

RETAIL WASTEWATER RATE STUDY FY22 and FY23

Billings, MT

March 31, 2021

Executive Summary

The City of Billings, Montana (City) calculates its retail wastewater rates using a cost of service rate model developed specifically for its wastewater treatment and collection system. The last rate analysis was completed in April 2019, at which time rates for FY20 and FY21 were set. This report summarizes the results of the most recent update to the wastewater rate model, including rate recommendations for FY22 and FY23. Detailed asset tables are found in the Appendices.

The City currently maintains two rate models for the Wastewater System – a cash-based model used to calculate retail rates and a utility-based model used to calculate the rates for wholesale users. The retail rate model utilizes the cash-basis approach for determining capital costs and therefore does not readily provide a mechanism for differentiating between retail and wholesale users in terms of cost allocation. The wholesale model utilizes the utility-method to better differentiate between retail and wholesale users. This model, discussed in detail in the Wastewater Wholesale Rate Study, applies a 15 percent rate of return on the asset base, which includes 12.5 percent working capital, to calculate capital costs for wholesale users. The rate of return plus depreciation forms the basis for the capital component of the revenue requirements for wholesale users.

Based on the results of this study, the recommended fixed monthly meter rates for retail users for the study period are shown in Tables ES.1 and ES.2 for Inside City Users and Outside City Users, respectively. Due to the City’s practice of rounding the wastewater fixed charge to the nearest \$0.05, the calculated cost of service-based rate changes vary slightly for some of the meters in FY22 and FY23. Overall, the projected fixed monthly rates increase roughly one (1) percent annually over the two-year period.

The recommended retail volumetric rates are shown in Table ES.3. Based on projected expenditures and wastewater flows, the cost of service model indicated the need for rate increases in both FY22 and FY23; however, these rate increases do not bring the utility into a revenue neutral state. Over the last few years, the rate strategy has been to gradually step into rate increases needed to operate the wastewater treatment facility while keeping rate adjustments at a moderate level.

Meter Size	Inside City Current FY21 Rate (\$/Month)	Recommended Inside City FY22 Rate (\$/Month)	% Increase	Recommended Inside City FY23 Rate (\$/Month)	% Increase
3/4"	\$6.85	\$6.95	1.5%	\$7.05	1.4%
1"	\$8.75	\$8.80	0.6%	\$9.00	2.3%
1-1/2"	\$10.70	\$10.80	0.9%	\$11.05	2.3%
2"	\$11.20	\$11.35	1.3%	\$11.55	1.8%
3"	\$18.10	\$18.25	0.8%	\$18.65	2.2%
4"	\$68.60	\$69.25	0.9%	\$70.65	2.0%
6"	\$87.30	\$88.15	1.0%	\$89.95	2.0%
8"	\$130.90	\$132.20	1.0%	\$134.90	2.0%
10"	\$180.80	\$182.60	1.0%	\$186.30	2.0%

Table ES.1: FY22 and FY23 Recommended Monthly Minimum Wastewater Charges – Inside City Retail Users

Meter Size	Outside City Current FY21 Rate (\$/Month)	Recommended Outside City FY22 Rate (\$/Month)	% Increase	Recommended Outside City FY23 Rate (\$/Month)	% Increase
3/4"	\$7.55	\$7.65	1.3%	\$7.75	1.3%
1"	\$9.60	\$9.65	0.5%	\$9.90	2.6%
1-1/2"	\$11.75	\$11.85	0.9%	\$12.15	2.5%
2"	\$12.30	\$12.45	1.2%	\$12.70	2.0%
3"	\$19.90	\$20.00	0.5%	\$20.50	2.5%
4"	\$75.45	\$76.20	1.0%	\$77.70	2.0%
6"	\$96.05	\$96.95	0.9%	\$98.95	2.1%
8"	\$144.00	\$145.40	1.0%	\$148.40	2.1%
10"	\$198.90	\$200.85	1.0%	\$204.95	2.0%

Table ES.2: FY22 and FY23 Recommended Monthly Minimum Wastewater Charges – Outside City Retail Users

User Class	Current FY21 Rate (\$/kgal)	Recommended		Recommended	
		FY22 Rate (\$/kgal)	% Increase	FY23 Rate (\$/kgal)	% Increase
Residential	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Large Residential	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Commercial	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Public Buildings	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Outside Retail Users	\$4.81	\$4.95	2.8%	\$5.08	2.7%

Table ES.3: FY22 and FY23 Recommended Wastewater Volumetric Rates

Lastly, strength surcharge rates are shown in Table ES.4.

	Current FY21 Rate (\$/Pound)	Calculated FY22 Rate (\$/Pound)	% Increase	Calculated FY23	
				Rate (\$/Pound)	% Increase
BOD	\$0.9019	\$0.9019	0.0%	\$0.9019	0.0%
TSS	\$0.5811	\$0.5811	0.0%	\$0.5811	0.0%
TKN	\$1.7217	\$1.7217	NA	\$1.7217	0.0%
	Current FY21 Rate (\$/kgal)	Calculated FY22 Rate (\$/kgal)	% Increase	Calculated FY23 Rate (\$/kgal)	% Increase
Septage	\$54.00	\$61.12	13.2%	\$61.12	0.0%

Table ES.4: Recommended FY22 and FY23 Strength Surcharge Rates

1.0 Introduction

The City of Billings (City) retained AE2S Nexus to update its wastewater rate model and recommend retail wastewater rates for the 2022 Fiscal Year (FY22), which begins July 1, 2021 and ends June 30, 2022, as well as for FY23, which begins July 1, 2022 and ends June 30, 2023. The rate model utilized by the City of Billings was last updated by AE2S Nexus in early 2019 for the purpose of developing rates for FY20 and FY21. The FY22/FY23 rate review involved a comprehensive review of assumptions and methodology upon which the analysis is based. The results of that review are described herein.

The City's cost of service wastewater rate model utilizes a cash-based approach in calculating retail rates. This approach is designed to meet all legal requirements for rate setting under Montana law (specifically, clearly tying the benefit of service received to the cost paid). Revenue requirements are functionalized to the categories of flow, biochemical oxygen demand (BOD), total suspended solids (TSS), total Kjeldahl nitrogen (TKN), and customer costs. The flow, BOD, TSS, and TKN costs are allocated to the user classes based on user-specific characteristics and respective usage of the system and form the basis for the volumetric and strength components of the user charges. Customer costs are then allocated to the user classes and form the basis for the monthly minimum component of the rate.

At the City's request, AE2S Nexus has updated the customer billing data, operating and maintenance (O&M) budget, and capital revenue requirements. To complete a comprehensive update, assumptions upon which the model calculations are based were also reviewed and verified or updated to reflect current system conditions. This report summarizes the following topics:

- Wastewater system usage parameters assumed for FY22 and FY23 (Section 2.0);
- Projected FY22 and FY23 revenue requirements and associated assumptions (Section 3.0);
- Allocation of FY22 and FY23 operating and capital-related revenue requirements (Section 4.0); and
- Calculated FY22 and FY23 costs of service by user class and recommended FY22/FY23 wastewater rates for the Retail customer classes (Section 5.0).

2.0 Customers and Usage

The City of Billings provides wastewater service to approximately 34,852 users within City limits, 20 users outside of the City, and to the wholesale customers, Lockwood, ExxonMobil, and Phillips 66. Projected FY22 and FY23 accounts and meters are based on actual meter and account data from FY20, adjusted by one half of one percent annually. As shown in Table 2.1, a growth factor of one half of one percent per year is used to project flows for FY22 and FY23 based on actual billed flow data from FY20.

Customer Class	Description	Flow Growth Factor
Residential	single family, two- and three- multi-family unit complexes	0.50%
Commercial – Domestic Strength		0.50%
Residential - Large	includes multi-family complexes with greater than three units	0.50%
Public Buildings	Includes governments and schools	0.50%
Outside City – Domestic Strength		0.50%

Table 2.1 : Flow Growth Factors

Rates for the wholesale users (Lockwood Water and Sewer District, ExxonMobil and Phillips 66) are calculated in separate rate models that apply the utility basis cost of service methodology rather than the cash-based methodology employed for retail rate analysis. For the purpose of calculating rates for the retail customers, revenue associated with the wholesale users was treated as non-rate revenue, reducing the net revenue requirements. Estimated FY22 and FY23 retail customer accounts by meter size and equivalent meters are shown in Tables 2.2 and 2.3, respectively. The equivalent meter counts are shown on a 3/4-inch meter basis. Table 2.4 summarizes the projected FY22 and FY23 billable retail flow for each user class, measured in units of million gallons (MG).

Meter Size	Residential	Commercial - Domestic	Residential- Large	Public Buildings- Domestic	Outside City	Total
3/4"	31,321	1,328	415	14	11	33,089
1"	384	366	298	5	5	1,057
1-1/2"	28	266	140	15	-	449
2"	-	135	65	21	1	222
3"	6	72	36	24	1	139
4"	1	16	18	5	1	41
6"	-	11	23	4	-	38
8"	-	2	4	2	1	9
10"	-	-	-	-	-	-
12"	-	-	1	-	-	1
Total	31,740	2,196	1,001	91	20	35,048
Equivalent Meters	31,880	2,961	1,770	283	51	36,945

Table 2.2: Projected FY22 Wastewater Customer Accounts and Equivalent Meters

Meter Size	Residential	Commercial - Domestic	Residential- Large	Public Buildings- Domestic	Outside City	Total
3/4"	31,477	1,335	417	14	11	33,254
1"	386	367	299	5	5	1,062
1-1/2"	28	267	141	15	-	451
2"	-	136	65	21	1	223
3"	6	72	37	24	1	140
4"	1	16	18	5	1	41
6"	-	11	23	4	-	38
8"	-	2	4	2	1	9
10"	-	-	-	-	-	-
12"	-	-	-	-	-	-
Total	31,898	2,206	1,004	90	20	35,218
Equivalent Meters	32,038	2,970	1,771	281	51	37,110

Table 2.3: Projected FY23 Wastewater Customer Accounts and Equivalent Meters

Customer Class	FY2022 Flow (MG)	FY2023 Flow (MG)
Residential	1,527.60	1,535.24
Large Residential	580.64	583.55
Commercial - Domestic	910.16	914.71
Public Buildings - Domestic	79.01	79.41
Outside City	40.06	40.26
Total	3,137.48	3,153.17

Table 2.4: Projected FY22 and FY23 Retail Customer Flows

Tables 2.5 and 2.6 present projected retail customer strength concentrations and loadings for FY22 and FY23, respectively. Consistent with previous analyses, BOD and TSS strengths of 200 milligrams per liter (mg/L) (the current domestic limit) were assumed for all user classes, and beginning in FY22, a TKN strength of 45 milligrams per liter (mg/L) was assumed.

Customer Class	BOD (mg/L)	TSS (mg/L)	TKN (mg/L)	BOD (pounds)	TSS (pounds)	TKN (pounds)
Residential	200	200	45	2,549,775	2,549,775	573,699
Large Residential	200	200	45	969,172	969,172	218,064
Commercial - Domestic	200	200	45	1,519,187	1,519,187	341,817
Public Buildings - Domestic	200	200	45	131,885	131,885	29,674
Outside City	200	200	45	66,862	66,862	15,044
Total				5,236,880	5,236,880	1,178,298

Table 2.5: Estimated FY22 Retail Concentrations and Loadings

Customer Class	BOD (mg/L)	TSS (mg/L)	TKN (mg/L)	BOD (pounds)	TSS (pounds)	TKN (pounds)
Residential	200	200	45	2,562,524	2,562,524	576,568
Large Residential	200	200	45	974,018	974,018	219,154
Commercial - Domestic	200	200	45	1,526,783	1,526,783	343,526
Public Buildings - Domestic	200	200	45	132,545	132,545	29,823
Outside City	200	200	45	67,196	67,196	15,119
Total				5,263,065	5,263,065	1,184,190

Table 2.6: Estimated FY23 Retail Concentrations and Loadings

3.0 Revenue Requirements

Revenue requirements consist of expenses incurred for O&M of the Wastewater Utility, as well capital-related expenses such as debt service principal, capital outlays, and contributions to reserves. These revenue requirements form the basis of costs recouped through calculated rates.

3.1 Operation and Maintenance Costs

For the purpose of developing wastewater rates for FY22 and FY23, the O&M component of revenue requirements was based on the preliminary FY22 Wastewater Operating budget. To maintain consistency with previous reports for historic tracking, the analysis grouped divisions according to the following naming system: Administration, Fiscal Services – Service Center, Wastewater Treatment Plant, Distribution and Collection, and Environmental Affairs.

The utility also generates non-rate operating revenue, which is applied to offset operating costs. For the purpose of calculating the retail rates, revenues from existing wholesale users Lockwood, ExxonMobil, and Phillips 66 are accounted for as non-rate O&M revenue. Table 3.1 summarizes total projected O&M revenue requirements for FY22 and FY23, total projected O&M non-rate revenue, and net O&M revenue requirements.

Line Item	FY2022 Total	FY2023 Total
Administrative	\$ 1,862,847	\$ 1,928,047
Utility Commercial & Meter	\$ 72,160	\$ 74,686
Wastewater Treatment	\$ 6,144,162	\$ 6,359,208
Distribution & Collection	\$ 1,602,262	\$ 1,658,341
Environmental Affairs	\$ 476,160	\$ 492,826
O&M – Total	\$ 10,157,591	\$ 10,513,107
Less: Non-Rate O&M Revenue		
Sewer Permits	\$ 50,500	\$ 51,005
Sale of Material/ Labor	\$ 10,000	\$ 10,000
Collection of Bad Debt	\$ 4,000	\$ 4,000
Wastewater Supply	\$ 45,000	\$ 45,000
Phillips 66	\$ 585,000	\$ 617,000
Lockwood	\$ 356,000	\$ 380,000
Exxon	\$ 633,000	\$ 670,000
Misc & Surcharge Revenue	\$ 90,000	\$ 90,000
Charge for Services	\$ -	\$ -
Total Non-Rate O&M Revenue	\$ 1,773,500	\$ 1,867,005
Net O&M Revenue Requirements	\$ 8,384,091	\$ 8,646,102

Table 3.1: Summary of FY22 and FY23 Wastewater O&M Revenue Requirements

3.2 Capital Costs

The City provided information related to existing and anticipated debt service requirements, the five-year Capital Improvement Plan (CIP), non-CIP capital outlays, and anticipated capital-related non-rate revenue for FY22 and FY23. Capital projects planned for FY21 total approximately \$16.9 million (M). The CIP includes \$16.5M in capital projects for FY22 and \$13.1M in FY23. The City plans to use cash reserves totaling \$15.8, in addition to anticipated System Development Fee revenue of \$2.06M, to complete capital projects in FY22 and FY23. Table 3.2 summarizes net capital revenue requirements for FY22 and FY23.

Line Item	FY2022 Total	FY2023 Total
Debt Service	\$ 5,374,653	\$ 5,329,086
Cash Funded CIP	\$ 15,499,103	\$ 10,609,600
Transfers To (from) O&M Reserve	\$ 185,610	\$ 96,554
Increase (Decrease) Operating Fund Balance	\$ (10,479,345)	\$ (5,308,774)
Capital – Total	\$ 10,580,021	\$ 10,726,467
Less: Non-Rate Capital Revenue		
Late Payment Interest	\$ 35,000	\$ 35,000
Interest Earnings	\$ 245,000	\$ 281,400
Total Non-Rate O&M Revenue	\$ 280,000	\$ 316,400
Net Capital Revenue Requirements	\$ 10,300,021	\$ 10,410,067

Table 3.2: Summary of Net Capital-Related Revenue Requirements

3.3 Total Revenue Requirements

Table 3.3 summarizes the total net revenue requirements for FY22 and FY23, which total approximately \$18.68M and \$19.05M, respectively.

Revenue Requirement	Projected FY20	Projected FY21
Net O&M	\$ 8,384,091	\$ 8,646,102
Net Capital	\$ 10,300,021	\$ 10,410,067
Total	\$ 18,684,112	\$ 19,056,168

Table 3.3: Summary of Total Projected FY22 and FY23 Wastewater Net Revenue Requirements

4.0 Cost of Service Analysis

4.1 Methodology

Following the establishment of net O&M and capital revenue requirements, costs must be allocated to each user class. To arrive at the final cost allocation to each user class, the revenue requirements were classified based on the manner in which the cost is related to user characteristics such as equivalent meters, flow, BOD, TSS, and TKN. The methodology employed for this analysis utilized the following classifications:

- Flow;
- BOD;
- TSS;
- TKN; and
- Customer.

Once classified, the costs were allocated to the user classes based on the service characteristics associated with each user class for each classification. The revenue requirements comprising the Customer classified costs result in the calculation of the fixed monthly meter charges, and those allocated to the Flow, BOD, TSS, and TKN components comprise the charges that derive the volumetric rates. The following subsections illustrate the classification and allocation of O&M and Capital-related revenue requirements.

4.2 Classification of O&M Revenue Requirements

Previously, Section 3.1 and Table 3.1 summarized the O&M net revenue requirements. Table 4.1 summarizes the O&M revenue classification percentages used for both FY22 and FY23. Tables 4.2 and 4.3, respectively, summarize the classified O&M net revenue requirements for FY22 and FY23.

Item	Flow	BOD	TSS	TKN	Customer	Total
Revenue Requirements						
Administrative	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Commercial & Meter	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Wastewater Treatment	22.8%	37.6%	21.8%	17.9%	0.0%	100.0%
Distribution and Collection	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Environmental Affairs	0.0%	33.3%	33.3%	33.3%	0.0%	100.0%
Non-Rate Revenues						
Sewer Permits	29.9%	33.4%	19.4%	16.0%	1.2%	100.0%
Sale of Material/Labor	29.9%	33.4%	19.4%	16.0%	1.2%	100.0%
Misc Revenue	29.9%	33.4%	19.4%	16.0%	1.2%	100.0%
Collection Bad Debt	29.9%	33.4%	19.4%	16.0%	1.2%	100.0%
Wastewater Supply	29.9%	33.4%	19.4%	16.0%	1.2%	100.0%
Franchise Fee	29.9%	33.4%	19.4%	16.0%	1.2%	100.0%
Phillips 66	22.5%	37.1%	21.5%	17.6%	1.2%	100.0%
Lockwood	22.5%	37.1%	21.5%	17.6%	1.2%	100.0%
P66 Surcharge	22.5%	37.1%	21.5%	17.6%	1.2%	100.0%
Charge for Service	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Transfer to O&M for Pipebursting Projects	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Table 4.1: FY22-FY23 Wastewater Classification Percentages for O&M and Non-Rate Revenue

Line Item	FY2022 Total	Flow	BOD	TSS	TKN	Customer
Administrative	\$ 1,862,847	\$ -	\$ -	\$ -	\$ -	\$ 1,862,847
Utility Commercial & Meter	\$ 72,160	\$ -	\$ -	\$ -	\$ -	\$ 72,160
Wastewater Treatment	\$ 6,144,162	\$ 1,400,869	\$ 2,308,730	\$ 1,337,461	\$ 1,097,102	\$ -
Distribution & Collection	\$ 1,602,262	\$ 1,602,262	\$ -	\$ -	\$ -	\$ -
Environmental Affairs	\$ 476,160	\$ -	\$ 158,720	\$ 158,720	\$ 158,720	\$ -
O&M – Total	\$ 10,157,591	\$ 3,003,131	\$ 2,467,450	\$ 1,496,181	\$ 1,255,822	\$ 1,935,007
Less: Non-Rate O&M Revenue						
Sewer Permits	\$ 50,500	\$ 15,123	\$ 16,875	\$ 9,822	\$ 8,076	\$ 605
Sale of Material/ Labor	\$ 10,000	\$ 2,995	\$ 3,342	\$ 1,945	\$ 1,599	\$ 120
Collection of Bad Debt	\$ 4,000	\$ 1,198	\$ 1,337	\$ 778	\$ 640	\$ 48
Wastewater Supply	\$ 45,000	\$ 13,476	\$ 15,037	\$ 8,752	\$ 7,196	\$ 539
Phillips 66	\$ 585,000	\$ 131,832	\$ 217,268	\$ 125,865	\$ 103,245	\$ 6,791
Lockwood	\$ 356,000	\$ 80,226	\$ 132,218	\$ 76,595	\$ 62,829	\$ 4,133
Exxon	\$ 633,000	\$ 142,649	\$ 235,095	\$ 136,192	\$ 111,716	\$ 7,348
Misc & Surcharge Revenue	\$ 90,000	\$ 90,000	\$ -	\$ -	\$ -	\$ -
Charge for Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Non-Rate O&M Revenue	\$ 1,773,500	\$ 477,497	\$ 621,171	\$ 359,947	\$ 295,302	\$ 19,582
Net O&M Revenue Requirements	\$ 8,384,091	\$ 2,525,634	\$ 1,846,279	\$ 1,136,234	\$ 960,519	\$ 1,915,425

Table 4.2: Classified FY22 O&M Net Revenue Requirements

Line Item	FY2023 Total	Flow	BOD	TSS	TKN	Customer
Administrative	\$ 1,928,047	\$ -	\$ -	\$ -	\$ -	\$ 1,862,847
Utility Commercial & Meter	\$ 74,686	\$ -	\$ -	\$ -	\$ -	\$ 72,160
Wastewater Treatment	\$ 6,359,208	\$ 1,400,869	\$ 2,308,730	\$ 1,337,461	\$ 1,097,102	\$ -
Distribution & Collection	\$ 1,658,341	\$ 1,602,262	\$ -	\$ -	\$ -	\$ -
Environmental Affairs	\$ 492,826	\$ -	\$ 158,720	\$ 158,720	\$ 158,720	\$ -
O&M – Total	\$ 10,513,107	\$ 3,003,131	\$ 2,467,450	\$ 1,496,181	\$ 1,255,822	\$ 1,935,007
Less: Non-Rate O&M Revenue						
Sewer Permits	\$ 51,005	\$ 15,123	\$ 16,875	\$ 9,822	\$ 8,076	\$ 605
Sale of Material/ Labor	\$ 10,000	\$ 2,995	\$ 3,342	\$ 1,945	\$ 1,599	\$ 120
Collection of Bad Debt	\$ 4,000	\$ 1,198	\$ 1,337	\$ 778	\$ 640	\$ 48
Wastewater Supply	\$ 45,000	\$ 13,476	\$ 15,037	\$ 8,752	\$ 7,196	\$ 539
Phillips 66	\$ 617,000	\$ 131,832	\$ 217,268	\$ 125,865	\$ 103,245	\$ 6,791
Lockwood	\$ 380,000	\$ 80,226	\$ 132,218	\$ 76,595	\$ 62,829	\$ 4,133
Exxon	\$ 670,000	\$ 142,649	\$ 235,095	\$ 136,192	\$ 111,716	\$ 7,348
Misc & Surcharge Revenue	\$ 90,000	\$ 90,000	\$ -	\$ -	\$ -	\$ -
Charge for Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Non-Rate O&M Revenue	\$ 1,867,005	\$ 477,497	\$ 621,171	\$ 359,947	\$ 295,302	\$ 19,582
Net O&M Revenue Requirements	\$ 8,646,102	\$ 2,525,634	\$ 1,846,279	\$ 1,136,234	\$ 960,519	\$ 1,915,425

Table 4.3: Classified FY23 O&M Net Revenue Requirements

4.3 Classification of Capital Cost Revenue Requirements

The capital-related revenue requirements are shown in Table 3.2. In general, capital-related revenue requirements were classified in accordance with the composite makeup of the fixed asset base according to asset type.

Fixed assets and classification of such are summarized in detail in Appendix A. Table 4.4 summarizes FY22 and FY23 net fixed assets for the wastewater system by asset type. Tables 4.5 and 4.6 summarize fixed assets by classification, as well as capital-related revenue requirements associated with capital outlays and debt for FY22 and FY23, respectively.

Fixed Asset Type	Original Cost	Annual Depreciation	Estimated Accumulated Depreciation Through 2020	FY2021 CWIP Net Fixed Assets	Net Fixed Assets 2022	Net Fixed Assets 2023
Wastewater Treatment	\$ 13,312,941	\$ 282,172	\$ 4,547,560	\$ 692,737	\$ 9,175,946	\$ 9,973,778
Pumping & Lift Stations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Collection & Distribution	\$ 6,383,835	\$ 124,126	\$ 4,406,313	\$ 3,501,421	\$ 5,354,817	\$ 8,315,299
General Plant	\$ 1,811,678	\$ 64,187	\$ 1,411,980	\$ 300,000	\$ 635,511	\$ 1,621,200
Total	\$ 21,508,454	\$ 470,486	\$ 10,365,852	\$ 4,494,158	\$ 15,166,274	\$ 19,910,277

Table 4.4: Summary of FY22 and FY23 Net Fixed Assets by Asset Type

Fixed Asset Type	Flow	BOD	TSS	TKN	Customer	Total
Wastewater Treatment	\$ 3,898,544	\$ 2,924,467	\$ 1,715,787	\$ 628,701	\$ 8,446	\$ 9,175,946
Pumping & Lift Stations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Collection & Distribution	\$ 5,354,817	\$ -	\$ -	\$ -	\$ -	\$ 5,354,817
General Plant	\$ 421,057	\$ 92,390	\$ 74,278	\$ 47,152	\$ 633	\$ 635,511
Total - Fixed Assets	\$ 9,674,419	\$ 3,016,857	\$ 1,790,065	\$ 675,853	\$ 9,080	\$ 15,166,274
Percent Allocation - Net Plant In Service	63.8%	19.9%	11.8%	4.5%	0.1%	100.0%
Capital Outlay-Related Revenue Requirements	\$ 4,093,610	\$ 1,276,546	\$ 757,444	\$ 285,979	\$ 3,842	\$ 6,417,421
Treatment-Related Assets	\$ 56,185,952	\$ 5,575,224	\$ 7,706,289	\$ 3,465,961	\$ 9,610	\$ 72,943,036
Percent Allocation - Treatment Plant	77.0%	7.6%	10.6%	4.8%	0.0%	100.0%
Treatment Plant Debt-Related Revenue Requirements	\$ 2,990,657	\$ 296,757	\$ 410,189	\$ 184,486	\$ 512	\$ 3,882,600
Total Capital-Related Revenue Requirements (Capital Outlay + Treatment Debt)	\$ 7,084,267	\$ 1,573,303	\$ 1,167,633	\$ 470,464	\$ 4,354	\$ 10,300,021

Table 4.5: Classification of FY22 Net Fixed Assets

Fixed Asset Type	Flow	BOD	TSS	TKN	Customer	Total
Wastewater Treatment	\$ 4,088,364	\$ 3,312,598	\$ 1,904,645	\$ 659,313	\$ 8,858	\$ 9,973,778
Pumping & Lift Stations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Collection & Distribution	\$ 8,315,299	\$ -	\$ -	\$ -	\$ -	\$ 8,315,299
General Plant	\$ 976,451	\$ 277,767	\$ 223,316	\$ 141,761	\$ 1,904	\$ 1,621,200
Total - Fixed Assets	\$ 13,380,115	\$ 3,590,366	\$ 2,127,961	\$ 801,074	\$ 10,762	\$ 19,910,277
Percent Allocation - Net Plant In Service	67.2%	18.0%	10.7%	4.0%	0.1%	100.0%
Capital Outlay-Related Revenue Requirements	\$ 4,384,038	\$ 1,176,395	\$ 697,233	\$ 262,474	\$ 3,526	\$ 6,523,667
Treatment-Related Assets	\$ 73,530,161	\$ 7,533,373	\$ 10,783,771	\$ 4,976,382	\$ 11,262	\$ 96,834,948
Percent Allocation - Treatment Plant	75.9%	7.8%	11.1%	5.1%	0.0%	100.0%
Treatment Plant Debt-Related Revenue Requirements	\$ 2,951,423	\$ 302,382	\$ 432,849	\$ 199,747	\$ 452	\$ 3,886,400
Total Capital-Related Revenue Requirements (Capital Outlay + Treatment Debt)	\$ 7,335,460	\$ 1,478,776	\$ 1,130,082	\$ 462,221	\$ 3,978	\$ 10,410,519

Table 4.6: Classification of FY23 Net Fixed Assets

4.4 Summary of Total Classified Net Revenue Requirements

Table 4.7 summarizes the net O&M and Capital-related revenue requirements by classification. Flow, BOD, TSS, and TKN costs were all tied to actual billed discharged flow from those individual user classes as opposed to customer costs, which were considered to be related to total and sizes of meters in service. As a result, the majority of costs are flow-related.

Wastewater rate-setting analyses in previous years established a method for gradually bringing fixed charges in line with the cost of service by allocating a percentage of fixed cost to a fixed demand component. To remain consistent with this approach, a portion of the flow costs were reallocated to the fixed demand component in FY22. Table 4.8 shows the FY22 net revenue requirements reflecting this adjustment. Similarly, a portion of flow costs were reallocated to the fixed demand component in the FY23 rate calculation. Net O&M and Capital-related revenue requirements for FY23 are shown in Table 4.9, with adjusted net revenue requirements in Table 4.10.

The final step in calculating the cost of service is to allocate the classified costs to the user classes. Table 4.11 summarizes the allocation factors, derived based on customer usage characteristics, for each classified component of the revenue requirements. The allocation of revenue requirements to each user class is summarized in Section 5.0.

Line Item	Flow	BOD	TSS	TKN	Volume - Total	Customer	Total
Revenue Requirements							
O&M	\$ 2,072,466	\$ 2,063,547	\$ 1,262,099	\$ 1,063,764	\$ 6,461,876	\$ 1,922,215	\$ 8,384,091
Capital	\$ 7,213,218	\$ 1,815,772	\$ 1,266,580	\$ 98	\$ 10,295,667	\$ 4,354	\$ 10,300,021
Total	\$ 9,285,684	\$ 3,879,319	\$ 2,528,678	\$ 1,063,862	\$ 16,757,543	\$ 1,926,569	\$ 18,684,112

Table 4.7: Summary of FY22 Classified Net Revenue Requirements

Line Item	Flow	BOD	TSS	TKN	Volume - Total	Customer	Total
Revenue Requirements							
O&M	\$1,823,770	\$2,063,547	\$1,262,099	\$1,063,764	\$6,213,180	\$2,170,911	\$8,384,091
Capital	\$6,347,632	\$1,815,772	\$1,266,580	\$98	\$9,430,081	\$869,940	\$10,300,021
Total	\$8,171,402	\$3,879,319	\$2,528,678	\$1,063,862	\$15,643,261	\$3,040,851	\$18,684,112

Table 4.8: Summary of Adjusted FY22 Classified Net Revenue Requirements

Line Item	Flow	BOD	TSS	TKN	Volume - Total	Customer	Total
Revenue Requirements							
O&M	\$2,609,635	\$1,897,931	\$1,168,493	\$987,979	\$6,664,037	\$1,982,064	\$8,646,102
Capital	\$7,453,296	\$1,700,346	\$1,252,808	\$89	\$10,406,540	\$3,978	\$10,410,519
Total	\$10,062,931	\$3,598,277	\$2,421,301	\$988,068	\$17,070,578	\$1,986,042	\$19,056,620

Table 4.9: Summary of FY23 Classified Net Revenue Requirements

Line Item	Flow	BOD	TSS	TKN	Volume - Total	Customer	Total
Revenue Requirements							
O&M	\$2,309,527	\$1,897,931	\$1,168,493	\$987,979	\$6,363,929	\$2,282,172	\$8,646,102
Capital	\$6,596,167	\$1,700,346	\$1,252,808	\$89	\$9,549,411	\$861,107	\$10,410,519
Total	\$8,905,694	\$3,598,277	\$2,421,301	\$988,068	\$15,913,341	\$3,143,280	\$19,056,620

Table 4.10: Summary of Adjusted FY23 Classified Net Revenue Requirements

Customer Class	Flow	BOD	TSS	TKN	Customer (Equivalent Meters)
Residential	49%	49%	48.7%	48.7%	86%
Large Residential	19%	19%	18.5%	18.5%	5%
Commercial	29%	29%	29.0%	29.0%	8%
Public Buildings	3%	3%	2.5%	2.5%	1%
Outside City	1%	1%	1.3%	1.3%	0%
Total	100%	100%	100%	100%	100%

Table 4.11: Summary of Retail Customer Service Characteristics

5.0 Results and Proposed Rates

5.1 Cost of Service Results

The total revenue requirements to be recovered through rates for FY22 and FY23 were projected to total \$18,684,112 and \$19,056,620, respectively. Tables 5.1 and 5.2 summarize the allocated revenue requirements by user class for these respective years.

User Class	Total Meter	Total Volume	Total
Residential	\$ 1,659,729	\$ 8,160,574	\$ 9,820,303
Large Residential	\$ 92,147	\$ 3,101,843	\$ 3,193,990
Commercial	\$ 154,140	\$ 4,862,169	\$ 5,016,309
Public Buildings	\$ 14,751	\$ 422,101	\$ 436,852
Outside City	\$ 2,667	\$ 213,991	\$ 216,658
Total	\$ 1,923,435	\$ 16,760,677	\$ 18,684,112

Table 5.1: Summary of FY22 Wastewater Cost of Service Results

User Class	Total Meter	Total Volume	Total
Residential	\$ 1,722,287	\$ 8,307,128	\$ 10,029,414
Large Residential	\$ 95,198	\$ 3,157,548	\$ 3,252,745
Commercial	\$ 159,651	\$ 4,949,487	\$ 5,109,138
Public Buildings	\$ 15,081	\$ 429,681	\$ 444,762
Outside City	\$ 2,727	\$ 217,834	\$ 220,561
Total	\$ 1,994,943	\$ 17,061,677	\$ 19,056,620

Table 5.2: Summary of FY23 Wastewater Cost of Service Results

5.2 Recommended FY22 and FY23 Wastewater Rates

Based on the results of this study, the recommended rates for inside and outside City Users are shown in Tables 5.3 and 5.4, respectively. Due to the City’s practice of rounding the wastewater fixed charge to the nearest \$0.05, the cost of service-based rate increases vary slightly for some of the meters in FY22 and FY23.

Based on projected expenditures and wastewater flows, the cost of service model indicated a rate increase is necessary in FY22 and FY23; however, these rate increases do not bring the utility into a revenue neutral state. Over the last few years, the rate strategy has been to smooth into rate increases needed to operate the expansion of the wastewater treatment facility while keeping rates adjustments at a moderate level. Rate increases in FY22 and FY23 are part of the strategy to replenish those cash reserves in a fair and equitable manner for all customers. Table 5.5 outlines recommended volumetric rates based on this approach. Calculated cost of service-based rates for the outside users Lockwood, ExxonMobil, and Phillips 66 were evaluated as part of this study but are reported under separate cover.

Meter Size	Inside City Current FY21 Rate (\$/Month)	Recommended Inside City FY22 Rate (\$/Month)	% Increase	Recommended Inside City FY23 Rate (\$/Month)	% Increase
3/4"	\$6.85	\$6.95	1.5%	\$7.05	1.4%
1"	\$8.75	\$8.80	0.6%	\$9.00	2.3%
1-1/2"	\$10.70	\$10.80	0.9%	\$11.05	2.3%
2"	\$11.20	\$11.35	1.3%	\$11.55	1.8%
3"	\$18.10	\$18.25	0.8%	\$18.65	2.2%
4"	\$68.60	\$69.25	0.9%	\$70.65	2.0%
6"	\$87.30	\$88.15	1.0%	\$89.95	2.0%
8"	\$130.90	\$132.20	1.0%	\$134.90	2.0%
10"	\$180.80	\$182.60	1.0%	\$186.30	2.0%

Table 5.3: FY22 and FY23 Recommended Monthly Minimum Wastewater Charges – Inside City Retail Users

Meter Size	Outside City Current FY21 Rate (\$/Month)	Recommended Outside City FY22 Rate (\$/Month)	% Increase	Recommended Outside City FY23 Rate (\$/Month)	% Increase
3/4"	\$7.55	\$7.65	1.3%	\$7.75	1.3%
1"	\$9.60	\$9.65	0.5%	\$9.80	1.6%
1-1/2"	\$11.75	\$11.90	1.3%	\$12.10	1.7%
2"	\$12.30	\$12.45	1.2%	\$12.65	1.6%
3"	\$19.90	\$20.05	0.8%	\$20.40	1.7%
4"	\$75.45	\$76.30	1.1%	\$77.35	1.4%
6"	\$96.05	\$97.10	1.1%	\$98.40	1.3%
8"	\$144.00	\$145.60	1.1%	\$147.60	1.4%
10"	\$198.90	\$201.10	1.1%	\$203.85	1.4%

Table 5.4: FY22 and FY23 Recommended Monthly Minimum Wastewater Charges – Outside City Retail Users

User Class	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase	Recommended FY23 Rate (\$/kgal)	% Increase
Residential	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Large Residential	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Commercial	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Public Buildings	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Outside Retail Users	\$4.81	\$4.95	2.8%	\$5.08	2.7%

Table 5.5: FY22 and FY23 Recommended Wastewater Volumetric Rates

5.3 Strength Surcharge Recommendations

As shown in Tables 2.4 and 2.5, a TKN strength of 45 mg/L was assumed as the concentration for all user classes.

Table 5.6 presents the recommended BOD, TSS, and TKN surcharge rates for FY22 and FY23. Based on the asset base and review of retail functionalization, no changes are recommended to strength charges. Increases are recommended to septage to bring it in line with cost of service.

	Current FY21 Rate (\$/Pound)	Calculated FY22 Rate (\$/Pound)	% Increase	Calculated FY23 Rate (\$/Pound)	% Increase
BOD	\$0.9019	\$0.9019	0.0%	\$0.9019	0.0%
TSS	\$0.5811	\$0.5811	0.0%	\$0.5811	0.0%
TKN	\$1.7217	\$1.7217	0.0%	\$1.7217	0.0%
	Current FY21 Rate (\$/kgal)	Calculated FY22 Rate (\$/kgal)	% Increase	Calculated FY23 Rate (\$/kgal)	% Increase
Septage	\$54.00	\$61.12	13.2%	\$61.12	0.0%

Table 5.6: Recommended FY22 and FY23 Strength Surcharge Rates

5.4 FY22 Bill Comparison

Finally, for the purpose of illustrating the effect of the recommended FY22 rates on varying levels of usage, Table 5.7 provides a bill comparison.

Description	Meter Size	Consumption (kgal)	Current (FY21)	Proposed (FY22)	Difference	Percent Change
Residential	3/4"	0	\$6.85	\$6.95	\$0.10	1.5%
		2	\$16.47	\$16.85	\$0.38	2.3%
		6	\$35.71	\$36.65	\$0.94	2.6%
		15	\$79.00	\$81.20	\$2.20	2.8%
Commercial/ Other	3/4"	0	\$6.85	\$6.95	\$0.10	1.5%
		6	\$35.71	\$36.65	\$0.94	2.6%
		20	\$103.05	\$105.95	\$2.90	2.8%
		75	\$367.60	\$378.20	\$10.60	2.9%
	1"	0	\$8.75	\$8.80	\$0.05	0.6%
		15	\$80.90	\$83.05	\$2.15	2.7%
		75	\$369.50	\$380.05	\$10.55	2.9%
	2"	200	\$970.75	\$998.80	\$28.05	2.9%
		0	\$11.20	\$11.35	\$0.15	1.3%
		50	\$251.70	\$258.85	\$7.15	2.8%
		200	\$973.20	\$1,001.35	\$28.15	2.9%
	3"	500	\$2,416.20	\$2,486.35	\$70.15	2.9%
		0	\$18.10	\$18.25	\$0.15	0.8%
		100	\$499.10	\$513.25	\$14.15	2.8%
		300	\$1,461.10	\$1,503.25	\$42.15	2.9%
	Outside City	3/4"	800	\$3,866.10	\$3,978.25	\$112.15
0			\$7.55	\$7.65	\$0.10	1.3%
2			\$17.17	\$17.55	\$0.38	2.2%
6			\$36.41	\$37.35	\$0.94	2.6%
		15	\$79.70	\$81.90	\$2.20	2.8%

Table 5.7: Wastewater Bill Comparison – FY21 to FY22

Appendix A: Fixed Asset Tables

Asset and Asset Group	Original Cost	Annual Depreciation	FY2021 CWIP	FY2022 Net Fixed Assets	Estimated FY2023 Net Fixed Assets
Administration Building-Building	\$523,369	\$0	\$0	\$0	\$0
Administration Building-Equipment	\$695,300	\$5,754	\$947,715	\$967,548	\$1,821,052
Administration Building-Infrastructure	\$225,075	\$12,869	\$0	\$23,460	\$10,600
Administration Building-Non Building	\$62,047	\$0	\$0	\$0	\$0
Air Flotation Thickener-Infrastructure	\$286,449	\$8,680	\$0	\$277,045	\$268,400
Black Otter Trail Land-Infrastructure	\$3,100	\$44	\$0	\$2,554	\$2,500
Chlorine Contact 1 - 10-Infrastructure	\$42,187	\$1,406	\$0	\$29,531	\$28,100
Chlorine Contact 1 - 11-Infrastructure	\$8,046	\$402	\$0	\$4,459	\$4,100
Chlorine Contact 1 - 5-Building	\$12,500	\$0	\$0	\$0	\$0
Chlorine Contact 1 - 6-Infrastructure	\$97,290	\$0	\$0	\$0	\$0
Chlorine Contact 1 - 9-Infrastructure	\$3,203,431	\$106,781	\$0	\$2,126,723	\$2,019,900
Cold Storage Building-Building	\$17,841	\$0	\$0	\$0	\$0
Cold Storage Building-Non Building	\$78,446	\$0	\$458,765	\$458,764	\$847,213
Communications Equip-Equipment	\$91,803	\$0	\$42,847	\$42,847	\$80,574
Construction Equipment-Equipment	\$746,667	\$30,537	\$0	\$116,757	\$86,200
Decant Pump Bldg & Tanks-Building	\$207,874	\$0	\$0	\$0	\$0
Decant Pump Bldg & Tanks-Equipment	\$89,529	\$0	\$0	\$0	\$0
Decant Pump Bldg & Tanks-Infrastructure	\$104,674	\$0	\$0	(\$1)	\$0
Electrical Shop-Building	\$751,292	\$30,697	\$300,000	\$491,015	\$1,510,300
Electrical Shop-Equipment	\$22,878	\$2,288	\$0	\$15,824	\$13,500
Engine Generator-Building	\$518,846	\$9,911	\$0	\$381,571	\$371,700
Engine Generator-Equipment	\$536,310	\$0	\$0	\$0	\$0
Engine Generator-Non Building	\$507,688	\$0	\$0	\$0	\$0
Five Mile Lift Station-Building	\$1,943,216	\$38,864	\$0	\$1,651,734	\$1,612,900

Asset and Asset Group	Original Cost	Annual Depreciation	FY2021 CWIP	FY2022 Net Fixed Assets	Estimated FY2023 Net Fixed Assets
Five Mile Lift Station-Infrastructure	\$993,004	\$49,650	\$0	\$630,748	\$581,100
Gas Pumps-Equipment	\$12,412	\$621	\$0	\$9,360	\$8,700
Gravity Thickening Building-Infrastructure	\$39,223	\$1,189	\$0	\$37,936	\$36,700
Grit Building-Building	\$59,625	\$2,981	\$0	\$23,863	\$20,900
Grit Building-Equipment	\$294,047	\$0	\$0	\$0	\$0
Grit Building-Infrastructure	\$42,000	\$2,100	\$0	\$29,575	\$27,500
Headworks Building-Building	\$6,211,360	\$124,227	\$0	\$4,472,182	\$4,348,000
Headworks Building-Equipment	\$36,052	\$3,605	\$15,729	\$43,970	\$53,642
Headworks Building-Infrastructure	\$3,403,753	\$108,454	\$5,939,064	\$9,167,554	\$16,228,244
Heated Storage Building-Building	\$81,270	\$2,395	\$0	\$20,355	\$18,000
Interceptor Lines-Infrastructure	\$6,383,835	\$124,126	\$3,501,421	\$5,354,817	\$8,315,299
Ironwood Lift Station-Building	\$103,455	\$14,779	\$0	\$72,665	\$57,900
Laboratory Test Equip-Equipment	\$117,872	\$8,215	\$0	\$36,396	\$28,200
Lake Hills Lift Staion-Equipment	\$67,350	\$0	\$742,001	\$742,001	\$1,395,701
Lateral Lines - Below 15"-Infrastructure	\$55,443,582	\$1,044,649	\$0	\$40,057,287	\$50,928,600
Lloyd Mangrum Lift Station-Building	\$51,728	\$7,390	\$0	\$36,332	\$28,900
Maintenance Building-Building	\$275,329	\$0	\$0	\$0	\$0
Non-Potable Waterline-Infrastructure	\$42,656	\$853	\$0	\$41,732	\$919,900
Odor Control-Building	\$181,900	\$3,638	\$0	\$44,565	\$40,900
Odor Control-Infrastructure	\$6,876,249	\$208,371	\$62,890	\$6,713,403	\$7,046,114
Office Furniture & Equip-Equipment	\$209,033	\$14,282	\$0	\$42,818	\$28,500
Outfall-Infrastructure	\$209,654	\$6,353	\$0	\$202,772	\$196,400
Primary Clarifiers 1 - 10-Infrastructure	\$601,502	\$18,047	\$0	\$442,087	\$424,000
Primary Clarifiers 1 - 11-Infrastructure	\$335,068	\$10,154	\$0	\$324,068	\$313,900
Primary Clarifiers 1 - 5-Infrastructure	\$11,859	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 6-Infrastructure	\$152,130	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 7-Infrastructure	\$565,964	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 8-Infrastructure	\$533,950	\$16,020	\$0	\$117,539	\$101,500
Primary Clarifiers 1 - 9-Infrastructure	\$862,138	\$43,107	\$0	\$377,185	\$334,100

Asset and Asset Group	Original Cost	Annual Depreciation	FY2021 CWIP	FY2022 Net Fixed Assets	Estimated FY2023 Net Fixed Assets
Primary Digesters-Building	\$1,000,203	\$0	\$0	\$0	\$0
Primary Digesters-Equipment	\$837,355	\$13,807	\$71,296	\$173,491	\$222,485
Primary Digesters-Infrastructure	\$1,140,052	\$39,640	\$0	\$260,104	\$220,500
Rehberg Ranch Lagoons-Infrastructure	\$102,267	\$10,227	\$0	\$22,158	\$11,900
Scum Pumping Station-Building	\$139,766	\$3,917	\$0	\$15,988	\$12,100
Scum Pumping Station-Equipment	\$55,669	\$0	\$0	\$0	\$0
Scum Pumping Station-Infrastructure	\$9,262	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 11-Infrastructure	\$497,790	\$14,935	\$0	\$0	\$0
Secondary Aerator 1 - 12-Infrastructure	\$47,135	\$1,414	\$0	\$3,062	\$1,600
Secondary Aerator 1 - 13-Infrastructure	\$638,530	\$19,158	\$0	\$140,459	\$121,300
Secondary Aerator 1 - 14-Infrastructure	\$1,702,429	\$51,078	\$0	\$587,805	\$536,700
Secondary Aerator 1 - 15-Infrastructure	\$149,152	\$7,458	\$0	\$112,485	\$105,000
Secondary Aerator 1 - 19-Infrastructure	\$24,397,615	\$739,322	\$0	\$23,596,683	\$22,857,400
Secondary Aerator 1 - 4-Building	\$12,500	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 6-Equipment	\$112,500	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 8-Equipment	\$83,071	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 9-Equipment	\$34,499	\$0	\$0	\$0	\$0
Secondary Digester-Equipment	\$800,000	\$0	\$0	\$0	\$0
Secondary Digester-Infrastructure	\$2,556,306	\$52,544	\$0	\$1,677,029	\$1,624,500
Secondary Final Clarifier 1-4-Equipment	\$31,250	\$0	\$0	\$0	\$0
Secondary Final Clarifier 1-6-Infrastructure	\$432,374	\$0	\$0	(\$1)	\$0
Secondary Final Clarifier 1-8-Infrastructure	\$19,967,796	\$605,085	\$0	\$19,312,288	\$18,707,200
Secondary Flotation Thickener-Building	\$237,857	\$9,482	\$0	\$64,927	\$55,400
Secondary Flotation Thickener-Equipment	\$32,500	\$0	\$59,879	\$59,879	\$112,647
Secondary Flotation Thickener-Infrastructure	\$94,166	\$0	\$0	\$0	\$0

Asset and Asset Group	Original Cost	Annual Depreciation	FY2021 CWIP	FY2022 Net Fixed Assets	Estimated FY2023 Net Fixed Assets
Secondary Pumping Station-Building	\$31,250	\$0	\$0	\$0	\$0
Secondary Pumping Station-Equipment	\$2,916,855	\$130,443	\$135,000	\$375,496	\$364,029
Secondary Pumping Station-Infrastructure	\$1,390,773	\$39,986	\$0	\$1,249,150	\$1,209,200
Sewage Lift Station #003 Bldg 517-Infrastructure	\$31,825	\$3,182	\$0	\$12,730	\$9,500
Site Work, Landscaping/Yrd-Equipment	\$9,200	\$0	\$0	\$0	\$0
Site Work, Landscaping/Yrd-Infrastructure	\$1,877,348	\$62,651	\$0	\$1,622,611	\$1,560,000
Site Work, Landscaping/Yrd-Non Building	\$633,193	\$11,544	\$0	\$125,940	\$114,400
Sludge Control Building-Building	\$57,200	\$0	\$0	\$0	\$0
Sludge Control Building-Equipment	\$12,500	\$0	\$0	\$0	\$0
Sludge Control Building-Infrastructure	\$6,486	\$0	\$0	\$0	\$0
Sludge Pumping House-Building	\$227,596	\$3,470	\$0	\$27,773	\$24,300
Sludge Pumping House-Infrastructure	\$549,929	\$5,470	\$0	\$447,145	\$441,700
Solids Processing Building-Building	\$601,410	\$12,249	\$0	\$62,901	\$50,700
Solids Processing Building-Equipment	\$2,297,075	\$5,370	\$629,847	\$678,048	\$1,211,564
	\$160,728,541	\$3,905,869	\$12,906,454	\$126,259,197	\$149,733,863

Table A.1: Net Fixed Assets

Item	Flow	BOD	TSS	TKN	Customer	Total
Administration Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Administration Building-Equipment	\$475,778	\$195,221	\$103,019	\$22	\$193,510	\$967,548
Administration Building-Infrastructure	\$11,536	\$4,734	\$2,498	\$1	\$4,692	\$23,460
Administration Building-Non Building	\$0	\$0	\$0	\$0	\$0	\$0
Air Flotation Thickener-Infrastructure	\$55,409	\$138,523	\$83,114	\$0	\$0	\$277,045
Black Otter Trail Land-Infrastructure	\$2,554	\$0	\$0	\$0	\$0	\$2,554
Chlorine Contact 1 - 10-Infrastructure	\$29,531	\$0	\$0	\$0	\$0	\$29,531
Chlorine Contact 1 - 11-Infrastructure	\$4,459	\$0	\$0	\$0	\$0	\$4,459
Chlorine Contact 1 - 5-Building	\$0	\$0	\$0	\$0	\$0	\$0
Chlorine Contact 1 - 6-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Chlorine Contact 1 - 9-Infrastructure	\$2,126,723	\$0	\$0	\$0	\$0	\$2,126,723
Cold Storage Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Cold Storage Building-Non Building	\$458,764	\$0	\$0	\$0	\$0	\$458,764
Communications Equip-Equipment	\$21,069	\$8,645	\$4,562	\$1	\$8,569	\$42,847
Construction Equipment-Equipment	\$116,757	\$0	\$0	\$0	\$0	\$116,757
Decant Pump Bldg & Tanks-Building	\$0	\$0	\$0	\$0	\$0	\$0
Decant Pump Bldg & Tanks-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Decant Pump Bldg & Tanks-Infrastructure	\$0	\$0	\$0	\$0	\$0	-\$1
Electrical Shop-Building	\$301,435	\$123,684	\$65,269	\$14	\$614	\$491,015
Electrical Shop-Equipment	\$9,715	\$3,986	\$2,103	\$0	\$20	\$15,824
Engine Generator-Building	\$234,247	\$96,116	\$50,721	\$11	\$477	\$381,571
Engine Generator-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Engine Generator-Non Building	\$0	\$0	\$0	\$0	\$0	\$0

Item	Flow	BOD	TSS	TKN	Customer	Total
Five Mile Lift Station-Building	\$1,651,734	\$0	\$0	\$0	\$0	\$1,651,734
Five Mile Lift Station-Infrastructure	\$630,748	\$0	\$0	\$0	\$0	\$630,748
Gas Pumps-Equipment	\$9,360	\$0	\$0	\$0	\$0	\$9,360
Gravity Thickening Building-Infrastructure	\$0	\$26,555	\$11,381	\$0	\$0	\$37,936
Grit Building-Building	\$4,773	\$4,773	\$14,318	\$0	\$0	\$23,863
Grit Building-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Grit Building-Infrastructure	\$5,915	\$5,915	\$17,745	\$0	\$0	\$29,575
Headworks Building-Building	\$894,436	\$894,436	\$2,683,309	\$0	\$0	\$4,472,182
Headworks Building-Equipment	\$8,794	\$8,794	\$26,382	\$0	\$0	\$43,970
Headworks Building-Infrastructure	\$1,833,511	\$1,833,511	\$5,500,533	\$0	\$0	\$9,167,554
Heated Storage Building-Building	\$20,355	\$0	\$0	\$0	\$0	\$20,355
Interceptor Lines-Infrastructure	\$5,354,817	\$0	\$0	\$0	\$0	\$5,354,817
Ironwood Lift Station-Building	\$72,665	\$0	\$0	\$0	\$0	\$72,665
Laboratory Test Equip-Equipment	\$36,396	\$0	\$0	\$0	\$0	\$36,396
Lake Hills Lift Station-Equipment	\$742,001	\$0	\$0	\$0	\$0	\$742,001
Lateral Lines - Below 15"-Infrastructure	\$40,057,287	\$0	\$0	\$0	\$0	\$40,057,287
Lloyd Mangrum Lift Station-Building	\$36,332	\$0	\$0	\$0	\$0	\$36,332
Maintenance Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Non-Potable Waterline-Infrastructure	\$41,732	\$0	\$0	\$0	\$0	\$41,732
Odor Control-Building	\$27,358	\$11,226	\$5,924	\$1	\$56	\$44,565
Odor Control-Infrastructure	\$4,121,364	\$1,691,074	\$892,386	\$189	\$8,391	\$6,713,403
Office Furniture & Equip-Equipment	\$26,286	\$10,786	\$5,692	\$1	\$54	\$42,818
Outfall-Infrastructure	\$202,772	\$0	\$0	\$0	\$0	\$202,772
Primary Clarifiers 1 - 10-Infrastructure	\$0	\$194,518	\$247,569	\$0	\$0	\$442,087
Primary Clarifiers 1 - 11-Infrastructure	\$0	\$142,590	\$181,478	\$0	\$0	\$324,068
Primary Clarifiers 1 - 5-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0

Item	Flow	BOD	TSS	TKN	Customer	Total
Primary Clarifiers 1 - 6-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 7-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 8-Infrastructure	\$0	\$51,717	\$65,822	\$0	\$0	\$117,539
Primary Clarifiers 1 - 9-Infrastructure	\$0	\$165,962	\$211,224	\$0	\$0	\$377,185
Primary Digesters-Building	\$0	\$0	\$0	\$0	\$0	\$0
Primary Digesters-Equipment	\$0	\$121,444	\$52,047	\$0	\$0	\$173,491
Primary Digesters-Infrastructure	\$0	\$182,073	\$78,031	\$0	\$0	\$260,104
Rehberg Ranch Lagoons-Infrastructure	\$22,158	\$0	\$0	\$0	\$0	\$22,158
Scum Pumping Station-Building	\$3,198	\$3,198	\$9,593	\$0	\$0	\$15,988
Scum Pumping Station-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Scum Pumping Station-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 11-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 12-Infrastructure	\$612	\$1,531	\$919	\$0	\$0	\$3,062
Secondary Aerator 1 - 13-Infrastructure	\$28,092	\$70,229	\$42,138	\$0	\$0	\$140,459
Secondary Aerator 1 - 14-Infrastructure	\$117,561	\$293,903	\$176,342	\$0	\$0	\$587,805
Secondary Aerator 1 - 15-Infrastructure	\$22,497	\$56,243	\$33,746	\$0	\$0	\$112,485
Secondary Aerator 1 - 19-Infrastructure	\$4,719,337	\$11,798,342	\$7,079,005	\$0	\$0	\$23,596,683
Secondary Aerator 1 - 4-Building	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 6-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 8-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Digester-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Digester-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Final Clarifier 1-4-Equipment	\$0	\$1,173,920	\$503,109	\$0	\$0	\$1,677,029

Item	Flow	BOD	TSS	TKN	Customer	Total
Secondary Final Clarifier 1-6-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Final Clarifier 1-8-Infrastructure	\$0	\$0	\$0	\$0	\$0	-\$1
Secondary Flotation Thickener-Building	\$3,862,458	\$9,656,144	\$5,793,686	\$0	\$0	\$19,312,288
Secondary Flotation Thickener-Equipment	\$12,985	\$32,464	\$19,478	\$0	\$0	\$64,927
Secondary Flotation Thickener-Infrastructure	\$11,976	\$29,940	\$17,964	\$0	\$0	\$59,879
Secondary Pumping Station-Building	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Pumping Station-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Pumping Station-Infrastructure	\$375,496	\$0	\$0	\$0	\$0	\$375,496
Sewage Lift Station #003 Bldg 517-Infrastructure	\$1,249,150	\$0	\$0	\$0	\$0	\$1,249,150
Site Work, Landscaping/Yrd-Equip	\$12,730	\$0	\$0	\$0	\$0	\$12,730
Site Work, Landscaping/Yrd-Non Bldg	\$0	\$0	\$0	\$0	\$0	\$0
Sludge Control Building-Bldg	\$1,622,611	\$0	\$0	\$0	\$0	\$1,622,611
Sludge Control Building-Equipment	\$125,940	\$0	\$0	\$0	\$0	\$125,940
Sludge Control Building-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Sludge Pumping House-Building	\$0	\$0	\$0	\$0	\$0	\$0
Sludge Pumping House-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Solids Processing Building-Building	\$0	\$19,441	\$8,332	\$0	\$0	\$27,773
Solids Processing Building-Equipment	\$0	\$313,002	\$134,144	\$0	\$0	\$447,145
Grant Total - Net Fixed Assets	\$71,813,413	\$29,364,636	\$24,123,579	\$239	\$216,381	\$125,518,248
Percent Allocation	57.21%	23.39%	19.22%	0.00%	0.17%	100.00%
Capital Outlay-Related Costs	\$3,671,633	\$1,501,337	\$1,233,376	\$12	\$11,063	\$6,417,421
Debt -Related Costs	\$3,005,808	\$325,247	\$551,022	\$12	\$512	\$3,882,600
Total Capital-Related Costs	\$6,677,441	\$1,826,584	\$1,784,398	\$24	\$11,575	\$10,300,021

Table A.2: Classification of Net Fixed Assets – FY22

Item	Flow	BOD	TSS	TKN	Customer	Total
Administration Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Administration Building-Equipment	\$895,476	\$367,431	\$193,895	\$41	\$364,210	\$1,821,052
Administration Building-Infrastructure	\$5,212	\$2,139	\$1,129	\$0	\$2,120	\$10,600
Administration Building-Non Building	\$0	\$0	\$0	\$0	\$0	\$0
Air Flotation Thickener-Infrastructure	\$53,680	\$134,200	\$80,520	\$0	\$0	\$268,400
Black Otter Trail Land-Infrastructure	\$2,500	\$0	\$0	\$0	\$0	\$2,500
Chlorine Contact 1 - 10-Infrastructure	\$28,100	\$0	\$0	\$0	\$0	\$28,100
Chlorine Contact 1 - 11-Infrastructure	\$4,100	\$0	\$0	\$0	\$0	\$4,100
Chlorine Contact 1 - 5-Building	\$0	\$0	\$0	\$0	\$0	\$0
Chlorine Contact 1 - 6-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Chlorine Contact 1 - 9-Infrastructure	\$2,019,900	\$0	\$0	\$0	\$0	\$2,019,900
Cold Storage Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Cold Storage Building-Non Building	\$847,213	\$0	\$0	\$0	\$0	\$847,213
Communications Equip-Equipment	\$39,621	\$16,257	\$8,579	\$2	\$16,115	\$80,574
Construction Equipment-Equipment	\$86,200	\$0	\$0	\$0	\$0	\$86,200
Decant Pump Bldg & Tanks-Building	\$0	\$0	\$0	\$0	\$0	\$0
Decant Pump Bldg & Tanks-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Decant Pump Bldg & Tanks-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Electrical Shop-Building	\$927,174	\$380,437	\$200,758	\$42	\$1,888	\$1,510,300
Electrical Shop-Equipment	\$8,288	\$3,401	\$1,795	\$0	\$17	\$13,500
Engine Generator-Building	\$228,187	\$93,629	\$49,409	\$10	\$465	\$371,700
Engine Generator-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Engine Generator-Non Building	\$0	\$0	\$0	\$0	\$0	\$0
Five Mile Lift Station-Building	\$1,612,900	\$0	\$0	\$0	\$0	\$1,612,900

Item	Flow	BOD	TSS	TKN	Customer	Total
Five Mile Lift Station-Infrastructure	\$581,100	\$0	\$0	\$0	\$0	\$581,100
Gas Pumps-Equipment	\$8,700	\$0	\$0	\$0	\$0	\$8,700
Gravity Thickening Building-Infrastructure	\$0	\$25,690	\$11,010	\$0	\$0	\$36,700
Grit Building-Building	\$4,180	\$4,180	\$12,540	\$0	\$0	\$20,900
Grit Building-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Grit Building-Infrastructure	\$5,500	\$5,500	\$16,500	\$0	\$0	\$27,500
Headworks Building-Building	\$869,600	\$869,600	\$2,608,800	\$0	\$0	\$4,348,000
Headworks Building-Equipment	\$10,728	\$10,728	\$32,185	\$0	\$0	\$53,642
Headworks Building-Infrastructure	\$3,245,649	\$3,245,649	\$9,736,947	\$0	\$0	\$16,228,244
Heated Storage Building-Building	\$18,000	\$0	\$0	\$0	\$0	\$18,000
Interceptor Lines-Infrastructure	\$8,315,299	\$0	\$0	\$0	\$0	\$8,315,299
Ironwood Lift Station-Building	\$57,900	\$0	\$0	\$0	\$0	\$57,900
Laboratory Test Equip-Equipment	\$28,200	\$0	\$0	\$0	\$0	\$28,200
Lake Hills Lift Staion-Equipment	\$1,395,701	\$0	\$0	\$0	\$0	\$1,395,701
Lateral Lines - Below 15"-Infrastructure	\$50,928,600	\$0	\$0	\$0	\$0	\$50,928,600
Lloyd Mangrum Lift Station-Building	\$28,900	\$0	\$0	\$0	\$0	\$28,900
Maintenance Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Non-Potable Waterline-Infrastructure	\$919,900	\$0	\$0	\$0	\$0	\$919,900
Odor Control-Building	\$25,109	\$10,303	\$5,437	\$1	\$51	\$40,900
Odor Control-Infrastructure	\$4,325,615	\$1,774,882	\$936,612	\$198	\$8,806	\$7,046,114
Office Furniture & Equip-Equipment	\$17,496	\$7,179	\$3,788	\$1	\$36	\$28,500
Outfall-Infrastructure	\$196,400	\$0	\$0	\$0	\$0	\$196,400
Primary Clarifiers 1 - 10-Infrastructure	\$0	\$186,560	\$237,440	\$0	\$0	\$424,000
Primary Clarifiers 1 - 11-Infrastructure	\$0	\$138,116	\$175,784	\$0	\$0	\$313,900
Primary Clarifiers 1 - 5-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 6-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0

Item	Flow	BOD	TSS	TKN	Customer	Total
Primary Clarifiers 1 - 7- Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 8- Infrastructure	\$0	\$44,660	\$56,840	\$0	\$0	\$101,500
Primary Clarifiers 1 - 9- Infrastructure	\$0	\$147,004	\$187,096	\$0	\$0	\$334,100
Primary Digesters-Building	\$0	\$0	\$0	\$0	\$0	\$0
Primary Digesters-Equipment	\$0	\$155,739	\$66,745	\$0	\$0	\$222,485
Primary Digesters- Infrastructure	\$0	\$154,350	\$66,150	\$0	\$0	\$220,500
Rehberg Ranch Lagoons- Infrastructure	\$11,900	\$0	\$0	\$0	\$0	\$11,900
Scum Pumping Station-Bldg	\$2,420	\$2,420	\$7,260	\$0	\$0	\$12,100
Scum Pumping Station-Equip	\$0	\$0	\$0	\$0	\$0	\$0
Scum Pumping Station- Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 11- Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 12- Infrastructure	\$320	\$800	\$480	\$0	\$0	\$1,600
Secondary Aerator 1 - 13- Infrastructure	\$24,260	\$60,650	\$36,390	\$0	\$0	\$121,300
Secondary Aerator 1 - 14- Infrastructure	\$107,340	\$268,350	\$161,010	\$0	\$0	\$536,700
Secondary Aerator 1 - 15- Infrastructure	\$21,000	\$52,500	\$31,500	\$0	\$0	\$105,000
Secondary Aerator 1 - 19- Infrastructure	\$4,571,480	\$11,428,700	\$6,857,220	\$0	\$0	\$22,857,400
Secondary Aerator 1 - 4- Building	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 6- Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 8- Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 9- Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Digester- Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Digester- Infrastructure	\$0	\$1,137,150	\$487,350	\$0	\$0	\$1,624,500
Secondary Final Clarifier 1-4- Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Final Clarifier 1-6- Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0

Item	Flow	BOD	TSS	TKN	Customer	Total
Secondary Final Clarifier 1-8-Infrastructure	\$3,741,440	\$9,353,600	\$5,612,160	\$0	\$0	\$18,707,200
Secondary Flotation Thickener-Building	\$11,080	\$27,700	\$16,620	\$0	\$0	\$55,400
Secondary Flotation Thickener-Equipment	\$22,529	\$56,323	\$33,794	\$0	\$0	\$112,647
Secondary Flotation Thickener-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Pumping Station-Building	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Pumping Station-Equipment	\$364,029	\$0	\$0	\$0	\$0	\$364,029
Secondary Pumping Station-Infrastructure	\$1,209,200	\$0	\$0	\$0	\$0	\$1,209,200
Sewage Lift Station #003 Bldg 517-Infrastructure	\$9,500	\$0	\$0	\$0	\$0	\$9,500
Site Work, Landscaping/Yrd-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Site Work, Landscaping/Yrd-Infrastructure	\$1,560,000	\$0	\$0	\$0	\$0	\$1,560,000
Site Work, Landscaping/Yrd-Non Building	\$114,400	\$0	\$0	\$0	\$0	\$114,400
Sludge Control Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Sludge Control Building-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Sludge Control Building-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Sludge Pumping House-Building	\$0	\$17,010	\$7,290	\$0	\$0	\$24,300
Sludge Pumping House-Infrastructure	\$0	\$309,190	\$132,510	\$0	\$0	\$441,700
Solids Processing Building-Building	\$0	\$35,490	\$15,210	\$0	\$0	\$50,700
Solids Processing Building-Equipment	\$0	\$848,095	\$363,469	\$0	\$0	\$1,211,564
Grant Total - Net Fixed Assets	\$89,512,026	\$31,375,612	\$28,452,221	\$296	\$393,708	\$149,733,863
Percent Allocation	59.78%	20.95%	19.00%	0.00%	0.26%	100.00%
Capital Outlay-Related Costs	\$3,899,897	\$1,366,986	\$1,239,618	\$13	\$17,153	\$6,523,667
Debt -Related Costs	\$2,964,812	\$327,559	\$594,019	\$10	\$452	\$3,886,852
Total Capital-Related Costs	\$6,864,709	\$1,694,544	\$1,833,637	\$23	\$17,605	\$10,410,519

Table A.3: Classification of Net Fixed Assets – FY23