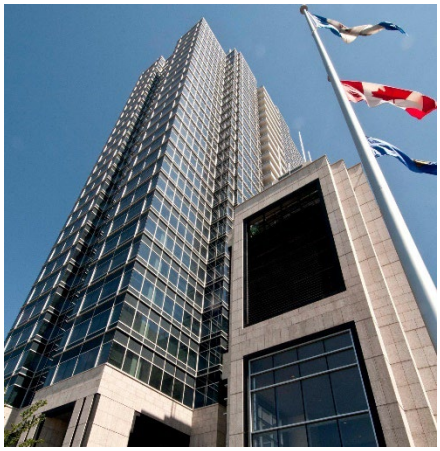
Appendix K-2

EPCOR WATER SERVICES

HDR Cost of Service Studies

May 31, 2024

Final Report



2023 Wastewater Treatment Cost of Service Study

April 2024

April 29, 2024

Mr. Santosh Appukuttan
EPCOR Water Services, Inc.
9496 Rossdale Road NW
Edmonton, Alberta T5K 0A5

Subject: Comprehensive Wastewater Treatment Cost of Service Study Final Report

Dear Mr. Appukuttan:

HDR Engineering, Inc. (HDR) was retained by EPCOR Water Services, Inc. (EPCOR) to provide technical assistance in the update of EPCOR's wastewater treatment cost of service analysis to support EPCOR's efforts in establishing cost-based rates for its wastewater treatment customers.

EPCOR was responsible for the development of the revenue requirement data which was provided to HDR for input into the cost of service analysis (model). The model and analysis were developed utilizing EPCOR's accounting, operating and management records. Based on the revenue requirement developed by EPCOR, HDR then developed a cost of service analysis to determine the equitable distribution of costs between the various wastewater treatment customer classes of service. HDR has relied on this information to develop our analyses, from which we draw our findings, conclusions and recommendations.

The analysis and model developed for EPCOR was prepared using generally accepted cost of service and rate making methodologies and principles. These generally accepted industry standard cost of service methodologies and principles are defined by the Water Environment Federation (WEF). The cost of service methodology used for EPCOR has been tailored to the specific and unique circumstances and facilities owned and operated by EPCOR. This report details the findings and conclusions of the analysis conducted herein. The development of the model and technical analysis is intended to provide cost-based, defensible, and equitable wastewater rates to EPCOR's wastewater treatment customers.

We appreciate the opportunity to provide technical assistance to EPCOR. We also appreciate the assistance provided by EPCOR management and staff in the development of this study.

Sincerely yours,
HDR Engineering, Inc.

Shawn Koorn
Associate Vice President

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1 Introduction and Overview

HDR Engineering, Inc. (HDR) was retained by EPCOR Water Services, Inc. (EPCOR) to provide technical assistance in the development of a wastewater treatment cost of service analysis (the Study) to support EPCOR's historical practice of establishing cost-based rates. This report outlines the approach, methodology, findings, and conclusions of the cost of service analysis developed for EPCOR's wastewater treatment services.

This report was developed utilizing EPCOR's accounting, operating and management records, and revenue requirement as provided by EPCOR. HDR has relied on this information to develop the wastewater treatment cost of service analysis, from which we have drawn our findings, conclusions, and recommendations. At the same time, the Study was developed utilizing generally accepted utility rate setting methodologies and principles as outlined by the Water Environment Federation (WEF). This report provides EPCOR with the basis for developing and implementing wastewater rates which are cost-based to its customers.

1.1 Study Goals and Objectives

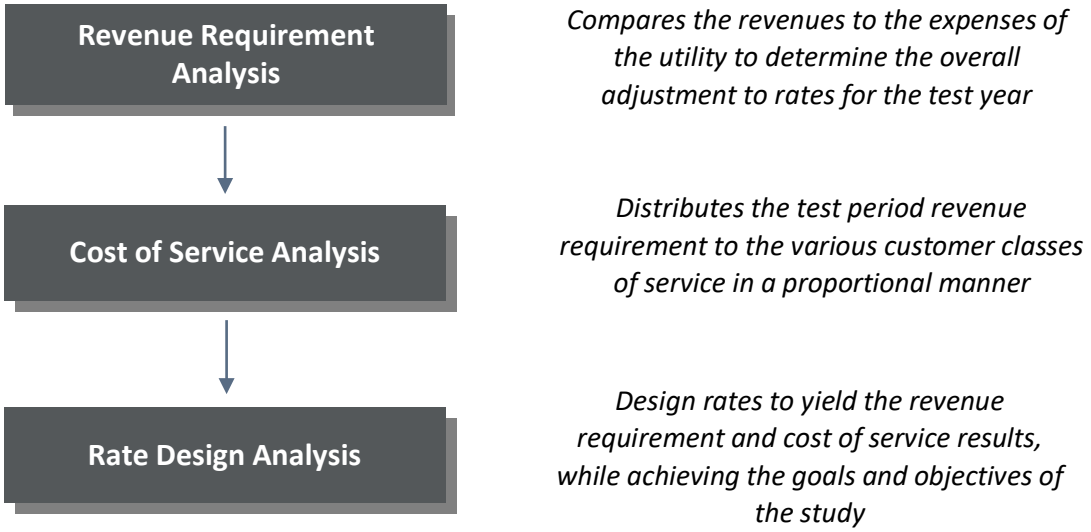
The development of the Study was based on several key goals and objectives. In general, these were as follows:

- Develop a wastewater treatment cost of service analysis that is consistent with the principles and methodologies established by the WEF Manual of Practice No. 27, Financing and Charges for Wastewater Systems.
- Develop a cost of service methodology to proportionally distribute the cost of providing wastewater treatment to various customer classes of service.
- Review the current wastewater treatment rate structure for discussion and review by EPCOR for their future consideration.
- Provide EPCOR with a cost of service model to use and evaluate the distribution of future wastewater treatment costs and rate impacts.

1.2 Overview of the Comprehensive Rate Study Process

Provided below in Figure 1 – 1 is an overview of the steps required to conduct a comprehensive rate study.

Figure 1 – 1
Overview of the Comprehensive Rate Study Process



The framework or methodology shown in Figure 1 - 1 provides an overview of the typical components of a comprehensive study. Each of these steps of the rate setting process and the technical analyses associated with them are based on the generally accepted wastewater rate-setting methodologies and principles described in the WEF Manual of Practice (MOP) #27. An important aspect of the Study is incorporating and tailoring each of these analytical elements to reflect the specific and unique circumstances and characteristics of EPCOR's wastewater treatment system.

1.3 Summary

This report provides a summary of the technical analyses undertaken to develop EPCOR's wastewater treatment cost of service analysis. The Study has been developed using generally accepted wastewater cost of service methodologies and principles. This report and our analyses are designed and intended to provide EPCOR with the information necessary to continue to develop cost-based and proportional rates applicable to its wastewater treatment utility. At the conclusion of this report, a technical appendix is attached which provides the detailed exhibits and technical analyses completed to support the wastewater treatment cost of service analysis.

2 Wastewater Treatment Revenue Requirement

This section of the report discusses the revenue requirement for EPCOR's wastewater treatment utility. EPCOR management and staff developed the test period wastewater treatment costs and associated revenue requirement analysis. The results of the revenue requirement analysis provide a framework around which to evaluate the overall adequacy of EPCOR's current wastewater treatment rates. Provided below is a detailed discussion of the revenue requirements as independently developed by EPCOR management and staff. This wastewater treatment revenue requirement is then carried forward and utilized within the cost of service analysis developed for EPCOR by HDR.

2.1 Revenue Requirement Framework

By virtue of the differences between a public utility and a private utility, the revenue requirement is often based upon different elements or methodologies. Most private or regulated utilities utilize what is known as a "utility or accrual" basis of determining the revenue requirement. This approach calculates a utility's annual revenue requirement by aggregating operation and maintenance (O&M) expenses, taxes, depreciation expense and return on investment.

In contrast to the utility or accrual method of developing the revenue requirement for privately-owned utilities, a different method of determining annual revenue requirement is often used for governmentally-owned public utilities. The "cash basis" methodology is used by most governmental or public utilities for developing the revenue requirement. As the name implies, a public utility aggregates its cash expenditures to determine its total revenue requirement for a specified period of time.

Table 2 - 1 summarizes and compares the components of the cash and utility/accrual basis methodologies.

Table 2 – 1
Cash versus Utility Basis Comparison

Cash Basis		Utility Basis (Accrual)	
+	O&M Expenses	+	O&M Expenses
+	Taxes/Transfer Payments	+	Taxes/Transfer Payments
+	Capital Improv. Funded From Rates (≥ Depreciation Expense)	+	Depreciation Expense
+	Debt Service (Principal + Interest)	+	Return on Investment
=	**Total Revenue Requirement**	=	**Total Revenue Requirement**

EPCOR is a regulated utility providing wastewater treatment services and, therefore, the utility basis approach was utilized. This methodology is consistent with EPCOR's past rate setting methodologies and practices.

2.2 Revenue Requirement Analysis

The second step is to determine a method of accumulating costs. As discussed above, EPCOR used a utility basis methodology. Given this basic analytical framework, the wastewater treatment revenue requirement was developed for the review period. As noted above, the wastewater treatment revenue requirement used for the study was developed by EPCOR management and staff. This portion of the report will summarize and discuss the basic components and results of EPCOR's wastewater treatment revenue requirement analysis. The initial step in calculating the revenue requirement was to establish a time period around which the revenue requirement would be reviewed. The revenue requirement was developed by EPCOR for 2024 - 2027 and then projected for 2028 through 2033 based on assumed rates of revenue and expense escalation. Provided below in Table 2 - 2 is a summary of the wastewater treatment revenue requirement developed by EPCOR.

Table 2 – 2
Summary of the Wastewater Treatment Revenue Requirement ($000)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Revenues										
Rate Revenues	$142,799	$147,205	$149,725	$151,757	$154,792	$157,888	$161,046	$164,267	$167,552	$170,903
Other Revenues	7,969	8,132	8,158	8,240	8,355	8,472	8,591	8,711	8,833	8,957
Total Revenues	**$150,768**	**$155,336**	**$157,883**	**$159,997**	**$163,147**	**$166,360**	**$169,636**	**$172,978**	**$176,385**	**$179,860**
Expenses										
O&M Expenses	$79,129	$84,316	$85,886	$87,393	$89,053	$90,745	$92,470	$94,227	$96,017	$97,841
Taxes	$931	$949	$967	$984	$1,003	$1,022	$1,041	$1,061	$1,081	$1,102
Depreciation	28,004	30,119	31,285	32,704	33,325	33,958	34,604	35,261	35,931	36,614
Financing Costs	10,682	11,720	12,249	14,138	15,057	16,036	17,078	18,188	19,371	20,630
Return on Investment	31,642	29,677	30,514	26,904	26,904	26,904	26,904	26,904	26,904	26,904
Total Expenses	**$150,387**	**$156,782**	**$160,901**	**$162,123**	**$165,342**	**$168,665**	**$172,096**	**$175,641**	**$179,303**	**$183,090**
Bal. / (Def.) of Funds	$381	($1,446)	($3,017)	($2,126)	($2,195)	($2,305)	($2,460)	($2,663)	($2,919)	($3,230)

As noted previously, the above wastewater treatment revenue requirement was developed by EPCOR and provided to HDR as the basis for the costs to be proportionally distributed within the cost of service analysis.

2.3 Summary

This section of the report has provided a summary of the wastewater treatment revenue requirements as developed by EPCOR. The costs within the revenue requirement analysis were used by HDR as the starting point for the wastewater treatment cost of service analysis. The next section of the report will discuss the development of the EPCOR's wastewater treatment cost of service analysis.

3 Wastewater Treatment Cost of Service Analysis

This section of the report details the wastewater treatment cost of service analysis developed by HDR Engineering, Inc. (HDR) for EPCOR's wastewater treatment utility. The cost of service proportionally distributes the revenue requirement as provided in Section 2. Provided below is a more detailed discussion of the key technical steps of the cost of service analysis undertaken and a summary of our findings, conclusions and recommendations.

3.1 Cost of Service Analysis

The objective of the cost of service analysis is to proportionally distribute the revenue requirement to the various customer classes of service (e.g., residential, commercial, etc.). By following the generally accepted guidelines and principles of a cost of service analysis, wastewater treatment rates are developed which are proportional and cost-based.

As discussed in Section 2, the utility basis approach is the generally accepted methodology used by EPCOR to establish the level of costs to be proportionally distributed within the cost of service analysis. There are two primary objectives in conducting a cost of service analysis:

1. Proportionally distribute the revenue requirement among the customer classes of service
2. Derive average unit costs for subsequent reference/use in designing final rates

The objectives of the cost of service analysis are different from determining the revenue requirement. As noted in the previous section, a revenue requirement analysis determines the utility's level of revenue required, while the cost of service analysis provides a methodology to determine the proportional manner in which to collect the revenue from the various customer classes of service.

The second rationale for conducting a cost of service analysis is to ensure a rate is designed such that it properly reflects the costs incurred by the utility. For example, a wastewater utility incurs costs related to wastewater flow, strength, and customer cost components. A wastewater utility typically designs and builds infrastructure to sufficiently handle both the total flow as well as the wastewater strength delivered to the treatment plant. Therefore, those customers impacting the wastewater treatment system in these different ways should contribute their proportional share of the costs, based upon the respective burdens each place upon the system (e.g., high flow / low strength, low flow / high strength, etc.). Each of these types of costs may be collected in a slightly different manner as to allow for the development of wastewater treatment rates that collect costs in roughly (i.e., proportionally) the same manner as they are incurred.

3.2 Establishing Customer Classes of Service

The first step in a cost of service study is to determine the customer classes of service. To proportionally distribute costs, the utility must develop customer classes of service. Generally, the utility will group customers in classes of service that have similar usage patterns and facility requirements.

EPCOR's current wastewater treatment rate schedules (classes of service) are as follows:

- Single Family
- Multi-Family
- Commercial
- Overstrength (High Strength Wastewater Customers)

During the development of the cost of service study, various alternative customer classes of service were discussed with EPCOR staff. As a starting point for that discussion, HDR noted that EPCOR has established a set of customer classes of service which appear to be reasonable and, in HDR's opinion, follow current wastewater utility industry approaches. The establishment of customer classes of service allows for the development of cost-based wastewater treatment rates and the ability to establish rate structures for each customer class of service that reflects the overall goals and objectives of EPCOR.

3.3 Key Assumptions of the Cost of Service

A number of key assumptions were used within EPCOR's wastewater treatment cost of service study. Listed below is a brief discussion of the major assumptions used.

- The test year used for the wastewater treatment cost of service analysis was the forecasted or projected 2024 revenue requirement
- The revenue and expense data utilized by HDR within the Study was provided by EPCOR
- A utility basis approach or methodology was utilized for the cost of service analysis. This is a generally accepted methodology for accumulating costs and distributing them within a cost of service analysis. This generally accepted methodology is described in detail in the Water Environment Federation, Manual of Practice No. 27.
- The allocation and distribution of EPCOR's plant in service and revenue requirement was also developed based on generally accepted methodologies as described in the Water Environment Federation, Manual of Practice No. 27. The methodologies were tailored to reflect EPCOR's specific and unique treatment plant facilities and operations.
- The distribution factors for volume and strength, used within EPCOR's cost of service analysis to proportionally assign costs to the identified classes of service, were developed using EPCOR specific data as provided by EPCOR

3.4 General Cost of Service Procedures

In order to determine the cost to serve each customer class of service on the system, a cost of service analysis is conducted. A cost of service study utilizes a three-step approach to develop the cost to provide service to each customer class. These steps take the form of functionalization, allocation, and distribution. Provided below is a more detailed discussion of the wastewater treatment cost of service study, and the specific steps taken within EPCOR's analysis.

3.4.1 Functionalization of Costs

The first analytical step in the wastewater treatment cost of service process is called ***functionalization***. Functionalization is the arrangement of expenses and asset (plant) data by major operating components and functions within the treatment plant. Within the Study, the functionalization of the cost data was already largely accomplished through EPCOR's accounting and asset records.

3.4.2 Allocation of Costs

The second analytical task performed in a wastewater treatment cost of service study is the ***allocation*** of the costs. Allocation determines why the expenses were incurred or what type of need is being met. The utility's plant accounts (assets) and revenue requirement were reviewed and allocated.

- **Volume Related Costs:** Volume related costs are those costs which tend to vary with the total quantity or volumes of wastewater treated.
- **Strength-Related Costs:** Wastewater strength is a label which describes the physical, biological and chemical characteristics of the wastewater. Strength-related costs refer to specific wastewater characteristics and the process/cost associated with treating different contaminants and their concentration in the effluent. Higher strength discharges require additional treatment to meet discharge requirements. Strength levels or the parameters of wastewater can be measured in a variety of ways. For purposes of EPCOR's cost of service analysis, strength was characterized/measured based the following parameters: biochemical oxygen demand (BOD), chemical oxygen demand (COD), total suspended solids (TSS), total nitrogen (TKN), total phosphorous (TP), and oil and grease (OG). As already noted, increased or higher levels of these strength constituents generally equate to increased treatment costs for most wastewater treatment systems.
- **Customer-Related Costs:** Customer-related costs vary with the addition or deletion of a customer or a cost which varies as a function of the number of customers served. Customer related costs typically include the costs of billing, collecting, and accounting.
- **Revenue-Related Costs:** Some costs associated with the utility may vary with the amount of revenue received by the utility. An example of a revenue related cost would be a utility tax, or franchise fee, which is based on gross utility revenue.

Given the above types of costs, EPCOR's revenue requirement is allocated to the appropriate cost component(s) based upon the reason why the cost was incurred (e.g., to meet a volume-related need, etc.) as outlined in industry standard wastewater cost of service principles and specific operation of EPCOR's treatment process.

3.4.3 Development of Distribution Factors

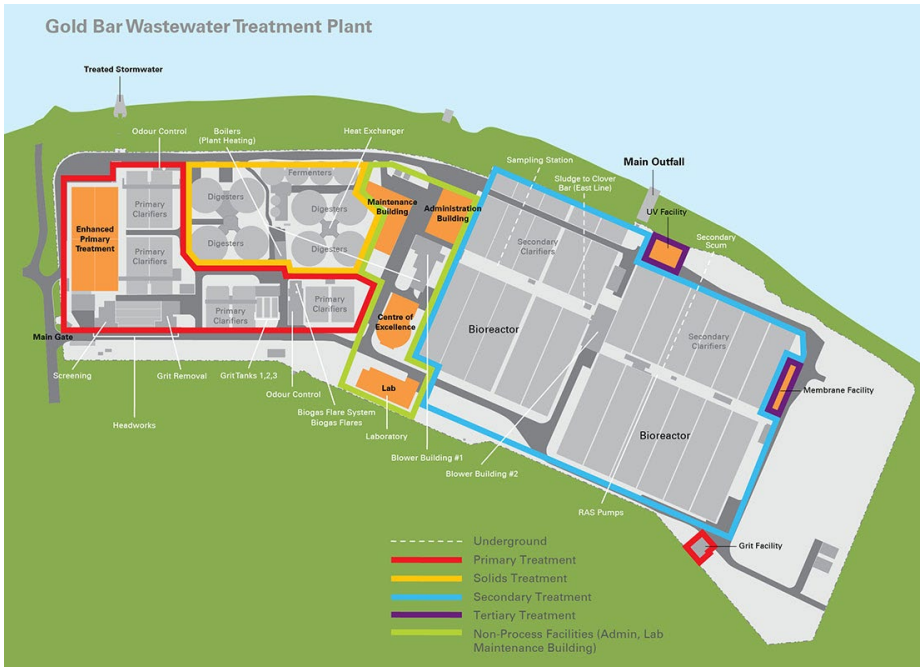
Once the allocation process is complete, and the customer groups have been defined, the each of the allocated cost components are proportionally ***distributed*** to each customer class of service, or rate schedule. EPCOR's wastewater treatment utility's allocated costs were distributed to the various customer groups using the following distribution factors.

- **Volume Distribution Factor:** Volume-related costs are distributed on the basis of estimated class contributions to wastewater flows. Wastewater flows are not typically metered and given that, a reasonable methodology or surrogate must be used in order to estimate each customer class's contribution. As part of the data and information that EPCOR provided HDR, there was an estimate developed for each customer type which was used as the basis for the distribution of costs related to volume allocated costs. To verify the reasonableness of the estimated flows, the calculated total flows used in this distribution factor was compared to the recent historical flows at the treatment plant. The total volume in the distribution factor was approximately the same as the historical flows at the treatment plant. The calculation of the volume distribution factor is shown in Exhibit 3 of the technical appendix.
- **Customer Distribution Factor:** Customer costs, within the cost of service analysis, are distributed to each customer classes of service based upon their respective number of customer accounts. Two types of customer distribution factors were developed – actual and weighted. The actual customer distribution factor assumes that there is no disproportionate cost associated with serving a customer (e.g., postage for bills is the same cost per customer, regardless of the size or usage of the customer). In contrast, a weighted customer distribution factor assumes that there is some disproportionality associated with serving different types of customers and attempts to estimate the level of difference in serving the customers. It is important to note that for this Study, no per customer cost differences or weighting differences between customers was assumed. Exhibit 4 of the technical appendix provides the calculation of the customer allocation factors.
- **Strength-Distribution Factor:** Strength-related costs are allocated (i.e., assigned) between the wastewater parameters of BOD, COD, TKN, TP, TKN, OG, and TSS. Each of these specific types of strength-related costs are then equitably distributed to each class of service based upon flow contributions and the assumed strength level the class of service is contributing. For the Single Family, Multi-Family and Commercial customers, the assumed wastewater strength-levels were set at domestic level strengths. In contrast to this, Overstrength customers reflect those customers with higher strength wastewater discharged to EPCOR's wastewater treatment system and their strength levels are based on actual kilograms removed for each constituent from the actual testing done on overstrength customers. Exhibit 5 in the technical appendix provides the calculation of the strength-distribution factors.
- **Revenue-Related Distribution Factor:** The revenue related distribution factor was developed from the projected rate revenues for 2024 for each customer class of service. These revenue projects were developed as a part of the revenue requirement analysis (Exhibit 2). A summary of the revenue-related distribution factor is provided in Exhibit 6 of the technical appendix.

Given the development of the distribution factors, the final step in the wastewater treatment cost of service analysis was to distribute the allocated costs to the various customer classes of service.

3.5 Functionalization and Allocation of Plant in Service (Rate Base)

A necessary step of the cost of service is the functionalization and allocation of wastewater treatment plant in service (assets and infrastructure). In performing the functionalization of plant in service, HDR utilized EPCOR's historical plant account records. The purpose of the allocation step of the cost of service is to determine why the specific plant assets (treatment plant components) are in place, and what function they provide in the treatment process. In other words, which allocation component (Vol, BOD, COD, TKN, etc.) does the asset support or provide a benefit to.



The functionalization of EPCOR's wastewater treatment plant assets (plant in service) was largely accomplished from the existing asset records. The net plant in service balances were provided by EPCOR and were reflective as of December 31, 2022. Once the treatment assets were functionalized, the analysis shifted to allocation of the asset. The allocation process included reviewing each line item and determining which allocation cost components the assets were related to. During the course of the development of this portion of the analysis, there was significant review and discussion on the functionalization and allocation of the treatment plant and its components in the prior study. This allocation approach was reviewed and discussed with EPCOR treatment plant and engineering staff to finalize the allocations of the treatment plant assets. The proposed allocations are based on HDR and EPCOR's understanding of the treatment facilities which are currently in place, their current operations, and generally accepted allocation methodologies for wastewater treatment. Table 3 - 1 provides the basis for the allocation of EPCOR's Gold Bar Wastewater Treatment Plant in service.

Table 3 – 1
Summary of the Wastewater Treatment Net Plant in Service ($000)

		Strength – Related						
	VOL	**BOD**	**COD**	**TKN**	**TP**	**OG**	**TSS**	**Cust**
Land	$0	$0	$0	$0	$0	$0	$0	$421
WWTP								
Admin	$0	$0	$0	$0	$0	$0	$0	$2,819
Air Scrub	0	0	0	0	0	5,357	5,357	0
Main Control Room	23	26	28	55	65	47	87	2
Aux Control Room	13	15	16	31	36	27	49	1
Blowers	0	1,220	488	2,683	488	0	0	0
Boilers	885	1,019	1,088	2,131	2,518	1,837	3,392	87
CBF (inc. Ostara)	2,163	2,490	2,659	5,208	6,152	4,489	8,288	212
Center of Excellence	9,521	0	0	0	0	0	0	0
Digesters	0	12,084	5,179	17,263	17,263	17,263	17,263	0
Distribution Station	29	33	36	70	83	60	111	3
Enhanced Prim. Treat. (PRI)	0	0	16,479	7,553	0	24,718	19,912	0
Flare	0	81	35	115	115	115	115	0
Grit	0	0	4,310	1,437	0	1,437	7,183	0
Laboratory	195	703	703	703	703	195	703	0
Maintenance Building	136	156	167	326	386	281	520	13
Outfall	0	0	0	0	0	0	0	0
Penthouse	24	28	30	59	69	51	93	2
Screens	1,551	0	0	0	0	0	3,619	0
Sampling	9	31	31	31	31	9	31	0
Scum	0	497	0	0	0	1,160	0	0
Bioreactor/Secondary Clarifier	0	10,374	4,446	22,229	29,639	0	7,410	0
Substation	48	56	59	116	137	100	185	5
UV	2,266	0	0	0	0	0	0	0
Waste Activated Sludge	0	647	277	1,386	1,848	0	462	0
Pre Treatment / Diversion	19,734	0	0	0	0	0	46,046	0
Lagoon	0	443	190	633	633	633	633	0
Effluent Water	0	211	90	301	301	301	301	0
Fermenter	0	0	0	4,019	18,948	0	0	0
Sludge	0	4,761	2,040	6,801	6,801	6,801	6,801	0
CWIP	0	0	0	0	0	0	0	0
Total	**$36,598**	**$34,873**	**$38,349**	**$73,150**	**$86,215**	**$64,881**	**$128,560**	**$3,566**
General Plant	$4,260	$4,902	$5,235	$10,254	$12,113	$8,838	$16,319	$418
Total Net Plant in Service	**$41,285**	**$40,558**	**$44,234**	**$84,849**	**$99,959**	**$75,022**	**$146,933**	**$4,026**

Table 3 - 1 provides a summary of the basic functionalization and allocation of EPCOR's wastewater treatment plant assets. A detailed exhibit of the functionalization and allocation of plant investment can be found in the Technical Appendix, Exhibit 7c.

Provided in Table 3 – 2 is a summary of the percentage allocation to the various cost components of EPCOR's total wastewater treatment plant in service.

Table 3 – 2
Summary of the Wastewater Treatment Net Plant in Service Allocation ($000)

		Strength – Related							
	Total	**VOL**	**BOD**	**COD**	**TKN**	**TP**	**OG**	**TSS**	**Cust**
Total Allocation	100.0%	*7.7%*	*7.5%*	*8.2%*	*15.8%*	*18.6%*	*14.0%*	*27.4%*	*0.7%*

3.6 Functionalization and Allocation of Operating Expenses

Operating expenses are generally functionalized and allocated in a manner similar to the corresponding plant account (i.e., Tables 3 - 1 and 3 - 2). This approach to the allocation of operating expenses was used within EPCOR's wastewater treatment analysis. For the cost of service study, the 2024 revenue requirement for the wastewater treatment utility prepared by EPCOR was functionalized and allocated based on the allocation of treatment plant.

As noted previously, the revenue requirement was developed utilizing the utility/accrual basis methodology which was comprised of operation and maintenance expenses, annual depreciation expense, revenue tax, and a return on rate base (net plant in service). Similar to the allocation of plant in service, the analysis reviewed each line of the revenue requirement to determine the appropriate allocation of the revenue requirement component. In general, the majority of the revenue requirement was allocated as "net plant", or the overall percentages shown above in Table 3 - 2. However, there were also specific line items that were allocated to specific cost components. As examples, item such as franchise fees were allocated as revenue-related, chemicals were assigned to the strength related categories of phosphorus (TP) and suspended solids (TSS), and billing, meters, and customer service were allocated to the customer-related cost component.

One key objective of EPCOR's cost of service analysis is to review the costs associated with providing high strength treatment services, or service to "overstrength" customers. In reviewing the allocation of the revenue requirement, EPCOR has a separate line item that is related to managing and monitoring the overstrength customer program. This cost was directly assigned to the overstrength customer class of service so that the overstrength customers assume the cost responsibility for the administration and activities associated with the overstrength program. Provided in Table 3 – 3 is a summary of the allocated revenue requirement for EPCOR's wastewater treatment utility.

Table 3 – 3
Summary of the 2024 Wastewater Treatment Expense Allocation ($000)

		Strength – Related								
	VOL	BOD	COD	TKN	TP	OG	TSS	Cust	RR	DA
Total $	$7,531	$7,398	$8,069	$15,477	$18,740	$13,685	$38,947	$20,520	$10,469	$1,583
Total %	5.3%	5.2%	5.7%	10.9%	13.2%	9.6%	27.3%	14.4%	*7.4%*	*1.1%*

As shown in Table 3 - 3, EPCOR's total revenue requirement has been allocated between the various cost components. A more detailed review of the allocation of EPCOR's wastewater treatment revenue requirement can be found in the Technical Appendix on Exhibit 8.1. These totals are then distributed between each customer class of service (rate schedule) based on their proportional share (i.e., contribution) of the allocated costs. As a point of reference, the DA (direct assignment) is the allocation of the overstrength program costs to the overstrength customers.

3.7 Distribution of the Revenue Requirement

The next step in the cost of service process is the proportional distribution of the allocated costs to the customer classes of service. As noted in Section 3.4.3, a distribution factor was developed for each cost component. The distribution factor provides the basis for the proportional distribution of each cost component to each customer class of service. Provided below in Table 3 - 4 is a summary of the distributed revenue requirement to each customer class of service.

Table 3 – 4
Summary of the Distributed 2024 Revenue Requirement ($000)

	Total	Single Family	Multi-Family	Commercial	Over-Strength
Volume Related	**$7,531**	**$4,028**	**$1,593**	**$1,910**	**$0**
Strength Related					
Biochemical Oxygen Demand	$7,398	$3,608	$1,427	$1,711	$652
Total Suspended Solids	38,947	20,017	7,916	9,490	1,524
Chemical Oxygen Demand	8,069	4,290	1,696	2,034	49
Total Nitrogen	15,477	7,755	3,067	3,677	978
Oil & Grease	13,685	6,863	2,714	3,254	854
Total Phosphorous	18,740	9,677	3,827	4,588	648
Total Strength Related	**$102,316**	**$52,209**	**$20,648**	**$24,753**	**$4,706**
Customer Related					
Actual Customer	$20,520	$19,115	$250	$1,155	$0
Weighted Customer	0	0	0	0	0
Total Customer Related	**$20,520**	**$19,115**	**$250**	**$1,155**	**$0**
Revenue Related	**$10,469**	**$6,409**	**$1,862**	**$2,197**	**$0**
Direct Assignment	**$1,583**	**$0**	**$0**	**$0**	**$1,583**
Total Revenue Requirement	**$142,419**	**$81,762**	**$24,353**	**$30,015**	**$6,289**

As shown in Table 3 - 4, the distribution of the revenue requirement is developed for each allocation component. Another key component to note is that overstrength customers are only allocated strength-related costs and the direct assignment costs. This reflects the fact that the volume component is picked up through the treatment rate for the customer (e.g., commercial rate), and the overstrength component is for the additional impacts over and above typical (domestic) strength levels for each constituent as developed by EPCOR. A summary of the distribution of the revenue requirement is provided in Exhibit 9b of the technical appendix.

3.8 Summary of the Cost of Service Results

In summary form, EPCOR's wastewater treatment cost of service analysis began by functionalizing the plant asset records and revenue requirement. The functionalized plant and expense accounts were then allocated to the appropriate cost component(s). The individual allocation totals were then distributed to each of the customer classes of service based on the appropriate distribution factor. The distributed expenses for each customer class of service were then aggregated to determine each customer class's overall revenue responsibility. The total distributed costs are then compared to the current revenues received from each customer class of service to provide a measure of the current rates to each class's cost responsibility, if the cost of service results were implemented. A summary of the detailed cost responsibility developed for each class of service for 2024 is summarized below in Table 3 - 5.

Table 3 – 5
Summary of the EPCOR 2024 Cost of Service Results ($000)

	Present Revenue	Distributed Costs	$ Difference	% Difference
Single Family	$83,824	$81,762	$2,062	-2.5%
Multi-Family	24,354	24,353	1	0.0%
Commercial	28,740	30,015	(1,275)	4.4%
Overstrength	5,881	6,289	(407)	6.9%
Total	**$142,799**	**$142,419**	**$381**	**-0.3%**

The distribution of costs reflects the facilities and costs proportionally distributed to each customer class, reflective of their respective benefit. The cost of service results indicated that minor cost differences exist between the customer classes of service. A cost of service analysis is a dynamic analysis and the results change over time as costs change and as customer usage changes. Given that dynamic, HDR typically reviews a cost of service to determine whether a class of service is within a "reasonable range of their cost of service." The metric that HDR utilizes is a class of service is assumed to be within a "reasonable range of their cost of service" if the class is within ± 5% of the overall required adjustment. In other words, given EPCOR's -0.3% overall adjustment in this analysis, a class of service would be considered within a "reasonable range of their cost of service" if they are within the range of +5.0% to –5.0%.

The results above indicate that all but the overstrength customer class of service are "within a reasonable range of their cost of service", however, they are only very slightly outside the range. As noted previously, a key component of the Study was the review of costs distributed to the overstrength customers to determine if overstrength rates are set at an appropriate level. Given these results, it would support the movement, or adjustment, of overstrength rates towards the cost of service results.

As noted above, this cost of service has been based upon a specific time period (2024), and costs and usage can change over time. As a result, HDR believes that cost of service is often best determined over an extended number of studies. It is recommended that EPCOR continues to review the wastewater treatment cost of service for the various customer classes before making interclass adjustments. The detailed summary of the cost of service analysis can be found in the Wastewater Treatment Technical Appendix, Exhibits 9a, 9b, and 10.

3.9 PBR Rate Setting and the Use of the Cost of Service Analysis

EPCOR uses a performance-based-ratemaking (PBR) approach for establishing its wastewater treatment rates. As the name implies, the PBR approach to ratemaking attempts to link rate adjustments (price) to performance. In contrast, traditional ratemaking simply links price to cost, regardless of performance or efficiency. Under either ratemaking framework, including PBR, the starting point for establishing the final wastewater treatment rates is the cost of service analysis. The following notes this cost of service perspective:

> *"The starting point for utility rates generally is a cost of service study. The subsequent years' rates are determined by applying the PBR formula to adjust the previous rates for the effects of inflation and for productivity improvements."* [1]

As cited above, the starting point for establishing utility rates, including EPCOR's wastewater treatment rates, is the cost of service analysis (Study). In particular, the cost of service analysis provides two important items of information which are used to establish the initial PBR rates. These items are as follows:

- ✓ Target revenue levels by customer class of service
- ✓ Average unit costs (cost-based rates)

The target revenue levels establish the level of revenue to be derived from each customer class of service. The average unit costs, as developed in the cost of service, provide the cost-basis for beginning to establish the fixed and variable wastewater treatment charges associated with each customer group. The average unit costs from the cost of service study are shown in Exhibits 11a and 11b of the Technical Appendix.

3.10 Summary

This section of the report has provided a summary of the wastewater treatment utility cost of service analysis completed for EPCOR. This analysis was prepared using generally accepted cost

[1] Performance-Based Ratemaking: Theory and Practice, Dr. Michael R. Schmidt, Public Utilities Reports, Inc., Vienna, Virginia, 2000, p. 2

of service techniques, which have been tailored to reflect EPCOR's specific and unique wastewater treatment system and operations.

4 Wastewater Treatment Rate Design

The final step of a comprehensive wastewater treatment rate study is the design of rates to collect the desired levels of revenue, based on the results of the revenue requirement and cost of service analyses. This section of the report will discuss the key considerations and costs for the development of EPCOR's wastewater treatment rates.

4.1 Rate Design Goals and Objectives

In reviewing water rate designs, consideration is given to both the ***level*** of the rates and the ***structure*** of the rates. Level refers to the total revenue to be collected from a rate design; while structure refers to the way or manner (fixed vs. variable) the revenue is collected (i.e., how the customer is ultimately assessed for service). Provided below is an overview of the rate design process for EPCOR's wastewater treatment cost of service study.

4.1.1 Rate Design Criteria and Considerations

The key starting point for developing EPCOR's wastewater treatment rate design is to gain an understanding of EPCOR's specific rate design goals and objectives. Understanding EPCOR's rate design goals and objectives for their wastewater treatment rates can lead to exploring different rate structures, including the relationship between the monthly fixed charges and volumetric charges, along with how strength charges may be handled. Typical utility rate design goals and objectives include items such as rates being cost-based, easy to understand and administer, and that are set at a level that produce adequate revenues.

The rate manual, Principles of Public Utility Rates[2] by James C. Bonbright, is often cited as an important source or guide on the development of rates, particularly as it relates to determining rate design goals and objectives. In this rate manual, Bonbright created a list of key attributes (i.e. goals and objectives) that may be considered in the establishment of utility rates. Provided below is a paraphrased list of Bonbright's key rate design attributes.

Revenue-Related Attributes:

- Rates should be designed to **meet the total revenue requirement needs** under the "utility/accrual basis approach".[3]
- Rates should provide **revenue stability and predictability**; with a minimum of unexpected changes seriously adverse to the utility (e.g., annual swings in planned revenue should, for example, be no greater than +10% or −10%).
- From the customer's perspective, the rates should result in **customer bills that are stable**

[2] James C. Bonbright; Albert L. Danielsen and David R. Kamerschen, Principles of Public Utility Rates, (Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988), p. 383-384.

[3] The AWWA M-1 Manual, Principles of Water Rates, Fees and Charges, discusses two "generally-accepted" methodologies for establishing revenue requirements; the cash basis and utility/accrual basis. Most private utilities, including EPCOR utilize the "utility/accrual basis" methodology. Under this approach, a utility sums its O&M, taxes, depreciation expense and return on rate base (investment) to equal its revenue requirements.

and predictable. The implementation of new rate structures should be consistent with past rate setting philosophy and minimize customer bill impacts during any change in rate structure.

Cost-Related Attributes:

- The rate structure should **promote efficient use** of services and discourage or penalize inefficient uses.
- The rate structure should **reflect all traditional internal costs** (direct and indirect) incurred, **and under appropriate situations and conditions** (e.g., severe drought) may also **include present and future costs and benefits** (i.e., marginal cost and/or value of commodity).
- **Fairness of the rates** in the distribution of total costs of service among the different ratepayers so as to **avoid arbitrariness, capriciousness and to attain equity**. The rates and the rate structure shall be based upon a fair distribution of total cost of service among the customer classes of service by use of a "generally accepted" cost of service methodology such as defined in the Water Environment Federation Manual of Practice #27.
- The rates should be, as practically possible, **non-discriminatory**, between customer groups, and within each customer group. The rate structures should avoid interclass subsidies whenever possible to ensure each class pays its full cost of service.
- The **responsiveness of the rate to respond to changes in demand and supply patterns**. The rate structure should be developed such that it either responds appropriately or alternatively, contains the flexibility to allow the utility to respond to the changing needs as a result of supply, demand, and/or environmental concerns (e.g., drought conditions).

Practical-Related Attributes:

- From the customer's perspective, the rate structure should be **simple to understand**, such that the customer can easily understand the bill. From the utility's perspective, the rate structure should be **easy to administer**. Finally, the rate structure should have acceptance by the majority of the customers that the rate structure and resulting bills are "fair and equitable."
- **Freedom from controversies** as to the application of the rate schedule to the customer and calculation of the customer's bill. It should be simple to explain and understand by the average customer to minimize any misinterpretation regarding the customer's bill and the overall goals that the rate structure has been developed to meet.

4.2 Current Wastewater Treatment Rates

In reviewing the above rate design goals and objectives it is important to understand that all of these goals and objectives cannot be achieved in a single rate design, and in some cases, certain goals and objectives may be in conflict with each other. For example, rates that are cost-based may be challenging from a customer affordability perspective. In that respect, EPCOR must consider each of these goals and objectives and attempt to balance them in a way that meets the utility's overall rate design goals and objectives.

Table 4 - 1 summarizes the present wastewater treatment rate schedules for EPCOR's customers. EPCOR's rates generally reflect what is considered industry best-practices in that the rates are composed of a fixed service charge and a volumetric charge as well as overstrength charges for applicable customers.

Table 4 - 1
Present Wastewater Treatment Rates

Rate Component	Present Rates
Flat Monthly Service Charge –	$6.22/month
Variable Monthly Charges –	***$ / m³***
Residential	$1.2334
Commercial	
0 – 10,000 m^3	$1.2334
10,000 – 100,000 m^3	0.9542
100,000 + m^3	0.4979
Overstrength Charges –	
(Exceeding Domestic Strength Levels)	***$ / kg***
BOD (>300 mg/L)	$0.7743
COD (>600 mg/L)	0.7743
Oil and Grease (>100 mg/L)	0.6769
Phosphorous (10 mg/L)	6.4427
TSS (>300 mg/L)	0.7028
TKN (>50 mg/L)	1.6445
BOD (>3000 mg/L)	$0.7743
COD (>6000 mg/L)	0.7743
Oil and Grease (>400 mg/L)	0.6769
Phosphorous (75 mg/L)	6.4427
TSS (>3000 mg/L)	0.7028
TKN (>200 mg/L)	1.6445

There are three rate components to EPCOR's current wastewater treatment rates: a flat monthly service charge, a variable (volumetric) charge and an overstrength charge. The flat monthly service charge applies to all customer classes of service. In contrast, the variable or volumetric charges are segregated between residential and commercial customers and the billing is based total water consumption. Finally, the overstrength charges are applicable to those customers with strength levels which exceed EPCOR's defined domestic level strengths. These specific customers are part of the overstrength program and their strength levels are monitored and tested for purposes of billing the overstrength charges. At the present time, the overstrength charges reflect two levels of high strength waste. The first is for over domestic strength, but under the higher next step. These customers are charged the overstrength charge for the loadings. The second step adds the same charge, for all loadings over the higher strength

loadings. This essentially doubles the overstrength charge for those over the higher strength level.

4.3 Future Wastewater Treatment Rate Structure Considerations

The results of the revenue requirement and cost of service analysis provide the basis for establishing cost-based rates. However, other policy considerations - other than strictly cost of service - may be considered when establishing final proposed wastewater treatment rates. Some examples of other considerations may include policy items such as revenue stability or sufficiency, economic development, ease of understanding and administration, ability to pay, etc.

It appears that EPCOR has taken policy considerations into account in the PBR process that has established the current wastewater treatment rates. As EPCOR continues forward with the development of the final proposed rates, a policy decision will need to be made whether to follow cost of service results; smoothly transition to a cost of service basis to attempt to minimize overall rate impacts to customers; or apply an “across the board” rate adjustment to all classes of service.

While the cost of service did show cost differences between classes of service for the wastewater treatment utility, a smooth transition to rates may take precedence over attempting to strictly follow the cost of service results. This recommendation of implementing a smooth transition towards cost of service results allows for better customer outreach, avoids rate shock, and allows the utility to track cost of service results over a number of years and adjust rates accordingly.

4.4 Summary

This section of the report has provided an overview of the rate design process. The results of the revenue requirement and cost of service analysis provide the basis and guidance for establishing and implementing cost-based wastewater treatment rates. A key objective of a cost of service study is to develop rates that are cost based while, at the same time, providing equity between customers.

5 Wastewater Treatment Technical Appendix

EPCOR
Wastewater Treatment COSA
Summary of the Revenue Requirement
Exhibit 1

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Revenues										
Rate Revenue	$142,799,274	$147,204,535	$149,725,336	$151,756,962	$154,792,102	$157,887,944	$161,045,702	$164,266,616	$167,551,949	$170,902,988
Miscellaneous Revenues	7,968,963	8,131,607	8,157,988	8,239,743	8,355,099	8,472,071	8,590,680	8,710,949	8,832,902	8,956,563
Total Revenues	**$150,768,238**	**$155,336,142**	**$157,883,324**	**$159,996,705**	**$163,147,201**	**$166,360,014**	**$169,636,382**	**$172,977,566**	**$176,384,851**	**$179,859,551**
Expenses										
Franchise Fees	$10,637,027	$10,969,964	$11,156,387	$11,303,963	$11,518,739	$11,737,595	$11,960,609	$12,187,861	$12,419,430	$12,655,399
Total Power, Other Utilities & Chemicals	6,405,179	8,865,373	9,032,929	9,197,328	9,372,077	9,550,147	9,731,599	9,916,500	10,104,913	10,296,907
Total Wastewater Treatment Plant	38,460,199	39,175,559	39,915,977	40,642,448	41,414,654	42,201,533	43,003,362	43,820,426	44,653,014	45,501,421
Total Operational Support Services	6,989,611	7,295,095	7,432,972	7,568,252	7,712,049	7,858,578	8,007,891	8,160,041	8,315,082	8,473,068
Capital Overhead	(3,466,181)	(2,201,650)	(2,245,463)	(2,287,454)	(2,330,915)	(2,375,203)	(2,420,331)	(2,466,318)	(2,513,178)	(2,560,928)
Total Billing, Meters, & Customer Service	5,813,614	5,656,110	5,763,011	5,867,898	5,979,388	6,092,996	6,208,763	6,326,730	6,446,937	6,569,429
Total EWSI Shared Service	8,429,184	8,585,967	8,748,242	8,907,460	9,076,702	9,249,159	9,424,893	9,603,966	9,786,441	9,972,384
Corporate Shared Services	5,860,564	5,969,570	6,082,395	6,193,095	6,310,763	6,430,668	6,552,851	6,677,355	6,804,224	6,933,505
Total O&M Expenses	**$79,129,197**	**$84,315,988**	**$85,886,450**	**$87,392,990**	**$89,053,457**	**$90,745,473**	**$92,469,637**	**$94,226,560**	**$96,016,864**	**$97,841,185**
Property Taxes	$931,356	$948,679	$966,609	$984,202	$1,002,901	$1,021,957	$1,041,374	$1,061,160	$1,081,322	$1,101,867
Depreciation	28,003,585	30,119,371	31,284,587	32,703,884	33,325,258	33,958,438	34,603,648	35,261,118	35,931,079	36,613,769
Total Finance Costs	10,681,816	11,720,455	12,249,392	14,138,214	15,057,198	16,035,916	17,078,250	18,188,336	19,370,578	20,629,666
Return on Investment	31,641,532	29,677,456	30,513,783	26,903,547	26,903,547	26,903,547	26,903,547	26,903,547	26,903,547	26,903,547
Total Revenue Requirement	**$150,387,486**	**$156,781,949**	**$160,900,820**	**$162,122,837**	**$165,342,361**	**$168,665,330**	**$172,096,456**	**$175,640,721**	**$179,303,390**	**$183,090,034**
Bal. / (Def.) of Funds	$380,752	($1,445,807)	($3,017,496)	($2,126,132)	($2,195,160)	($2,305,316)	($2,460,074)	($2,663,155)	($2,918,539)	($3,230,483)
Balance a % of Rate Adj. Req'd	-0.3%	1.0%	2.0%	1.4%	1.4%	1.5%	1.5%	1.6%	1.7%	1.9%

EPCOR
Wastewater Treatment COSA
Revenue Requirement
Exhibit 2

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	*Notes*
Revenues											
Rate Revenue											
Residential	$83,823,718	$86,382,765	$88,340,252	$90,019,478	$91,819,868	$93,656,265	$95,529,390	$97,439,978	$99,388,778	$101,376,553	2.0% Inc / Yr 2028-2033
Multi-Res	24,354,308	24,935,579	25,338,425	25,653,959	26,167,038	26,690,379	27,224,186	27,768,670	28,324,043	28,890,524	2.0% Inc / Yr 2028-2033
Commercial	28,739,916	29,026,530	29,082,698	29,040,157	29,620,960	30,213,380	30,817,647	31,434,000	32,062,680	32,703,934	2.0% Inc / Yr 2028-2033
Overstrength Surcharges	5,881,333	6,859,661	6,963,961	7,043,368	7,184,236	7,327,920	7,474,479	7,623,968	7,776,448	7,931,977	2.0% Inc / Yr 2028-2033
Total Rate Revenues	**$142,799,274**	**$147,204,535**	**$149,725,336**	**$151,756,962**	**$154,792,102**	**$157,887,944**	**$161,045,702**	**$164,266,616**	**$167,551,949**	**$170,902,988**	
Miscellaneous Revenue											
Late Payment Charges	$232,576	$236,902	$241,379	$245,772	$249,213	$252,702	$256,240	$259,827	$263,465	$267,154	1.4% Inc / Yr 2028-2033
Surplus Sales	3,732	3,801	3,873	3,944	3,999	4,055	4,112	4,169	4,228	4,287	1.4% Inc / Yr 2028-2033
ACRWC Swap	1,076,000	1,096,014	1,116,728	1,137,053	1,152,971	1,169,113	1,185,481	1,202,077	1,218,906	1,235,971	1.4% Inc / Yr 2028-2033
Suburban	768,229	782,518	797,308	811,819	823,184	834,709	846,395	858,244	870,260	882,444	1.4% Inc / Yr 2028-2033
Lab	298,000	303,543	309,280	314,909	319,317	323,788	328,321	332,917	337,578	342,304	1.4% Inc / Yr 2028-2033
Ostara	364,001	370,771	377,779	384,655	390,040	395,500	401,037	406,652	412,345	418,118	1.4% Inc / Yr 2028-2033
Biosolids											
ACRWC Recovery	$5,226,425	$5,338,057	$5,311,641	$5,341,592	5,416,374	5,492,203	5,569,094	5,647,061	5,726,120	5,806,286	1.4% Inc / Yr 2028-2033
BMA - true-up	0	0	0	0	0	0	0	0	0	0	1.4% Inc / Yr 2028-2033
Correction of 2022 billing error	0	0	0	0	0	0	0	0	0	0	1.4% Inc / Yr 2028-2033
Total Other Revenues	**$7,968,963**	**$8,131,607**	**$8,157,988**	**$8,239,743**	**8,355,099**	**8,472,071**	**8,590,680**	**8,710,949**	**8,832,902**	**8,956,563**	
Total Revenues	**$150,768,238**	**$155,336,142**	**$157,883,324**	**$159,996,705**	**$163,147,201**	**$166,360,014**	**$169,636,382**	**$172,977,566**	**$176,384,851**	**$179,859,551**	
Franchise Fees	**$10,637,027**	**$10,969,964**	**$11,156,387**	**$11,303,963**	**$11,518,739**	**$11,737,595**	**$11,960,609**	**$12,187,861**	**$12,419,430**	**$12,655,399**	1.9% Inc / Yr 2028-2033
Power, Other Utilities & Chemicals											
Power	$4,848,546	$7,279,787	$7,417,375	$7,552,371	$7,695,866	$7,842,088	$7,991,087	$8,142,918	$8,297,633	$8,455,288	1.9% Inc / Yr 2028-2033
Natural Gas	307,008	312,718	318,629	324,428	330,592	336,873	343,274	349,796	356,442	363,214	1.9% Inc / Yr 2028-2033
Water	461,370	469,951	478,834	487,548	496,812	506,251	515,870	525,671	535,659	545,837	1.9% Inc / Yr 2028-2033
Chemicals - WWTP	313,462	319,292	325,327	331,248	337,541	343,955	350,490	357,149	363,935	370,850	1.9% Inc / Yr 2028-2033
Chemicals - Ostara	474,793	483,624	492,765	501,733	511,266	520,980	530,879	540,965	551,244	561,717	1.9% Inc / Yr 2028-2033
Total Power, Other Utilities & Chemicals	**$6,405,179**	**$8,865,373**	**$9,032,929**	**$9,197,328**	**$9,372,077**	**$9,550,147**	**$9,731,599**	**$9,916,500**	**$10,104,913**	**$10,296,907**	
Wastewater Treatment Plant											
Plant Operations	$7,903,408	$8,050,411	$8,202,564	$8,351,850	$8,510,536	$8,672,236	$8,837,008	$9,004,911	$9,176,005	$9,350,349	1.9% Inc / Yr 2028-2033
Ostara (Phosphorous)	410,169	417,798	425,694	433,442	441,677	450,069	458,621	467,334	476,214	485,262	1.9% Inc / Yr 2028-2033
Clover Bar (Biosolids)	17,650,577	17,978,877	18,318,678	18,652,078	19,006,468	19,367,591	19,735,575	20,110,551	20,492,651	20,882,012	1.9% Inc / Yr 2028-2033
WWT Maintenance	10,887,482	11,089,989	11,299,590	11,505,242	11,723,842	11,946,595	12,173,580	12,404,878	12,640,571	12,880,742	1.9% Inc / Yr 2028-2033
Monitoring and Compliance	1,608,565	1,638,484	1,669,451	1,699,835	1,732,132	1,765,043	1,798,578	1,832,751	1,867,574	1,903,058	1.9% Inc / Yr 2028-2033
Total Wastewater Treatment Plant	**$38,460,199**	**$39,175,559**	**$39,915,977**	**$40,642,448**	**$41,414,654**	**$42,201,533**	**$43,003,362**	**$43,820,426**	**$44,653,014**	**$45,501,421**	

EPCOR
Wastewater Treatment COSA
Revenue Requirement
Exhibit 2

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	*Notes*
Operational Support Services											
Wastewater Laboratory	$4,080,205	$4,178,670	$4,257,647	$4,335,136	$4,417,504	$4,501,437	$4,586,964	$4,674,116	$4,762,924	$4,853,420	1.9% Inc / Yr 2028-2033
Project Engineering	738,156	772,716	787,321	801,650	816,881	832,402	848,218	864,334	880,756	897,490	1.9% Inc / Yr 2028-2033
Gold Bar Administration	2,171,250	2,343,708	2,388,004	2,431,466	2,477,664	2,524,740	2,572,710	2,621,591	2,671,401	2,722,158	1.9% Inc / Yr 2028-2033
Total Operational Support Services	**$6,989,611**	**$7,295,095**	**$7,432,972**	**$7,568,252**	**$7,712,049**	**$7,858,578**	**$8,007,891**	**$8,160,041**	**$8,315,082**	**$8,473,068**	
Capital Overhead	**($3,466,181)**	**($2,201,650)**	**($2,245,463)**	**($2,287,454)**	($2,330,915)	($2,375,203)	($2,420,331)	($2,466,318)	($2,513,178)	($2,560,928)	1.9% Inc / Yr 2028-2033
Billing, Meters, & Customer Service											
CUS Charges - Metering	$934,246	$685,986	$698,951	$711,672	$725,194	$738,972	$753,013	$767,320	$781,899	$796,755	1.9% Inc / Yr 2028-2033
CUS Charges - Billing & Collections	3,794,053	3,864,623	3,937,664	4,009,329	4,085,507	4,163,131	4,242,231	4,322,833	4,404,967	4,488,661	1.9% Inc / Yr 2028-2033
Customer Service	1,085,315	1,105,502	1,126,396	1,146,897	1,168,688	1,190,893	1,213,520	1,236,576	1,260,071	1,284,013	1.9% Inc / Yr 2028-2033
Total Billing, Meters, & Customer Service	**$5,813,614**	**$5,656,110**	**$5,763,011**	**$5,867,898**	**$5,979,388**	**$6,092,996**	**$6,208,763**	**$6,326,730**	**$6,446,937**	**$6,569,429**	
EWSI Shared Service											
Allocation from BU 8F	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1.9% Inc / Yr 2028-2033
Information Services	1,445,813	1,472,705	1,500,539	1,527,849	1,556,878	1,586,459	1,616,601	1,647,317	1,678,616	1,710,510	1.9% Inc / Yr 2028-2033
SVP	1,191,418	1,213,578	1,236,514	1,259,019	1,282,940	1,307,316	1,332,155	1,357,466	1,383,258	1,409,540	1.9% Inc / Yr 2028-2033
Controller	490,888	500,019	509,469	518,741	528,597	538,641	548,875	559,303	569,930	580,759	1.9% Inc / Yr 2028-2033
Public and Government Affairs	509,136	518,606	528,408	538,025	548,247	558,664	569,278	580,095	591,116	602,348	1.9% Inc / Yr 2028-2033
Health, Safety and Environment	675,838	688,409	701,420	714,185	727,755	741,582	755,672	770,030	784,661	799,569	1.9% Inc / Yr 2028-2033
Technical Training	456,754	465,250	474,043	482,671	491,841	501,186	510,709	520,412	530,300	540,376	1.9% Inc / Yr 2028-2033
HR	192,134	195,707	199,406	203,035	206,893	210,824	214,830	218,911	223,071	227,309	1.9% Inc / Yr 2028-2033
Incentive and Other Compensation	1,994,121	2,031,211	2,069,601	2,107,268	2,147,306	2,188,105	2,229,679	2,272,043	2,315,212	2,359,201	1.9% Inc / Yr 2028-2033
Supply Chain Management	1,473,083	1,500,483	1,528,842	1,556,667	1,586,243	1,616,382	1,647,093	1,678,388	1,710,277	1,742,773	1.9% Inc / Yr 2028-2033
Total EWSI Shared Service	**$8,429,184**	**$8,585,967**	**$8,748,242**	**$8,907,460**	**$9,076,702**	**$9,249,159**	**$9,424,893**	**$9,603,966**	**$9,786,441**	**$9,972,384**	
Corporate Shared Services	**$5,860,564**	**$5,969,570**	**$6,082,395**	**$6,193,095**	$6,310,763	$6,430,668	$6,552,851	$6,677,355	$6,804,224	$6,933,505	1.9% Inc / Yr 2028-2033
Total O&M Expenses	**$79,129,197**	**$84,315,988**	**$85,886,450**	**$87,392,990**	**$89,053,457**	**$90,745,473**	**$92,469,637**	**$94,226,560**	**$96,016,864**	**$97,841,185**	
Property Taxes	**$931,356**	**$948,679**	**$966,609**	**$984,202**	$1,002,901	$1,021,957	$1,041,374	$1,061,160	$1,081,322	$1,101,867	1.9% Inc / Yr 2028-2033
Depreciation	$28,929,408	$31,045,194	$32,210,409	$33,624,797	$34,263,668	$34,914,677	$35,578,056	$36,254,039	$36,942,866	$37,644,781	1.9% Inc / Yr 2028-2033
Less: Contributions Amortization	*($925,823)*	*($925,823)*	*($925,823)*	*($920,912)*	(938,410)	(956,239)	(974,408)	(992,922)	(1,011,787)	(1,031,011)	1.9% Inc / Yr 2028-2033
Total Depreciation	**$28,003,585**	**$30,119,371**	**$31,284,587**	**$32,703,884**	**$33,325,258**	**$33,958,438**	**$34,603,648**	**$35,261,118**	**$35,931,079**	**$36,613,769**	
Finance Costs	$10,681,816	$11,720,455	$12,249,392	$14,138,214	$15,057,198	$16,035,916	$17,078,250	$18,188,336	$19,370,578	$20,629,666	6.5% growth
Total Finance Costs	**$10,681,816**	**$11,720,455**	**$12,249,392**	**$14,138,214**	**$15,057,198**	**$16,035,916**	**$17,078,250**	**$18,188,336**	**$19,370,578**	**$20,629,666**	
Return on Investment											
Net Income	$27,354,488	$29,677,456	$30,513,783	$26,903,547	$26,903,547	$26,903,547	$26,903,547	$26,903,547	$26,903,547	$26,903,547	
Consumption Deferral	4,287,043	0	0	0	0	0	0	0	0	0	
Total Return on Investment	**$31,641,532**	**$29,677,456**	**$30,513,783**	**$26,903,547**	**$26,903,547**	**$26,903,547**	**$26,903,547**	**$26,903,547**	**$26,903,547**	**$26,903,547**	
Total Revenue Requirement	**$150,387,486**	**$156,781,949**	**$160,900,820**	**$162,122,837**	**$165,342,361**	**$168,665,330**	**$172,096,456**	**$175,640,721**	**$179,303,390**	**$183,090,034**	

EPCOR
Wastewater Treatment COSA
Exhibit 3
Volume Distribution Factor

	Annual Flow (m^3) [1]	15.5% Inflow and Infiltration [2]	Total Annual Flow at Plant (m^3)	Avg. Daily Flow at Plant (ML / Day)	% of Total
Single Family	46,011,288	7,131,750	53,143,037	145.60	53.5%
Multi-Family	18,196,737	2,820,494	21,017,232	57.58	21.2%
Commercial	21,814,623	3,381,267	25,195,890	69.03	25.4%
Total	**86,022,648**	**13,333,510**	**99,356,159**	**272.21**	**100.0%**
		Actual Flows [3]	**95,082,500**	***260.50***	
					(VOL)

Notes

[1] - Based on projection for 2024
[2] - Estimated
[3] - Per EPCOR data, CY 2022

EPCOR
Wastewater Treatment COSA
Exhibit 4
Customer Distribution Factors

	Actual Customer		*Cust. Serv. & Acntg*		
	Number of Account [1]	**% of Total**	**Weight Factor**	**Wt. Accounts**	**% of Total**
Single Family	291,827	93.2%	1.00	291,827	93.2%
Multi-Family	3,820	1.2%	1.00	3,820	1.2%
Commercial	17,627	5.6%	1.00	17,627	5.6%
Overstrength	0	0.0%	0.00	0	0.0%
Total	**313,273**	**100.0%**		**313,273**	**100.0%**
		(AC)			***(WCA)***

Notes

[1] - For 2024 based on 2023 projection

EPCOR
Wastewater Treatment COSA
Exhibit 5
Strength Distribution Factors

	Biochemical Oxygen Demand				Total Suspended Solids		
	Daily Flow (ML / Day)	Avg. Factor (mg/l)	Calculated Kilograms [1]	% of Total	Avg. Factor (mg/l)	Calculated Kilograms [1]	% of Total
Single Family	145.60	415	22,054,361	48.8%	340	18,068,633	51.4%
Multi-Family	57.58	415	8,722,151	19.3%	340	7,145,859	20.3%
Commercial	69.03	415	10,456,294	23.1%	340	8,566,602	24.4%
Overstrength			3,985,731	8.8%		1,375,641	3.9%
Tier 1			3,713,741	*8.2%*		1,297,402	*3.7%*
Tier 2			271,990	*0.6%*		78,239	*0.2%*
Total	**272.21**		**45,218,537**	**100.0%**		**35,156,735**	**100.0%**
	Total Kg's Removed [2] [3]		*45,300,000*	***(BOD)***	*Total Kg's Removed [2]*	*35,498,123*	***(TSS)***

	Chemical Oxygen Demand				Oil & Grease		
	Daily Flow (ML / Day)	Avg. Factor (mg/l)	Calculated Kilograms [1]	% of Total	Avg. Factor (mg/l)	Calculated Kilograms [1]	% of Total
Single Family	145.60	800	42,514,430	53.2%	45	2,391,437	50.1%
Multi-Family	57.58	800	16,813,785	21.0%	45	945,775	19.8%
Commercial	69.03	800	20,156,712	25.2%	45	1,133,815	23.8%
Overstrength			485,380	0.6%		297,695	6.2%
Tier 1			477,820	*0.6%*		278,924	*5.8%*
Tier 2			7,560	*0.0%*		18,771	*0.4%*
Total	**272.21**		**79,970,307**	**100.0%**		**4,768,722**	**100.0%**
	Total Kg's Removed [2] [3]		*80,800,000*	***(COD)***	*Total Kg's Removed [2]*		***(OG)***

	Total Nitrogen				Total Phosphorous		
	Daily Flow (ML / Day)	Avg. Factor (mg/l)	Calculated Kilograms [1]	% of Total	Avg. Factor (mg/l)	Calculated Kilograms [1]	% of Total
Single Family	145.60	39	2,072,578	50.1%	6.50	345,430	51.6%
Multi-Family	57.58	39	819,672	19.8%	6.50	136,612	20.4%
Commercial	69.03	39	982,640	23.8%	6.50	163,773	24.5%
Overstrength			261,334	6.3%		23,148	3.5%
Tier 1			223,629	*5.4%*		23,148	*3.5%*
Tier 2			37,705	*0.9%*		0	*0.0%*
	272.21		**4,136,224**	**100.0%**		**668,963**	**100.0%**
	Total Kg's Removed [2]		*4,197,936*	***(TKN)***	*Total Kg's Removed [2]*	*666,541*	***(TP)***

Notes

[1] - Calculated Kilograms = Daily Flow * Factor
[2] - Based on CY 2022 performance data
[3] - BOD / COD Kg removed split is 70% / 30%

EPCOR
Wastewater Treatment COSA
Exhibit 6
Revenue Distribution Factor

	Projected 2024	% of Total
Single Family	$83,823,718	61.2%
Multi-Family	24,354,308	17.8%
Commercial	28,739,916	21.0%
Overstrength		0.0%
Tier 1	$5,492,976	
Tier 2	388,357	
Total	**$136,917,941**	**100.0%**

(RR)

EPCOR
Wastewater Treatment COSA
Exhibit 7a
Plant in Service - Original Cost

	As of 12/31/22	Volume (VOL)	Strength Related: Biochemical Oxygen Demand (BOD)	Strength Related: Chemical Oxygen Demand (COD)	Strength Related: Total Nitrogen (TKN)	Strength Related: Total Phosphorous (TP)	Strength Related: Oil & Grease (OG)	Strength Related: Total Suspended Solids (TSS)	Actual Customer (AC)	Customer Serv & Actng. (WCA)	Revenue Related (RR)	Direct Assignment (DA)	Basis of Classification
Land	$420,842	$0	$0	$0	$0	$0	$0	$0	$420,842	$0	$0	$0	100.0% AC
WWTP													
Admin	$3,558,607	$0	$0	$0	$0	$0	$0	$0	$3,558,607	$0	$0	$0	100.0% AC
Air Scrub	15,002,168	0	0	0	0	0	7,501,084	7,501,084	0	0	0	0	50.0% TSS 50.0% OG
Main Control Room	1,327,389	90,701	104,383	111,467	218,338	257,914	188,191	347,487	8,908	0	0	0	*As all other treatment*
Aux Control Room	388,804	26,567	30,575	32,650	63,953	75,545	55,123	101,782	2,609	0	0	0	*As all other treatment*
Blowers	6,302,888	0	1,575,722	630,289	3,466,588	630,289	0	0	0	0	0	0	25.0% BOD 10.0% COD 55.0% TKN 10.0% TP
Boilers	17,875,041	1,221,413	1,405,653	1,501,056	2,940,210	3,473,155	2,534,233	4,679,365	119,956	0	0	0	*As all other treatment*
CBF (inc. Ostara)	41,505,773	2,836,116	3,263,920	3,485,446	6,827,156	8,064,652	5,884,479	10,865,466	278,537	0	0	0	*As all other treatment*
Center of Excellence	11,755,218	11,755,218	0	0	0	0	0	0	0	0	0	0	100.0% VOL
Dewater	7,256,888	0	1,015,964	435,413	1,451,378	1,451,378	1,451,378	1,451,378	0	0	0	0	BOD/COD, TKN, TP, OG, & TSS Equally
Digesters	116,289,156	0	16,280,482	6,977,349	23,257,831	23,257,831	23,257,831	23,257,831	0	0	0	0	BOD/COD, TKN, TP, OG, & TSS Equally
Distribution Station	483,799	33,058	38,045	40,627	79,579	94,003	68,591	126,650	3,247	0	0	0	*As all other treatment*
Enhanced Prim. Treat. (PRI)	101,488,357	0	0	24,357,206	11,163,719	0	36,535,809	29,431,624	0	0	0	0	24.0% COD 29.0% TSS 11.0% TKN 36.0% OG
Flare	885,321	0	123,945	53,119	177,064	177,064	177,064	177,064	0	0	0	0	*As Biogas*
Grit	17,045,539	0	0	5,113,662	1,704,554	0	1,704,554	8,522,770	0	0	0	0	10.0% TKN 50.0% TSS 30.0% COD 10.0% OG
Laboratory	6,163,190	308,160	1,109,374	1,109,374	1,109,374	1,109,374	308,160	1,109,374	0	0	0	0	5.0% VOL 5.0% OG 18.0% BOD/COD/TKN/TSS/TP
Maintenance Building	3,780,589	258,330	297,297	317,475	621,857	734,576	535,993	989,690	25,371	0	0	0	*As all other treatment*
Outfall	14,551	14,551	0	0	0	0	0	0	0	0	0	0	100.0% VOL
Penthouse	717,794	49,047	56,446	60,277	118,068	139,469	101,765	187,906	4,817	0	0	0	*As all other treatment*
Screens	6,604,623	1,981,387	0	0	0	0	0	4,623,236	0	0	0	0	30.0% VOL 70.0% TSS
Sampling	202,191	10,110	36,394	36,394	36,394	36,394	10,110	36,394	0	0	0	0	5.0% VOL 5.0% OG 18.0% BOD/COD/TKN/TSS/TP
Scum	2,092,400	0	627,720	0	0	0	1,464,680	0	0	0	0	0	30.0% BOD 70.0% OG
Bioreactor/Secondary Clarifier	117,508,590	0	16,451,203	7,050,515	35,252,577	47,003,436	0	11,750,859	0	0	0	0	20.0% COD 30.0% TKN 10.0% TSS 40.0% TP
Substation	1,422,334	97,189	111,849	119,440	233,955	276,362	201,651	372,341	9,545	0	0	0	*As all other treatment*
UV	2,955,519	2,955,519	0	0	0	0	0	0	0	0	0	0	100.0% VOL
Waste Activated Sludge	8,915,842	0	1,248,218	534,951	2,674,753	3,566,337	0	891,584	0	0	0	0	20.0% COD 30.0% TKN 10.0% TSS 40.0% TP
Pre Treatment / Diversion	78,315,362	23,494,609	0	0	0	0	0	54,820,753	0	0	0	0	30.0% VOL 70.0% TSS
Lagoon	6,493,575	0	909,101	389,615	1,298,715	1,298,715	1,298,715	1,298,715	0	0	0	0	As Digesters
Effluent Water	2,524,196	0	353,387	151,452	504,839	504,839	504,839	504,839	0	0	0	0	As Digesters
Fermenter	31,911,112	0	0	0	5,584,445	26,326,667	0	0	0	0	0	0	17.5% TKN 82.5% TP
Sludge	49,286,216	0	6,900,070	2,957,173	9,857,243	9,857,243	9,857,243	9,857,243	0	0	0	0	As Digesters
RSV	6,832,423	466,864	537,286	573,752	1,123,844	1,327,553	968,666	1,788,606	45,851	0	0	0	*As all other treatment*
Plant Before General Plant	**$667,326,297**	**$45,598,839**	**$52,477,034**	**$56,038,702**	**$109,766,435**	**$129,662,798**	**$94,610,158**	**$174,694,041**	**$4,478,289**	**$0**	**$0**	**$0**	
% Plant Before General Plant	***100.0%***	***6.8%***	***7.9%***	***8.4%***	***16.4%***	***19.4%***	***14.2%***	***26.2%***	***0.7%***	***0.0%***	***0.0%***	***0.0%***	*Factor PBGP*

EPCOR
Wastewater Treatment COSA
Exhibit 7a
Plant in Service - Original Cost

	As of 12/31/22	Volume (VOL)	Strength Related: Biochemical Oxygen Demand (BOD)	Strength Related: Chemical Oxygen Demand (COD)	Strength Related: Total Nitrogen (TKN)	Strength Related: Total Phosphorous (TP)	Strength Related: Oil & Grease (OG)	Strength Related: Total Suspended Solids (TSS)	Actual Customer (AC)	Customer Serv & Actng. (WCA)	Revenue Related (RR)	Direct Assignment (DA)	Basis of Classification
General Plant													
Furnature	$687,593	$46,984	$54,071	$57,741	$113,100	$133,601	$97,483	$179,999	$4,614	$0	$0	$0	*As Factor PBGP*
Software	4,725,151	322,873	371,575	396,794	777,225	918,106	669,908	1,236,960	31,710	0	0	0	*As Factor PBGP*
Hardware	4,206,312	287,420	330,775	353,225	691,883	817,295	596,350	1,101,137	28,228	0	0	0	*As Factor PBGP*
Tools	2,517,297	172,009	197,955	211,390	414,062	489,116	356,890	658,983	16,893	0	0	0	*As Factor PBGP*
Vehicles	1,862,846	127,289	146,490	156,432	306,414	361,955	264,105	487,660	12,501	0	0	0	*As Factor PBGP*
Guardhouse	331,049	22,621	26,033	27,800	54,453	64,323	46,934	86,663	2,222	0	0	0	*As Factor PBGP*
Grounds	9,308,663	636,067	732,012	781,695	1,531,153	1,808,691	1,319,735	2,436,841	62,469	0	0	0	*As Factor PBGP*
Common Air	861,532	58,869	67,749	72,347	141,711	167,397	122,144	225,534	5,782	0	0	0	*As Factor PBGP*
Electrical	30,892,086	2,110,876	2,429,284	2,594,162	5,081,344	6,002,392	4,379,724	8,086,993	207,310	0	0	0	*As Factor PBGP*
Natural Gas	514,843	35,180	40,486	43,234	84,685	100,035	72,992	134,777	3,455	0	0	0	*As Factor PBGP*
Pipe Rack	7,099,788	485,133	558,311	596,204	1,167,822	1,379,503	1,006,572	1,858,597	47,645	0	0	0	*As Factor PBGP*
Potable Water	7,711,939	526,962	606,449	647,610	1,268,513	1,498,445	1,093,360	2,018,847	51,753	0	0	0	*As Factor PBGP*
Glycol	8,454,636	577,711	664,853	709,978	1,390,677	1,642,752	1,198,656	2,213,272	56,737	0	0	0	*As Factor PBGP*
Control Systems	19,024,406	1,299,950	1,496,036	1,597,574	3,129,266	3,696,479	2,697,184	4,980,248	127,669	0	0	0	*As Factor PBGP*
Inspection	3,191,191	218,056	250,948	267,980	524,909	620,055	452,431	835,397	21,415	0	0	0	*As Factor PBGP*
Odor	1,179,401	80,589	92,745	99,040	193,996	229,160	167,210	308,746	7,915	0	0	0	*As Factor PBGP*
Total General Plant	**$102,568,733**	**$7,008,588**	**$8,065,774**	**$8,613,206**	**$16,871,213**	**$19,929,304**	**$14,541,678**	**$26,850,652**	**$688,318**	**$0**	**$0**	**$0**	
Total Plant in Service	**$769,895,030**	**$52,607,427**	**$60,542,808**	**$64,651,908**	**$126,637,648**	**$149,592,103**	**$109,151,836**	**$201,544,693**	**$5,166,606**	**$0**	**$0**	**$0**	

EPCOR
Wastewater Treatment COSA
Exhibit 7b
Plant in Service - Depreciation

	As of 12/31/22	Volume (VOL)	Strength Related: Biochemical Oxygen Demand (BOD)	Strength Related: Chemical Oxygen Demand (COD)	Strength Related: Total Nitrogen (TKN)	Strength Related: Total Phosphorous (TP)	Strength Related: Oil & Grease (OG)	Strength Related: Total Suspended Solids (TSS)	Actual Customer (AC)	Customer Serv & Actng. (WCA)	Revenue Related (RR)	Direct Assignment (DA)
Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WWTP												
Admin	$739,795	$0	$0	$0	$0	$0	$0	$0	$739,795	$0	$0	$0
Air Scrub	4,288,071	0	0	0	0	0	2,144,036	2,144,036	0	0	0	0
Main Control Room	994,554	67,959	78,209	83,518	163,591	193,244	141,003	260,356	6,674	0	0	0
Aux Control Room	201,123	13,743	15,816	16,889	33,082	39,079	28,514	52,650	1,350	0	0	0
Blowers	1,424,061	0	356,015	142,406	783,234	142,406	0	0	0	0	0	0
Boilers	4,916,635	335,957	386,633	412,874	808,722	955,312	697,056	1,287,087	32,995	0	0	0
CBF (inc. Ostara)	9,845,328	672,738	774,214	826,761	1,619,428	1,912,966	1,395,821	2,577,330	66,070	0	0	0
Center of Excellence	2,234,139	2,234,139	0	0	0	0	0	0	0	0	0	0
Dewater	5,183,180	0	725,645	310,991	1,036,636	1,036,636	1,036,636	1,036,636	0	0	0	0
Digesters	29,976,158	0	4,196,662	1,798,569	5,995,232	5,995,232	5,995,232	5,995,232	0	0	0	0
Distribution Station	57,893	3,956	4,553	4,862	9,523	11,249	8,208	15,155	389	0	0	0
Enhanced Prim. Treat. (PRI)	32,827,201	0	0	7,878,528	3,610,992	0	11,817,792	9,519,888	0	0	0	0
Flare	309,675	0	43,355	18,581	61,935	61,935	61,935	61,935	0	0	0	0
Grit	2,679,931	0	0	803,979	267,993	0	267,993	1,339,966	0	0	0	0
Laboratory	2,259,393	112,970	406,691	406,691	406,691	406,691	112,970	406,691	0	0	0	0
Maintenance Building	1,795,651	122,698	141,206	150,790	295,361	348,898	254,578	470,069	12,050	0	0	0
Outfall	14,551	14,551	0	0	0	0	0	0	0	0	0	0
Penthouse	361,552	24,705	28,432	30,361	59,471	70,250	51,259	94,648	2,426	0	0	0
Screens	1,435,099	430,530	0	0	0	0	0	1,004,569	0	0	0	0
Sampling	30,987	1,549	5,578	5,578	5,578	5,578	1,549	5,578	0	0	0	0
Scum	435,069	0	130,521	0	0	0	304,548	0	0	0	0	0
Bioreactor/Secondary Clarifier	43,410,974	0	6,077,536	2,604,658	13,023,292	17,364,390	0	4,341,097	0	0	0	0
Substation	716,197	48,938	56,320	60,143	117,805	139,158	101,539	187,487	4,806	0	0	0
UV	689,170	689,170	0	0	0	0	0	0	0	0	0	0
Waste Activated Sludge	4,296,828	0	601,556	257,810	1,289,048	1,718,731	0	429,683	0	0	0	0
Pre Treatment / Diversion	12,536,065	3,760,820	0	0	0	0	0	8,775,246	0	0	0	0
Lagoon	3,327,504	0	465,851	199,650	665,501	665,501	665,501	665,501	0	0	0	0
Effluent Water	1,018,330	0	142,566	61,100	203,666	203,666	203,666	203,666	0	0	0	0
Fermenter	8,943,695	0	0	0	1,565,147	7,378,548	0	0	0	0	0	0
Sludge	15,279,707	0	2,139,159	916,782	3,055,941	3,055,941	3,055,941	3,055,941	0	0	0	0
RSV	571,083	39,022	44,909	47,957	93,936	110,963	80,965	149,499	3,832	0	0	0
Plant Before General Plant	**$192,799,600**	**$8,573,444**	**$16,821,426**	**$17,039,478**	**$35,171,803**	**$41,816,374**	**$28,426,742**	**$44,079,946**	**$870,387**	**$0**	**$0**	**$0**
% Plant Before General Plant	***100.0%***	***4.4%***	***8.7%***	***8.8%***	***18.2%***	***21.7%***	***14.7%***	***22.9%***	***0.5%***	***0.0%***	***0.0%***	***0.0%***

EPCOR
Wastewater Treatment COSA
Exhibit 7b
Plant in Service - Depreciation

			Strength Related									
	As of 12/31/22	**Volume** *(VOL)*	**Biochemical Oxygen Demand** *(BOD)*	**Chemical Oxygen Demand** *(COD)*	**Total Nitrogen** *(TKN)*	**Total Phosphorous** *(TP)*	**Oil & Grease** *(OG)*	**Total Suspended Solids** *(TSS)*	**Actual Customer** *(AC)*	**Customer Serv & Actng.** *(WCA)*	**Revenue Related** *(RR)*	**Direct Assignment** *(DA)*
General Plant												
Furnature	$470,942	$32,180	$37,034	$39,547	$77,464	$91,505	$66,768	$123,284	$3,160	$0	$0	$0
Software	3,311,033	226,245	260,372	278,044	544,622	643,340	469,422	866,769	22,220	0	0	0
Hardware	3,942,376	269,385	310,020	331,061	648,469	766,011	558,930	1,032,043	26,456	0	0	0
Tools	1,442,206	98,547	113,412	121,109	237,224	280,223	204,469	377,544	9,678	0	0	0
Vehicles	826,394	56,468	64,986	69,396	135,931	160,570	117,162	216,335	5,546	0	0	0
Guardhouse	53,262	3,639	4,188	4,473	8,761	10,349	7,551	13,943	357	0	0	0
Grounds	2,233,943	152,647	175,672	187,595	367,454	434,059	316,717	584,806	14,992	0	0	0
Common Air	346,829	23,699	27,274	29,125	57,049	67,390	49,172	90,794	2,327	0	0	0
Electrical	12,545,219	857,223	986,528	1,053,484	2,063,524	2,437,560	1,778,598	3,284,113	84,188	0	0	0
Natural Gas	96,944	6,624	7,623	8,141	15,946	18,836	13,744	25,378	651	0	0	0
Pipe Rack	273,069	18,659	21,474	22,931	44,916	53,058	38,714	71,485	1,833	0	0	0
Potable Water	792,554	54,156	62,325	66,555	130,365	153,995	112,364	207,476	5,319	0	0	0
Glycol	854,063	58,359	67,162	71,720	140,482	165,946	121,085	223,578	5,731	0	0	0
Control Systems	11,624,311	794,297	914,110	976,151	1,912,047	2,258,626	1,648,036	3,043,036	78,008	0	0	0
Inspection	1,256,048	85,827	98,773	105,477	206,603	244,053	178,076	328,811	8,429	0	0	0
Odor	160,001	10,933	12,582	13,436	26,318	31,089	22,684	41,885	1,074	0	0	0
Total General Plant	**$40,229,194**	**$2,748,887**	**$3,163,533**	**$3,378,245**	**$6,617,176**	**$7,816,611**	**$5,703,492**	**$10,531,281**	**$269,970**	**$0**	**$0**	**$0**
Total Plant Depreciation	**$233,028,794**	**$11,322,331**	**$19,984,959**	**$20,417,723**	**$41,788,979**	**$49,632,984**	**$34,130,234**	**$54,611,227**	**$1,140,357**	**$0**	**$0**	**$0**

EPCOR
Wastewater Treatment COSA
Exhibit 7c
Plant in Service - Net Book Value

			Strength Related									
	As of 12/31/22	**Volume** *(VOL)*	**Biochemical Oxygen Demand** *(BOD)*	**Chemical Oxygen Demand** *(COD)*	**Total Nitrogen** *(TKN)*	**Total Phosphorous** *(TP)*	**Oil & Grease** *(OG)*	**Total Suspended Solids** *(TSS)*	**Actual Customer** *(AC)*	**Customer Serv & Actng.** *(WCA)*	**Revenue** *(RR)*	**Direct** *(DA)*
Land	$420,842	$0	$0	$0	$0	$0	$0	$0	$420,842	$0	$0	$0
WWTP												
Admin	$2,818,812	$0	$0	$0	$0	$0	$0	$0	$2,818,812	$0	$0	$0
Air Scrub	10,714,097	0	0	0	0	0	5,357,049	5,357,049	0	0	0	0
Main Control Room	332,835	22,743	26,173	27,950	54,747	64,670	47,188	87,130	2,234	0	0	0
Aux Control Room	187,681	12,824	14,759	15,761	30,871	36,467	26,608	49,132	1,259	0	0	0
Blowers	4,878,827	0	1,219,707	487,883	2,683,355	487,883	0	0	0	0	0	0
Boilers	12,958,406	885,456	1,019,020	1,088,182	2,131,488	2,517,844	1,837,177	3,392,278	86,961	0	0	0
CBF (inc. Ostara)	31,660,445	2,163,379	2,489,706	2,658,685	5,207,729	6,151,686	4,488,658	8,288,136	212,467	0	0	0
Center of Excellence	9,521,079	9,521,079	0	0	0	0	0	0	0	0	0	0
Dewater	2,073,708	0	290,319	124,422	414,742	414,742	414,742	414,742	0	0	0	0
Digesters	86,312,998	0	12,083,820	5,178,780	17,262,600	17,262,600	17,262,600	17,262,600	0	0	0	0
Distribution Station	425,906	29,102	33,492	35,765	70,056	82,754	60,383	111,495	2,858	0	0	0
Enhanced Prim. Treat. (PRI)	68,661,156	0	0	16,478,677	7,552,727	0	24,718,016	19,911,735	0	0	0	0
Flare	575,646	0	80,590	34,539	115,129	115,129	115,129	115,129	0	0	0	0
Grit	14,365,608	0	0	4,309,682	1,436,561	0	1,436,561	7,182,804	0	0	0	0
Laboratory	3,903,797	195,190	702,683	702,683	702,683	702,683	195,190	702,683	0	0	0	0
Maintenance Building	1,984,938	135,632	156,091	166,685	326,496	385,677	281,414	519,621	13,321	0	0	0
Outfall	0	0	0	0	0	0	0	0	0	0	0	0
Penthouse	356,242	24,342	28,014	29,915	58,597	69,219	50,506	93,258	2,391	0	0	0
Screens	5,169,524	1,550,857	0	0	0	0	0	3,618,667	0	0	0	0
Sampling	171,203	8,560	30,817	30,817	30,817	30,817	8,560	30,817	0	0	0	0
Scum	1,657,331	0	497,199	0	0	0	1,160,132	0	0	0	0	0
Bioreactor/Secondary Clarifier	74,097,616	0	10,373,666	4,445,857	22,229,285	29,639,046	0	7,409,762	0	0	0	0
Substation	706,137	48,251	55,529	59,298	116,150	137,204	100,113	184,854	4,739	0	0	0
UV	2,266,349	2,266,349	0	0	0	0	0	0	0	0	0	0
Waste Activated Sludge	4,619,014	0	646,662	277,141	1,385,704	1,847,606	0	461,901	0	0	0	0
Pre Treatment / Diversion	65,779,297	19,733,789	0	0	0	0	0	46,045,508	0	0	0	0
Lagoon	3,166,071	0	443,250	189,964	633,214	633,214	633,214	633,214	0	0	0	0
Effluent Water	1,505,866	0	210,821	90,352	301,173	301,173	301,173	301,173	0	0	0	0
Fermenter	22,967,417	0	0	0	4,019,298	18,948,119	0	0	0	0	0	0
Sludge	34,006,509	0	4,760,911	2,040,391	6,801,302	6,801,302	6,801,302	6,801,302	0	0	0	0
RSV	6,261,340	427,841	492,378	525,796	1,029,908	1,216,591	887,701	1,639,106	42,019	0	0	0
Plant Before General Plant	**$474,526,697**	**$37,025,396**	**$35,655,608**	**$38,999,225**	**$74,594,632**	**$87,846,425**	**$66,183,416**	**$130,614,095**	**$3,607,902**	**$0**	**$0**	**$0**
% Plant Before General Plant	***100.0%***	***7.8%***	***7.5%***	***8.2%***	***15.7%***	***18.5%***	***13.9%***	***27.5%***	***0.8%***	***0.0%***	***0.0%***	***0.0%***

EPCOR
Wastewater Treatment COSA
Exhibit 7c
Plant in Service - Net Book Value

			Strength Related									
	As of 12/31/22	**Volume** *(VOL)*	**Biochemical Oxygen Demand** *(BOD)*	**Chemical Oxygen Demand** *(COD)*	**Total Nitrogen** *(TKN)*	**Total Phosphorous** *(TP)*	**Oil & Grease** *(OG)*	**Total Suspended Solids** *(TSS)*	**Actual Customer** *(AC)*	**Customer Serv & Actng.** *(WCA)*	**Revenue** *(RR)*	**Direct** *(DA)*
General Plant												
Furnature	$216,651	$14,804	$17,037	$18,193	$35,636	$42,096	$30,716	$56,715	$1,454	$0	$0	$0
Software	1,414,118	96,628	111,203	118,751	232,604	274,766	200,487	370,191	9,490	0	0	0
Hardware	263,936	18,035	20,755	22,164	43,414	51,283	37,420	69,094	1,771	0	0	0
Tools	1,075,091	73,462	84,543	90,281	176,838	208,892	152,421	281,439	7,215	0	0	0
Vehicles	1,036,452	70,821	81,504	87,036	170,483	201,385	146,943	271,325	6,955	0	0	0
Guardhouse	277,787	18,981	21,845	23,327	45,692	53,975	39,383	72,720	1,864	0	0	0
Grounds	7,074,720	483,420	556,340	594,099	1,163,699	1,374,632	1,003,018	1,852,035	47,477	0	0	0
Common Air	514,703	35,170	40,475	43,222	84,662	100,008	72,972	134,740	3,454	0	0	0
Electrical	18,346,867	1,253,653	1,442,756	1,540,678	3,017,819	3,564,832	2,601,126	4,802,880	123,122	0	0	0
Natural Gas	417,899	28,555	32,863	35,093	68,739	81,199	59,248	109,398	2,804	0	0	0
Pipe Rack	6,826,719	466,474	536,838	573,273	1,122,906	1,326,445	967,858	1,787,112	45,813	0	0	0
Potable Water	6,919,385	472,806	544,125	581,055	1,138,148	1,344,450	980,996	1,811,371	46,435	0	0	0
Glycol	7,600,573	519,352	597,692	638,258	1,250,195	1,476,806	1,077,571	1,989,694	51,006	0	0	0
Control Systems	7,400,095	505,653	581,927	621,423	1,217,219	1,437,853	1,049,148	1,937,212	49,661	0	0	0
Inspection	1,935,143	132,230	152,175	162,504	318,306	376,002	274,355	506,586	12,986	0	0	0
Odor	1,019,400	69,656	80,163	85,604	167,678	198,071	144,525	266,861	6,841	0	0	0
Total General Plant	**$62,339,539**	**$4,259,701**	**$4,902,241**	**$5,234,961**	**$10,254,038**	**$12,112,694**	**$8,838,186**	**$16,319,372**	**$418,348**	**$0**	**$0**	**$0**
Net Plant in Service	**$536,866,236**	**$41,285,097**	**$40,557,849**	**$44,234,185**	**$84,848,670**	**$99,959,118**	**$75,021,601**	**$146,933,466**	**$4,026,249**	**$0**	**$0**	**$0**

EPCOR
Wastewater Treatment COSA
Exhibit 8.1
Allocation of the Revenue Requirement

	Test Year 2024	Volume (VOL)	Strength Related: Biochemical Oxygen Demand (BOD)	Strength Related: Chemical Oxygen Demand (COD)	Strength Related: Total Nitrogen (TKN)	Strength Related: Total Phosphorous (TP)	Strength Related: Oil & Grease (OG)	Strength Related: Total Suspended Solids (TSS)	Actual Customer (AC)	Customer Serv & Actng. (WCA)	Revenue (RR)	Direct (DA)	Basis of Classification
Franchise Fees	**$10,637,027**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$10,637,027**	**$0**	100.0% RR
Power, Other Utilities & Chemicals													
Power	$4,848,546	$372,854	$366,286	$399,488	$766,285	$902,751	$677,535	$1,326,985	$36,362	$0	$0	$0	As Net Plant
Natural Gas	307,008	23,609	23,193	25,295	48,521	57,162	42,901	84,024	2,302	0	0	0	As Net Plant
Water	461,370	35,479	34,854	38,014	72,917	85,902	64,472	126,271	3,460	0	0	0	As Net Plant
Chemicals - WWTP	313,462	24,105	23,681	25,827	49,541	58,363	43,803	85,790	2,351	0	0	0	As Net Plant
Chemicals - Ostara	474,793	0	0	0	0	474,793	0	0	0	0	0	0	100.0% TP
Total Power, Other Utilities & Chemicals	**$6,405,179**	**$456,048**	**$448,014**	**$488,624**	**$937,264**	**$1,578,971**	**$828,711**	**$1,623,071**	**$44,475**	**$0**	**$0**	**$0**	
Wastewater Treatment Plant													
Plant Operations	$7,903,408	$607,773	$597,067	$651,188	$1,249,089	$1,471,535	$1,104,421	$2,163,062	$59,272	$0	$0	$0	As Net Plant
Ostara (Phosphorous)	410,169	0	0	0	0	410,169	0	0	0	0	0	0	100.0% TP
Clover Bar (Biosolids)	17,650,577	0	0	0	0	0	0	17,650,577	0	0	0	0	100.0% TSS
WWT Maintenance	10,887,482	837,249	822,501	897,056	1,720,705	2,027,140	1,521,415	2,979,765	81,651	0	0	0	As Net Plant
Monitoring and Compliance	1,608,565	0	0	0	0	0	0	0	0	0	0	1,608,565	100.0% DA
Total Wastewater Treatment Plant	**$38,460,199**	**$1,445,022**	**$1,419,568**	**$1,548,244**	**$2,969,794**	**$3,908,844**	**$2,625,836**	**$22,793,404**	**$140,923**	**$0**	**$0**	**$1,608,565**	
Operational Support Services													
Wastewater Laboratory	$4,080,205	$313,768	$308,241	$336,182	$644,853	$759,693	$570,167	$1,116,700	$30,600	$0	$0	$0	As Net Plant
Project Engineering	738,156	56,764	55,764	60,819	116,661	137,437	103,150	202,024	5,536	0	0	0	As Net Plant
Gold Bar Administration	2,171,250	166,969	164,028	178,896	343,154	404,265	303,410	594,244	16,283	0	0	0	As Net Plant
Total Operational Support Services	**$6,989,611**	**$537,502**	**$528,034**	**$575,897**	**$1,104,668**	**$1,301,396**	**$976,727**	**$1,912,968**	**$52,419**	**$0**	**$0**	**$0**	

EPCOR
Wastewater Treatment COSA
Exhibit 8.1
Allocation of the Revenue Requirement

	Test Year 2024	Volume *(VOL)*	*Strength Related* Biochemical Oxygen Demand *(BOD)*	Chemical Oxygen Demand *(COD)*	Total Nitrogen *(TKN)*	Total Phosphorous *(TP)*	Oil & Grease *(OG)*	Total Suspended Solids *(TSS)*	Actual Customer *(AC)*	Customer Serv & Actng. *(WCA)*	Revenue *(RR)*	Direct *(DA)*	Basis of Classification
Capital Overhead	**($3,466,181)**	**($266,550)**	**($261,854)**	**($285,590)**	**($547,810)**	**($645,368)**	**($484,364)**	**($948,650)**	**($25,995)**	**$0**	**$0**	**$0**	As Net Plant
Billing, Meters, & Customer Service													
CUS Charges - Metering	$934,246	$0	$0	$0	$0	$0	$0	$0	$934,246	$0	$0	$0	100.0% AC
CUS Charges - Billing & Collections	3,794,053	0	0	0	0	0	0	0	3,794,053	0	0	0	100.0% AC
Customer Service	1,085,315	0	0	0	0	0	0	0	1,085,315	0	0	0	100.0% AC
Total Billing, Meters, & Customer Service	**$5,813,614**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$5,813,614**	**$0**	**$0**	**$0**	
EWSI Shared Service													
Allocation from BU 8F	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	100.0% AC
Information Services	1,445,813	0	0	0	0	0	0	0	1,445,813	0	0	0	100.0% AC
SVP	1,191,418	0	0	0	0	0	0	0	1,191,418	0	0	0	100.0% AC
Controller	490,888	0	0	0	0	0	0	0	490,888	0	0	0	100.0% AC
Public and Government Affairs	509,136	0	0	0	0	0	0	0	509,136	0	0	0	100.0% AC
Health, Safety and Environment	675,838	0	0	0	0	0	0	0	675,838	0	0	0	100.0% AC
Technical Training	456,754	0	0	0	0	0	0	0	456,754	0	0	0	100.0% AC
HR	192,134	0	0	0	0	0	0	0	192,134	0	0	0	100.0% AC
Incentive and Other Compensation	1,994,121	0	0	0	0	0	0	0	1,994,121	0	0	0	100.0% AC
Supply Chain Management	1,473,083	0	0	0	0	0	0	0	1,473,083	0	0	0	100.0% AC
Total EWSI Shared Service	**$8,429,184**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$8,429,184**	**$0**	**$0**	**$0**	
Corporate Shared Services	**$5,860,564**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$5,860,564**	**$0**	**$0**	**$0**	100.0% AC
Total O&M Expenses	**$79,129,197**	**$2,172,022**	**$2,133,761**	**$2,327,175**	**$4,463,916**	**$6,143,843**	**$3,946,911**	**$25,380,794**	**$20,315,184**	**$0**	**$10,637,027**	**$1,608,565**	
Property Taxes	**$931,356**	**$71,621**	**$70,360**	**$76,738**	**$147,196**	**$173,409**	**$130,148**	**$254,900**	**$6,985**	**$0**	**$0**	**$0**	As Net Plant
Depreciation	$28,929,408	$2,224,676	$2,185,488	$2,383,590	$4,572,129	$5,386,366	$4,042,591	$7,917,611	$216,957	$0	$0	$0	As Net Plant
Less: Contributions Amortization	($925,823)	(71,196)	(69,942)	(76,282)	(146,321)	(172,379)	(129,374)	(253,386)	(6,943)	0	0	0	As Net Plant
Total Depreciation	**$28,003,585**	**$2,153,480**	**$2,115,546**	**$2,307,308**	**$4,425,808**	**$5,213,987**	**$3,913,216**	**$7,664,225**	**$210,014**	**$0**	**$0**	**$0**	
Finance Costs	$10,681,816	$821,433	$806,964	$880,110	$1,688,201	$1,988,847	$1,492,675	$2,923,477	$80,109	$0	$0	$0	As Net Plant
Total Finance Costs	**$10,681,816**	**$821,433**	**$806,964**	**$880,110**	**$1,688,201**	**$1,988,847**	**$1,492,675**	**$2,923,477**	**$80,109**	**$0**	**$0**	**$0**	

EPCOR
Wastewater Treatment COSA
Exhibit 8.1
Allocation of the Revenue Requirement

			Strength Related										
	Test Year 2024	**Volume** *(VOL)*	**Biochemical Oxygen Demand** *(BOD)*	**Chemical Oxygen Demand** *(COD)*	**Total Nitrogen** *(TKN)*	**Total Phosphorous** *(TP)*	**Oil & Grease** *(OG)*	**Total Suspended Solids** *(TSS)*	**Actual Customer** *(AC)*	**Customer Serv & Actng.** *(WCA)*	**Revenue** *(RR)*	**Direct** *(DA)*	*Basis of Classification*
Return on Investment													
Net Income	$27,354,488	$2,103,564	$2,066,510	$2,253,827	$4,323,222	$5,093,132	$3,822,512	$7,486,576	$205,146	$0	$0	$0	As Net Plant
Consumption Deferral	4,287,043	329,674	323,867	353,224	677,543	798,205	599,071	1,173,309	32,151	0	0	0	As Net Plant
Total Return on Investment	**$31,641,532**	**$2,433,239**	**$2,390,377**	**$2,607,050**	**$5,000,765**	**$5,891,336**	**$4,421,583**	**$8,659,885**	**$237,297**	**$0**	**$0**	**$0**	
Total Revenue Requirement	**$150,387,486**	**$7,651,796**	**$7,517,007**	**$8,198,381**	**$15,725,885**	**$19,411,423**	**$13,904,532**	**$44,883,282**	**$20,849,589**	**$0**	**$10,637,027**	**$1,608,565**	
Less: Non-Operating Revenue													
Late Payment Charges	$232,576	$11,834	$11,625	$12,679	$24,320	$30,020	$21,504	$69,413	$32,244	$0	$16,450	$2,488	As Revenue Requirement
Surplus Sales	3,732	190	187	203	390	482	345	1,114	517	0	264	40	As Revenue Requirement
ACRWC Swap	1,076,000	54,747	53,783	58,658	112,516	138,886	99,485	321,133	149,176	0	76,106	11,509	As Revenue Requirement
Suburban	768,229	39,088	38,399	41,880	80,333	99,160	71,029	229,279	106,507	0	54,337	8,217	As Revenue Requirement
Lab	298,000	15,162	14,895	16,245	31,162	38,465	27,552	88,938	41,314	0	21,078	3,187	As Revenue Requirement
Ostara	364,001	0	0	0	0	364,001	0	0	0	0	0	0	100.0% TP
Biosolids													
ACRWC Recovery	$5,226,425	$0	$0	$0	$0	$0	$0	$5,226,425	$0	$0	$0	$0	100.0% TSS
Total Other Revenues	**$7,968,963**	**$121,021**	**$118,889**	**$129,666**	**$248,722**	**$671,013**	**$219,915**	**$5,936,302**	**$329,758**	**$0**	**$168,236**	**$25,441**	
Net Revenue Requirement	**$142,418,523**	**$7,530,774**	**$7,398,118**	**$8,068,715**	**$15,477,163**	**$18,740,410**	**$13,684,617**	**$38,946,980**	**$20,519,830**	**$0**	**$10,468,791**	**$1,583,123**	

EPCOR
Wastewater Treatment COSA
Exhibit 8.2
Direct Assignment of the Revenue Requirement

	Total	Single Family	Multi-Family	Commercial	Overstrength Tier 1	Overstrength Tier 2	Notes
Franchise Fees	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Power, Other Utilities & Chemicals							
Power	$0	$0	$0	$0	$0	$0	
Natural Gas	0	0	0	0	0	0	
Water	0	0	0	0	0	0	
Chemicals - WWTP	0	0	0	0	0	0	
Chemicals - Ostara	0	0	0	0	0	0	
Total Power, Other Utilities & Chemicals	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Wastewater Treatment Plant							
Plant Operations	$0	$0	$0	$0	$0	$0	
Ostara (Phosphorous)	0	0	0	0	0	0	
Clover Bar (Biosolids)	0	0	0	0	0	0	
WWT Maintenance	0	0	0	0	0	0	
Monitoring and Compliance	1,608,565	0	0	0	804,282	804,282	
Total Wastewater Treatment Plant	**$1,608,565**	**$0**	**$0**	**$0**	**$804,282**	**$804,282**	
Operational Support Services							
Wastewater Laboratory	$0	$0	$0	$0	$0	$0	
Project Engineering	0	0	0	0	0	0	
Gold Bar Administration	0	0	0	0	0	0	
Total Operational Support Services	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Capital Overhead	$0	$0	$0	$0	$0	$0	

EPCOR
Wastewater Treatment COSA
Exhibit 8.2
Direct Assignment of the Revenue Requirement

	Total	Single Family	Multi-Family	Commercial	Overstrength Tier 1	Overstrength Tier 2	Notes
Billing, Meters, & Customer Service							
CUS Charges - Metering	$0	$0	$0	$0	$0	$0	
CUS Charges - Billing & Collections	0	0	0	0	0	0	
Customer Service	0	0	0	0	0	0	
Total Billing, Meters, & Customer Service	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
EWSI Shared Service							
Allocation from BU 8F	$0	$0	$0	$0	$0	$0	
Information Services	0	0	0	0	0	0	
SVP	0	0	0	0	0	0	
Controller	0	0	0	0	0	0	
Public and Government Affairs	0	0	0	0	0	0	
Health, Safety and Environment	0	0	0	0	0	0	
Technical Training	0	0	0	0	0	0	
HR	0	0	0	0	0	0	
Incentive and Other Compensation	0	0	0	0	0	0	
	0	0	0	0	0	0	
Total EWSI Shared Service	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Corporate Shared Services	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Total O&M Expenses	**$1,608,565**	**$0**	**$0**	**$0**	**$804,282**	**$804,282**	
Property Taxes	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Depreciation	$0	$0	$0	$0	$0	$0	
Less: Contributions Amortization	0	0	0	0	0	0	
Total Depreciation	$0	$0	$0	$0	$0	$0	
Finance Costs							
Total Finance Costs	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Return on Investment							
Net Income	$0	$0	$0	$0	$0	$0	
Consumption Deferral	0	0	0	0	0	0	
Total Return on Investment	**$0**	**0**	**0**	**0**	**0**	**0**	
Total Revenue Requirement	**$1,608,565**	**$0**	**$0**	**$0**	**$804,282**	**$804,282**	
Less: Non-Operating Revenue							
Late Payment Charges	$2,488	$0	$0	$0	$1,244	$1,244	
Surplus Sales	40	0	0	0	20	20	
ACRWC Swap	11,509	0	0	0	5,755	5,755	
Suburban	8,217	0	0	0	4,109	4,109	
Lab	3,187	0	0	0	1,594	1,594	
Ostara	0	0	0	0	0	0	
Biosolids	0	0	0	0	0	0	
ACRWC Recovery	0	0	0	0	0	0	
Total Other Revenues	**$25,441**	**$0**	**$0**	**$0**	**$12,721**	**$12,721**	
Net Revenue Requirement	**$1,583,123**	**$0**	**$0**	**$0**	**$791,562**	**$791,562**	

EPCOR
Wastewater Treatment COSA
Exhibit 9a
Distribution of Total Revenue Requirement

					Overstrength		
		Single Family	Multi-Family	Commercial	*Tier 1*	*Tier 2*	*Basis of Allocation*
Volume Related	**$7,530,774**	**$4,028,016**	**$1,593,017**	**$1,909,741**	**$0**	**$0**	*(VOL)*
Strength Related							
Biochemical Oxygen Demand	$7,398,118	$3,608,271	$1,427,014	$1,710,734	$607,598	$44,500	*(BOD)*
Total Suspended Solids	38,946,980	20,016,611	7,916,253	9,490,167	1,437,275	86,674	*(TSS)*
Chemical Oxygen Demand	8,068,715	4,289,552	1,696,450	2,033,739	48,210	763	*(COD)*
Total Nitrogen	15,477,163	7,755,294	3,067,096	3,676,898	836,788	141,087	*(TKN)*
Oil & Grease	13,684,617	6,862,613	2,714,055	3,253,665	800,417	53,866	*(OG)*
Total Phosphorous	18,740,410	9,676,910	3,827,065	4,587,964	648,471	0	*(TP)*
	$102,316,003	**$52,209,252**	**$20,647,934**	**$24,753,168**	**$4,378,759**	**$326,890**	
	$109,846,778	**$56,237,268**	**$22,240,951**	**$26,662,909**	**$4,378,759**	**$326,890**	

EPCOR
Wastewater Treatment COSA
Exhibit 9b
Distribution of Total Revenue Requirement

		Single Family	Multi-Family	Commercial	Overstrength	*Basis of Allocation*
Volume Related	**$7,530,774**	**$4,028,016**	**$1,593,017**	**$1,909,741**	**$0**	*(VOL)*
Strength Related						
Biochemical Oxygen Demand	$7,398,118	$3,608,271	$1,427,014	$1,710,734	$652,098	*(BOD)*
Total Suspended Solids	38,946,980	20,016,611	7,916,253	9,490,167	1,523,949	*(TSS)*
Chemical Oxygen Demand	8,068,715	4,289,552	1,696,450	2,033,739	48,973	*(COD)*
Total Nitrogen	15,477,163	7,755,294	3,067,096	3,676,898	977,875	*(TKN)*
Oil & Grease	13,684,617	6,862,613	2,714,055	3,253,665	854,284	*(OG)*
Total Phosphorous	18,740,410	9,676,910	3,827,065	4,587,964	648,471	*(TP)*
Total Strength Related	**$102,316,003**	**$52,209,252**	**$20,647,934**	**$24,753,168**	**$4,705,649**	
Customer Related						
Actual Customer	$20,519,830	$19,115,049	$250,183	$1,154,599	$0	*(AC)*
Weighted Customer	0	0	0	0	0	*(WCA)*
Total Customer Related	**$20,519,830**	**$19,115,049**	**$250,183**	**$1,154,599**	**$0**	
Revenue Related	**$10,468,791**	**$6,409,189**	**$1,862,138**	**$2,197,464**	**$0**	*(RR)*
Direct Assignment	**$1,583,123**	**$0**	**$0**	**$0**	**$1,583,123**	*(DA)*
Total Revenue Requirements	**$142,418,523**	**$81,761,506**	**$24,353,272**	**$30,014,972**	**$6,288,772**	

EPCOR
Wastewater Treatment COSA
Exhibit 10
Cost of Service Analysis Summary

	Test Year 2024	Single Family	Multi-Family	Commercial	Overstrength
Revenues at Present Rates	**$142,799,274**	$83,823,718	$24,354,308	$28,739,916	$5,881,333
Allocated Revenue Requirement	**$142,418,523**	$81,761,506	$24,353,272	$30,014,972	$6,288,772
Balance / (Deficiency) of Funds	**$380,752**	**$2,062,211**	**$1,036**	**($1,275,056)**	**($407,439)**
Required % Change in Rates	**-0.3%**	**-2.5%**	**0.0%**	**4.4%**	**6.9%**

EPCOR
Wastewater Treatment COSA
Exhibit 11a
Unit Costs Summary

	System Average	Single Family	Multi-Family	Commercial	Overstrength Tier 1	Overstrength Tier 2
Variable						
Volume Costs - $ / m^3	$0.0875	$0.0875	$0.0875	$0.0875		
BOD Costs - $ / m^3	0.0860	0.0784	0.0784	0.0784		
TSS Costs - $ / m^3	0.4528	0.4350	0.4350	0.4350		
COD Costs - $ / m^3	0.0938	0.0932	0.0932	0.0932		
TKN Costs - $ / m^3	0.1799	0.1686	0.1686	0.1686		
OG Costs - $ / m^3	0.1591	0.1492	0.1492	0.1492		
TP Costs - $ / m^3	0.2179	0.2103	0.2103	0.2103		
RR+DA Costs - $ / m^3	0.0117	0.0116	0.0085	0.0084		
Total	**$1.2886**	**$1.2339**	**$1.2308**	**$1.2306**		
Fixed						
Customer - $ / Acct. / Mo	$5.46	$5.46	$5.46	$5.46		
Total	**$5.46**	**$5.46**	**$5.46**	**$5.46**		
Basic Data						
Billed Volumes	86,022,648	46,011,288	18,196,737	21,814,623	0	0
Number of Accounts	313,273	291,827	3,820	17,627	0	
Number of Wt Units	313,273	291,827	3,820	17,627	0	
Kilograms						
BOD	45,218,537	22,054,361	8,722,151	10,456,294	3,713,741	271,990
TSS	35,156,735	18,068,633	7,145,859	8,566,602	1,297,402	78,239
COD	79,970,307	42,514,430	16,813,785	20,156,712	477,820	7,560
TKN	4,136,224	2,072,578	819,672	982,640	223,629	37,705
OG	4,768,722	2,391,437	945,775	1,133,815	278,924	18,771
TP	668,963	345,430	136,612	163,773	23,148	0

EPCOR
Wastewater Treatment COSA
Exhibit 11b
Unit Costs Summary - Kilograms

					Overstrength	
		Single Family	**Multi-Family**	**Commercial**	*Tier 1*	*Tier 2*
Surcharge per Kilogram						
BOD Costs - $ / Kg	$0.16	$0.16	$0.16	$0.16	$0.22	$0.22
TSS Costs - $ / Kg	1.11	1.11	1.11	1.11	1.48	1.48
COD Costs - $ / Kg	0.10	0.10	0.10	0.10	0.13	0.13
TKN Costs - $ / Kg	3.74	3.74	3.74	3.74	5.00	5.00
OG Costs - $ / Kg	2.87	2.87	2.87	2.87	3.84	3.84
TP Costs - $ / Kg	28.01	28.01	28.01	28.01	37.44	0.00
Limits (mg/l)						
BOD		N/A	N/A	N/A	> 300	> 3,000
TSS		N/A	N/A	N/A	> 300	> 3,000
COD		N/A	N/A	N/A	> 600	> 6,000
TKN		N/A	N/A	N/A	> 50	> 200
OG		N/A	N/A	N/A	> 100	> 400
TP		N/A	N/A	N/A	> 10	> 75