OF SERVICE (2)	RESIDENTIAL (3)	NON-RESIDENTIAL (4)	LARGE INDUSTRIAL (5)	BULK USERS/ VA HOSP (6)
1. REVENUES FROM SALES					
2. OTHER REVENUES	25,767,896 1,389,602	15,202,739 620,055	4,596,617 184,372	662,645 21,982	5,305,895 563,193
3. TOTAL OPERATING REVENUES	27,157,498	15,822,793	4,780,989	684,627	5,869,088
4. LESS: OPERATING EXPENSES	18,092,467	11,435,951	3,422,587	414,507	2,819,421
5. RETURN AND INCOME TAXES	9,065,031	4,386,842	1,358,402	270,120	3,049,667
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE 7.	3,718,872	2,544,191	747,633	86,765	340,284
TAXABLE INCOME	5,346,159	1,842,651	610,769	183,355	2,709,383
8. LESS: INCOME TAXES (TAX. INC.) NET OF TAX RECOVERED BY SADSBUURY	(136,102)	(46,910)	(15,549)	(4,668)	(68,975)
9. NET RETURN (Line 5 - Line 8)	9,201,133	4,433,752	1,373,951	274,788	3,118,642
10. ORIGINAL COSTS MEASURE OF VALUE	184,077,744	125,933,053	37,006,523	4,294,718	16,843,450
11. RATE OF RETURN, PERCENT	5.00	3.52	3.71	6.40	18.52
12. RELATIVE RATE OF RETURN	1.00	0.70	0.74	1.28	3.70

PENNSYLVANIA-AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBURY AND EXETER WASTEWATER  
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION  
UNDER PROPOSED RATES

ITEM (1)	COST OF SERVICE (2)	RESIDENTIAL (3)	NON-RESIDENTIAL (4)	LARGE INDUSTRIAL (5)	BULK USERS/ VA HOSP (6)
1. REVENUES FROM SALES	29,411,453	17,879,377	5,343,806	706,879	5,481,390
2. OTHER REVENUES	1,373,558	1,032,778	304,655	36,125	0
3. TOTAL OPERATING REVENUES	30,785,011	18,912,156	5,648,461	743,004	5,481,390
4. LESS: OPERATING EXPENSES (RECOVERED FROM WATER AND SADSBURY)	15,119,991	9,741,190	2,889,664	350,319	2,138,818
5. RETURN AND INCOME TAXES	15,665,020	9,170,965	2,758,797	392,686	3,342,572
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	3,721,202	2,546,647	747,750	86,759	340,046
7. TAXABLE INCOME	11,943,818	6,624,318	2,011,047	305,927	3,002,526
8. LESS: INCOME TAXES (TAX. INC.) NET OF TAX RECOVERED BY SADSBURY	1,932,820	1,071,987	325,440	49,507	485,887
9. NET RETURN (Line 5 - Line 8)	13,732,200	8,098,979	2,433,358	343,179	2,856,685
10. ORIGINAL COSTS MEASURE OF VALUE	184,077,744	125,975,722	36,989,150	4,291,731	16,821,141
11. RATE OF RETURN, PERCENT	7.46	6.43	6.58	8.00	16.98
12. RELATIVE RATE OF RETURN	1.00	0.86	0.88	1.07	2.28

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Large Industrial (6)	Bulk/WA Hospital (7)	Reallocated to Sadsbury (8)
<b>OPERATION AND MAINTENANCE EXPENSES</b>							
<b>SEWAGE TREATMENT</b>							
601.3 Salary and Wages	1	1,189,773	654,613	225,819	29,863	240,929	38,549
601.4 Salary and Wages	1	130,596	71,854	24,787	3,278	26,446	4,231
615.3 Purchased Power	1	986,814	542,945	187,297	24,769	199,830	31,973
618.3 Chemicals	1	658,594	362,359	125,001	16,531	133,365	21,338
620.3 Materials and Supplies - Operation	1	177,290	97,545	33,650	4,450	35,901	5,744
631.3 Contractual Services - Engineering	1	3,250	1,788	617	82	658	105
635.3 Contract Services Test	1	158,132	87,004	30,013	3,969	32,022	5,123
636.3 Contract Services - Operation	1	300,210	165,176	56,980	7,535	60,793	9,727
642.3 Rental of Equipment	1	4,403	2,423	836	111	892	143
650.3 Transportation	1	2,835	1,560	538	71	574	92
620.4 Materials and Supplies - Maintenance	1	16,135	8,877	3,062	405	3,267	523
636.4 Contract Services - Maintenance	1	40,791	22,443	7,742	1,024	8,260	1,322
650.4 Transportation	1	0	0	0	0	0	0
675.3-4 Misc. Operating Expense - Waste Disposal	1	1,188,625	653,981	225,601	29,834	240,697	38,511
675.3-4 Misc. Operating Expense	1	415,873	228,813	78,933	10,438	84,214	13,474
<b>TOTAL SEWAGE TREATMENT EXPENSE</b>		<b>5,273,321</b>	<b>2,901,381</b>	<b>1,000,876</b>	<b>132,360</b>	<b>1,067,847</b>	<b>170,856</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Large Industrial (6)	Bulk/WA Hospital (7)	Reallocated to Sadsbury (8)
<b>COLLECTION</b>							
601.5 Salary and Wages	2	133,472	87,171	23,251	2,429	16,284	4,338
601.6 Salary and Wages	2	196,074	128,056	34,156	3,569	23,921	6,372
615.5 Purchased Power	2	54,514	35,603	9,496	992	6,651	1,772
620.5 Materials and Supplies	2	8,494	5,547	1,480	155	1,036	276
636.5 Contract Services	2	59,391	38,788	10,346	1,081	7,246	1,930
642.5 Rental of Buildings	2	141	92	25	3	17	5
TOTAL T & D EXPENSE OPERATION		452,086	295,257	78,753	8,228	55,154	14,693
<b>620.6 Materials and Supplies</b>							
636.6 Contract Services	2	75,615	49,384	13,172	1,376	9,225	2,457
675.6 Miscellaneous Maintenance Expense	2	66,428	43,384	11,572	1,209	8,104	2,159
675.5 Miscellaneous Operating Expense	2	11,206	7,319	1,952	204	1,367	364
TOTAL T & D EXPENSE - MAINTENANCE		215,830	140,959	37,598	3,928	26,331	7,014
<b>TOTAL COLLECTION EXPENSE</b>		667,916	436,216	116,351	12,156	81,486	21,707
<b>CUSTOMER ACCOUNTS</b>							
601.7 Salary and Wages	5	0	0	0	0	0	0
670.7 Bad Debts	5	408,307	384,801	23,380	33	78	16
675.7 Miscellaneous Expense	5	9,597	9,044	550	1	2	0
<b>TOTAL CUSTOMER ACCOUNTING EXPENSE</b>		417,904	393,845	23,929	33	79	17

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Large Industrial (6)	Bulk/WA Hospital (7)	Reallocated to Sadsbury (8)
<b>ADMINISTRATIVE AND GENERAL EXPENSES</b>							
601.8 Salaries and Wages	10	385,354	237,224	65,934	8,054	63,160	10,983
603.8 Salaries of Officers	10	0	0	0	0	0	0
604.8 Employee Pension & Benefits	6	576,758	334,058	105,950	13,381	105,085	18,283
615.8 Purchased Power	10	73,373	45,168	12,554	1,533	12,026	2,091
620.8 Materials and Supplies	10	2,865	1,764	490	60	470	82
632.8 Contractual Services - Accounting	10	0	0	0	0	0	0
634.8 Contractual Services - Management							
Customer Related	5	61,002	57,490	3,493	5	12	2
Employee Related	6	17,299	10,019	3,178	401	3,152	548
Lab Testing	1	1,768	973	336	44	358	57
Other	10	146,082	89,928	24,995	3,053	23,943	4,163
636.8 Contractual Services	10	12,844	7,907	2,198	268	2,105	366
642.8 Rental of Equipment	10	0	0	0	0	0	0
650.8 Transportation	10	71,983	44,313	12,316	1,504	11,798	2,052
656.8 Insurance Vehicles	10	13,073	8,048	2,237	273	2,143	373
657.8 Insurance	10	556,421	342,533	95,204	11,629	91,197	15,858
658.8 Advertising	10	89,032	54,808	15,233	1,861	14,592	2,537
659.8 Workers Compensation	6	146,947	85,112	26,994	3,409	26,774	4,658
666.8 Amortization of Rate Case	9	25,502	16,775	4,950	587	2,685	505
675.8 Miscellaneous Expense	10	354,019	217,934	60,573	7,399	58,024	10,090
<b>TOTAL A &amp; G EXPENSE</b>		<b>2,534,322</b>	<b>1,554,053</b>	<b>436,634</b>	<b>53,463</b>	<b>417,523</b>	<b>72,648</b>
<b>Total Operation &amp; Maintenance Expenses</b>							
		<b>8,893,462</b>	<b>5,285,495</b>	<b>1,577,791</b>	<b>198,012</b>	<b>1,566,936</b>	<b>265,228</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Large Industrial (6)	Bulk/WA Hospital (7)	Reallocated to Sadsbury (8)
<b>DEPRECIATION EXPENSE</b>							
354.20 Structures and Improvements - Collection	2	54,204	35,401	9,442	987	6,613	1,762
354.30 Structures and Improvements -Pumping	2	299,191	195,402	52,119	5,445	36,501	9,724
354.40 Structures and Improvements - Treatment	3	893,342	642,581	221,549	29,212	0	0
354.40 Structures and Improvements - Treatment - Bulk	DA	257,850				257,850	0
354.40 Structures and Improvements - Treatment - Sadsbury	DA	48,884					48,884
354.70 Structures and Improvements - General	2	76,782	50,146	13,375	1,397	9,367	2,495
355.00 Power Generation Equipment	2	70,282	45,901	12,243	1,279	8,574	2,284
360.10 Force Mains	3	743,661	534,915	184,428	24,318	0	0
361.10 Gravity Mains	3A	1,804,796	1,394,024	371,788	38,984	0	0
361.10 Gravity Mains - Bulk	DA	58,538				58,538	
361.10 Gravity Mains - Sadsbury	DA	12,559					12,559
361.20 Manholes	3A	397,935	307,365	81,975	8,595	0	0
361.20 Manholes - Bulk	DA	459				459	0
361.20 Manholes - Sadsbury	DA	99					99
363.00 Service Laterals	4	540,920	468,761	71,185	974	0	0
364.00 Flow Measuring Devices	2	46,012	30,050	8,015	837	5,613	1,495
365.00 Flow Measuring Devices - Installations	2	1,217	794	212	22	148	40
370.00 Receiving Wells	2	3,252	2,124	566	59	397	106
371.00 Pumping Equipment	2	666,648	435,388	116,130	12,133	81,331	21,666
380.00 Treatment Equipment	3	2,100,684.2	1,511,022	520,970	68,692	0	0
380.00 Treatment Equipment - Bulk	DA	169,927				169,927	
380.00 Treatment Equipment - Sadsbury	DA	33,210					33,210
381.00 Plant Sewers	1	142,038	78,149	26,959	3,565	28,763	4,602
382.00 Outfall Sewers	1	13,256	7,293	2,516	333	2,684	429
389.00 Other Plant and Misc. Equip. - Intangible	10	211,942	130,471	36,263	4,430	34,737	6,040
390.00 Office Furniture and Equipment	10	13,340	8,212	2,282	279	2,186	380
391.00 Transportation Equipment	10	187,184	115,230	32,027	3,912	30,679	5,335
392.00 Stores Equipment	10	4,274	2,631	731	89	700	122
393.00 Tools, Shop and Garage Equipment	10	36,983	22,766	6,328	773	6,061	1,054
394.00 Laboratory Equipment	1	36,800	20,247	6,985	924	7,452	1,192
395.00 Power Operated Equipment	10	24,811	15,274	4,245	519	4,067	707
396.00 Communication Equipment	10	92,622	57,018	15,848	1,936	15,181	2,640
397.00 Miscellaneous Equipment	10	12,220	7,522	2,091	255	2,003	348
398.00 Other Tangible Plant	10	815	501	139	17	133	23
<b>Total Depreciation Expense</b>		<b>9,056,728</b>	<b>6,119,189</b>	<b>1,800,411</b>	<b>209,966</b>	<b>769,966</b>	<b>157,196</b>



PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Large Industrial (6)	Bulk/WA Hospital (7)	Reallocated to Sadsbury (8)
<b>Amortization Expense</b>	8	(328,512)	(224,866)	(65,998)	(7,654)	(24,934)	(5,059)
<b>Taxes Other Than Income</b>							
685100 Utility Reg Assessment Fee	9	188,409	123,935	36,570	4,333	19,839	3,730
685200 Property Taxes	8	247,628	169,501	49,748	5,770	18,795	3,813
685320 Payroll Taxes	6	161,675	93,642	29,700	3,751	29,457	5,125
<b>Total Taxes, Other Than Income</b>		597,712	387,079	116,018	13,854	68,092	12,669
<b>Total Operating Expense</b>		18,219,389	11,566,896	3,428,222	414,178	2,380,059	430,034
4091 Income Taxes	8	1,932,820	1,323,015	388,304	45,035	146,701	29,765
<b>Utility Income Available for Return</b>	8	13,732,200	9,399,691	2,758,799	319,960	1,042,274	211,476
<b>Total Cost of Service</b>		33,884,409	22,289,602	6,575,324	779,173	3,569,034	671,275
<b>Reallocate Sadsbury Costs</b>	DA	0	0	0	0	671,275	(671,275)
<b>Total Cost of Service With Sadsbury Costs</b>		33,884,409	22,289,602	6,575,324	779,173	4,240,309	0
<b>Less: Other Revenues</b>	9A	1,373,558	1,032,778	304,655	36,125	0	0
<b>Less: Cost of Service Recovered From Sadsbury</b>	DA	671,275				671,275	0
<b>Less: Cost of Service Recovered from Water Rates</b>	9A	2,428,123	1,825,706	538,558	63,860	0	0
<b>Total Cost of Service Related to Sales of Wastewater Services</b>		29,411,453	19,431,118	5,732,111	679,189	3,569,034	0

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSURY AND EXETER WASTEWATER  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1. ALLOCATION OF COSTS ASSOCIATED WITH WASTEWATER TREATMENT

Factors are based on the pro forma test year average daily consumption for each customer classification with adjustments. The detail regarding calculation of adjusted flows can be found on the following page.

Classification (1)	Total Adjusted Average Daily Customer Flow 100 gallons (a) (2)	I&I Gallons Per Day 100 gallons (b) (3)	Total I&I And Average Flow (4)=(2)+(3)	Allocation Factor (7)
Residential	21,217	23,418	44,635	0.5502
Non-Residential	9,842	5,552	15,394	0.1898
Large Industrial	1,534	498	2,032	0.0251
Bulk Users/VA Hospital	15,492	937 (c)	16,429	0.2025
Sadsbury	2,589	38 (c)	2,627	0.0324
Total	50,674	30,443	81,117	1.0000

(a) Customer Flow.

(b) Allocation based on Factor 1A for Residential, Non-Residential and Large Industrial.

(c) Per 2010 I&I Study and allocation per prior cost of service study.

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 (1)	Total Adjusted Average Daily Flow 100 gallons (2)	Average Daily Flow Factor (3)	Weight (4)=(3) x 0.3333	Number of Service Equivalents (5)	Number of Customers Factor (6)	Weight (7)=(6) x 0.6667	Allocation Factor (8)=(4)+(7)
Residential	21,217	0.6509	0.2169	24,472	0.8666	0.5778	0.7947
Non-Residential	9,842	0.3020	0.1007	3,718	0.1316	0.0877	0.1884
Large Industrial	1,534	0.0471	0.0157	50	0.0018	0.0012	0.0169
Total	32,593	1.0000	0.3333	28,240	1.0000	0.6667	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBUURY AND EXETER WASTEWATER

FACTOR 1. ALLOCATION OF COSTS ASSOCIATED WITH AVERAGE DAILY FLOW INCLUDING INFILTRATION AND INFLOW (CONT.)

Classification (1)	Annual Flow 100 gallons (2)	Average Daily Flow 100 gallons (3)=(2)/365	Average Daily Unmetered Flow 100 gallons (4)	Total Average Daily Flow 100 gallons (3)+(4)=(5)	Water Sales Adjustment Per I&I Study (6)	Average Daily Adjusted Water sales 100 gallons (7)
Residential	8,334,297	22,834	1,277	24,110	0.8800	21,217
Non-Residential	3,419,359	9,368	1,816	11,185	0.8800	9,842
Large Industrial	560,050	1,534		1,534	1.0000	1,534
Bulk Users/VA Hospital	5,654,624	15,492		15,492	1.0000	15,492
Sadsbury	944,868	2,589		2,589	1.0000	2,589
Total	18,913,198	51,817	3,093	54,910		50,674

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH THE COLLECTION SYSTEM

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

Customer Classification (1)	Ave. Flow Consumption, 100 gpd (2)	Peak I&I Flow 100 gallons (a) (3)	Total Peak I&I And Average (4)=(2)+(3)	Allocation Factor (5)
Residential	21,217	141,307	162,524	0.6531
Non-Residential	9,842	33,500	43,342	0.1742
Large Industrial	1,534	3,005	4,539	0.0182
Bulk Users/VA Hospital	15,492	14,866 (b)	30,358	0.1220
Sadsbury	2,589	5,506 (b)	8,095	0.0325
Total	50,674	198,183	248,857	1.0000

(a) Allocation based on Factor 1A.

(b) Per I&I Study and allocation per 2010 cost of service study.

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBUURY AND EXETER WASTEWATER  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 3. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PROJECTED AVERAGE DAILY FLOW INCLUDING INFILTRATION AND INFLOW EXCLUDING BULK USERS

Factors are based on the projected average daily consumption for each customer classification.

Classification (1)	Total Average Daily Flow 100 gallons (2)	Direct I&I Gallons Per Day 100 gallons (a) (3)	Total Direct I&I And Average (4)=(2)+(3)	Allocation Factor (7)
Residential	21,217	23,418	44,635	0.7193
Non-Residential	9,842	5,552	15,394	0.2480
Large Industrial	1,534	498	2,032	0.0327
Bulk Users/VA Hospital	-	-	-	-
Total	32,593	29,468	62,061	1.0000

(a) Allocation based on Factor 1A.  
(b) Allocated based on Column 4

FACTOR 3A. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PROJECTED MAXIMUM DAILY FLOW INCLUDING INFILTRATION AND INFLOW EXCLUDING BULK USERS

Factors are based on the projected average daily consumption for each customer classification.

Classification (1)	Ave. Flow Consumption, 100 gpd (2)	Direct I&I Peak I&I Flow 100 gallons (a) (3)	Total Peak I&I And Average (4)=(2)+(3)	Allocation Factor (7)
Residential	21,217	141,307	162,524	0.7724
Non-Residential	9,842	33,500	43,342	0.2060
Large Industrial	1,534	3,005	4,539	0.0216
Bulk Users/VA Hospital	-	-	-	-
Sadsbury	-	-	-	-
Total	32,593	177,811	210,404	1.0000

(a) Allocation based on Factor 1A.  
(b) Allocated based on Column 4

PENNSYLVANIA AMERICAN WATER COMPANY  
TEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
METHODS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 4. 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 (a) (3)	Service Equivalents (2)X(3)=(4)	Allocation Factor (5)
Residential	24,472	1.0	24,472	0.8666
Non-Residential	1,487	2.5	3,718	0.1316
Large Industrial	2	25.0	50	0.0018
Bulk Users/VA Hospital	-	-	-	0.0000
Sadsbury	-	-	-	0.0000
Total	25,961		28,240	1.0000

(a) Based on ratio by class for Coatesville service area.

FACTOR 5. 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	24,472	0.94243
Non-Residential	1,487	0.05726
Large Industrial	2	0.00008
Bulk Customers/VA	5	0.00019
Sadsbury	1	0.00004
Total	25,967	1.00000

PENNSYLVANIA AMERICAN WATER COMPANY  
TEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
METHODS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 6. 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	\$ 1,178,917	0.5792
Non-Residential	373,947	0.1837
Large Industrial	47,193	0.0232
Bulk Users/VA Hospital	370,739	0.1822
Sadsbury	64,473	0.0317
Total	<u>\$ 2,035,269</u>	<u>1.0000</u>

FACTOR 7. 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	\$ 181,638,231	0.6847
Non-Residential	53,335,301	0.2011
Large Industrial	6,184,322	0.0233
Bulk Users/VA Hospital	20,031,120	0.0755
Sadsbury	4,083,405	0.0154
Total	<u>\$ 265,272,378</u>	<u>1.0000</u>

PENNSYLVANIA AMERICAN WATER COMPANY  
TEWATER OPERATIONS EXCLUDING SADSBUY AND EXETER WASTEWATER  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 8. 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	\$ 125,975,722	0.6845
Non-Residential	36,989,150	0.2009
Large Industrial	4,291,731	0.0233
Bulk Users/VA Hospital	13,977,176	0.0759
Sadsbury	2,843,965	0.0154
Total	<u>\$ 184,077,744</u>	<u>1.0000</u>

FACTOR 9. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS AND 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
(1)	(2)	(3)
Residential	\$ 22,204,257	0.6578
Non-Residential	6,550,054	0.1941
Large Industrial	776,138	0.0230
Bulk Users/VA Hospital	3,552,649	0.1053
Sadsbury	668,285	0.0198
Total	<u>\$ 33,751,383</u>	<u>1.0000</u>



PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Large Industrial (6)	Bulk/WA Hospital (7)	Reallocated to Sadsbury (8)
<b>RATE BASE</b>							
352.00 Franchises	7	221,140	151,414	44,471	5,153	16,696	3,406
353.20 Land and Land Rights - Collection	2	1,093,483	714,154	190,485	19,901	133,405	35,538
353.30 Land and Land Rights - Pumping	2	85,560	55,879	14,905	1,557	10,438	2,781
353.40 Land and Land Rights - Treatment	3	1,110,033	798,447	275,288	36,298	0	0
354.40 Land and Land Rights - Treatment - Bulk User	DA	406,640				406,640	
354.40 Land and Land Rights - Treatment - Sadsbury	DA	75,347					75,347
354.20 Structures and Improvements - Collection	2	1,226,225	800,848	213,608	22,317	149,599	39,852
354.30 Structures and Improvements - Pumping	2	9,081,885	5,931,379	1,582,064	165,290	1,107,990	295,161
354.40 Structures and Improvements - Treatment	3	28,234,825	20,309,310	7,002,237	923,279	0	0
354.40 Structures and Improvements - Treatment - Bulk	DA	8,190,949				8,190,949	
354.40 Structures and Improvements - Treatment - Sadsbury	DA	1,552,871					1,552,871
354.70 Structures and Improvements - General	2	1,346,400	879,334	234,543	24,504	164,261	43,758
355.00 Power Generation Equipment	2	1,332,838	870,476	232,180	24,258	162,606	43,317
360.10 Force Mains	3	35,155,331	25,287,230	8,718,522	1,149,579	0	0
361.10 Gravity Mains	3A	80,242,803	61,979,541	16,530,017	1,733,245	0	0
361.10 Gravity Mains - Bulk	DA	2,700,751				2,700,751	
361.10 Gravity Mains - Sadsbury	DA	579,421					579,421
361.20 Manholes	3A	10,904,027	8,422,270	2,246,230	235,527	0	0
361.20 Manholes - Bulk	DA	12,899				12,899	
361.20 Manholes - Sadsbury	DA	2,767					2,767
363.00 Service Laterals	4	13,296,914	11,523,106	1,749,874	23,934	0	0
364.00 Flow Measuring Devices	2	253,160	165,339	44,100	4,608	30,886	8,228
365.00 Flow Measuring Devices - Installations	2	14,240	9,300	2,481	259	1,737	463
370.00 Receiving Wells	2	113,373	74,044	19,750	2,063	13,832	3,685
371.00 Pumping Equipment	2	11,804,822	7,709,729	2,056,400	214,848	1,440,188	383,657
380.00 Treatment Equipment	3	41,230,688	29,657,234	10,225,211	1,348,243	0	0
380.00 Treatment Equipment - Bulk	DA	3,476,854				3,476,854	
380.00 Treatment Equipment - Sadsbury	DA	679,497					679,497
381.00 Plant Sewers	1	4,803,710	2,643,001	911,744	120,573	972,751	155,640
382.00 Outfall Sewer Lines	1	379,545	208,825	72,038	9,527	76,858	12,297
389.00 Other Plant and Misc. Equip. - Intangible	10	1,199,382	738,340	205,214	25,067	196,579	34,182
390.00 Office Furniture and Equipment	10	151,079	93,005	25,850	3,158	24,762	4,306
391.00 Transportation Equipment	10	1,857,773	1,143,645	317,865	38,827	304,489	52,947

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Large Industrial (6)	Bulk/WA Hospital (7)	Reallocated to Sadsbury (8)
392.00 Stores Equipment	10	80,013	49,256	13,690	1,672	13,114	2,280
393.00 Tools, Shop and Garage Equipment	10	828,345	509,929	141,730	17,312	135,766	23,608
394.00 Laboratory Equipment	1	362,767	199,595	68,853	9,105	73,460	11,754
395.00 Power Operated Equipment	10	371,498	228,694	63,563	7,764	60,889	10,588
396.00 Communication Equipment	10	781,653	481,186	133,741	16,337	128,113	22,277
397.00 Miscellaneous Equipment	10	252,008	155,136	43,119	5,267	41,304	7,182
398.00 Other Tangible Plant	7	12,988	8,893	2,612	303	981	200
<b>TOTAL SEWER UTILITY PLANT IN SERVICE</b>		265,506,506	181,798,538	53,382,384	6,189,777	20,048,797	4,087,010
<b>Other Rate Base Items:</b>							
Cash Working Capital - Expenses	11	755,711	448,892	134,063	16,852	133,307	22,596
Cash Working Capital - - Int and Div	7	(425,033)	(291,020)	(85,474)	(9,903)	(32,090)	(6,546)
Materials and Supplies	7	79,188	54,220	15,925	1,845	5,979	1,219
Tax Cut and Jobs Act - Stub Period	7	(882,890)	(604,515)	(177,549)	(20,571)	(66,658)	(13,597)
Acquisition Adjustment	7	552,842	378,531	111,177	12,881	41,740	8,514
Deferred, Accrued and Prepaid Taxes	7	(81,508,579)	(55,808,924)	(16,391,375)	(1,899,150)	(6,153,898)	(1,255,232)
<b>Total Other Rate Base Elements</b>		(81,428,761)	(55,822,816)	(16,393,234)	(1,898,046)	(6,071,620)	(1,243,045)
<b>Total Original Cost Measure of Value</b>		184,077,744	125,975,722	36,989,150	4,291,731	13,977,176	2,843,965

PENNSYLVANIA AMERICAN WATER COMPANY  
TEWATER OPERATIONS EXCLUDING SADSBUY AND EXETER WASTEWATER  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 9A. ALLOCATION OF REVENUE FROM WATER RATES

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
(1)	(2)	(3)
Residential	\$ 22,204,257	0.7519
Non-Residential	6,550,054	0.2218
Large Industrial	776,138	0.0263
Bulk Users/VA Hospital		0.0000
Sadsbury		
Total	\$ 29,530,449	1.000

PENNSYLVANIA AMERICAN WATER COMPANY  
TEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 10. 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	\$ 2,136,554	0.6156
Non-Residential	593,761	0.1711
Large Industrial	72,423	0.0209
Bulk Users/VA Hospital	568,870	0.1639
Sadsbury	98,985	0.0285
Total	<u>\$ 3,470,593</u>	<u>1.0000</u>

FACTOR 11. 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	\$ 5,268,720	0.5940
Commercial	1,572,841	0.1774
Large Industrial	197,426	0.0223
Other Public Authority	1,564,250	0.1764
Sadsbury	264,723	0.0299
Total	<u>\$ 8,867,960</u>	<u>1.0000</u>

PENNSYLVANIA-AMERICAN WATER COMPANY - WASTEWATER OPERATIONS  
COMPARATIVE SCHEDULE OF PRESENT AND PROPOSED RATES  
RESIDENTIAL, COMMERCIAL, MUNICIPAL, INDUSTRIAL AND SPECIAL RATE CUSTOMERS

Customer Charges	Present Rates Per Month									
	Zone 1	Zone 2 - New Cumberland	Zone 3 - Scranton	Zone 4 - Koppel	Zone 5 - Franklin	Zone 6 - McKeesport	Zone 7 - Sadsbury	Zone 8 - Turbotville	Zone 9 - Exeter	Delaware
Residential - Per EDU	\$ 10.00	\$ 28.62 *	\$ 19.50	\$ 30.00		\$ 30.70 ***	\$ 25.00	\$ 7.50	\$ 26.23	\$ 41.11 ***
5/8"						30.70 ***				
3/4"						30.70 ***				
1"						76.75 ***				
2"						276.30 ***				
3"						537.25 ***				
4"						721.45 ***				
6"						1,458.25 ***				
Residential - AB									\$ 82.22 ***	
Non-Residential										
Per EDU	\$ 25.00	\$ 28.62 *	\$ 19.50	\$ 25.00 **				\$ 20.00	\$ 63.16	
Non-Residential - Multi - Dwellings										
Per EDU				\$ 90.00					\$ 57.76	
<b>Consumption Charges</b>										
<b>Per 100 Gallons:</b>										
<u>Residential</u>										
Allowance						0.0000				
First Block	1.5132	1.3463	0.6173	0.6500		1.2750	\$ 1.4180	1.2880	0.9380	0.6600
Second Block		1.1457								0.7330
Third Block		0.9170								0.8000
Fourth Block		0.6894								
Fifth Block		0.5762								
Sixth Block										
<u>Commercial</u>										
Allowance										
First Block	1.1601	1.3463	0.6173	1.1601			-	1.1194	1.1000	0.6600
Second Block		1.1457	0.8871							0.7330
Third Block		0.9170								0.8000
Fourth Block		0.6894								
Fifth Block		0.5762								
Sixth Block										
<u>Commercial - Multi - Dwellings</u>										
Allowance										
First Block			0.6173						0.9380	
<u>Industrial</u>										
Allowance										
First Block	1.1601	1.3463						1.1194	1.1000	0.6600
Second Block		1.1457								0.7330
Third Block		0.9170								0.8000
Fourth Block		0.6894								
Fifth Block		0.5762								
Sixth Block										
<u>Municipal</u>										
Allowance										
First Block	1.1601	1.3463		1.1601			76.4734	1.1194	1.1000	0.6600
Second Block		1.1457								0.7330
Third Block		0.9170								0.8000
Fourth Block		0.6894								
Fifth Block		0.5762								
Sixth Block										

PENNSYLVANIA-AMERICAN WATER COMPANY - WASTEWATER OPERATIONS  
COMPARATIVE SCHEDULE OF PRESENT AND PROPOSED RATES  
RESIDENTIAL, COMMERCIAL, MUNICIPAL, INDUSTRIAL AND SPECIAL RATE CUSTOMERS

Customer Charges	Present Rates Per Month									
	Zone 1	Zone 2 - New Cumberland	Zone 3 - Scranton	Zone 4 - Koppel	Zone 5 - Franklin	Zone 6 - McKeesport	Zone 7 - Sadsbury	Zone 8 - Turbotville	Zone 9 - Exeter	Delaware
<b>Bulk Unmetered</b>										
<b>Special Rates</b>										
Customer Charge	250.00									
Consumption Charge										
Large Industrial - Mittal Steel and Victory Bre	0.9300									
Bulk Users/Va Hosp/Cain, Valley, Brandywin	0.9639									
Bulk Users - Rate 1						0.8400			0.2380	
Bulk Users - Rate 2						1.2750				
Koppel - Big Beaver				0.6500						
Koppel Steel - Flat Rate				9,755.60						
PSC Metals - Flat Rate				628.70						
PSSM - Flat Rate				1,623.90						
Knouse Foods - Flat Rate	4,572.75									
Strattanville Borough	3,403.40									
Borough of St. Lawrence										
<b>Flat Rate</b>										
Residential	64.93		41.91		\$ 75.10			58.50		95.52
Non-Residential	64.93		41.91		75.10					
Industrial			41.91							
Property Owners Assoc	64.93									
Residential - Sand Mound					54.60					
Port Vue										
Minimum Charge						19.35				
Allowance						-				
Over Allowance						0.9950				

\* Includes 2,100 gallon allowance

\*\* Quarterly Rate for Big Beaver

\*\*\* Includes an allowance of 2,000 gallons

\*\*\*\*Flat Rate Increased by same percentage.

PENNSYLVANIA-AMERICAN WATER COMPANY - WASTEWATER OPERATIONS  
COMPARATIVE SCHEDULE OF PRESENT AND PROPOSED RATES  
RESIDENTIAL, COMMERCIAL, MUNICIPAL, INDUSTRIAL AND SPECIAL RATE CUSTOMERS

Customer Charges	Proposed Rates									
	Zone 1	Zone 2 - New Cumberland	Zone 3 - Scranton	Zone 4 - Koppel	Zone 5 - Franklin	Zone 6 - McKeesport	Zone 7 - Sadsbury	Zone 8 - Turbotville	Zone 9 - Exeter	Delaware
Residential - Per EDU	\$ 11.00	\$ 11.00	\$ 19.50	\$ 11.00			\$ 11.00	\$ 11.00	\$ 11.00	\$ 50.15
5/8"										
3/4"										
1"										
2"										
3"										
4"										
6"										
Residential - AB										\$ 100.31
Non-Residential										
Per EDU	\$ 27.50	\$ 27.50	\$ 19.50	\$ 27.50		\$ 27.50	\$ 27.50	\$ 27.50	\$ 27.50	
Non-Residential - Multi - Dwellings				\$ 82.50 **						
Per EDU										
<b>Consumption Charges</b>										
<b>Per 100 Gallons:</b>										
<b>Residential</b>										
Allowance		1.2300							1.7631	-
First Block	1.7631	1.2300	0.7212	1.7631			1.7631	1.7631	1.7631	0.8052
Second Block		1.2300								0.8943
Third Block		1.2300								0.9760
Fourth Block		1.2300								
Fifth Block		1.2300								
Sixth Block		1.2300								
<b>Commercial</b>										
Allowance		1.0400							1.3000	-
First Block	1.3000	1.0400	0.7212	1.3000			1.3000	1.3000	1.3000	0.8052
Second Block		1.0400	1.0365							0.8943
Third Block		1.0400								0.9760
Fourth Block		1.0400								
Fifth Block		1.0400								
Sixth Block		1.0400								
<b>Commercial - Multi - Dwellings</b>										
Allowance			0.7212						1.3000	-
First Block									1.3000	0.8052
<b>Industrial</b>										
Allowance		1.0400							1.3000	-
First Block	1.3000	1.0400	0.7212	1.3000			1.3000	1.3000	1.3000	0.8052
Second Block		1.0400	1.0365							0.8943
Third Block		1.0400								0.9760
Fourth Block		1.0400								
Fifth Block		1.0400								
Sixth Block		1.0400								
<b>Municipal</b>										
Allowance		1.0400							1.3000	-
First Block	1.3000	1.0400	0.7212	1.3000			1.3000	1.3000	1.3000	0.8052
Second Block		1.0400	1.0365							0.8943
Third Block		1.0400								0.9760
Fourth Block		1.0400								
Fifth Block		1.0400								
Sixth Block		1.0400								

PENNSYLVANIA-AMERICAN WATER COMPANY - WASTEWATER OPERATIONS  
COMPARATIVE SCHEDULE OF PRESENT AND PROPOSED RATES  
RESIDENTIAL, COMMERCIAL, MUNICIPAL, INDUSTRIAL AND SPECIAL RATE CUSTOMERS

Customer Charges	Proposed Rates										
	Zone 1	Zone 2 - New Cumberland	Zone 3 - Scranton	Zone 4 - Koppel	Zone 5 - Franklin	Zone 6 - McKeesport	Zone 7 - Sadsbury	Zone 8 - Turbotville	Zone 9 - Exeter	Kane	Delaware
Bulk Unmetered											
Special Rates											
Customer Charge	275.00										
Consumption Charge											
Large Industrial - Mittal Steel and Victory Bre	0.9300										
Bulk Users/Va Hosp/Cain, Valley, Brandywin	0.9639										
Bulk Users - Rate 1						0.9830	****		0.3332		
Bulk Users - Rate 2						1.4920	****				
Koppel - Big Beaver				1.3000							
Koppel Steel - Flat Rate				10,843.95							
PSC Metals - Flat Rate				698.84							
PSSM - Flat Rate				1,805.06							
Knouse Foods - Flat Rate	5,219.33										
Strattanville Borough	3,884.64										
Borough of St. Lawrence											
Flat Rate											
Residential	71.97				\$ 71.97			71.97	71.97	61.89	71.97
Non-Residential	71.97				71.97						
Industrial											
Property Owners Assoc	71.97										
Residential - Sand Mound					71.97						
Port Vue											
Minimum Charge						11.00					
Allowance						1.7631					
Over Allowance						1.7631					

\* Includes 2,100 gallon allowance

\*\* Quarterly Rate for Big Beaver

\*\*\* Includes an allowance of 2,000 gallons

\*\*\*\*Flat Rate Increased by same percentage.



PART III. RATE YEAR 2 COST OF SERVICE BY CUSTOMER CLASSIFICATION

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

Customer Classification (1)	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
Residential	\$ 20,912,395	66.6%	\$ 17,863,666	60.9%	\$ 19,268,782	61.3%	\$ 1,405,116	7.9%
Non-Residential	6,090,516	19.4%	5,304,773	18.1%	5,755,689	18.3%	450,916	8.5%
Large Industrial	722,643	2.3%	674,061	2.3%	725,056	2.3%	50,995	7.6%
Bulk Users/VA Hospital	3,711,076	11.8%	5,481,390	18.7%	5,687,101	18.1%	205,712	3.8%
Total Sales	31,436,629	100.1%	29,323,891	100.0%	31,436,629	100.0%	2,112,738	7.2%
Other Revenues	1,393,110		1,373,012		1,393,110		20,098	1.5%
Cost Recovered from Sadsbury	699,423						0	
COS Recovered from Water Rates	3,506,461						0	
Total	\$ 37,035,623		\$ 30,696,903		\$ 32,829,739		\$ 2,132,836	6.9%

PENNSYLVANIA-AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBURY AND EXETER WASTEWATER  
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION  
UNDER PRESENT RATES

ITEM (1)	COST OF SERVICE (2)	RESIDENTIAL (3)	NON-RESIDENTIAL (4)	LARGE INDUSTRIAL (5)	BULK USERS/ VA HOSP (6)
1. REVENUES FROM SALES	29,323,891	17,863,666	5,304,773	674,061	5,481,390
2. OTHER REVENUES	2,027,156	1,034,839	302,200	35,973	654,144
3. TOTAL OPERATING REVENUES	31,351,046	18,898,505	5,606,973	710,034	6,135,533
4. LESS: OPERATING EXPENSES	19,344,453	12,357,533	3,629,311	439,766	2,917,843
5. RETURN AND INCOME TAXES	12,006,594	6,540,973	1,977,662	270,268	3,217,691
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	4,008,504	2,770,689	803,745	93,410	340,660
7. TAXABLE INCOME	7,998,090	3,770,284	1,173,917	176,858	2,877,031
8. LESS: INCOME TAXES (TAX. INC.) NET OF TAX RECOVERED BY SADSBURY	1,600,358	754,406	234,892	35,388	575,672
9. NET RETURN (Line 5 - Line 8)	10,406,236	5,786,567	1,742,770	234,880	2,642,018
10. ORIGINAL COSTS MEASURE OF VALUE	202,602,918	140,039,700	40,623,902	4,721,267	17,218,049
11. RATE OF RETURN, PERCENT	5.14	4.13	4.29	4.97	15.34
12. RELATIVE RATE OF RETURN	1.00	0.80	0.84	0.97	2.99

PENNSYLVANIA-AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBURY AND EXETER WASTEWATER  
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION  
UNDER PROPOSED RATES

ITEM (1)	COST OF SERVICE (2)	RESIDENTIAL (3)	NON-RESIDENTIAL (4)	LARGE INDUSTRIAL (5)	BULK USERS/ VA HOSP (6)
1. REVENUES FROM SALES	31,436,629	19,268,782	5,755,689	725,056	5,687,101
2. OTHER REVENUES	1,393,110	740,577	554,736	62,133	35,664
3. TOTAL OPERATING REVENUES	32,829,739	20,009,360	6,310,425	787,189	5,722,765
4. LESS: OPERATING EXPENSES (RECOVERED FROM WATER AND SADSBURY)	15,196,259	9,773,053	2,861,069	348,143	2,213,993
5. RETURN AND INCOME TAXES	17,633,480	10,236,306	3,449,356	439,045	3,508,772
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	4,009,532	2,771,935	803,758	93,403	340,435
7. TAXABLE INCOME	13,623,948	7,464,371	2,645,598	345,642	3,168,337
8. LESS: INCOME TAXES (TAX. INC.) NET OF TAX RECOVERED BY SADSBURY	2,519,302	1,380,290	489,217	63,915	585,880
9. NET RETURN (Line 5 - Line 8)	15,114,178	8,856,016	2,960,140	375,130	2,922,892
10. ORIGINAL COSTS MEASURE OF VALUE	202,602,918	140,066,753	40,614,157	4,719,708	17,202,300
11. RATE OF RETURN, PERCENT	7.46	6.32	7.29	7.95	16.99
12. RELATIVE RATE OF RETURN	1.00	0.85	0.98	1.07	2.28

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Large Industrial (6)	Bulk/WA Hospital (7)	Reallocated to Sadsbury (8)
<b>OPERATION AND MAINTENANCE EXPENSES</b>							
<b>SEWAGE TREATMENT</b>							
601.3 Salary and Wages	1	1,231,147	677,254	232,564	30,902	250,415	40,012
601.4 Salary and Wages	1	135,139	74,340	25,528	3,392	27,487	4,392
615.3 Purchased Power	1	971,190	534,252	183,458	24,377	197,540	31,564
618.3 Chemicals	1	690,803	380,011	130,493	17,339	140,509	22,451
620.3 Materials and Supplies - Operation	1	177,290	97,527	33,490	4,450	36,061	5,762
631.3 Contractual Services - Engineering	1	3,250	1,788	614	82	661	106
635.3 Contract Services Test	1	158,132	86,988	29,871	3,969	32,164	5,139
636.3 Contract Services - Operation	1	300,210	165,146	56,710	7,535	61,063	9,757
642.3 Rental of Equipment	1	4,403	2,422	832	111	896	143
650.3 Transportation	1	2,835	1,560	536	71	577	92
620.4 Materials and Supplies - Maintenance	1	16,135	8,876	3,048	405	3,282	524
636.4 Contract Services - Maintenance	1	40,791	22,439	7,705	1,024	8,297	1,326
650.4 Transportation	1	0	0	0	0	0	0
675.3-4 Misc. Operating Expense - Waste Disposal	1	1,188,625	653,863	224,531	29,834	241,766	38,630
675.3-4 Misc. Operating Expense	1	415,984	228,833	78,579	10,441	84,611	13,519
<b>TOTAL SEWAGE TREATMENT EXPENSE</b>		<b>5,335,934</b>	<b>2,935,297</b>	<b>1,007,958</b>	<b>133,932</b>	<b>1,085,329</b>	<b>173,418</b>
<b>COLLECTION</b>							
601.5 Salary and Wages	2	138,114	90,244	23,908	2,527	16,919	4,516
601.6 Salary and Wages	2	202,893	132,570	35,121	3,713	24,854	6,635
615.5 Purchased Power	2	53,650	35,055	9,287	982	6,572	1,754
620.5 Materials and Supplies	2	8,494	5,550	1,470	155	1,041	278
636.5 Contract Services	2	59,391	38,806	10,281	1,087	7,275	1,942
642.5 Rental of Buildings	2	141	92	24	3	17	5
<b>TOTAL T &amp; D EXPENSE OPERATION</b>		<b>462,683</b>	<b>302,317</b>	<b>80,090</b>	<b>8,467</b>	<b>56,679</b>	<b>15,130</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Large Industrial (6)	Bulk/WA Hospital (7)	Reallocated to Sadsbury (8)
620.6 Materials and Supplies	2	100,566	65,710	17,408	1,840	12,319	3,289
636.6 Contract Services	2	66,428	43,404	11,499	1,216	8,137	2,172
675.6 Miscellaneous Maintenance Expense	2	11,206	7,322	1,940	205	1,373	366
675.5 Miscellaneous Operating Expense	2	62,581	40,890	10,833	1,145	7,666	2,046
<b>TOTAL T &amp; D EXPENSE - MAINTENANCE</b>		<b>240,781</b>	<b>157,326</b>	<b>41,679</b>	<b>4,406</b>	<b>29,496</b>	<b>7,874</b>
<b>TOTAL COLLECTION EXPENSE</b>		<b>703,464</b>	<b>459,643</b>	<b>121,770</b>	<b>12,873</b>	<b>86,174</b>	<b>23,003</b>
<b>CUSTOMER ACCOUNTS</b>							
601.7 Salary and Wages	5	0	0	0	0	0	0
670.7 Bad Debts	5	446,279	420,953	25,188	36	85	18
675.7 Miscellaneous Expense	5	9,597	9,052	542	1	2	0
<b>TOTAL CUSTOMER ACCOUNTING EXPENSE</b>		<b>455,876</b>	<b>430,005</b>	<b>25,730</b>	<b>36</b>	<b>87</b>	<b>18</b>
<b>ADMINISTRATIVE AND GENERAL EXPENSES</b>							
601.8 Salaries and Wages	10	398,754	246,709	67,469	8,254	64,997	11,325
603.8 Salaries of Officers	10	0	0	0	0	0	0
604.8 Employee Pension & Benefits	6	608,785	352,913	111,164	14,124	111,225	19,359
615.8 Purchased Power	10	73,373	45,396	12,415	1,519	11,960	2,084
620.8 Materials and Supplies	10	2,865	1,773	485	59	467	81
632.8 Contractual Services - Accounting	10	0	0	0	0	0	0
634.8 Contractual Services - Management							
Customer Related	5	63,059	59,480	3,559	5	12	3
Employee Related	6	17,758	10,294	3,243	412	3,244	565
Lab Testing	1	1,814	998	343	46	369	59
Other							
636.8 Contractual Services	10	148,193	91,687	25,074	3,068	24,155	4,209
642.8 Rental of Equipment	10	12,844	7,947	2,173	266	2,094	365
650.8 Transportation	10	0	0	0	0	0	0
656.8 Insurance Vehicles	10	73,441	45,438	12,426	1,520	11,971	2,086
657.8 Insurance	10	13,335	8,250	2,256	276	2,174	379
658.8 Advertising	10	567,478	351,099	96,017	11,747	92,499	16,116
659.8 Workers Compensation	10	90,812	56,185	15,365	1,880	14,802	2,579
666.8 Amortization of Rate Case	6	149,886	86,889	27,369	3,477	27,384	4,766
675.8 Miscellaneous Expense	9	25,502	16,943	4,935	587	2,555	482
<b>TOTAL A &amp; G EXPENSE</b>	10	<b>386,214</b>	<b>238,951</b>	<b>65,347</b>	<b>7,995</b>	<b>62,953</b>	<b>10,968</b>
		<b>2,634,112</b>	<b>1,620,951</b>	<b>449,641</b>	<b>55,234</b>	<b>432,861</b>	<b>75,425</b>
<b>Total Operation &amp; Maintenance Expenses</b>		<b>9,129,386</b>	<b>5,445,897</b>	<b>1,605,098</b>	<b>202,075</b>	<b>1,604,451</b>	<b>271,865</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Large Industrial (6)	Bulk/WA Hospital (7)	Reallocated to Sadsbury (8)
<b>DEPRECIATION EXPENSE</b>							
354.20 Structures and Improvements - Collection	2	65,494	42,794	11,337	1,199	8,023	2,142
354.30 Structures and Improvements - Pumping	2	316,924	207,078	54,860	5,800	38,823	10,363
354.40 Structures and Improvements - Treatment	3	952,021	685,265	235,435	31,322	0	0
354.40 Structures and Improvements - Treatment - Bulk	DA	252,123				252,123	0
354.40 Structures and Improvements - Treatment - Sadsbury	DA	47,798					47,798
354.70 Structures and Improvements - General	2	90,259	58,975	15,624	1,652	11,057	2,951
355.00 Power Generation Equipment	2	66,325	43,337	11,481	1,214	8,125	2,169
360.10 Force Mains	3	776,709	559,075	192,080	25,554	0	0
361.10 Gravity Mains	3A	2,019,529	1,562,106	413,802	43,622	0	0
361.10 Gravity Mains - Bulk	DA	59,951				59,951	
361.10 Gravity Mains - Sadsbury	DA	12,862					12,862
361.20 Manholes	3A	450,645	348,574	92,337	9,734	0	0
361.20 Manholes - Bulk	DA	483				483	0
361.20 Manholes - Sadsbury	DA	104					104
363.00 Service Laterals	4	646,573	561,484	83,990	1,099	0	0
364.00 Flow Measuring Devices	2	36,474	23,832	6,314	667	4,468	1,193
365.00 Flow Measuring Devices - Installations	2	1,154	754	200	21	141	38
370.00 Receiving Wells	2	3,219	2,103	557	59	394	105
371.00 Pumping Equipment	2	635,058	414,947	109,929	11,622	77,795	20,766
380.00 Treatment Equipment	3	2,218,381.9	1,596,791	548,606	72,985	0	0
380.00 Treatment Equipment - Bulk	DA	165,883				165,883	
380.00 Treatment Equipment - Sadsbury	DA	32,419					32,419
381.00 Plant Sewers	1	140,418	77,244	26,525	3,524	28,561	4,564
382.00 Outfall Sewers	1	12,923	7,109	2,441	324	2,629	420
389.00 Other Plant and Misc. Equip. - Intangible	10	389,110	240,742	65,837	8,055	63,425	11,051
390.00 Office Furniture and Equipment	10	13,062	8,081	2,210	270	2,129	371
391.00 Transportation Equipment	10	241,441	149,380	40,852	4,998	39,355	6,857
392.00 Stores Equipment	10	4,273	2,644	723	88	696	121
393.00 Tools, Shop and Garage Equipment	10	78,814	48,762	13,335	1,631	12,847	2,238
394.00 Laboratory Equipment	1	44,918	24,709	8,485	1,127	9,136	1,460
395.00 Power Operated Equipment	10	39,864	24,664	6,745	825	6,498	1,132
396.00 Communication Equipment	10	112,528	69,621	19,040	2,329	18,342	3,196
397.00 Miscellaneous Equipment	10	35,678	22,074	6,037	739	5,816	1,013
398.00 Other Tangible Plant	10	797	493	135	16	130	23
<b>Total Depreciation Expense</b>		<b>9,964,217</b>	<b>6,782,640</b>	<b>1,968,915</b>	<b>230,476</b>	<b>816,830</b>	<b>165,356</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Large Industrial (6)	Bulk/WA Hospital (7)	Reallocated to Sadsbury (8)
<b>Amortization Expense</b>	8	(328,512)	(227,100)	(65,867)	(7,654)	(23,160)	(4,731)
<b>Taxes Other Than Income</b>							
685100 Utility Reg Assessment Fee	9	206,558	137,237	39,969	4,751	20,697	3,904
685200 Property Taxes	8	263,405	182,092	52,813	6,137	18,570	3,793
685320 Payroll Taxes	6	167,089	96,861	30,510	3,876	30,527	5,313
<b>Total Taxes, Other Than Income</b>		637,052	416,190	123,292	14,765	69,794	13,010
<b>Total Operating Expense</b>		19,402,143	12,417,626	3,631,438	439,662	2,467,915	445,501
4091 Income Taxes	8	2,519,302	1,741,593	505,120	58,700	177,611	36,278
<b>Utility Income Available for Return</b>	8	15,114,178	10,448,431	3,030,393	352,160	1,065,550	217,644
<b>Total Cost of Service</b>		37,035,623	24,607,651	7,166,951	850,522	3,711,076	699,423
<b>Reallocate Sadsbury Costs</b>	DA					699,423	(699,423)
<b>Total Cost of Service With Sadsbury Costs</b>		37,035,623	24,607,651	7,166,951	850,522	4,410,499	0
<b>Less: Other Revenues</b>	9A	1,393,110	1,050,684	306,066	36,360	0	0
<b>Re-allocation of Sadsbury Contribution</b>	DR	699,423	0	0	0	699,423	0
<b>Less: Cost of Service Recovered from Water Rates</b>	9A	3,506,461	2,644,573	770,369	91,519	0	0
<b>Total Cost of Service Related to Sales of Wastewater Services</b>		31,436,629	20,912,395	6,090,516	722,643	3,711,076	0



PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBUURY AND EXETER WASTEWATER  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1. ALLOCATION OF COSTS ASSOCIATED WITH WASTEWATER TREATMENT

Factors are based on the pro forma test year average daily consumption for each customer classification with adjustments. The detail regarding calculation of adjusted flows can be found on the following page.

Classification (1)	Total Adjusted Average Daily Customer Flow 100 gallons (a) (2)	I&I Gallons Per Day 100 gallons (b) (3)	Total I&I And Average Flow (4)=(2)+(3)	Allocation Factor (7)
Residential	21,082	23,354	44,436	0.5501
Non-Residential	9,770	5,493	15,263	0.1889
Large Industrial	1,534	496	2,030	0.0251
Bulk Users/VA Hospital	15,492	937 (c)	16,429	0.2034
Sadsbury	2,589	38 (c)	2,627	0.0325
Total	50,467	30,318	80,785	1.0000

(a) Customer Flow.

(b) Allocation based on Factor 1A for Residential, Non-Residential and Large Industrial.

(c) Per 2010 I&I Study and allocation per prior cost of service study.

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 (1)	Total Adjusted Average Daily Flow 100 gallons (2)	Average Daily Flow Factor (3)	Weight (4)=(3) x 0.3333	Number of Service Equivalents (5)	Number of Customers Factor (6)	Weight (7)=(6) x 0.6667	Allocation Factor (8)=(4)+(7)
Residential	21,082	0.6509	0.2169	24,850	0.8683	0.5790	0.7959
Non-Residential	9,770	0.3017	0.1006	3,718	0.1299	0.0866	0.1872
Large Industrial	1,534	0.0474	0.0158	50	0.0017	0.0011	0.0169
Total	32,386	1.0000	0.3333	28,618	0.9999	0.6667	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBUURY AND EXETER WASTEWATER

FACTOR 1. ALLOCATION OF COSTS ASSOCIATED WITH AVERAGE DAILY FLOW INCLUDING INFILTRATION AND INFLOW (CONT.)

Classification (1)	Annual Flow 100 gallons (2)	Average Daily Flow 100 gallons (3)=(2)/365	Average Daily Unmetered Flow 100 gallons (4)	Total Average Daily Flow 100 gallons (3)+(4)=(5)	Water Sales Adjustment Per I&I Study (6)	Average Daily Adjusted Water sales 100 gallons (7)
Residential	8,278,472	22,681	1,277	23,957	0.8800	21,082
Non-Residential	3,389,334	9,286	1,816	11,102	0.8800	9,770
Large Industrial	560,050	1,534		1,534	1.0000	1,534
Bulk Users/V/A Hospital	5,654,624	15,492		15,492	1.0000	15,492
Sadsbury	944,868	2,589		2,589	1.0000	2,589
Total	18,827,348	51,582	3,093	54,675		50,467

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSURY AND EXETER WASTEWATER  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH THE COLLECTION SYSTEM

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

Customer Classification (1)	Ave. Flow Consumption, 100 gpd (2)	Peak I&I Flow 100 gallons (a) (3)	Total Peak I&I And Average (4)=(2)+(3)	Allocation Factor (5)
Residential	21,082	140,892	161,974	0.6534
Non-Residential	9,770	33,139	42,909	0.1731
Large Industrial	1,534	2,992	4,526	0.0183
Bulk Users/V/A Hospital	15,492	14,866 (b)	30,358	0.1225
Sadsbury	2,589	5,506 (b)	8,095	0.0327
Total	50,467	197,394	247,861	1.0000

(a) Allocation based on Factor 1A.

(b) Per I&I Study and allocation per 2010 cost of service study.

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBBURY AND EXETER WASTEWATER  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 3. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PROJECTED AVERAGE DAILY FLOW INCLUDING INFILTRATION AND INFLOW EXCLUDING BULK USERS

Factors are based on the projected average daily consumption for each customer classification.

Classification (1)	Total Average Daily Flow 100 gallons (2)	Direct I&I Gallons Per Day 100 gallons (a) (3)	Total Direct I&I And Average (4)=(2)+(3)	Allocation Factor (7)
Residential	21,082	23,354	44,436	0.7198
Non-Residential	9,770	5,493	15,263	0.2473
Large Industrial	1,534	496	2,030	0.0329
Bulk Users/N/A Hospital	-	-	-	-
Total	32,386	29,343	61,729	1.0000

(a) Allocation based on Factor 1A.  
(b) Allocated based on Column 4

FACTOR 3A. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PROJECTED MAXIMUM DAILY FLOW INCLUDING INFILTRATION AND INFLOW EXCLUDING BULK USERS

Factors are based on the projected average daily consumption for each customer classification.

Classification (1)	Ave. Flow Consumption, 100 gpd (2)	Direct I&I Peak I&I Flow 100 gallons (a) (3)	Total Peak I&I And Average (4)=(2)+(3)	Allocation Factor (7)
Residential	21,082	140,892	161,974	0.7735
Non-Residential	9,770	33,139	42,909	0.2049
Large Industrial	1,534	2,992	4,526	0.0216
Bulk Users/N/A Hospital	-	-	-	-
Sadsbury	-	-	-	-
Total	32,386	177,022	209,408	1.0000

(a) Allocation based on Factor 1A.  
(b) Allocated based on Column 4

PENNSYLVANIA AMERICAN WATER COMPANY  
TEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
METHODS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 4. 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 (a) (3)	Service Equivalents (2)X(3)=(4)	Allocation Factor (5)
Residential	24,850	1.0	24,850	0.8684
Non-Residential	1,487	2.5	3,718	0.1299
Large Industrial	2	25.0	50	0.0017
Bulk Users/VA Hospital	-	-	-	0.0000
Sadsbury	-	-	-	0.0000
Total	26,339		28,618	1.0000

(a) Based on ratio by class for Coatesville service area.

FACTOR 5. 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	24,850	0.94325
Non-Residential	1,487	0.05644
Large Industrial	2	0.00008
Bulk Customers/VA	5	0.00019
Sadsbury	1	0.00004
Total	26,345	1.00000

PENNSYLVANIA AMERICAN WATER COMPANY  
TEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
METHODS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 6. 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	\$ 1,221,117	0.5797
Non-Residential	384,589	0.1826
Large Industrial	48,788	0.0232
Bulk Users/VA Hospital	384,673	0.1827
Sadsbury	66,880	0.0318
Total	<u>\$ 2,106,047</u>	<u>1.0000</u>

FACTOR 7. 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	\$ 195,631,810	0.6916
Non-Residential	56,728,710	0.2006
Large Industrial	6,590,134	0.0233
Bulk Users/VA Hospital	19,843,575	0.0702
Sadsbury	4,044,516	0.0143
Total	<u>\$ 282,838,745</u>	<u>1.0000</u>

PENNSYLVANIA AMERICAN WATER COMPANY  
TEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 8. 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	\$ 140,066,753	0.6913
Non-Residential	40,614,157	0.2005
Large Industrial	4,719,708	0.0233
Bulk Users/VA Hospital	14,293,128	0.0705
Sadsbury	2,909,173	0.0144
Total	<u>\$ 202,602,918</u>	<u>1.0000</u>

FACTOR 9. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS AND 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
(1)	(2)	(3)
Residential	\$ 24,498,479	0.6644
Non-Residential	7,135,102	0.1935
Large Industrial	846,702	0.0230
Bulk Users/VA Hospital	3,692,413	0.1002
Sadsbury	695,975	0.0189
Total	<u>\$ 36,868,670</u>	<u>1.0000</u>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO CUSTOMER CLASSES

Account Ref. (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Large Industrial (6)	Bulk/WA Hospital (7)	Reallocated to Sadsbury (8)
<b>RATE BASE</b>							
352.00 Franchises	7	221,140	152,940	44,361	5,153	15,524	3,162
353.20 Land and Land Rights - Collection	2	1,093,483	714,482	189,282	20,011	133,952	35,757
353.30 Land and Land Rights - Pumping	2	85,560	55,905	14,810	1,566	10,481	2,798
353.40 Land and Land Rights - Treatment	3	1,110,033	799,002	274,511	36,520	0	0
354.40 Land and Land Rights - Treatment - Bulk User	DA	406,640					
354.40 Land and Land Rights - Treatment - Sadsbury	DA	75,347				406,640	75,347
354.20 Structures and Improvements - Collection	2	1,275,388	833,338	220,770	23,340	156,235	41,705
354.30 Structures and Improvements - Pumping	2	9,803,896	6,405,866	1,697,054	179,411	1,200,977	320,587
354.40 Structures and Improvements - Treatment	3	30,237,984	21,765,301	7,477,853	994,830	0	0
354.40 Structures and Improvements - Treatment - Bulk	DA	7,989,212				7,989,212	
354.40 Structures and Improvements - Treatment - Sadsbury	DA	1,514,625					1,514,625
354.70 Structures and Improvements - General	2	1,466,242	958,043	253,807	26,832	179,615	47,946
355.00 Power Generation Equipment	2	1,228,094	802,437	212,583	22,474	150,442	40,159
360.10 Force Mains	3	35,639,485	25,653,302	8,813,645	1,172,539	0	0
361.10 Gravity Mains	3A	89,472,570	69,207,033	18,332,930	1,932,608	0	0
361.10 Gravity Mains - Bulk	DA	2,652,242				2,652,242	
361.10 Gravity Mains - Sadsbury	DA	569,014					569,014
361.20 Manholes	3A	11,218,190	8,677,270	2,298,607	242,313	0	0
361.20 Manholes - Bulk	DA	12,422				12,422	
361.20 Manholes - Sadsbury	DA	2,665					2,665
363.00 Service Laterals	4	16,051,934	13,939,500	2,085,146	27,288	0	0
364.00 Flow Measuring Devices	2	185,777	121,387	32,158	3,400	22,758	6,075
365.00 Flow Measuring Devices - Installations	2	12,425	8,118	2,151	227	1,522	406
370.00 Receiving Wells	2	108,497	70,892	18,781	1,985	13,291	3,548
371.00 Pumping Equipment	2	10,975,745	7,171,552	1,899,902	200,856	1,344,529	358,907
380.00 Treatment Equipment	3	43,251,730	31,132,595	10,696,153	1,422,982	0	0
380.00 Treatment Equipment - Bulk	DA	3,325,839				3,325,839	
380.00 Treatment Equipment - Sadsbury	DA	649,983					649,983
381.00 Plant Sewers	1	4,590,827	2,525,414	867,207	115,230	933,774	149,202
382.00 Outfall Sewer Lines	1	359,699	197,870	67,947	9,028	73,163	11,690
389.00 Other Plant and Misc. Equip. - Intangible	10	1,600,153	990,015	270,746	33,123	260,825	45,444
390.00 Office Furniture and Equipment	10	131,115	81,121	22,185	2,714	21,372	3,724
391.00 Transportation Equipment	10	2,316,627	1,433,297	391,973	47,954	377,610	65,792
392.00 Stores Equipment	10	73,604	45,539	12,454	1,524	11,997	2,090
393.00 Tools, Shop and Garage Equipment	10	1,205,986	746,144	204,053	24,964	196,576	34,250
394.00 Laboratory Equipment	1	454,248	249,882	85,807	11,402	92,394	14,763
395.00 Power Operated Equipment	10	518,146	320,577	87,670	10,726	84,458	14,715
396.00 Communication Equipment	10	745,814	461,435	126,192	15,438	121,568	21,181
397.00 Miscellaneous Equipment	10	427,504	264,497	72,334	8,849	69,683	12,141
398.00 Other Tangible Plant	7	11,769	8,139	2,361	274	826	168



PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Large Industrial (6)	Bulk/WA Hospital (7)	Reallocated to Sadsbury (8)
TOTAL SEWER UTILITY PLANT IN SERVICE							
		283,071,654	195,792,890	56,775,431	6,595,561	19,859,925	4,047,847
Other Rate Base Items:							
Cash Working Capital - Expenses	11	776,063	462,766	136,432	17,151	136,587	23,127
Cash Working Capital - - Int and Div	7	(458,052)	(316,789)	(91,885)	(10,673)	(32,155)	(6,550)
Materials and Supplies	7	79,188	54,766	15,885	1,845	5,559	1,132
Tax Cut and Jobs Act - Stub Period	7	(353,156)	(244,243)	(70,843)	(8,229)	(24,792)	(5,050)
Acquisition Adjustment	7	393,475	272,127	78,931	9,168	27,622	5,627
Deferred, Accrued and Prepaid Taxes	7	(80,906,253)	(55,954,765)	(16,229,794)	(1,885,116)	(5,679,619)	(1,156,959)
Total Other Rate Base Elements		(80,468,735)	(55,726,136)	(16,161,275)	(1,875,853)	(5,566,798)	(1,138,674)
<b>Total Original Cost Measure of Value</b>		<b>202,602,918</b>	<b>140,066,753</b>	<b>40,614,157</b>	<b>4,719,708</b>	<b>14,293,128</b>	<b>2,909,173</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
TEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 9A. ALLOCATION OF REVENUE FROM WATER RATES

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
(1)	(2)	(3)
Residential	\$ 24,498,479	0.7542
Non-Residential	7,135,102	0.2197
Large Industrial	846,702	0.0261
Bulk Users/VA Hospital		0.0000
Sadsbury		
Total	\$ 32,480,282	1.000

PENNSYLVANIA AMERICAN WATER COMPANY  
TEWATER OPERATIONS EXCLUDING SADSBUY AND EXETER WASTEWATER  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 10. 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	\$ 2,221,766	0.6187
Non-Residential	607,689	0.1692
Large Industrial	74,310	0.0207
Bulk Users/VA Hospital	585,202	0.1630
Sadsbury	102,040	0.0284
Total	<u>\$ 3,591,006</u>	<u>1.0000</u>

FACTOR 11. 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	\$ 5,428,953	0.5963
Commercial	1,600,163	0.1758
Large Industrial	201,489	0.0221
Other Public Authority	1,601,896	0.1760
Sadsbury	271,383	0.0298
Total	<u>\$ 9,103,884</u>	<u>1.0000</u>

PENNSYLVANIA-AMERICAN WATER COMPANY - WASTEWATER SSS OPERATIONS EXCLUDING SADSURY AND EXETER

COMPARATIVE SCHEDULE OF 2021 AND PROPOSED 2022 RATES  
RESIDENTIAL, COMMERCIAL, MUNICIPAL, INDUSTRIAL AND SPECIAL RATE CUSTOMERS

Customer Charges	2021 Rates Per Month									
	Zone 1	Zone 2 - New Cumberland	Zone 3 - Scranton	Zone 4 - Koppel	Zone 5 - Franklin	Zone 6 - McKeesport	Zone 7 - Sadsbury	Zone 8 - Turbotville	Zone 9 - Exeter	Delaware
Residential - Per EDU	\$ 11.00	\$ 11.00	\$ 19.50	\$ 11.00		\$ 11.00	\$ 11.00	\$ 11.00	\$ 11.00	
Residential - AA										\$ 50.15
Residential - AB										\$ 100.31
Non-Residential Per EDU	\$ 27.50	\$ 27.50	\$ 19.50	\$ 27.50			\$ 27.50	\$ 27.50		
Non-Residential - Multi - Dwellings Per EDU				\$ 82.50	**	27.50				
<b>Consumption Charges</b>										
<b>Per 100 Gallons:</b>										
<b>Residential</b>									27.50	
Allowance		1.2300							1.7631	
First Block	1.7631	1.2300	0.7212	1.7631		1.7631	1.7631	1.7631	1.7631	-
Second Block		1.2300								0.8052
Third Block		1.2300								0.8943
Fourth Block		1.2300								0.9760
Fifth Block		1.2300								
Sixth Block		1.2300								
<b>Commercial</b>										
Allowance	1.3000	1.0400		1.3000		1.3000	1.3000	1.3000	1.3000	-
First Block		1.0400	0.7212							0.8052
Second Block		1.0400	1.0365							0.8943
Third Block		1.0400								0.9760
Fourth Block		1.0400								
Fifth Block		1.0400								
Sixth Block		1.0400								
<b>Commercial - Multi - Dwellings</b>										
Allowance			0.7212						1.3000	
First Block									1.3000	
<b>Industrial</b>										
Allowance	1.3000	1.0400				1.3000	1.3000	1.3000	1.3000	-
First Block		1.0400								0.8052
Second Block		1.0400								0.8943
Third Block		1.0400								0.9760
Fourth Block		1.0400								
Fifth Block		1.0400								
Sixth Block		1.0400								
<b>Municipal</b>										
Allowance	1.3000	1.0400		1.3000		1.3000	1.3000	1.3000	1.3000	-
First Block		1.0400								0.8052
Second Block		1.0400								0.8943
Third Block		1.0400								0.9760
Fourth Block		1.0400								
Fifth Block		1.0400								
Sixth Block		1.0400								
Bulk Unmetered										

PENNSYLVANIA-AMERICAN WATER COMPANY - WASTEWATER SSS OPERATIONS EXCLUDING SADSBUARY AND EXETER

COMPARATIVE SCHEDULE OF 2021 AND PROPOSED 2022 RATES  
RESIDENTIAL, COMMERCIAL, MUNICIPAL, INDUSTRIAL AND SPECIAL RATE CUSTOMERS

Customer Charges	2021 Rates Per Month								
	Zone 1	Zone 2 - New Cumberland	Zone 3 - Scranton	Zone 4 - Koppel	Zone 5 - Franklin	Zone 6 - McKeesport	Zone 7 - Sadsbury	Zone 8 - Turbotville	Zone 9 - Exeter
Special Rates									
Customer Charge	275.00								
Consumption Charge									
Large Industrial - Mittal Steel and Victory Brewing	0.9300								
Bulk Users/Va Hosp/Cain, Valley, Brandywine Twi	0.9639								0.3332
Bulk User Rate									
Koppel - Big Bear				1.3000					
Koppel Steel - Flat Rate				10,843.95					
PSC Metals - Flat Rate				698.84					
PSSM - Flat Rate				1,805.06					
Knouse Foods - Flat Rate	5,219.33								
Strattanville Borough	3,884.64								
Borough of St. Lawrence									
Flat Rate	71.97				\$ 71.97			71.97	71.97
Residential	71.97				71.97				
Non-Residential									
Industrial									
Property Owners Assoc	71.97								
Residential - Sand Mound					71.97				
Port Vue									
Minimum Charge						11.00			
Allowance						1.7631			
Over Allowance						1.7631			

\* Includes 2,100 gallon allowance  
\*\* Quarterly Rate for Big Beaver

PENNSYLVANIA-AMERICAN WATER COMPANY - WASTEWATER SSS OPERATIONS EXCLUDING SADSBUARY AND EXETER  
COMPARATIVE SCHEDULE OF 2021 AND PROPOSED 2022 RATES  
RESIDENTIAL, COMMERCIAL, MUNICIPAL, INDUSTRIAL AND SPECIAL RATE CUSTOMERS

Customer Charges	Proposed Rates									
	Zone 1	Zone 2 - New Cumberland	Zone 3 - Scranton	Zone 4 - Koppel	Zone 5 - Franklin	Zone 6 - McKeesport	Zone 7 - Sadsbury	Zone 8 - Turbotville	Zone 9 - Exeter	Delaware
Residential - Per EDU	\$ 12.00	\$ 12.00	\$ 19.50	\$ 12.00		\$ 12.00	\$ 12.00	\$ 12.00	\$ 12.00	
Residential - AA										\$ 60.00
Residential - AB										\$ 120.02
Non-Residential Per EDU	\$ 30.00	\$ 30.00	\$ 19.50	\$ 30.00	**	30.00	\$ 30.00	\$ 30.00	30.00	
Non-Residential - Multi - Dwellings Per EDU										
<b>Consumption Charges</b>										
<b>Per 100 Gallons:</b>										
<u>Residential</u>										
Allowance	1.8754	1.4760	0.7336	1.8754		1.8754	1.8754	1.8754	1.8754	-
First Block		1.4760								0.9634
Second Block		1.4760								1.0700
Third Block		1.4760								1.1678
Fourth Block		1.4760								
Fifth Block		1.4760								
Sixth Block		1.4760								
<u>Commercial</u>										
Allowance	1.4000	1.2480	0.7212	1.4000		1.4000	1.4000	1.4000	1.4000	-
First Block		1.2480	1.0365							0.9634
Second Block		1.2480								1.0700
Third Block		1.2480								1.1678
Fourth Block		1.2480								
Fifth Block		1.2480								
Sixth Block		1.2480								
<u>Commercial - Multi - Dwellings</u>										
Allowance			0.7336						1.4000	
First Block									1.4000	
<u>Industrial</u>										
Allowance	1.4000	1.2480	0.7212	1.4000		1.4000	1.4000	1.4000	1.4000	-
First Block		1.2480	1.0365							0.9634
Second Block		1.2480								1.0700
Third Block		1.2480								1.1678
Fourth Block		1.2480								
Fifth Block		1.2480								
Sixth Block		1.2480								
<u>Municipal</u>										
Allowance	1.4000	1.2480	0.7212	1.4000		1.4000	1.4000	1.4000	1.4000	-
First Block		1.2480	1.0365							0.9634
Second Block		1.2480								1.0700
Third Block		1.2480								1.1678
Fourth Block		1.2480								
Fifth Block		1.2480								
Sixth Block		1.2480								
Bulk Unmetered										

PENNSYLVANIA-AMERICAN WATER COMPANY - WASTEWATER SSS OPERATIONS EXCLUDING SADSBURY AND EXETER  
COMPARATIVE SCHEDULE OF 2021 AND PROPOSED 2022 RATES  
RESIDENTIAL, COMMERCIAL, MUNICIPAL, INDUSTRIAL AND SPECIAL RATE CUSTOMERS

Customer Charges	Proposed Rates									
	Zone 1	Zone 2 - New Cumberland	Zone 3 - Scranton	Zone 4 - Koppel	Zone 5 - Franklin	Zone 6 - McKeesport	Zone 7 - Sadsbury	Zone 8 - Turbotville	Zone 9 - Exeter	Delaware
Special Rates										
Customer Charge	300.00									
Consumption Charge										
Large Industrial - Mittal Steel and Victory Brewing	1.0200									
Bulk Users/Va Hosp/Cain, Valley, Brandywine Twi	1.0000									
Bulk User Rate										
Koppel - Big Bear				1.4000						
Koppel Steel - Flat Rate				12,053.72						
PSC Metals - Flat Rate				776.80						
PSSM - Flat Rate				2,006.44						
Krouse Foods - Flat Rate	5,595.37									
Strattanville Borough	4,164.52									
Borough of St. Lawrence										
Fiat Rate										
Residential	76.85				76.8500			76.85	76.85	76.85
Non-Residential	76.85				76.8500					
Industrial										
Property Owners Assoc	76.85									
Residential - Sand Mound					76.8500					
Port Vue										
Minimum Charge						12.0000				
Allowance										
Over Allowance						1.8754				
						1.8754				

\* Includes 2,100 gallon allowance  
\*\* Quarterly Rate for Big Beaver

## APPENDIX A



PENNSYLVANIA-AMERICAN WATER COMPANY

RESPONSES TO RATE STRUCTURE  
AND COST OF SERVICE FILING REQUIREMENTS

RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:

- a. A description of the allocation methods used. A comparison of the allocated cost of service by class with the present and proposed revenues. A cost of service schedule showing the Rate of Return produced by present and proposed rates by class of service.

RESPONSE

A description of the methods used for the cost of service study is provided in Exhibit No. 12-C and in PAWC Statement No. 12. A comparison of the allocated cost of service by class with the present and proposed revenues is provided on Schedule A of Exhibit No. 12-C.

PENNSYLVANIA-AMERICAN WATER COMPANY

RESPONSES TO RATE STRUCTURE  
AND COST OF SERVICE FILING REQUIREMENTS

RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:

- b. Indicate if the method used for establishing the allocation factors in the Cost of Service Study deviates from the previous study submitted in the last rate case. If yes, indicate which allocation factors were changed and discuss the reason for the changes.

RESPONSE

The methods used for establishing the allocation factors in the cost of service study have not deviated from the previous study submitted in the last case.

PENNSYLVANIA-AMERICAN WATER COMPANY  
RESPONSES TO RATE STRUCTURE  
AND COST OF SERVICE FILING REQUIREMENTS

RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:

- c. Supply the average day, the maximum day and the maximum hour deliveries to the system adjusted for storage for the test year and two prior years. Also provide workpapers, analyses, comparative data or other documentation supporting the estimated maximum day and peak hour demands by customer class reflected in the Company's cost of service study.

RESPONSE

Not applicable.

PENNSYLVANIA-AMERICAN WATER COMPANY

RESPONSES TO RATE STRUCTURE  
AND COST OF SERVICE FILING REQUIREMENTS

- RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:
- d. Explain thoroughly the methodology employed if the Company distinguishes between transmission and distribution mains in its allocation of costs.

RESPONSE

Not applicable.

PENNSYLVANIA-AMERICAN WATER COMPANY

RESPONSES TO RATE STRUCTURE  
AND COST OF SERVICE FILING REQUIREMENTS

- RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:
- e. Provide a detailed explanation of how storage is utilized to meet base, maximum day and maximum hour demands.

RESPONSE

There is no storage for this system.

PENNSYLVANIA-AMERICAN WATER COMPANY  
RESPONSES TO RATE STRUCTURE  
AND COST OF SERVICE FILING REQUIREMENTS

RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:

- f. Provide workpapers, calculations and supporting documentation which develop the equivalent meters and equivalent service weights reflected in the Company's cost of service study.

RESPONSE

There are no meter or service equivalents calculated for this study.

PENNSYLVANIA-AMERICAN WATER COMPANY

RESPONSES TO RATE STRUCTURE  
AND COST OF SERVICE FILING REQUIREMENTS

RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:

- g. Provide all workpapers and supporting documentation for the fire flow requirement and duration utilized in the cost of service study.

RESPONSE

Because this is a wastewater operation, there is no fire flow requirements.

## PENNSYLVANIA-AMERICAN WATER COMPANY

RESPONSES TO RATE STRUCTURE  
AND COST OF SERVICE FILING REQUIREMENTS

RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:

- h. Provide a breakdown of the number and size of private fire services according to the general water service class of customer.

## RESPONSE

Not applicable.



PENNSYLVANIA-AMERICAN WATER COMPANY  
 RESPONSES TO RATE STRUCTURE  
 AND COST OF SERVICE FILING REQUIREMENTS

RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:

- i. Provide a calculation of the Company's base cost of water per unit of consumption.

#### RESPONSE

The calculation of the average flow cost per hundred gallons for Rate Year 1 is as follows:

Total Flow Cost	\$15,648,669
Pro Forma Usage (Hundred Gallons) (Includes Estimated Unmetered)	18,496,010
Flow Cost per Hundred Gallons	\$0.8461

The calculation of the average flow cost per hundred gallons for Rate Year 2 is as follows:

Total Flow Cost	\$16,648,697
Pro Forma Usage (Hundred Gallons) (Includes Estimated Unmetered)	18,420,455
Flow Cost per Hundred Gallons	\$0.9038

PENNSYLVANIA-AMERICAN WATER COMPANY  
RESPONSES TO RATE STRUCTURE  
AND COST OF SERVICE FILING REQUIREMENTS

RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:

- j. Provide a detailed cost analysis that supports the Company's customer charges, by meter size, showing all direct and indirect costs included.

RESPONSE

Please refer to the attached Rate Year 1 and Rate Year 2 schedules.

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBUURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	I&I (5)	Customer Facilities (6)	Customer Accounting (7)
<b>OPERATION AND MAINTENANCE EXPENSES</b>						
<b>SEWAGE TREATMENT</b>						
601.3 Salary and Wages	1	1,189,773	743,251	446,522	0	0
601.4 Salary and Wages	1	130,596	81,583	49,013	0	0
615.3 Purchased Power	1	986,814	616,463	370,351	0	0
618.3 Chemicals	1	658,594	411,424	247,170	0	0
620.3 Materials and Supplies - Operation	1	177,290	110,753	66,537	0	0
631.3 Contractual Services - Engineering	1	3,250	2,030	1,220	0	0
635.3 Contract Services Test	1	158,132	98,785	59,347	0	0
636.3 Contract Services - Operation	1	300,210	187,541	112,669	0	0
641.3 Rental of Building	1	4,403	2,751	1,652	0	0
650.3 Transportation	1	2,835	1,771	1,064	0	0
620.4 Materials and Supplies - Maintenance	1	16,135	10,080	6,055	0	0
636.4 Contract Services - Maintenance	1	40,791	25,482	15,309	0	0
650.4 Transportation	1	0	0	0	0	0
675.4 Misc. Operating Expense - Waste Disposal	1	1,188,625	742,534	446,091	0	0
675.4 Misc. Operating Expense	1	415,873	259,796	156,077	0	0
<b>TOTAL SEWAGE TREATMENT EXPENSE</b>		<b>5,273,321</b>	<b>3,294,244</b>	<b>1,979,077</b>	<b>0</b>	<b>0</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	I&I (5)	Customer Facilities (6)	Customer Accounting (7)
<b>TRANSMISSION</b>						
601.5 Salary and Wages	2	133,472	27,175	106,297	0	0
601.6 Salary and Wages	2	196,074	39,921	156,153	0	0
615.5 Purchased Power	2	54,514	11,099	43,415	0	0
620.5 Materials and Supplies	2	8,494	1,729	6,765	0	0
636.5 Contract Services	2	59,391	12,092	47,299	0	0
642.5 Rental of Equipment	2	141	29	112	0	0
TOTAL T & D EXPENSE OPERATION		452,086	92,045	360,041	0	0
<b>620.6 Materials and Supplies</b>						
636.6 Contract Services	2	75,615	15,395	60,220	0	0
675.6 Miscellaneous Maintenance Expense	2	66,428	13,525	52,903	0	0
675.5 Miscellaneous Operating Expense	2	11,206	2,282	8,924	0	0
TOTAL T & D EXPENSE - MAINTENANCE		62,581	12,741	49,840	0	0
		215,830	43,943	171,887	0	0
<b>TOTAL T &amp; D EXPENSE</b>		667,916	135,988	531,928	0	0
<b>CUSTOMER ACCOUNTS</b>						
601.7 Salary and Wages	5	0	0	0	0	0
670.7 Bad Debts	5	408,307	0	0	0	408,307
675.7 Miscellaneous Expense	5	9,597	0	0	0	9,597
<b>TOTAL CUSTOMER ACCOUNTING EXPENSE</b>		417,904	0	0	0	417,904

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBUURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	I&I (5)	Customer Facilities (6)	Customer Accounting (7)
<b>ADMINISTRATIVE AND GENERAL EXPENSES</b>						
601.8 Salaries and Wages	10	385,354	183,082	155,876	0	46,397
603.8 Salaries of Officers	10	0	0	0	0	0
604.8 Employee Pension & Benefits	6	576,758	304,644	258,964	0	13,150
615.8 Purchased Power	10	73,373	34,860	29,679	0	8,834
620.8 Materials and Supplies	10	2,865	1,361	1,159	0	345
632.8 Contractual Services - Accounting	10	0	0	0	0	0
634.8 Contractual Services - Management						
Customer Related	5	61,002	0	0	0	61,002
Employee Related	6	17,299	9,137	7,767	0	394
Lab Testing	1	1,768	1,105	664	0	0
Other	10	146,082	69,403	59,090	0	17,588
636.8 Contractual Services	10	12,844	6,102	5,195	0	1,546
642.8 Rental of Equipment	10	0	0	0	0	0
650.8 Transportation	10	71,983	34,199	29,117	0	8,667
656.8 Insurance Vehicles	10	13,073	6,211	5,288	0	1,574
657.8 Insurance	10	556,421	264,356	225,072	0	66,993
658.8 Advertising	10	89,032	42,299	36,013	0	10,719
659.8 Workers Compensation	6	146,947	77,617	65,979	0	3,350
666.8 Amortization of Rate Case	9	25,502	13,620	10,262	1,000	620
675.8 Miscellaneous Expense	10	354,019	168,195	143,201	0	42,624
<b>TOTAL A &amp; G EXPENSE</b>		<b>2,534,322</b>	<b>1,216,191</b>	<b>1,033,327</b>	<b>1,000</b>	<b>283,804</b>
<b>Total Operation &amp; Maintenance Expenses</b>						
		<b>8,893,462</b>	<b>4,646,422</b>	<b>3,544,333</b>	<b>1,000</b>	<b>701,707</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBUARY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	I&I (5)	Customer Facilities (6)	Customer Accounting (7)
<b>DEPRECIATION EXPENSE</b>						
354.20 Structures and Improvements - Collection	2	54,204	11,036	43,168	0	0
354.30 Structures and Improvements - Pumping	2	299,191	60,915	238,276	0	0
354.40 Structures and Improvements - Treatment	1	893,342	558,071	335,271	0	0
354.40 Structures and Improvements - Treatment - Bulk	1	257,850	161,079	96,771	0	0
354.40 Structures and Improvements - Treatment - Sadsbury	1	48,884	30,538	18,346	0	0
354.70 Structures and Improvements - General	2	76,782	15,633	61,149	0	0
355.00 Power Generation Equipment	2	70,282	14,309	55,972	0	0
360.10 Force Mains	3	743,661	464,565	279,096	0	0
361.10 Gravity Mains	3	1,804,796	1,127,456	677,340	0	0
361.10 Gravity Mains - Bulk	3	58,538	36,568	21,969	0	0
361.10 Gravity Mains - Sadsbury	3	12,559	7,845	4,713	0	0
361.20 Manholes	3	397,935	248,590	149,345	0	0
361.20 Manholes - Bulk	3	459	287	172	0	0
361.20 Manholes - Sadsbury	3	99	62	37	0	0
363.00 Service Laterals	4	540,920	0	540,920	0	0
364.00 Flow Measuring Devices	2	46,012	9,368	36,644	0	0
365.00 Flow Measuring Devices - Installations	2	1,217	248	969	0	0
370.00 Receiving Wells	2	3,252	662	2,590	0	0
371.00 Pumping Equipment	2	666,648	135,730	530,918	0	0
380.00 Treatment Equipment	1	2,100,684	1,312,297	788,387	0	0
380.00 Treatment Equipment - Bulk	1	169,927	106,153	63,774	0	0
380.00 Treatment Equipment - Sadsbury	1	33,210	20,746	12,464	0	0
381.00 Plant Sewers	1	142,038	88,731	53,307	0	0
382.00 Outfall Sewers	1	13,256	8,281	4,975	0	0
389.10 Other Plant and Misc. Equip. - Intangible	10	211,942	100,693	85,730	0	25,518
390.00 Office Furniture and Equipment	10	13,340	6,338	5,396	0	1,606
391.00 Transportation Equipment	10	187,184	88,931	75,716	0	22,537
392.00 Stores Equipment	10	4,274	2,030	1,729	0	515
393.00 Tools, Shop and Garage Equipment	10	36,983	17,570	14,959	0	4,453
394.00 Laboratory Equipment	1	36,800	22,989	13,811	0	0
395.00 Power Operated Equipment	10	24,811	11,788	10,036	0	2,987
396.00 Communication Equipment	10	92,622	44,004	37,465	0	11,152
397.00 Miscellaneous Equipment	10	12,220	5,805	4,943	0	1,471
398.00 Other Tangible Plant	10	815	387	329	0	98
<b>Total Depreciation Expense</b>		<b>9,056,728</b>	<b>4,719,705</b>	<b>3,725,766</b>	<b>540,920</b>	<b>70,336</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	I&I (5)	Customer Facilities (6)	Customer Accounting (7)
<b>Amortization Expense</b>						
<b>Taxes Other Than Income</b>						
685100 Utility Reg Assessment Fee	8	188,409	100,629	75,816	7,386	4,578
685200 Property Taxes	8	247,628	135,799	98,779	12,357	693
685320 Payroll Taxes	6	161,675	85,397	72,592	0	3,686
<b>Total Taxes, Other Than Income</b>		<b>597,712</b>	<b>321,825</b>	<b>247,186</b>	<b>19,742</b>	<b>8,958</b>
<b>Total Operating Expense</b>		<b>18,219,389</b>	<b>9,507,796</b>	<b>7,386,243</b>	<b>545,269</b>	<b>780,081</b>
4091 Income Taxes	8	1,932,820	1,059,958	771,002	96,448	5,412
Utility Income Available for Return	8	13,732,200	7,530,738	5,477,775	685,237	38,450
<b>Total Cost of Service</b>		<b>33,884,409</b>	<b>18,098,493</b>	<b>13,635,019</b>	<b>1,326,954</b>	<b>823,944</b>
Less: Other Revenues	9	1,373,558	733,617	552,720	53,843	33,377
Less: Cost of Service Recovered From Sadsbury	1	671,275	419,345	251,929	0	0
Less: Cost of Service Recovered from Water Rates - Penalties	9	2,428,123	1,296,861	977,077	95,182	59,003
<b>Total Cost of Service Related to Sales of Wastewater Services</b>		<b>29,411,453</b>	<b>15,648,669</b>	<b>11,853,293</b>	<b>1,177,928</b>	<b>731,563</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBUURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	I&I (5)	Customer Facilities (6)	Customer Accounting (7)
<b>RATE BASE</b>						
352.00 Franchises	7	221,140	121,295	88,213	11,079	553
353.20 Land and Land Rights - Collection	2	1,093,483	222,633	870,850	0	0
353.30 Land and Land Rights - Pumping	2	85,560	17,420	68,140	0	0
353.40 Land and Land Rights - Treatment	1	1,110,033	693,438	416,595	0	0
354.40 Land and Land Rights - Treatment - Bulk User	1	406,640	254,028	152,612	0	0
354.40 Land and Land Rights - Treatment - Sadsbury	1	75,347	47,069	28,278	0	0
354.20 Structures and Improvements - Collection	2	1,226,225	249,659	976,566	0	0
354.30 Structures and Improvements - Pumping	2	9,081,885	1,849,072	7,232,813	0	0
354.40 Structures and Improvements - Treatment	1	28,234,825	17,638,295	10,596,530	0	0
354.40 Structures and Improvements - Treatment - Bulk	1	8,190,949	5,116,886	3,074,063	0	0
354.40 Structures and Improvements - Treatment - Sadsbury	1	1,552,871	970,078	582,792	0	0
354.70 Structures and Improvements - General	2	1,346,400	274,127	1,072,273	0	0
355.00 Power Generation Equipment	2	1,332,838	271,366	1,061,472	0	0
360.10 Force Mains	3	35,155,331	21,961,535	13,193,796	0	0
361.10 Gravity Mains	3	80,242,803	50,127,679	30,115,124	0	0
361.10 Gravity Mains - Bulk	3	2,700,751	1,687,159	1,013,592	0	0
361.10 Gravity Mains - Sadsbury	3	579,421	361,965	217,457	0	0
361.20 Manholes	3	10,904,027	6,811,746	4,092,281	0	0
361.20 Manholes - Bulk	3	12,899	8,058	4,841	0	0
361.20 Manholes - Sadsbury	3	2,767	1,729	1,039	0	0
363.00 Service Laterals	4	13,296,914	0	0	13,296,914	0
364.00 Flow Measuring Devices	2	253,160	51,543	201,617	0	0
365.00 Flow Measuring Devices - Installations	2	14,240	2,899	11,341	0	0
370.00 Receiving Wells	2	113,373	23,083	90,290	0	0
371.00 Pumping Equipment	2	11,804,822	2,403,462	9,401,360	0	0
380.00 Treatment Equipment	1	41,230,688	25,756,811	15,473,877	0	0
380.00 Treatment Equipment - Bulk	1	3,476,854	2,171,991	1,304,863	0	0
380.00 Treatment Equipment - Sadsbury	1	679,497	424,482	255,015	0	0
381.00 Plant Sewers	1	4,803,710	3,000,878	1,802,832	0	0
382.00 Outfall Sewer Lines	1	379,545	237,102	142,443	0	0
389.10 Other Plant and Misc. Equip. - Intangible	10	1,199,382	569,826	485,150	0	144,406
390.00 Office Furniture and Equipment	10	151,079	71,778	61,112	0	18,190
391.00 Transportation Equipment	10	1,857,773	882,628	751,469	0	223,676



PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBUURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2021, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	I&I (5)	Customer Facilities (6)	Customer Accounting (7)
392.00 Stores Equipment	10	80,013	38,014	32,365	0	9,634
393.00 Tools, Shop and Garage Equipment	10	828,345	393,547	335,066	0	99,733
394.00 Laboratory Equipment	1	362,767	226,621	136,147	0	0
395.00 Power Operated Equipment	10	371,498	176,499	150,271	0	44,728
396.00 Communication Equipment	10	781,653	371,363	316,179	0	94,111
397.00 Miscellaneous Equipment	10	252,008	119,729	101,937	0	30,342
398.00 Other Tangible Plant	7	12,988	7,124	5,181	651	32
<b>TOTAL SEWER UTILITY PLANT IN SERVICE</b>		<b>265,506,506</b>	<b>145,614,616</b>	<b>105,917,842</b>	<b>13,308,644</b>	<b>665,404</b>
Other Rate Base Items:						
Cash Working Capital	11	755,711	394,783	301,151	0	59,777
Cash Working Capital - - Int and Div	7	(425,033)	(233,131)	(169,546)	(21,294)	(1,063)
Materials and Supplies	7	79,188	43,435	31,588	3,967	198
PrePaid Deposit - Fairview Nitrogen	7	(882,890)	(484,265)	(352,185)	(44,233)	(2,207)
Acquisition Adjustment	7	552,842	303,234	220,529	27,697	1,382
Deferred, Accrued and Prepaid Taxes	7	(81,508,579)	(44,707,456)	(32,513,772)	(4,083,580)	(203,771)
<b>Total Other Rate Base Elements</b>		<b>(81,428,761)</b>	<b>(44,683,400)</b>	<b>(32,482,235)</b>	<b>(4,117,442)</b>	<b>(145,684)</b>
<b>Total Original Cost Measure of Value</b>		<b>184,077,744</b>	<b>100,931,216</b>	<b>73,435,606</b>	<b>9,191,202</b>	<b>519,720</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBUURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	I&I (5)	Customer Facilities (6)	Customer Accounting (7)
<b>OPERATION AND MAINTENANCE EXPENSES</b>						
<b>SEWAGE TREATMENT</b>						
601.3 Salary and Wages	1	1,231,147	769,098	462,049	0	0
601.4 Salary and Wages	1	135,139	84,421	50,718	0	0
615.3 Purchased Power	1	971,190	606,702	364,488	0	0
618.3 Chemicals	1	690,803	431,545	259,258	0	0
620.3 Materials and Supplies - Operation	1	177,290	110,753	66,537	0	0
631.3 Contractual Services - Engineering	1	3,250	2,030	1,220	0	0
635.3 Contract Services Test	1	158,132	98,785	59,347	0	0
636.3 Contract Services - Operation	1	300,210	187,541	112,669	0	0
641.3 Rental of Building	1	4,403	2,751	1,652	0	0
650.3 Transportation	1	2,835	1,771	1,064	0	0
620.4 Materials and Supplies - Maintenance	1	16,135	10,080	6,055	0	0
636.4 Contract Services - Maintenance	1	40,791	25,482	15,309	0	0
650.4 Transportation	1	0	0	0	0	0
675.4 Misc. Operating Expense - Waste Disposal	1	1,188,625	742,534	446,091	0	0
675.4 Misc. Operating Expense	1	415,984	259,865	156,119	0	0
<b>TOTAL SEWAGE TREATMENT EXPENSE</b>		<b>5,335,934</b>	<b>3,333,358</b>	<b>2,002,576</b>	<b>0</b>	<b>0</b>
<b>TRANSMISSION</b>						
601.5 Salary and Wages	2	138,114	28,120	109,994	0	0
601.6 Salary and Wages	2	202,893	41,309	161,584	0	0
615.5 Purchased Power	2	53,650	10,923	42,727	0	0
620.5 Materials and Supplies	2	8,494	1,729	6,765	0	0
636.5 Contract Services	2	59,391	12,092	47,299	0	0
642.5 Rental of Equipment	2	141	29	112	0	0
<b>TOTAL T &amp; D EXPENSE OPERATION</b>		<b>462,683</b>	<b>94,202</b>	<b>368,481</b>	<b>0</b>	<b>0</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	I&I (5)	Customer Facilities (6)	Customer Accounting (7)
620.6 Materials and Supplies	2	100,566	20,475	80,091	0	0
636.6 Contract Services	2	66,428	13,525	52,903	0	0
675.6 Miscellaneous Maintenance Expense	2	11,206	2,282	8,924	0	0
675.5 Miscellaneous Operating Expense	2	62,581	12,741	49,840	0	0
<b>TOTAL T &amp; D EXPENSE - MAINTENANCE</b>		<b>240,781</b>	<b>49,023</b>	<b>191,758</b>	<b>0</b>	<b>0</b>
<b>TOTAL T &amp; D EXPENSE</b>		<b>703,464</b>	<b>143,225</b>	<b>560,239</b>	<b>0</b>	<b>0</b>
<b>CUSTOMER ACCOUNTS</b>						
601.7 Salary and Wages	5	0	0	0	0	0
670.7 Bad Debts	5	446,279	0	0	0	446,279
675.7 Miscellaneous Expense	5	9,597	0	0	0	9,597
<b>TOTAL CUSTOMER ACCOUNTING EXPENSE</b>		<b>455,876</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>455,876</b>
<b>ADMINISTRATIVE AND GENERAL EXPENSES</b>						
601.8 Salaries and Wages	10	398,754	187,095	161,057	0	50,602
603.8 Salaries of Officers	10	0	0	0	0	0
604.8 Employee Pension & Benefits	6	608,785	320,891	273,284	0	14,611
615.8 Purchased Power	10	73,373	34,427	29,635	0	9,311
620.8 Materials and Supplies	10	2,865	1,344	1,157	0	364
632.8 Contractual Services - Accounting	10	0	0	0	0	0
634.8 Contractual Services - Management						
Customer Related	5	63,059	0	0	0	63,059
Employee Related	6	17,758	9,360	7,971	0	426
Lab Testing	1	1,814	1,133	681	0	0
Other						
636.8 Contractual Services	10	148,193	69,532	59,855	0	18,806
642.8 Rental of Equipment	10	12,844	6,026	5,188	0	1,630
650.8 Transportation	10	0	0	0	0	0
656.8 Insurance Vehicles	10	73,441	34,459	29,663	0	9,320
657.8 Insurance	10	13,335	6,257	5,386	0	1,692
658.8 Advertising	10	567,478	266,261	229,204	0	72,013
659.8 Workers Compensation	10	90,812	42,609	36,679	0	11,524
666.8 Amortization of Rate Case	6	149,886	79,005	67,284	0	3,597
675.8 Miscellaneous Expense	9	25,502	13,557	10,155	1,137	653
<b>TOTAL A &amp; G EXPENSE</b>	10	<b>386,214</b>	<b>181,212</b>	<b>155,992</b>	<b>0</b>	<b>49,011</b>
		<b>2,634,112</b>	<b>1,253,167</b>	<b>1,073,191</b>	<b>1,137</b>	<b>306,617</b>
<b>Total Operation &amp; Maintenance Expenses</b>		<b>9,129,386</b>	<b>4,729,750</b>	<b>3,636,005</b>	<b>1,137</b>	<b>762,493</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	I&I (5)	Customer Facilities (6)	Customer Accounting (7)
<b>DEPRECIATION EXPENSE</b>						
354.20 Structures and Improvements - Collection	2	65,494	13,335	52,159	0	0
354.30 Structures and Improvements -Pumping	2	316,924	64,526	252,398	0	0
354.40 Structures and Improvements - Treatment	1	952,021	594,728	357,294	0	0
354.40 Structures and Improvements - Treatment - Bulk	1	252,123	157,501	94,622	0	0
354.40 Structures and Improvements - Treatment - Sadsbury	1	47,798	29,860	17,939	0	0
354.70 Structures and Improvements - General	2	90,259	18,377	71,882	0	0
355.00 Power Generation Equipment	2	66,325	13,504	52,821	0	0
360.10 Force Mains	3	776,709	485,210	291,499	0	0
361.10 Gravity Mains	3	2,019,529	1,261,600	757,929	0	0
361.10 Gravity Mains - Bulk	3	59,951	37,452	22,500	0	0
361.10 Gravity Mains - Sadsbury	3	12,862	8,035	4,827	0	0
361.20 Manholes	3	450,645	281,518	169,127	0	0
361.20 Manholes - Bulk	3	483	302	181	0	0
361.20 Manholes - Sadsbury	3	104	65	39	0	0
363.00 Service Laterals	4	646,573	0	0	646,573	0
364.00 Flow Measuring Devices	2	36,474	7,426	29,048	0	0
365.00 Flow Measuring Devices - Installations	2	1,154	235	919	0	0
370.00 Receiving Wells	2	3,219	655	2,564	0	0
371.00 Pumping Equipment	2	635,058	129,298	505,760	0	0
380.00 Treatment Equipment	1	2,218,382	1,385,823	832,559	0	0
380.00 Treatment Equipment - Bulk	1	165,883	103,627	62,256	0	0
380.00 Treatment Equipment - Sadsbury	1	32,419	20,252	12,167	0	0
381.00 Plant Sewers	1	140,418	87,719	52,699	0	0
382.00 Outfall Sewers	1	12,923	8,073	4,850	0	0
389.10 Other Plant and Misc. Equip. - Intangible	10	389,110	182,570	157,162	0	49,378
390.00 Office Furniture and Equipment	10	13,062	6,129	5,276	0	1,658
391.00 Transportation Equipment	10	241,441	113,284	97,518	0	30,639
392.00 Stores Equipment	10	4,273	2,005	1,726	0	542
393.00 Tools, Shop and Garage Equipment	10	78,814	36,980	31,833	0	10,001
394.00 Laboratory Equipment	1	44,918	28,060	16,858	0	0
395.00 Power Operated Equipment	10	39,864	18,704	16,101	0	5,059
396.00 Communication Equipment	10	112,528	52,798	45,450	0	14,280
397.00 Miscellaneous Equipment	10	35,678	16,740	14,410	0	4,528
398.00 Other Tangible Plant	10	797	374	322	0	101
<b>Total Depreciation Expense</b>		<b>9,964,217</b>	<b>5,166,764</b>	<b>4,034,694</b>	<b>646,573</b>	<b>116,185</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	I&I (5)	Customer Facilities (6)	Customer Accounting (7)
<b>Amortization Expense</b>						
<b>Taxes Other Than Income</b>						
685100 Utility Reg Assessment Fee	8	328,512	(179,433)	(129,368)	(18,561)	(1,150)
685200 Property Taxes	9	206,558	109,806	82,251	9,212	5,288
685320 Payroll Taxes	8	263,405	143,872	103,729	14,882	922
	6	167,089	88,073	75,006	0	4,010
<b>Total Taxes, Other Than Income</b>		637,052	341,750	260,986	24,095	10,220
<b>Total Operating Expense</b>		19,402,143	10,058,832	7,802,318	653,244	887,749
<b>4091 Income Taxes</b>	8	2,519,302	1,376,043	992,101	142,341	8,818
<b>Utility Income Available for Return</b>	8	15,114,178	8,255,364	5,951,963	853,951	52,900
<b>Total Cost of Service</b>		37,035,623	19,690,238	14,746,382	1,649,536	949,466
<b>Less: Other Revenues</b>	9	1,393,110	740,577	554,736	62,133	35,664
<b>Re-allocation of Sadsbury Contribution</b>	1	699,423	436,930	262,493	0	0
<b>Less: Cost of Service Recovered from Water Rates</b>	9	3,506,461	1,864,035	1,396,273	156,388	89,765
<b>Less: Cost of Service Recovered from Water Rates - Penalties</b>	9	0	0	0	0	0
<b>Total Cost of Service Related to Sales of Wastewater Services</b>		31,436,629	16,648,697	12,532,880	1,431,015	824,037

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	I&I (5)	Customer Facilities (6)	Customer Accounting (7)
<b>RATE BASE</b>						
352.00 Franchises	7	221,140	120,809	87,085	12,561	686
353.20 Land and Land Rights - Collection	2	1,093,483	222,633	870,850	0	0
353.30 Land and Land Rights - Pumping	2	85,560	17,420	68,140	0	0
353.40 Land and Land Rights - Treatment	1	1,110,033	693,438	416,595	0	0
354.40 Land and Land Rights - Treatment - Bulk User	1	406,640	254,028	152,612	0	0
354.40 Land and Land Rights - Treatment - Sadsbury	1	75,347	47,069	28,278	0	0
354.20 Structures and Improvements - Collection	2	1,275,388	259,669	1,015,719	0	0
354.30 Structures and Improvements - Pumping	2	9,803,896	1,996,073	7,807,823	0	0
354.40 Structures and Improvements - Treatment	1	30,237,984	18,889,668	11,348,315	0	0
354.40 Structures and Improvements - Treatment - Bulk	1	7,989,212	4,990,861	2,998,351	0	0
354.40 Structures and Improvements - Treatment - Sadsbury	1	1,514,625	946,186	568,439	0	0
354.70 Structures and Improvements - General	2	1,466,242	298,527	1,167,715	0	0
355.00 Power Generation Equipment	2	1,228,094	250,040	978,054	0	0
360.10 Force Mains	3	35,639,485	22,263,987	13,375,499	0	0
361.10 Gravity Mains	3	89,472,570	55,893,514	33,579,055	0	0
361.10 Gravity Mains - Bulk	3	2,652,242	1,656,856	995,387	0	0
361.10 Gravity Mains - Sadsbury	3	569,014	355,463	213,551	0	0
361.20 Manholes	3	11,218,190	7,008,003	4,210,187	0	0
361.20 Manholes - Bulk	3	12,422	7,760	4,662	0	0
361.20 Manholes - Sadsbury	3	2,665	1,665	1,000	0	0
363.00 Service Laterals	4	16,051,934	0	16,051,934	0	0
364.00 Flow Measuring Devices	2	185,777	37,824	147,953	0	0
365.00 Flow Measuring Devices - Installations	2	12,425	2,530	9,895	0	0
370.00 Receiving Wells	2	108,497	22,090	86,407	0	0
371.00 Pumping Equipment	2	10,975,745	2,234,662	8,741,084	0	0
380.00 Treatment Equipment	1	43,251,730	27,019,356	16,232,374	0	0
380.00 Treatment Equipment - Bulk	1	3,325,839	2,077,651	1,248,187	0	0
380.00 Treatment Equipment - Sadsbury	1	649,983	406,045	243,939	0	0
381.00 Plant Sewers	1	4,590,827	2,867,889	1,722,937	0	0
382.00 Outfall Sewer Lines	1	359,699	224,704	134,995	0	0
389.10 Other Plant and Misc. Equip. - Intangible	10	1,600,153	750,792	646,302	0	203,059
390.00 Office Furniture and Equipment	10	131,115	61,519	52,958	0	16,639
391.00 Transportation Equipment	10	2,316,627	1,086,962	935,586	0	293,980
392.00 Stores Equipment	10	73,604	34,535	29,729	0	9,340
393.00 Tools, Shop and Garage Equipment	10	1,205,986	565,849	487,098	0	153,040
394.00 Laboratory Equipment	1	454,248	283,769	170,479	0	0
395.00 Power Operated Equipment	10	518,146	243,114	209,279	0	65,753
396.00 Communication Equipment	10	745,814	349,936	301,234	0	94,644
397.00 Miscellaneous Equipment	10	427,504	200,585	172,669	0	54,250
398.00 Other Tangible Plant	7	11,769	6,429	4,634	668	36

PENNSYLVANIA AMERICAN WATER COMPANY  
WASTEWATER OPERATIONS EXCLUDING SADSBUURY AND EXETER WASTEWATER  
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	I&I (5)	Customer Facilities (6)	Customer Accounting (7)
TOTAL SEWER UTILITY PLANT IN SERVICE		283,071,654	154,649,908	111,465,155	16,065,163	891,427
Other Rate Base Items:						
Cash Working Capital	11	776,063	402,001	309,106	0	64,956
Cash Working Capital - - Int and Div	7	(458,052)	(250,234)	(180,381)	(26,017)	(1,420)
Materials and Supplies	7	79,188	43,260	31,184	4,498	245
PrePaid Deposit - Fairview Nitrogen	7	(353,156)	(192,929)	(139,073)	(20,059)	(1,095)
Acquisition Adjustment	7	393,475	214,955	154,950	22,349	1,220
Deferred, Accrued and Prepaid Taxes	7	(80,906,253)	(44,199,086)	(31,860,882)	(4,595,475)	(250,809)
Total Other Rate Base Elements		(80,468,735)	(43,982,033)	(31,685,096)	(4,614,705)	(186,902)
<b>Total Original Cost Measure of Value</b>		<b>202,602,918</b>	<b>110,667,876</b>	<b>79,780,059</b>	<b>11,450,459</b>	<b>704,524</b>

RS2.

PENNSYLVANIA-AMERICAN WATER COMPANY  
RESPONSES TO RATE STRUCTURE  
AND COST OF SERVICE FILING REQUIREMENTS

RS2. Provide a listing of negotiated special rate contracts which includes a comparison of revenues under special rate contracts and under tariff rates. Provide the cost of service treatment of any deficiency in revenues resulting from the negotiated special rate contracts.

RESPONSE

There are no negotiated special rate contracts that are not under a tariff rate.



**EXHIBIT NO. 12-D -**

**EXETER WASTEWATER SSS OPERATIONS**

**COST OF SERVICE AS OF DECEMBER 31, 2021**

**AND DECEMBER 31, 2022**

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

EXETER WASTEWATER SSS OPERATIONS

WASTEWATER COST OF SERVICE

ALLOCATION STUDY

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

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania

WASTEWATER COST OF SERVICE  
ALLOCATION STUDY  
AS OF DECEMBER 31, 2021

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

Customer Classification (1)	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
Residential	\$ 7,517,394	75.1%	\$ 4,141,242	57.6%	\$ 6,512,699	65.0%	\$ 2,371,457	57.3%
Non-Residential	2,186,382	21.8%	2,935,648	40.9%	3,362,591	33.5%	426,943	14.5%
Bulk Customer	323,053	3.2%	108,242	1.5%	151,539	1.5%	43,297	40.0%
Total Sales	10,026,829	100.1%	7,185,131	100.0%	10,026,829	100.0%	2,841,697	39.5%
Other Revenues COS Recovered from Water Rates	1,044,304 4,059,372		1,001,221		1,044,304		43,083 0	4.3%
Total	\$ 15,130,505		\$ 8,186,352		\$ 11,071,133		\$ 2,884,780	35.2%

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

ITEM (1)	COST OF SERVICE (2)	RESIDENTIAL (3)	NON-RESIDENTIAL (4)	BULK CUSTOMER (5)
1. REVENUES FROM SALES	7,185,131	4,141,242	2,935,648	108,242
2. OTHER REVENUES	45,637	34,593	9,999	1,045
3. TOTAL OPERATING REVENUES	7,230,768	4,175,834	2,945,647	109,287
4. LESS: OPERATING EXPENSES (NET OF COST OF SERVICE RECOVERED FROM WATER)	6,470,257	4,921,075	1,402,064	147,118
5. RETURN AND INCOME TAXES	760,511	(745,241)	1,543,583	(37,831)
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	1,835,808	1,368,605	423,311	43,892
7. TAXABLE INCOME	(1,075,297)	(2,113,846)	1,120,271	(81,722)
8. LESS: INCOME TAXES (TAX. INC.)	(216,256)	(425,122)	225,301	(16,435)
9. NET RETURN (Line 5 - Line 8)	976,767	(320,119)	1,318,282	(21,395)
10. ORIGINAL COSTS MEASURE OF VALUE	90,923,801	67,784,184	20,965,745	2,173,871
11. RATE OF RETURN, PERCENT	1.07	(0.47)	6.29	(0.98)
12. RELATIVE RATE OF RETURN	1.00	(0.44)	5.85	(0.92)

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

ITEM (1)	COST OF SERVICE (2)	RESIDENTIAL (3)	NON-RESIDENTIAL (4)	BULK CUSTOMER (5)
1. REVENUES FROM SALES				
2. OTHER REVENUES	10,026,829 1,044,304	6,512,699 759,164	3,362,591 257,767	151,539 27,372
3. TOTAL OPERATING REVENUES	11,071,133	7,271,863	3,620,358	178,911
4. LESS: OPERATING EXPENSES (NET OF COST OF SERVICE RECOVERED FROM WATER)	2,534,555	1,910,832	477,321	146,402
5. RETURN AND INCOME TAXES	8,536,578	5,361,031	3,143,037	32,510
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	1,838,059	1,370,687	423,474	43,898
7. TAXABLE INCOME	6,698,519	3,990,344	2,719,563	(11,388)
8. LESS: INCOME TAXES (TAX. INC.)	1,753,663	1,044,666	711,978	(2,981)
9. NET RETURN (Line 5 - Line 8)	6,782,915	4,316,365	2,431,059	35,491
10. ORIGINAL COSTS MEASURE OF VALUE	90,923,801	67,804,186	20,948,097	2,171,518
11. RATE OF RETURN, PERCENT	7.46	6.37	11.61	1.63
12. RELATIVE RATE OF RETURN	1.00	0.85	1.56	0.22

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
<b>OPERATION AND MAINTENANCE EXPENSES</b>					
<b>SEWAGE TREATMENT</b>					
601.3 Salary and Wages	1	267,024	193,432	66,516	7,076
601.4 Salary and Wages	1	4,688	3,396	1,168	124
615.3 Purchased Power	1	263,046	190,551	65,525	6,971
618.3 Chemicals	1	162,363	117,616	40,445	4,303
620.3 Materials and Supplies - Operation	1	17,999	13,038	4,484	477
631.3 Contractual Services - Engineering	1	0	0	0	0
635.3 Contract Services Test	1	37,200	26,948	9,267	986
636.3 Contract Services - Operation	1	17,025	12,333	4,241	451
642.3 Rental of Equipment	1	0	0	0	0
650.3 Transportation	1	0	0	0	0
620.4 Materials and Supplies - Maintenance	1	0	0	0	0
636.4 Contract Services - Maintenance	1	975	706	243	26
650.4 Transportation	1	0	0	0	0
675.3 Misc. Operating Expense - Waste Disposal	1	28,413	20,582	7,078	753
675.4 Misc. Operating Expense	1	197,097	142,777	49,097	5,223
<b>TOTAL SEWAGE TREATMENT EXPENSE</b>		<b>995,830</b>	<b>721,380</b>	<b>248,061</b>	<b>26,390</b>

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
<b>COLLECTION</b>					
601.5 Salary and Wages	2	180,442	137,407	37,748	5,287
601.6 Salary and Wages	2	40,624	30,935	8,499	1,190
615.5 Purchased Power	2	11,620	8,849	2,431	340
620.5 Materials and Supplies	2	0	0	0	0
636.5 Contract Services	2	0	0	0	0
642.5 Rental of Equipment	2	123	94	26	4
TOTAL T & D EXPENSE OPERATION		232,809	177,284	48,704	6,821
<b>MAINTENANCE</b>					
620.6 Materials and Supplies	2	12,620	9,610	2,640	370
636.6 Contract Services	2	18,000	13,707	3,766	527
675.6 Miscellaneous Maintenance Expense	2	15,000	11,423	3,138	440
675.5 Miscellaneous Operating Expense	2	0	0	0	0
TOTAL T & D EXPENSE - MAINTENANCE		45,620	34,740	9,544	1,337
<b>TOTAL COLLECTION EXPENSE</b>		278,429	212,024	58,247	8,158
<b>CUSTOMER ACCOUNTS</b>					
601.7 Salary and Wages	5	0	0	0	0
670.7 Bad Debts	5	182,323	175,960	6,345	18
675.7 Miscellaneous Expense	5	9,744	9,404	339	1
<b>TOTAL CUSTOMER ACCOUNTING EXPENSE</b>		192,067	185,364	6,684	19



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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
<b>ADMINISTRATIVE AND GENERAL EXPENSES</b>					
601.8 Salaries and Wages	10	78,850	61,542	15,557	1,750
603.8 Salaries of Officers	10	0	0	0	0
604.8 Employee Pension & Benefits	6	166,389	124,209	37,687	4,493
615.8 Purchased Power	10	0	0	0	0
620.8 Materials and Supplies	10	0	0	0	0
632.8 Contractual Services - Accounting	10	0	0	0	0
634.8 Contractual Services - Management					
Customer Related	5	44,022	42,485	1,532	4
Employee Related	6	12,484	9,319	2,828	337
Lab Testing	1	1,276	924	318	34
Other	10	105,420	82,280	20,799	2,340
636.8 Contractual Services	10	35,000	27,318	6,906	777
642.8 Rental of Equipment	10	0	0	0	0
650.8 Transportation	10	29,885	23,325	5,896	663
656.8 Insurance Vehicles	10	4,909	3,831	969	109
657.8 Insurance	10	208,924	163,065	41,221	4,638
658.8 Advertising	10	33,430	26,092	6,596	742
659.8 Workers Compensation	6	55,176	41,189	12,497	1,490
666.8 Amortization of Rate Case	9	8,220	6,202	1,828	190
675.8 Miscellaneous Expense	10	207,300	161,798	40,900	4,602
<b>TOTAL A &amp; G EXPENSE</b>		<b>991,285</b>	<b>773,581</b>	<b>195,534</b>	<b>22,170</b>
<b>Total Operation &amp; Maintenance Expenses</b>		<b>2,457,611</b>	<b>1,892,349</b>	<b>508,526</b>	<b>56,737</b>

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
<b>DEPRECIATION EXPENSE</b>					
354.20 Structures and Improvements - Collection	2	1,842	1,402	385	54
354.30 Structures and Improvements -Pumping	2	36,127	27,511	7,558	1,059
354.40 Structures and Improvements - Treatment	3	1,623,254	1,175,885	404,353	43,016
354.70 Structures and Improvements - General	2	0	0	0	0
355.00 Power Generation Equipment	2	1,530	1,165	320	45
360.10 Force Mains	3	18,610	13,481	4,636	493
361.10 Gravity Mains	3	651,599	472,018	162,313	17,267
361.20 Manholes	3	406,285	294,313	101,206	10,767
363.00 Service Laterals	4	716,382	656,707	59,245	430
364.00 Flow Measuring Devices	2	3,927	2,990	822	115
365.00 Flow Measuring Devices - Installations	2	11,266	8,579	2,357	330
370.00 Receiving Wells	2	0	0	0	0
371.00 Pumping Equipment	2	26,848	20,445	5,617	787
380.00 Treatment Equipment	3	29,705.0	21,518	7,400	787
381.00 Plant Sewers	1	0	0	0	0
382.00 Outfall Sewers	1	0	0	0	0
389.10 Other Plant and Misc. Equip. - Intangible	10	22,037	17,200	4,348	489
390.00 Office Furniture and Equipment	10	4,161	3,248	821	92
391.00 Transportation Equipment	10	263	205	52	6
392.00 Stores Equipment	10	0	0	0	0
393.00 Tools, Shop and Garage Equipment	10	17,413	13,591	3,436	387
394.00 Laboratory Equipment	1	10,703	7,753	2,666	284
395.00 Power Operated Equipment	10	0	0	0	0
396.00 Communication Equipment	10	17,780	13,877	3,508	395
397.00 Miscellaneous Equipment	10	21,876	17,074	4,316	486
<b>Total Depreciation Expense</b>		<b>3,621,605</b>	<b>2,768,962</b>	<b>775,356</b>	<b>77,287</b>

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
<b>Amortization Expense</b>					
	8	30,983	23,104	7,138	740
<b>Taxes Other Than Income</b>					
685100 Utility Reg Assessment Fee	9	81,633	61,592	18,155	1,886
685200 Property Taxes	8	356,535	265,868	82,146	8,521
685320 Payroll Taxes	6	45,560	34,011	10,319	1,230
<b>Total Taxes, Other Than Income</b>		483,728	361,470	110,620	11,637
<b>Total Operating Expense</b>		6,593,927	5,045,885	1,401,640	146,402
4091 Income Taxes	8	1,753,663	1,307,706	404,044	41,913
<b>Utility Income Available for Return</b>	8	6,782,915	5,058,020	1,562,784	162,112
<b>Total Cost of Service</b>		15,130,505	11,411,611	3,368,468	350,426
<b>Less: Misc Revenues</b>	9	88,720	66,939	19,731	2,049
<b>Less: Sludge Revenues</b>	1	955,584	692,225	238,036	25,323
<b>Less: Cost of Service Recovered from Water Rates</b>	9A	4,059,372	3,135,053	924,319	0
<b>Less: Cost of Service Recovered from Water Rates - Penalties</b>	9A		0	0	0
<b>Total Cost of Service Related to Sales of Wastewater Services</b>		10,026,829	7,517,394	2,186,382	323,053

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1. ALLOCATION OF COSTS ASSOCIATED WITH WASTEWATER TREATMENT

Factors are based on the pro forma test year average daily consumption for each customer classification with adjustments. The detail regarding calculation of adjusted flows can be found on the following page.

Classification (1)	Total Adjusted Average Daily Customer Flow 100 gallons (a) (2)	I&I Gallons Per Day 100 gallons (b) (3)	Total I&I And Average Flow (4)=(2)+(3)	Allocation Factor (7)
Residential	8,136	25,867	34,003	0.7244
Non-Residential	5,588	6,103	11,691	0.2491
Bulk Customer	1,038	208	1,246	0.0265
Total	14,762	32,178	46,940	1.0000

(a) Customer Flow.

(b) Allocation based on Factor 1A for Residential, Non-Residential and Large Industrial.

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 (1)	Total Adjusted Average Daily Flow 100 gallons (2)	Average Daily Flow Factor (3)	Weight (4)=(3) x 0.3333	Number of Service Equivalents (5)	Number of Customers Factor (6)	Weight (7)=(6) x 0.6667	Allocation Factor (8)=(4)+(7)
Residential	8,136	0.5928	0.1976	7,592	0.9172	0.6115	0.8091
Non-Residential	5,588	0.4072	0.1357	685	0.0828	0.0552	0.1909
Total	13,724	1.0000	0.3333	8,277	1.0000	0.6667	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH THE COLLECTION SYSTEM

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

Customer Classification (1)	Ave. Flow Consumption, 100 gpd (2)	Peak I&I Flow 100 gallons (a) (3)	Total Peak I&I And Average (4)=(2)+(3)	Allocation Factor (5)
Residential	8,136	86,332	94,469	0.7615
Non-Residential	5,588	20,369	25,957	0.2092
Bulk Customer	1,038	2,596	3,634	0.0293
Total	14,762	109,298	124,060	1.0000

(a) Allocation based on Factor 1A.

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 3. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PROJECTED AVERAGE DAILY FLOW INCLUDING INFILTRATION AND INFLOW

Factors are based on the projected average daily consumption for each customer classification.

Classification (1)	Total Average Daily Flow 100 gallons (2)	Direct I&I Gallons Per Day 100 gallons (a) (3)	Total Direct I&I And Average (4)=(2)+(3)	Allocation Factor (7)
Residential	8,136	25,867	34,003	0.7244
Non-Residential	5,588	6,103	11,691	0.2491
Bulk Customer	1,038	208	1,246	0.0265
Total	14,762	32,178	46,940	1.0000

(a) Allocation based on Factor 1A.

FACTOR 3A. NOT USED IN THIS ALLOCATION

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 4. 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 (a) (3)	Service Equivalents (2)X(3)=(4)	Allocation Factor (5)
Residential	7,592	1.0	7,592	0.9167
Non-Residential	274	2.5	685	0.0827
Bulk Customer	1	5.0	5	0.0006
Total	7,867		8,282	1.0000

(a) Based on ratio by class for Coatesville service area.

FACTOR 5. 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	7,592	0.9651
Non-Residential	274	0.0348
Bulk Customer	1	0.0001
Total	7,867	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 6. 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	\$ 426,712	0.7465
Non-Residential	129,488	0.2265
Bulk Customer	15,428	0.0270
Total	<u>\$ 571,628</u>	<u>1.0000</u>

FACTOR 7. 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	\$ 67,219,872	0.7456
Non-Residential	20,774,620	0.2305
Bulk Customer	2,153,152	0.0239
Total	<u>\$ 90,147,644</u>	<u>1.0000</u>



PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 8. 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	\$ 67,804,186	0.7457
Non-Residential	20,948,097	0.2304
Bulk Customer	2,171,518	0.0239
Total	<u>\$ 90,923,801</u>	<u>1.0000</u>

FACTOR 9. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS AND 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
(1)	(2)	(3)
Residential	\$ 11,054,845	0.7545
Non-Residential	3,259,201	0.2224
Bulk Customer	339,088	0.0231
Total	<u>\$ 14,653,134</u>	<u>1.0000</u>

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
<b><u>RATE BASE</u></b>					
352.00 Franchises	7	0	0	0	0
353.20 Land and Land Rights - Collection	2	749,405	570,672	156,775	21,958
353.30 Land and Land Rights - Pumping	2	99,930	76,097	20,905	2,928
353.40 Land and Land Rights - Treatment	3	2,261,697	1,638,373	563,389	59,935
354.20 Structures and Improvements - Collection	2	68,240	51,965	14,276	1,999
354.30 Structures and Improvements - Pumping	2	1,044,177	795,141	218,442	30,594
354.40 Structures and Improvements - Treatment	3	42,418,951	30,728,288	10,566,561	1,124,102
354.70 Structures and Improvements - General	2	0	0	0	0
355.00 Power Generation Equipment	2	20,652	15,726	4,320	605
360.10 Force Mains	3	862,042	624,463	214,735	22,844
361.10 Gravity Mains	3	25,370,096	18,378,097	6,319,691	672,308
361.20 Manholes	3	5,820,194	4,216,148	1,449,810	154,235
363.00 Service Laterals	4	9,199,136	8,432,848	760,769	5,519
364.00 Flow Measuring Devices	2	15,762	12,003	3,297	462
365.00 Flow Measuring Devices - Installations	2	48,037	36,580	10,049	1,407
370.00 Receiving Wells	2	0	0	0	0
371.00 Pumping Equipment	2	405,212	308,569	84,770	11,873
380.00 Treatment Equipment	3	721,137	522,391	179,635	19,110
381.00 Plant Sewers	1	0	0	0	0
382.00 Outfall Sewer Lines	1	0	0	0	0
389.10 Other Plant and Misc. Equip. - Intangible	10	99,167	77,399	19,566	2,201
390.00 Office Furniture and Equipment	10	51,677	40,334	10,196	1,147
391.00 Transportation Equipment	10	1,432	1,118	283	32
392.00 Stores Equipment	10	0	0	0	0
393.00 Tools, Shop and Garage Equipment	10	310,947	242,694	61,350	6,903
394.00 Laboratory Equipment	1	27,340	19,805	6,810	725
395.00 Power Operated Equipment	10	0	0	0	0
396.00 Communication Equipment	10	246,927	192,726	48,719	5,482
397.00 Miscellaneous Equipment	10	305,489	238,434	60,273	6,782
398.00 Other Tangible Plant	10	0	0	0	0
<b>TOTAL SEWER UTILITY PLANT IN SERVICE</b>		<b>90,147,644</b>	<b>67,219,872</b>	<b>20,774,620</b>	<b>2,153,152</b>

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
Other Rate Base Items:					
Overheads and AFUCD	7		0	0	0
Cash Working Capital - Expenses	11	229,997	177,098	47,586	5,313
Cash Working Capital - Int and Div	7	(209,951)	(156,539)	(48,394)	(5,018)
Materials and Supplies	7	24,385	18,181	5,621	583
Acquisition Adjustment	7	1,039,711	775,209	239,653	24,849
Deferred, Accrued and Prepaid Taxes	7	(307,985)	(229,634)	(70,991)	(7,361)
Total Other Rate Base Elements		776,157	584,315	173,476	18,366
<b>Total Original Cost Measure of Value</b>		<b>\$ 90,923,801</b>	<b>\$ 67,804,186</b>	<b>\$ 20,948,097</b>	<b>\$ 2,171,518</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 9A. ALLOCATION OF REVENUE FROM WATER RATES

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
(1)	(2)	(3)
Residential	\$ 11,054,845	0.7723
Non-Residential	3,259,201	0.2277
Bulk Customer		0.0000
Total	<u>\$ 14,314,046</u>	<u>1.000</u>

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 10. 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	\$ 781,170	0.7805
Non-Residential	197,515	0.1973
Bulk Customer	22,200	0.0222
Total	<u>\$ 1,000,885</u>	<u>1.0000</u>

FACTOR 11. 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	\$ 1,886,147	0.7700
Commercial	506,698	0.2069
Bulk Customer	56,547	0.0231
Total	<u>\$ 2,449,391</u>	<u>1.0000</u>

WASTEWATER COST OF SERVICE  
ALLOCATION STUDY  
AS OF DECEMBER 31, 2022

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

Customer Classification (1)	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
Residential	\$ 7,904,522	74.8%	\$ 6,398,598	64.6%	\$ 6,833,725	64.7%	\$ 435,127	6.8%
Non-Residential	2,326,826	22.0%	3,355,366	33.9%	3,567,102	33.8%	211,736	6.3%
Bulk Customer	330,433	3.1%	151,539	1.5%	160,954	1.5%	9,415	6.2%
Total Sales	10,561,781	99.9%	9,905,503	100.0%	10,561,781	100.0%	656,278	6.6%
Other Revenues COS Recovered from Water Rates	1,045,525 3,719,978		1,043,547		1,045,525		1,978 0	0.2%
Total	\$ 15,327,284		\$ 10,949,050		\$ 11,607,306		\$ 658,256	6.0%

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

ITEM (1)	COST OF SERVICE (2)	RESIDENTIAL (3)	NON-RESIDENTIAL (4)	BULK CUSTOMER (5)
1. REVENUES FROM SALES	9,905,503	6,398,598	3,355,366	151,539
2. OTHER REVENUES	1,043,547	756,961	259,211	27,375
3. TOTAL OPERATING REVENUES	10,949,050	7,155,558	3,614,577	178,914
4. LESS: OPERATING EXPENSES (NET OF COST OF SERVICE RECOVERED FROM WATER)	6,859,323	5,233,784	1,471,558	153,980
5. RETURN AND INCOME TAXES	4,089,727	1,921,774	2,143,019	24,934
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	1,795,838	1,334,719	417,842	43,276
7. TAXABLE INCOME	2,293,889	587,055	1,725,177	(18,343)
8. LESS: INCOME TAXES (TAX. INC.)	1,601,920	409,965	1,204,764	(12,809)
9. NET RETURN (Line 5 - Line 8)	2,487,807	1,511,809	938,255	37,743
10. ORIGINAL COSTS MEASURE OF VALUE	90,749,414	67,447,621	21,114,902	2,186,891
11. RATE OF RETURN, PERCENT	2.74	2.24	4.44	1.73
12. RELATIVE RATE OF RETURN	1.00	0.82	1.62	0.63



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

ITEM (1)	COST OF SERVICE (2)	RESIDENTIAL (3)	NON-RESIDENTIAL (4)	BULK CUSTOMER (5)
1. REVENUES FROM SALES	10,561,781	6,833,725	3,567,102	160,954
2. OTHER REVENUES	1,045,525	758,440	259,664	27,421
3. TOTAL OPERATING REVENUES	11,607,306	7,592,165	3,826,766	188,375
4. LESS: OPERATING EXPENSES (NET OF COST OF SERVICE RECOVERED FROM WATER)	3,145,025	2,373,795	617,316	153,913
5. RETURN AND INCOME TAXES	8,462,281	5,218,370	3,209,449	34,462
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	1,795,940	1,334,830	417,836	43,274
7. TAXABLE INCOME	6,666,341	3,883,540	2,791,613	(8,812)
8. LESS: INCOME TAXES (TAX. INC.)	1,692,375	985,909	708,703	(2,237)
9. NET RETURN (Line 5 - Line 8)	6,769,906	4,232,461	2,500,746	36,699
10. ORIGINAL COSTS MEASURE OF VALUE	90,749,414	67,449,386	21,113,396	2,186,632
11. RATE OF RETURN, PERCENT	7.46	6.28	11.84	1.68
12. RELATIVE RATE OF RETURN	1.00	0.84	1.59	0.22

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS

COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
<b>OPERATION AND MAINTENANCE EXPENSES</b>					
<b>SEWAGE TREATMENT</b>					
601.3 Salary and Wages	1	276,384	199,798	69,262	7,324
601.4 Salary and Wages	1	4,852	3,508	1,216	129
615.3 Purchased Power	1	259,698	187,736	65,080	6,882
618.3 Chemicals	1	168,133	121,543	42,134	4,456
620.3 Materials and Supplies - Operation	1	17,999	13,011	4,511	477
631.3 Contractual Services - Engineering	1	0	0	0	0
635.3 Contract Services Test	1	37,200	26,892	9,322	986
636.3 Contract Services - Operation	1	17,025	12,307	4,266	451
642.3 Rental of Equipment	1	0	0	0	0
650.3 Transportation	1	0	0	0	0
620.4 Materials and Supplies - Maintenance	1	0	0	0	0
636.4 Contract Services - Maintenance	1	975	705	244	26
650.4 Transportation	1	0	0	0	0
675.3 Misc. Operating Expense - Waste Disposal	1	28,413	20,540	7,120	753
675.4 Misc. Operating Expense	1	201,419	145,606	50,476	5,338
<b>TOTAL SEWAGE TREATMENT EXPENSE</b>		<b>1,012,098</b>	<b>731,646</b>	<b>253,632</b>	<b>26,821</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS

COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
<b>COLLECTION</b>					
601.5 Salary and Wages	2	186,767	141,924	39,370	5,472
601.6 Salary and Wages	2	42,048	31,952	8,864	1,232
615.5 Purchased Power	2	11,435	8,689	2,410	335
620.5 Materials and Supplies	2	0	0	0	0
636.5 Contract Services	2	0	0	0	0
642.5 Rental of Equipment	2	123	93	26	4
<b>TOTAL T &amp; D EXPENSE OPERATION</b>		<b>240,373</b>	<b>182,659</b>	<b>50,671</b>	<b>7,043</b>
<b>MAINTENANCE</b>					
620.6 Materials and Supplies	2	12,935	9,829	2,727	379
636.6 Contract Services	2	18,000	13,678	3,794	527
675.6 Miscellaneous Maintenance Expense	2	15,000	11,399	3,162	440
675.5 Miscellaneous Operating Expense	2	0	0	0	0
<b>TOTAL T &amp; D EXPENSE - MAINTENANCE</b>		<b>45,935</b>	<b>34,906</b>	<b>9,683</b>	<b>1,346</b>
<b>TOTAL COLLECTION EXPENSE</b>		<b>286,308</b>	<b>217,565</b>	<b>60,354</b>	<b>8,389</b>
<b>CUSTOMER ACCOUNTS</b>					
601.7 Salary and Wages	5	0	0	0	0
670.7 Bad Debts	5	184,694	178,248	6,427	18
675.7 Miscellaneous Expense	5	9,744	9,404	339	1
<b>TOTAL CUSTOMER ACCOUNTING EXPENSE</b>		<b>194,438</b>	<b>187,652</b>	<b>6,766</b>	<b>19</b>

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
<b>ADMINISTRATIVE AND GENERAL EXPENSES</b>					
601.8 Salaries and Wages	10	81,613	63,560	16,241	1,812
603.8 Salaries of Officers	10	0	0	0	0
604.8 Employee Pension & Benefits	6	175,573	130,784	40,048	4,740
615.8 Purchased Power	10	0	0	0	0
620.8 Materials and Supplies	10	0	0	0	0
632.8 Contractual Services - Accounting	10	0	0	0	0
634.8 Contractual Services - Management					
Customer Related	5	45,506	43,918	1,584	5
Employee Related	6	12,815	9,546	2,923	346
Lab Testing	1	1,309	946	328	35
Other	10	106,943	83,287	21,282	2,374
636.8 Contractual Services	10	35,000	27,258	6,965	777
642.8 Rental of Equipment	10	0	0	0	0
650.8 Transportation	10	30,470	23,730	6,064	676
656.8 Insurance Vehicles	10	5,007	3,899	996	111
657.8 Insurance	10	213,076	165,944	42,402	4,730
658.8 Advertising	10	34,098	26,556	6,786	757
659.8 Workers Compensation	6	56,279	41,922	12,837	1,520
666.8 Amortization of Rate Case	9	8,220	6,185	1,844	192
675.8 Miscellaneous Expense	10	207,300	161,445	41,253	4,602
<b>TOTAL A &amp; G EXPENSE</b>		<b>1,013,210</b>	<b>788,981</b>	<b>201,552</b>	<b>22,677</b>
<b>Total Operation &amp; Maintenance Expenses</b>		<b>2,506,054</b>	<b>1,925,845</b>	<b>522,304</b>	<b>57,906</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS

COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
<b>DEPRECIATION EXPENSE</b>					
354.20 Structures and Improvements - Collection	2	1,840	1,398	388	54
354.30 Structures and Improvements -Pumping	2	37,880	28,785	7,985	1,110
354.40 Structures and Improvements - Treatment	3	1,589,544	1,149,081	398,340	42,123
354.70 Structures and Improvements - General	2	0	0	0	0
355.00 Power Generation Equipment	2	1,407	1,069	297	41
360.10 Force Mains	3	18,482	13,361	4,632	490
361.10 Gravity Mains	3	685,025	495,205	171,667	18,153
361.20 Manholes	3	374,374	270,635	93,818	9,921
363.00 Service Laterals	4	652,535	598,179	53,965	392
364.00 Flow Measuring Devices	2	2,564	1,948	540	75
365.00 Flow Measuring Devices - Installations	2	8,248	6,268	1,739	242
370.00 Receiving Wells	2	0	0	0	0
371.00 Pumping Equipment	2	34,570	26,270	7,287	1,013
380.00 Treatment Equipment	3	38,998.0	28,192	9,773	1,033
381.00 Plant Sewers	1	0	0	0	0
382.00 Outfall Sewers	1	0	0	0	0
389.10 Other Plant and Misc. Equip. - Intangible	10	318,166	247,788	63,315	7,063
390.00 Office Furniture and Equipment	10	4,676	3,642	931	104
391.00 Transportation Equipment	10	204	159	41	5
392.00 Stores Equipment	10	0	0	0	0
393.00 Tools, Shop and Garage Equipment	10	23,416	18,236	4,660	520
394.00 Laboratory Equipment	1	5,191	3,753	1,301	138
395.00 Power Operated Equipment	10	0	0	0	0
396.00 Communication Equipment	10	18,480	14,392	3,678	410
397.00 Miscellaneous Equipment	10	22,571	17,578	4,492	501
<b>Total Depreciation Expense</b>		<b>3,838,171</b>	<b>2,925,938</b>	<b>828,846</b>	<b>83,387</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS

COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
<b>Amortization Expense</b>					
	8	30,983	23,027	7,210	747
<b>Taxes Other Than Income</b>					
685100 Utility Reg Assessment Fee	9	82,767	62,274	18,565	1,928
685200 Property Taxes	8	359,935	267,503	83,757	8,674
685320 Payroll Taxes	6	47,093	35,080	10,742	1,272
<b>Total Taxes, Other Than Income</b>		489,795	364,857	113,063	11,874
<b>Total Operating Expense</b>		6,865,003	5,239,666	1,471,423	153,913
4091 Income Taxes	8	1,692,375	1,257,773	393,816	40,786
<b>Utility Income Available for Return</b>	8	6,769,906	5,031,394	1,575,357	163,155
<b>Total Cost of Service</b>		15,327,284	11,528,834	3,440,596	357,854
<b>Less: Misc Revenues</b>	9	89,161	67,085	19,999	2,077
<b>Less: Sludge Revenues</b>	1	956,364	691,356	239,665	25,344
<b>Less: Cost of Service Recovered from Water Rates</b>	9A	3,719,978	2,865,871	854,107	0
<b>Less: Cost of Service Recovered from Water Rates - Penalties</b>	9A		0	0	0
<b>Total Cost of Service Related to Sales of Wastewater Services</b>		10,561,781	7,904,522	2,326,826	330,433

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1. ALLOCATION OF COSTS ASSOCIATED WITH WASTEWATER TREATMENT

Factors are based on the pro forma test year average daily consumption for each customer classification with adjustments. The detail regarding calculation of adjusted flows can be found on the following page.

Classification (1)	Total Adjusted Average Daily Customer Flow 100 gallons (a) (2)	I&I Gallons Per Day 100 gallons (b) (3)	Total I&I And Average Flow (4)=(2)+(3)	Allocation Factor (7)
Residential	7,959	25,971	33,930	0.7229
Non-Residential	5,573	6,191	11,764	0.2506
Bulk Customer	1,038	208	1,246	0.0265
Total	14,570	32,370	46,940	1.0000

(a) Customer Flow.

(b) Allocation based on Factor 1A for Residential, Non-Residential and Large Industrial.

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 (1)	Total Adjusted Average Daily Flow 100 gallons (2)	Average Daily Flow Factor (3)	Weight (4)=(3) x 0.3333	Number of Service Equivalents (5)	Number of Customers Factor (6)	Weight (7)=(6) x 0.6667	Allocation Factor (8)=(4)+(7)
Residential	7,959	0.5882	0.1960	7,592	0.9172	0.6115	0.8075
Non-Residential	5,573	0.4118	0.1373	685	0.0828	0.0552	0.1925
Total	13,531	1.0000	0.3333	8,277	1.0000	0.6667	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH THE COLLECTION SYSTEM

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

Customer Classification (1)	Ave. Flow Consumption, 100 gpd (2)	Peak I&I Flow 100 gallons (a) (3)	Total Peak I&I And Average (4)=(2)+(3)	Allocation Factor (5)
Residential	7,959	86,317	94,276	0.7599
Non-Residential	5,573	20,577	26,150	0.2108
Bulk Customer	1,038	2,596	3,634	0.0293
Total	14,570	109,490	124,060	1.0000

(a) Allocation based on Factor 1A.



PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 3. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PROJECTED AVERAGE DAILY FLOW INCLUDING INFILTRATION AND INFLOW

Factors are based on the projected average daily consumption for each customer classification.

Classification (1)	Total Average Daily Flow 100 gallons (2)	Direct I&I Gallons Per Day 100 gallons (a) (3)	Total Direct I&I And Average (4)=(2)+(3)	Allocation Factor (7)
Residential	7,959	25,971	33,930	0.7229
Non-Residential	5,573	6,191	11,764	0.2506
Bulk Customer	1,038	208	1,246	0.0265
Total	14,570	32,370	46,940	1.0000

(a) Allocation based on Factor 1A.

FACTOR 3A. NOT USED IN THIS ALLOCATION

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 4. 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 (a) (3)	Service Equivalents (2)X(3)=(4)	Allocation Factor (5)
Residential	7,592	1.0	7,592	0.9167
Non-Residential	274	2.5	685	0.0827
Bulk Customer	1	5.0	5	0.0006
Total	7,867		8,282	1.0000

(a) Based on ratio by class for Coatesville service area.

FACTOR 5. 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	7,592	0.9651
Non-Residential	274	0.0348
Bulk Customer	1	0.0001
Total	7,867	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 6. 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	\$ 440,742	0.7449
Non-Residential	134,953	0.2281
Bulk Customer	15,969	0.0270
Total	<u>\$ 591,664</u>	<u>1.0000</u>

FACTOR 7. 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	\$ 66,933,010	0.7432
Non-Residential	20,959,435	0.2327
Bulk Customer	2,170,323	0.0241
Total	<u>\$ 90,062,768</u>	<u>1.0000</u>

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 8. 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	\$ 67,449,386	0.7432
Non-Residential	21,113,396	0.2327
Bulk Customer	2,186,632	0.0241
Total	<u>\$ 90,749,414</u>	<u>1.0000</u>

FACTOR 9. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS AND 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
(1)	(2)	(3)
Residential	\$ 11,169,845	0.7524
Non-Residential	3,329,221	0.2243
Bulk Customer	346,313	0.0233
Total	<u>\$ 14,845,379</u>	<u>1.0000</u>

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS

COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
<b><u>RATE BASE</u></b>					
352.00 Franchises	7	0	0	0	0
353.20 Land and Land Rights - Collection	2	749,405	569,473	157,975	21,958
353.30 Land and Land Rights - Pumping	2	99,930	75,937	21,065	2,928
353.40 Land and Land Rights - Treatment	3	2,261,697	1,634,981	566,781	59,935
354.20 Structures and Improvements - Collection	2	66,232	50,330	13,962	1,941
354.30 Structures and Improvements - Pumping	2	1,096,471	833,208	231,136	32,127
354.40 Structures and Improvements - Treatment	3	40,998,816	29,638,044	10,274,303	1,086,469
354.70 Structures and Improvements - General	2	0	0	0	0
355.00 Power Generation Equipment	2	18,377	13,965	3,874	538
360.10 Force Mains	3	834,100	602,971	209,025	22,104
361.10 Gravity Mains	3	26,491,164	19,150,462	6,638,686	702,016
361.20 Manholes	3	5,304,714	3,834,778	1,329,361	140,575
363.00 Service Laterals	4	8,246,601	7,559,659	681,994	4,948
364.00 Flow Measuring Devices	2	10,139	7,705	2,137	297
365.00 Flow Measuring Devices - Installations	2	31,674	24,069	6,677	928
370.00 Receiving Wells	2	0	0	0	0
371.00 Pumping Equipment	2	552,460	419,814	116,459	16,187
380.00 Treatment Equipment	3	937,717	677,876	234,992	24,850
381.00 Plant Sewers	1	0	0	0	0
382.00 Outfall Sewer Lines	1	0	0	0	0
389.10 Other Plant and Misc. Equip. - Intangible	10	1,379,933	1,074,692	274,607	30,635
390.00 Office Furniture and Equipment	10	55,370	43,122	11,019	1,229
391.00 Transportation Equipment	10	1,051	819	209	23
392.00 Stores Equipment	10	0	0	0	0
393.00 Tools, Shop and Garage Equipment	10	400,171	311,653	79,634	8,884
394.00 Laboratory Equipment	1	13,889	10,040	3,481	368
395.00 Power Operated Equipment	10	0	0	0	0
396.00 Communication Equipment	10	230,219	179,295	45,814	5,111
397.00 Miscellaneous Equipment	10	282,638	220,118	56,245	6,275
398.00 Other Tangible Plant	10	0	0	0	0
<b>TOTAL SEWER UTILITY PLANT IN SERVICE</b>		<b>90,062,768</b>	<b>66,933,010</b>	<b>20,959,435</b>	<b>2,170,323</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS

COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022, ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)	Bulk Customer (6)
Other Rate Base Items:					
Overheads and AFUCD	7		0	0	0
Cash Working Capital - Expenses	11	239,538	184,085	49,920	5,533
Cash Working Capital - Int and Div	7	(205,156)	(152,472)	(47,740)	(4,944)
Materials and Supplies	7	24,385	18,123	5,674	588
Acquisition Adjustment	7	1,000,228	743,369	232,753	24,105
Deferred, Accrued and Prepaid Taxes	7	(372,349)	(276,730)	(86,646)	(8,974)
Total Other Rate Base Elements		686,646	516,376	153,962	16,309
<b>Total Original Cost Measure of Value</b>		<b>\$ 90,749,414</b>	<b>\$ 67,449,386</b>	<b>\$ 21,113,396</b>	<b>\$ 2,186,632</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 9A. ALLOCATION OF REVENUE FROM WATER RATES

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
(1)	(2)	(3)
Residential	\$ 11,169,845	0.7704
Non-Residential	3,329,221	0.2296
Bulk Customer		0.0000
Total	<u>\$ 14,499,066</u>	<u>1.000</u>

PENNSYLVANIA AMERICAN WATER COMPANY  
EXETER WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 10. 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	\$ 798,356	0.7788
Non-Residential	204,007	0.1990
Bulk Customer	22,803	0.0222
Total	<u>\$ 1,025,166</u>	<u>1.0000</u>

FACTOR 11. 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	\$ 1,919,660	0.7685
Commercial	520,460	0.2084
Bulk Customer	57,714	0.0231
Total	<u>\$ 2,497,834</u>	<u>1.0000</u>



**EXHIBIT NO. 12-E -**

**SADSBURY WASTEWATER SSS OPERATIONS**

**COST OF SERVICE AS OF DECEMBER 31, 2021**

**AND DECEMBER 31, 2022**

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

SADSBURY WASTEWATER SSS OPERATIONS

WASTEWATER COST OF SERVICE

ALLOCATION STUDY

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

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania

WASTEWATER COST OF SERVICE  
ALLOCATION STUDY  
AS OF DECEMBER 31, 2021

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

Customer Classification (1)	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
Residential	\$ 828,134	86.9%	\$ 880,025	86.9%	\$ 824,472	86.5%	\$ (55,553)	-6.3%
Non-Residential	124,478	13.1%	132,898	13.1%	128,141	13.5%	(4,757)	-3.6%
Total Sales	952,612	100.0%	1,012,922	100.0%	952,612	100.0%	(60,310)	-6.0%
Other Revenues	7,241		6,324		7,241		917	14.5%
COS Recovered from Water Rates	770,451						0	
Total	\$ 1,730,304		\$ 1,019,246		\$ 959,853		\$ (59,393)	-5.8%

PENNSYLVANIA-AMERICAN WATER COMPANY  
SADSBURY WASTEWATER SSS OPERATIONS  
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	1,012,922	880,025	132,898
2. OTHER REVENUES	6,324	5,531	793
3. TOTAL OPERATING REVENUES	1,019,246	885,556	133,691
4. LESS: OPERATING EXPENSES (NET OF COST OF SERVICE RECOVERED FROM WATER)	932,156	813,786	118,370
5. RETURN AND INCOME TAXES	87,090	71,770	15,321
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	167,065	145,251	21,814
7. TAXABLE INCOME	(79,975)	(73,481)	(6,494)
8. LESS: INCOME TAXES (TAX. INC.)	137,765	126,578	11,187
9. NET RETURN (Line 5 - Line 8)	(50,675)	(54,809)	4,134
10. ORIGINAL COSTS MEASURE OF VALUE	8,266,613	7,187,202	1,079,411
11. RATE OF RETURN, PERCENT	(0.61)	(0.76)	0.38
12. RELATIVE RATE OF RETURN	1.00	1.24	(0.62)

PENNSYLVANIA-AMERICAN WATER COMPANY  
SADSBURY WASTEWATER SSS OPERATIONS  
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	952,612	824,472	128,141
2. OTHER REVENUES	7,241	6,331	910
3. TOTAL OPERATING REVENUES	959,853	830,802	129,051
4. LESS: OPERATING EXPENSES (NET OF COST OF SERVICE RECOVERED FROM WATER)	163,486	142,104	21,383
5. RETURN AND INCOME TAXES	796,367	688,699	107,668
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	167,113	145,293	21,820
7. TAXABLE INCOME	629,254	543,406	85,848
8. LESS: INCOME TAXES (TAX. INC.)	179,678	155,165	24,513
9. NET RETURN (Line 5 - Line 8)	616,689	533,534	83,155
10. ORIGINAL COSTS MEASURE OF VALUE	8,266,613	7,187,244	1,079,369
11. RATE OF RETURN, PERCENT	7.46	7.42	7.70
12. RELATIVE RATE OF RETURN	1.00	1.00	1.03

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
<b>OPERATION AND MAINTENANCE EXPENSES</b>				
<b>SEWAGE TREATMENT</b>				
601.3 Salary and Wages	1	11,148	9,656	1,492
601.4 Salary and Wages	1	1,224	1,060	164
615.3 Purchased Power	1	8,545	7,402	1,143
<b>TOTAL SEWAGE TREATMENT EXPENSE</b>		20,917	18,118	2,799
<b>COLLECTION</b>				
601.5 Salary and Wages	2	1,250	1,095	155
601.6 Salary and Wages	2	1,837	1,609	228
615.5 Purchased Power	2	472	413	59
620.5 Materials and Supplies	2	2,400	2,102	298
636.5 Contract Services	2	0	0	0
642.5 Rental of Equipment	2	0	0	0
<b>TOTAL T &amp; D EXPENSE OPERATION</b>		5,959	5,219	740
620.6 Materials and Supplies	2	0	0	0
636.6 Contract Services	2	0	0	0
675.6 Miscellaneous Maintenance Expense	2	0	0	0
675.5 Miscellaneous Operating Expense	2	0	0	0
<b>TOTAL T &amp; D EXPENSE - MAINTENANCE</b>		0	0	0
<b>TOTAL COLLECTION EXPENSE</b>		5,959	5,219	740
<b>CUSTOMER ACCOUNTS</b>				
601.7 Salary and Wages	5	0	0	0
670.7 Bad Debts	5	14,064	13,516	548
675.7 Miscellaneous Expense	5	669	643	26

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
<b>TOTAL CUSTOMER ACCOUNTING EXPENSE</b>		14,733	14,158	575
<b>ADMINISTRATIVE AND GENERAL EXPENSES</b>				
601.8 Salaries and Wages	10	3,611	3,289	322
603.8 Salaries of Officers	10	0	0	0
604.8 Employee Pension & Benefits	6	4,489	3,933	556
634.8 Contractual Services - Management				
Customer Related	5	7,861	7,554	307
Employee Related	6	2,229	1,953	276
Lab Testing	1	228	197	30
Other	10	18,825	17,144	1,681
636.8 Contractual Services	10	7,020	6,393	627
650.8 Transportation	10	4,254	3,874	380
656.8 Insurance Vehicles	10	451	411	40
657.8 Insurance	10	19,187	17,474	1,713
658.8 Advertising	10	3,070	2,796	274
659.8 Workers Compensation	6	5,067	4,440	627
666.8 Amortization of Rate Case	9	1,473	1,288	185
675.8 Miscellaneous Expense	10	14,499	13,204	1,295
<b>TOTAL A &amp; G EXPENSE</b>		92,264	83,950	8,314
<b>Total Operation &amp; Maintenance Expenses</b>		133,873	121,446	12,427
<b>DEPRECIATION EXPENSE</b>				
354.20 Structures and Improvements - Collection	2	0	0	0
354.30 Structures and Improvements -Pumping	2	6,549	5,736	813
355.00 Power Generation Equipment	2	1,877	1,644	233
360.10 Force Mains	3	3,034	2,628	406
361.10 Gravity Mains	3	113,065	97,936	15,128



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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
361.20 Manholes	3	29,342	25,416	3,926
363.00 Service Laterals	4	17,353	15,753	1,600
364.00 Flow Measuring Devices	2	10,780	9,442	1,338
371.00 Pumping Equipment	2	18,486	16,191	2,294
<b>Total Depreciation Expense</b>		<b>200,483</b>	<b>174,746</b>	<b>25,737</b>
<b>Amortization Expense</b>	8	27,024	23,495	3,529
<b>Allocation of Treatment Costs</b>	1	563,193	487,838	75,355
<b>Taxes Other Than Income</b>				
685100 Utility Reg Assessment Fee	9	6,723	5,878	845
685200 Property Taxes	8	1,119	972	146
685320 Payroll Taxes	6	1,523	1,334	189
<b>Total Taxes, Other Than Income</b>		<b>9,365</b>	<b>8,185</b>	<b>1,180</b>
<b>Total Operating Expense</b>		<b>933,937</b>	<b>815,709</b>	<b>118,228</b>
4091 Income Taxes	8	179,678	156,212	23,466
<b>Utility Income Available for Return</b>	8	<b>616,689</b>	<b>536,149</b>	<b>80,540</b>
<b>Total Cost of Service</b>		<b>1,730,304</b>	<b>1,508,070</b>	<b>222,234</b>
<b>Less: Other Revenues</b>	9	7,241	6,331	910
<b>Less: Cost of Service Recovered from Water Rates</b>	9	770,451	673,605	96,846
<b>Less: Cost of Service Recovered from Water Rates - Penalties</b>	9		0	0
<b>Total Cost of Service Related to Sales of Wastewater Services</b>		<b>952,612</b>	<b>828,134</b>	<b>124,478</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
SADSURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1. ALLOCATION OF COSTS ASSOCIATED WITH WASTEWATER TREATMENT

Factors are based on the pro forma test year average daily consumption for each customer classification with adjustments. The detail regarding calculation of adjusted flows can be found on the following page.

Classification (1)	Total Adjusted Average Daily Customer Flow 100 gallons (a) (2)	I&I Gallons Per Day 100 gallons (b) (3)	Total I&I And Average Flow (4)=(2)+(3)	Allocation Factor (7)
Residential	1,055	1,187	2,242	0.8662
Non-Residential	195	152	346	0.1338
Total	1,250	1,339	2,589	1.0000

(a) Customer Flow.

(b) Allocation based on Factor 1A for Residential and Non-Residential.

(c) Per 2010 I&I Study and allocation per prior cost of service study.

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 (1)	Total Adjusted Average Daily Flow 100 gallons (2)	Average Daily Flow Factor (3)	Weight (4)=(3) x 0.3333	Number of Service Equivalents (5)	Number of Customers Factor (6)	Weight (7)=(6) x 0.6667	Allocation Factor (8)=(4)+(7)
Residential	1,055	0.8443	0.2814	1,083	0.9078	0.6052	0.8866
Non-Residential	195	0.1557	0.0519	110	0.0922	0.0615	0.1134
Total	1,250	1.0000	0.3333	1,193	1.0000	0.6667	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY  
SADBURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH THE COLLECTION SYSTEM

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

Customer Classification (1)	Ave. Flow Consumption, 100 gpd (2)	Peak I&I Flow 100 gallons (a) (3)	Total Peak I&I And Average (4)=(2)+(3)	Allocation Factor (5)
Residential	1,055	3,259	4,314	0.8759
Non-Residential	195	417	611	0.1241
Total	1,250	3,676	4,925	1.0000

(a) Per I&I Study and allocation per 2010 cost of service study, allocated based on Factor 1A

PENNSYLVANIA AMERICAN WATER COMPANY  
SADSURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 3. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PROJECTED AVERAGE DAILY FLOW INCLUDING INFILTRATION AND INFLOW EXCLUDING BULK USERS

Factors are based on the projected average daily consumption for each customer classification.

Classification (1)	Total Average Daily Flow 100 gallons (2)	Direct I&I Gallons Per Day 100 gallons (a) (3)	Total Direct I&I And Average (4)=(2)+(3)	Allocation Factor (7)
Residential	1,055	1,187	2,242	0.8662
Non-Residential	195	152	346	0.1338
Total	1,250	1,339	2,589	1.0000

(a) Allocation based on Factor 1A.

FACTOR 3A. THIS ALLOCATION NOT USED.

PENNSYLVANIA AMERICAN WATER COMPANY  
SADSBURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 4. 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 (a) (3)	Service Equivalents (2)X(3)=(4)	Allocation Factor (5)
Residential	1,083	1.0	1,083	0.9078
Non-Residential	44	2.5	110	0.0922
Total	1,127		1,193	1.0000

(a) Based on ratio by class for Coatesville service area.

FACTOR 5. 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	1,083	0.9610
Non-Residential	44	0.0390
Total	1,127	1.00000

PENNSYLVANIA AMERICAN WATER COMPANY  
SADSBURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 6. 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	\$ 16,709	0.8762
Non-Residential	2,361	0.1238
Total	<u>\$ 19,070</u>	<u>1.0000</u>

FACTOR 7. 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	\$ 7,045,987	0.8693
Non-Residential	1,058,960	0.1307
Total	<u>\$ 8,104,947</u>	<u>1.0000</u>

PENNSYLVANIA AMERICAN WATER COMPANY  
SADSBURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 8. 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	\$ 7,187,244	0.8694
Non-Residential	1,079,369	0.1306
Total	<u>\$ 8,266,613</u>	<u>1.0000</u>

FACTOR 9. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS AND 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
(1)	(2)	(3)
Residential	\$ 988,600	0.8743
Non-Residential	142,173	0.1257
Total	<u>\$ 1,130,773</u>	<u>1.0000</u>

FACTOR 9A. THIS FACTOR NOT USED.

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
<b><u>RATE BASE</u></b>				
353.30 Land and Land Rights - Pumping	2	18,345	16,068	2,277
354.30 Structures and Improvements - Pumping	2	195,162	170,943	24,220
355.00 Power Generation Equipment	2	33,442	29,292	4,150
360.10 Force Mains	3	145,045	125,638	19,407
361.10 Gravity Mains	3	6,083,993	5,269,954	814,038
361.20 Manholes	3	847,522	734,123	113,398
363.00 Service Laterals	4	486,089	441,271	44,817
364.00 Flow Measuring Devices	2	62,509	54,751	7,757
371.00 Pumping Equipment	2	232,841	203,946	28,896
TOTAL SEWER UTILITY PLANT IN SERVICE		8,104,947	7,045,987	1,058,960
Other Rate Base Items:				
Cash Working Capital -Expenses	11	15,678	14,350	1,328
Cash Working Capital - Int and Div	7	(19,094)	(16,598)	(2,496)
Materials and Supplies	7	3,494	3,037	457
Acquisition Adjustment	7	248,046	215,626	32,420
Deferred, Accrued and Prepaid Taxes	7	(86,458)	(75,158)	(11,300)
Total Other Rate Base Elements		161,666	141,257	20,409
<b>Total Original Cost Measure of Value</b>		<b>8,266,613</b>	<b>7,187,244</b>	<b>1,079,369</b>



PENNSYLVANIA AMERICAN WATER COMPANY  
SADSBURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 10. 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	\$ 29,681	0.9107
Non-Residential	2,911	0.0893
Total	<u>\$ 32,592</u>	<u>1.0000</u>

FACTOR 11. 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	\$ 102,040	0.9153
Commercial	9,443	0.0847
Total	<u>\$ 111,483</u>	<u>1.0000</u>

WASTEWATER COST OF SERVICE  
ALLOCATION STUDY  
AS OF DECEMBER 31, 2022

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

Customer Classification (1)	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
Residential	\$ 867,531	86.8%	\$ 807,421	86.4%	\$ 862,858	86.3%	\$ 55,437	6.9%
Non-Residential	132,135	13.2%	126,984	13.6%	136,809	13.7%	9,825	7.7%
Total Sales	999,667	100.0%	934,405	100.0%	999,667	100.0%	65,262	7.0%
Other Revenues	7,035		7,127		7,035		(92)	-1.3%
COS Recovered from Water Rates	826,706						0	
Total	\$ 1,833,407		\$ 941,532		\$ 1,006,702		\$ 65,170	6.9%

PENNSYLVANIA-AMERICAN WATER COMPANY  
SADSBURY WASTEWATER SSS OPERATIONS  
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	934,405	807,421	126,984
2. OTHER REVENUES	7,127	6,227	900
3. TOTAL OPERATING REVENUES	941,532	813,648	127,884
4. LESS: OPERATING EXPENSES (NET OF COST OF SERVICE RECOVERED FROM WATER)	1,068,875	931,867	137,008
5. RETURN AND INCOME TAXES	(127,344)	(118,219)	(9,124)
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	158,112	137,369	20,743
7. TAXABLE INCOME	(285,456)	(255,589)	(29,867)
8. LESS: INCOME TAXES (TAX. INC.)	172,914	154,822	18,092
9. NET RETURN (Line 5 - Line 8)	(300,258)	(273,041)	(27,216)
10. ORIGINAL COSTS MEASURE OF VALUE	7,989,217	6,941,107	1,048,110
11. RATE OF RETURN, PERCENT	(3.76)	(3.93)	(2.60)
12. RELATIVE RATE OF RETURN	1.00	1.05	0.69

PENNSYLVANIA-AMERICAN WATER COMPANY  
SADSBURY WASTEWATER SSS OPERATIONS  
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	999,667	862,858	136,809
2. OTHER REVENUES	7,035	6,147	888
3. TOTAL OPERATING REVENUES	1,006,702	869,005	137,697
4. LESS: OPERATING EXPENSES (NET OF COST OF SERVICE RECOVERED FROM WATER)	241,992	209,298	32,693
5. RETURN AND INCOME TAXES	764,710	659,707	105,003
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	158,108	137,366	20,742
7. TAXABLE INCOME	606,602	522,341	84,261
8. LESS: INCOME TAXES (TAX. INC.)	168,714	145,278	23,436
9. NET RETURN (Line 5 - Line 8)	595,996	514,428	81,568
10. ORIGINAL COSTS MEASURE OF VALUE	7,989,217	6,941,102	1,048,115
11. RATE OF RETURN, PERCENT	7.46	7.41	7.78
12. RELATIVE RATE OF RETURN	1.00	0.99	1.04

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
<b>OPERATION AND MAINTENANCE EXPENSES</b>				
<b>SEWAGE TREATMENT</b>				
601.3 Salary and Wages	1	11,534	9,983	1,551
601.4 Salary and Wages	1	1,266	1,096	170
615.3 Purchased Power	1	8,346	7,223	1,123
<b>TOTAL SEWAGE TREATMENT EXPENSE</b>		<b>21,146</b>	<b>18,302</b>	<b>2,844</b>
<b>COLLECTION</b>				
601.5 Salary and Wages	2	1,293	1,132	161
601.6 Salary and Wages	2	1,901	1,664	237
615.5 Purchased Power	2	461	403	58
620.5 Materials and Supplies	2	2,400	2,100	300
636.5 Contract Services	2	0	0	0
642.5 Rental of Equipment	2	0	0	0
<b>TOTAL T &amp; D EXPENSE OPERATION</b>		<b>6,055</b>	<b>5,299</b>	<b>756</b>

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
620.6 Materials and Supplies	2	0	0	0
636.6 Contract Services	2	0	0	0
675.6 Miscellaneous Maintenance Expense	2	0	0	0
675.5 Miscellaneous Operating Expense	2	0	0	0
TOTAL T & D EXPENSE - MAINTENANCE		0	0	0
<b>TOTAL COLLECTION EXPENSE</b>		6,055	5,299	756
<b>CUSTOMER ACCOUNTS</b>				
601.7 Salary and Wages	5	0	0	0
670.7 Bad Debts	5	13,665	13,132	533
675.7 Miscellaneous Expense	5	669	643	26
<b>TOTAL CUSTOMER ACCOUNTING EXPENSE</b>		14,334	13,775	559
<b>ADMINISTRATIVE AND GENERAL EXPENSES</b>				
601.8 Salaries and Wages	10	3,737	3,397	340
603.8 Salaries of Officers	10	0	0	0
604.8 Employee Pension & Benefits	6	4,735	4,145	590
634.8 Contractual Services - Management				
Customer Related	5	8,126	7,809	317
Employee Related	6	2,288	2,003	285
Lab Testing	1	234	202	31
Other	10	19,097	17,359	1,738

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
636.8 Contractual Services	10	7,020	6,381	639
650.8 Transportation	10	4,338	3,943	395
656.8 Insurance Vehicles	10	460	418	42
657.8 Insurance	10	19,568	17,787	1,781
658.8 Advertising	10	3,132	2,847	285
659.8 Workers Compensation	6	5,168	4,524	644
666.8 Amortization of Rate Case	9	1,473	1,287	186
675.8 Miscellaneous Expense	10	14,499	13,180	1,319
<b>TOTAL A &amp; G EXPENSE</b>		<b>93,875</b>	<b>85,282</b>	<b>8,593</b>
<b>Total Operation &amp; Maintenance Expenses</b>		<b>135,410</b>	<b>122,658</b>	<b>12,752</b>
<b>DEPRECIATION EXPENSE</b>				
354.20 Structures and Improvements - Collection	2	0	0	0
354.30 Structures and Improvements -Pumping	2	7,011	6,136	875
355.00 Power Generation Equipment	2	2,181	1,909	272
360.10 Force Mains	3	3,138	2,716	422
361.10 Gravity Mains	3	112,609	97,463	15,146
361.20 Manholes	3	29,067	25,157	3,910
363.00 Service Laterals	4	17,826	16,182	1,644
364.00 Flow Measuring Devices	2	8,693	7,608	1,085
371.00 Pumping Equipment	2	17,022	14,898	2,124
<b>Total Depreciation Expense</b>		<b>197,547</b>	<b>172,070</b>	<b>25,477</b>
<b>Amortization Expense</b>	8	27,024	23,478	3,546
<b>Allocation of Treatment Costs</b>	1	699,423	605,351	94,072



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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
<b>Taxes Other Than Income</b>				
685100 Utility Reg Assessment Fee	9	6,531	5,707	824
685200 Property Taxes	8	1,190	1,033	156
685320 Payroll Taxes	6	1,573	1,377	196
<b>Total Taxes, Other Than Income</b>		<b>9,294</b>	<b>8,117</b>	<b>1,176</b>
<b>Total Operating Expense</b>		<b>1,068,697</b>	<b>931,674</b>	<b>137,024</b>
4091 Income Taxes	8	168,714	146,579	22,135
<b>Utility Income Available for Return</b>	8	<b>595,996</b>	<b>517,801</b>	<b>78,195</b>
<b>Total Cost of Service</b>		<b>1,833,407</b>	<b>1,596,054</b>	<b>237,354</b>
<b>Less: Other Revenues</b>	9	<b>7,035</b>	<b>6,147</b>	<b>888</b>
<b>Less: Cost of Service Recovered from Water Rates</b>	9	<b>826,706</b>	<b>722,375</b>	<b>104,330</b>
<b>Total Cost of Service Related to Sales of Wastewater Services</b>		<b>999,667</b>	<b>867,531</b>	<b>132,135</b>

PENNSYLVANIA AMERICAN WATER COMPANY  
SADBURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1. ALLOCATION OF COSTS ASSOCIATED WITH WASTEWATER TREATMENT

Factors are based on the pro forma test year average daily consumption for each customer classification with adjustments. The detail regarding calculation of adjusted flows can be found on the following page.

Classification (1)	Total Adjusted Average Daily Customer Flow 100 gallons (a) (2)	I&I Gallons Per Day 100 gallons (b) (3)	Total I&I And Average Flow (4)=(2)+(3)	Allocation Factor (7)
Residential	1,028	1,212	2,241	0.8655
Non-Residential	192	156	348	0.1345
Total	1,221	1,368	2,589	1.0000

(a) Customer Flow.

(b) Allocation based on Factor 1A for Residential and Non-Residential.

(c) Per 2010 I&I Study and allocation per prior cost of service study.

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 (1)	Total Adjusted Average Daily Flow 100 gallons (2)	Average Daily Flow Factor (3)	Weight (4)=(3) x 0.3333	Number of Service Equivalents (5)	Number of Customers Factor (6)	Weight (7)=(6) x 0.6667	Allocation Factor (8)=(4)+(7)
Residential	1,028	0.8426	0.2808	1,083	0.9078	0.6052	0.8860
Non-Residential	192	0.1574	0.0525	110	0.0922	0.0615	0.1140
Total	1,221	1.0000	0.3333	1,193	1.0000	0.6667	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY  
SADBURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH THE COLLECTION SYSTEM

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

Customer Classification (1)	Ave. Flow Consumption, 100 gpd (2)	Peak I&I Flow 100 gallons (a) (3)	Total Peak I&I And Average (4)=(2)+(3)	Allocation Factor (5)
Residential	1,028	3,282	4,311	0.8752
Non-Residential	192	422	615	0.1248
Total	1,221	3,705	4,925	1.0000

(a) Per I&I Study and allocation per 2010 cost of service study, allocated based on Factor 1A

PENNSYLVANIA AMERICAN WATER COMPANY  
SADSURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 3. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PROJECTED AVERAGE DAILY FLOW INCLUDING INFILTRATION AND INFLOW EXCLUDING BULK USERS

Factors are based on the projected average daily consumption for each customer classification.

Classification (1)	Total Average Daily Flow 100 gallons (2)	Direct I&I Gallons Per Day 100 gallons (a) (3)	Total Direct I&I And Average (4)=(2)+(3)	Allocation Factor (7)
Residential	1,028	1,212	2,241	0.8655
Non-Residential	192	156	348	0.1345
Total	1,221	1,368	2,589	1.0000

(a) Allocation based on Factor 1A.

FACTOR 3A. THIS ALLOCATION NOT USED.

PENNSYLVANIA AMERICAN WATER COMPANY  
SADSBURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 4. 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 (a) (3)	Service Equivalents (2)X(3)=(4)	Allocation Factor (5)
Residential	1,083	1.0	1,083	0.9078
Non-Residential	44	2.5	110	0.0922
Total	1,127		1,193	1.0000

(a) Based on ratio by class for Coatesville service area.

FACTOR 5. 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	1,083	0.9610
Non-Residential	44	0.0390
Total	1,127	1.00000

PENNSYLVANIA AMERICAN WATER COMPANY  
SADSBURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 6. 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	\$ 17,271	0.8753
Non-Residential	2,460	0.1247
Total	<u>\$ 19,731</u>	<u>1.0000</u>

FACTOR 7. 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	\$ 6,877,978	0.8687
Non-Residential	1,039,409	0.1313
Total	<u>\$ 7,917,387</u>	<u>1.0000</u>

PENNSYLVANIA AMERICAN WATER COMPANY  
SADSBURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 8. 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	\$ 6,941,102	0.8688
Non-Residential	1,048,115	0.1312
Total	<u>\$ 7,989,217</u>	<u>1.0000</u>

FACTOR 9. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS AND 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
(1)	(2)	(3)
Residential	\$ 959,198	0.8738
Non-Residential	138,569	0.1262
Total	<u>\$ 1,097,767</u>	<u>1.0000</u>

FACTOR 9A. THIS FACTOR NOT USED.

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
<b><u>RATE BASE</u></b>				
353.30 Land and Land Rights - Pumping	2	18,345	16,056	2,289
354.30 Structures and Improvements - Pumping	2	208,059	182,093	25,966
355.00 Power Generation Equipment	2	40,226	35,205	5,020
360.10 Force Mains	3	146,181	126,520	19,661
361.10 Gravity Mains	3	5,965,576	5,163,206	802,370
361.20 Manholes	3	803,511	695,439	108,072
363.00 Service Laterals	4	483,407	438,837	44,570
364.00 Flow Measuring Devices	2	46,719	40,888	5,830
371.00 Pumping Equipment	2	205,364	179,735	25,629
<b>TOTAL SEWER UTILITY PLANT IN SERVICE</b>		<b>7,917,387</b>	<b>6,877,978</b>	<b>1,039,409</b>
Other Rate Base Items:				
Cash Working Capital -Expenses	11	16,089	14,702	1,387
Cash Working Capital - Int and Div	7	(18,056)	(15,685)	(2,371)
Materials and Supplies	7	3,494	3,035	459
Acquisition Adjustment	7	208,881	181,455	27,426
Deferred, Accrued and Prepaid Taxes	7	(138,578)	(120,383)	(18,195)
<b>Total Other Rate Base Elements</b>		<b>71,830</b>	<b>63,124</b>	<b>8,706</b>
<b>Total Original Cost Measure of Value</b>		<b>7,989,217</b>	<b>6,941,102</b>	<b>1,048,115</b>



PENNSYLVANIA AMERICAN WATER COMPANY  
SADSBURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 10. 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	\$ 29,749	0.9090
Non-Residential	2,979	0.0910
Total	<u>\$ 32,728</u>	<u>1.0000</u>

FACTOR 11. 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	\$ 103,069	0.9138
Commercial	9,722	0.0862
Total	<u>\$ 112,791</u>	<u>1.0000</u>

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

Customer Classification (1)	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
Residential	\$ 867,531	86.8%	\$ 807,421	86.4%	\$ 862,858	86.3%	\$ 55,437	6.9%
Non-Residential	132,135	13.2%	126,984	13.6%	136,809	13.7%	9,825	7.7%
Total Sales	999,667	100.0%	934,405	100.0%	999,667	100.0%	65,262	7.0%
Other Revenues	7,035		7,127		7,035		(92)	-1.3%
COS Recovered from Water Rates	826,706						0	
Total	\$ 1,833,407		\$ 941,532		\$ 1,006,702		\$ 65,170	6.9%

PENNSYLVANIA-AMERICAN WATER COMPANY  
SADS BURY WASTEWATER SSS OPERATIONS  
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	934,405	807,421	126,984
2. OTHER REVENUES (INCLUDES WATER CONTRIB.)	7,127	6,227	900
3. TOTAL OPERATING REVENUES	941,532	813,648	127,884
4. LESS: OPERATING EXPENSES (NET OF COST OF SERVICE RECOVERED FROM WATER)	227,450	196,714	30,736
5. RETURN AND INCOME TAXES	714,082	616,934	97,148
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	158,112	137,369	20,743
7. TAXABLE INCOME	555,970	479,565	76,405
8. LESS: INCOME TAXES (TAX. INC.)	172,914	149,151	23,763
9. NET RETURN (Line 5 - Line 8)	541,168	467,783	73,385
10. ORIGINAL COSTS MEASURE OF VALUE	7,989,217	6,941,107	1,048,110
11. RATE OF RETURN, PERCENT	6.77	6.74	7.00
12. RELATIVE RATE OF RETURN	1.00	0.99	1.03

PENNSYLVANIA-AMERICAN WATER COMPANY  
SADS BURY WASTEWATER SSS OPERATIONS  
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	999,667	862,858	136,809
2. OTHER REVENUES (INCLUDES WATER CONTRIB.)	7,035	6,147	888
3. TOTAL OPERATING REVENUES	1,006,702	869,005	137,697
4. LESS: OPERATING EXPENSES (NET OF COST OF SERVICE RECOVERED FROM WATER)	241,992	209,298	32,693
5. RETURN AND INCOME TAXES	764,710	659,707	105,003
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	158,108	137,366	20,742
7. TAXABLE INCOME	606,602	522,341	84,261
8. LESS: INCOME TAXES (TAX. INC.)	168,714	145,278	23,436
9. NET RETURN (Line 5 - Line 8)	595,996	514,428	81,568
10. ORIGINAL COSTS MEASURE OF VALUE	7,989,217	6,941,102	1,048,115
11. RATE OF RETURN, PERCENT	7.46	7.41	7.78
12. RELATIVE RATE OF RETURN	1.00	0.99	1.04

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
<b>OPERATION AND MAINTENANCE EXPENSES</b>				
<b>SEWAGE TREATMENT</b>				
601.3 Salary and Wages	1	11,534	9,983	1,551
601.4 Salary and Wages	1	1,266	1,096	170
615.3 Purchased Power	1	8,346	7,223	1,123
<b>TOTAL SEWAGE TREATMENT EXPENSE</b>		<b>21,146</b>	<b>18,302</b>	<b>2,844</b>
<b>COLLECTION</b>				
601.5 Salary and Wages	2	1,293	1,132	161
601.6 Salary and Wages	2	1,901	1,664	237
615.5 Purchased Power	2	461	403	58
620.5 Materials and Supplies	2	2,400	2,100	300
636.5 Contract Services	2	0	0	0
642.5 Rental of Equipment	2	0	0	0
<b>TOTAL T &amp; D EXPENSE OPERATION</b>		<b>6,055</b>	<b>5,299</b>	<b>756</b>

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
620.6 Materials and Supplies	2	0	0	0
636.6 Contract Services	2	0	0	0
675.6 Miscellaneous Maintenance Expense	2	0	0	0
675.5 Miscellaneous Operating Expense	2	0	0	0
TOTAL T & D EXPENSE - MAINTENANCE		0	0	0
<b>TOTAL COLLECTION EXPENSE</b>		6,055	5,299	756
<b>CUSTOMER ACCOUNTS</b>				
601.7 Salary and Wages	5	0	0	0
670.7 Bad Debts	5	13,665	13,132	533
675.7 Miscellaneous Expense	5	669	643	26
<b>TOTAL CUSTOMER ACCOUNTING EXPENSE</b>		14,334	13,775	559
<b>ADMINISTRATIVE AND GENERAL EXPENSES</b>				
601.8 Salaries and Wages	10	3,737	3,397	340
603.8 Salaries of Officers	10	0	0	0
604.8 Employee Pension & Benefits	6	4,735	4,145	590
634.8 Contractual Services - Management				
Customer Related	5	8,126	7,809	317
Employee Related	6	2,288	2,003	285
Lab Testing	1	234	202	31
Other	10	19,097	17,359	1,738

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
636.8 Contractual Services	10	7,020	6,381	639
650.8 Transportation	10	4,338	3,943	395
656.8 Insurance Vehicles	10	460	418	42
657.8 Insurance	10	19,568	17,787	1,781
658.8 Advertising	10	3,132	2,847	285
659.8 Workers Compensation	6	5,168	4,524	644
666.8 Amortization of Rate Case	9	1,473	1,287	186
675.8 Miscellaneous Expense	10	14,499	13,180	1,319
<b>TOTAL A &amp; G EXPENSE</b>		<b>93,875</b>	<b>85,282</b>	<b>8,593</b>
<b>Total Operation &amp; Maintenance Expenses</b>		<b>135,410</b>	<b>122,658</b>	<b>12,752</b>
<b>DEPRECIATION EXPENSE</b>				
354.20 Structures and Improvements - Collection	2	0	0	0
354.30 Structures and Improvements -Pumping	2	7,011	6,136	875
355.00 Power Generation Equipment	2	2,181	1,909	272
360.10 Force Mains	3	3,138	2,716	422
361.10 Gravity Mains	3	112,609	97,463	15,146
361.20 Manholes	3	29,067	25,157	3,910
363.00 Service Laterals	4	17,826	16,182	1,644
364.00 Flow Measuring Devices	2	8,693	7,608	1,085
371.00 Pumping Equipment	2	17,022	14,898	2,124
<b>Total Depreciation Expense</b>		<b>197,547</b>	<b>172,070</b>	<b>25,477</b>
<b>Amortization Expense</b>	8	27,024	23,478	3,546
<b>Allocation of Treatment Costs</b>	1	699,423	605,351	94,072

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

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
<b>Taxes Other Than Income</b>				
685100 Utility Reg Assessment Fee	9	6,531	5,707	824
685200 Property Taxes	8	1,190	1,033	156
685320 Payroll Taxes	6	1,573	1,377	196
<b>Total Taxes, Other Than Income</b>		<b>9,294</b>	<b>8,117</b>	<b>1,176</b>
<b>Total Operating Expense</b>		<b>1,068,697</b>	<b>931,674</b>	<b>137,024</b>
4091 Income Taxes	8	168,714	146,579	22,135
<b>Utility Income Available for Return</b>	8	<b>595,996</b>	<b>517,801</b>	<b>78,195</b>
<b>Total Cost of Service</b>		<b>1,833,407</b>	<b>1,596,054</b>	<b>237,354</b>
<b>Less: Other Revenues</b>	9	<b>7,035</b>	<b>6,147</b>	<b>888</b>
<b>Less: Cost of Service Recovered from Water Rates</b>	9	<b>826,706</b>	<b>722,375</b>	<b>104,330</b>
<b>Total Cost of Service Related to Sales of Wastewater Services</b>		<b>999,667</b>	<b>867,531</b>	<b>132,135</b>



PENNSYLVANIA AMERICAN WATER COMPANY  
SADBURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1. ALLOCATION OF COSTS ASSOCIATED WITH WASTEWATER TREATMENT

Factors are based on the pro forma test year average daily consumption for each customer classification with adjustments. The detail regarding calculation of adjusted flows can be found on the following page.

Classification (1)	Total Adjusted Average Daily Customer Flow 100 gallons (a) (2)	I&I Gallons Per Day 100 gallons (b) (3)	Total I&I And Average Flow (4)=(2)+(3)	Allocation Factor (7)
Residential	1,028	1,212	2,241	0.8655
Non-Residential	192	156	348	0.1345
Total	1,221	1,368	2,589	1.0000

(a) Customer Flow.

(b) Allocation based on Factor 1A for Residential and Non-Residential.

(c) Per 2010 I&I Study and allocation per prior cost of service study.

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 (1)	Total Adjusted Average Daily Flow 100 gallons (2)	Average Daily Flow Factor (3)	Weight (4)=(3) x 0.3333	Number of Service Equivalents (5)	Number of Customers Factor (6)	Weight (7)=(6) x 0.6667	Allocation Factor (8)=(4)+(7)
Residential	1,028	0.8426	0.2808	1,083	0.9078	0.6052	0.8860
Non-Residential	192	0.1574	0.0525	110	0.0922	0.0615	0.1140
Total	1,221	1.0000	0.3333	1,193	1.0000	0.6667	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY  
SADBURY WASTEWATER SSS OPERATIONS  
FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH THE COLLECTION SYSTEM

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

Customer Classification (1)	Ave. Flow Consumption, 100 gpd (2)	Peak I&I Flow 100 gallons (a) (3)	Total Peak I&I And Average (4)=(2)+(3)	Allocation Factor (5)
Residential	1,028	3,282	4,311	0.8752
Non-Residential	192	422	615	0.1248
Total	1,221	3,705	4,925	1.0000

(a) Per I&I Study and allocation per 2010 cost of service study, allocated based on Factor 1A

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FACTOR 3. ALLOCATION OF CAPITAL COSTS ASSOCIATED WITH PROJECTED AVERAGE DAILY FLOW INCLUDING INFILTRATION AND INFLOW EXCLUDING BULK USERS

Factors are based on the projected average daily consumption for each customer classification.

Classification (1)	Total Average Daily Flow 100 gallons (2)	Direct I&I Gallons Per Day 100 gallons (a) (3)	Total Direct I&I And Average (4)=(2)+(3)	Allocation Factor (7)
Residential	1,028	1,212	2,241	0.8655
Non-Residential	192	156	348	0.1345
Total	1,221	1,368	2,589	1.0000

(a) Allocation based on Factor 1A.

FACTOR 3A. THIS ALLOCATION NOT USED.

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FACTOR 4. 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 (a) (3)	Service Equivalents (2)X(3)=(4)	Allocation Factor (5)
Residential	1,083	1.0	1,083	0.9078
Non-Residential	44	2.5	110	0.0922
Total	1,127		1,193	1.0000

(a) Based on ratio by class for Coatesville service area.

FACTOR 5. 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	1,083	0.9610
Non-Residential	44	0.0390
Total	1,127	1.00000

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FACTOR 6. 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	\$ 17,271	0.8753
Non-Residential	2,460	0.1247
Total	<u>\$ 19,731</u>	<u>1.0000</u>

FACTOR 7. 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	\$ 6,877,978	0.8687
Non-Residential	1,039,409	0.1313
Total	<u>\$ 7,917,387</u>	<u>1.0000</u>

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FACTOR 8. 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	\$ 6,941,102	0.8688
Non-Residential	1,048,115	0.1312
Total	<u>\$ 7,989,217</u>	<u>1.0000</u>

FACTOR 9. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS AND 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
(1)	(2)	(3)
Residential	\$ 959,198	0.8738
Non-Residential	138,569	0.1262
Total	<u>\$ 1,097,767</u>	<u>1.0000</u>

FACTOR 9A. THIS FACTOR NOT USED.

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COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2022,  
ALLOCATED TO CUSTOMER CLASSES

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non-Residential (5)
<b><u>RATE BASE</u></b>				
353.30 Land and Land Rights - Pumping	2	18,345	16,056	2,289
354.30 Structures and Improvements - Pumping	2	208,059	182,093	25,966
355.00 Power Generation Equipment	2	40,226	35,205	5,020
360.10 Force Mains	3	146,181	126,520	19,661
361.10 Gravity Mains	3	5,965,576	5,163,206	802,370
361.20 Manholes	3	803,511	695,439	108,072
363.00 Service Laterals	4	483,407	438,837	44,570
364.00 Flow Measuring Devices	2	46,719	40,888	5,830
371.00 Pumping Equipment	2	205,364	179,735	25,629
<b>TOTAL SEWER UTILITY PLANT IN SERVICE</b>		<b>7,917,387</b>	<b>6,877,978</b>	<b>1,039,409</b>
Other Rate Base Items:				
Cash Working Capital -Expenses	11	16,089	14,702	1,387
Cash Working Capital - Int and Div	7	(18,056)	(15,685)	(2,371)
Materials and Supplies	7	3,494	3,035	459
Acquisition Adjustment	7	208,881	181,455	27,426
Deferred, Accrued and Prepaid Taxes	7	(138,578)	(120,383)	(18,195)
<b>Total Other Rate Base Elements</b>		<b>71,830</b>	<b>63,124</b>	<b>8,706</b>
<b>Total Original Cost Measure of Value</b>		<b>7,989,217</b>	<b>6,941,102</b>	<b>1,048,115</b>

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FACTOR 10. 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 (1)	Operation & Maintenance Expenses (2)	Allocation Factor (3)
Residential	\$ 29,749	0.9090
Non-Residential	2,979	0.0910
Total	<u>\$ 32,728</u>	<u>1.0000</u>

FACTOR 11. 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 (1)	Operation & Maintenance Expenses (2)	Allocation Factor (3)
Residential	\$ 103,069	0.9138
Commercial	9,722	0.0862
Total	<u>\$ 112,791</u>	<u>1.0000</u>