



CITY OF BEVERLY HILLS

Wastewater Rate Study

January 24, 2024

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CITY OF BEVERLY HILLS

345 Foothill Road
Beverly Hills, CA 90210



WASTEWATER RATE STUDY

January 24, 2024

HF&H CONSULTANTS, LLC

590 Ygnacio Valley Road, Suite 105
Walnut Creek, CA 94596



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January 24, 2024

Ms. Shana Epstein
Director of Public Works
City of Beverly Hills
345 Foothill Road
Beverly Hills, CA 90210

Subject: Wastewater Rate Study Report

Dear Ms. Epstein:

We are pleased to submit this wastewater rate study. This report is organized into six sections:

- **Executive Summary** - a summary of the proposed wastewater rates.
- **Introduction** - a brief description of the study purpose and project background.
- **Revenue Requirements** - the estimated costs that must be covered by rates and other sources of revenue.
- **Revenue Analysis** - an analysis of revenue at current rates to determine if revenues need to increase to cover the projected revenue requirement and to maintain adequate reserves.
- **Cost of Service Analysis** - the allocation of the revenue requirement among the residential and non-residential customers based on updated loadings from each class.
- **Rate and Bill Analysis** - the updated rates, and rate structure (e.g., transitioning single family and multi family customers to a flow-based structure, with the cost of service adjustments and the required rate increases and a comparison of typical customer bills with comparable agencies.

We would like to express our thanks to City staff and the members of the Public Works Commission and the Public Works Liaison Committee for their diligent efforts in assisting us with this study.

Sincerely,
HF&H CONSULTANTS, LLC

A handwritten signature in blue ink that reads "Richard J. Simonson".

Rick Simonson, Senior Vice President

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APPENDIX

APPENDIX A

Examples of Commercial Customer Categorization by Strength of Wastewater Discharge

ACRONYMS

BOD	Biological Oxygen Demand; a component of wastewater strength
CCF or HCF	Hundred cubic feet of metered water sold; 748 gallons; a cube of water 4.6 feet on edge
CIP	Capital Improvement Program
Domestic Strength	Commercial customers currently not paying a sewer surcharge rate
DU	Dwelling Unit
Excess Strength	Commercial customers currently paying a sewer surcharge rate
FY	Fiscal Year
GPD	Gallons per Day
MFR	Multiple Family Residential
Mg/l	Milligrams per Liter
O&M	Operations and Maintenance
PAYGo	Pay-As-You-Go; funding capital improvements from cash rather than from borrowed sources of revenue
SFR	Single Family Residential
TSS	Total Suspended Solids; a component of wastewater strength

ACKNOWLEDGEMENTS

City Council

Mayor Julian A. Gold, M.D.
Vice Mayor Lester Friedman
Councilmember Lili Bosse
Councilmember Sharona R Nazarian, PsyD
Councilmember John A Mirisch

Public Works Commission

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LIMITATIONS

This document was prepared solely for the City of Beverly Hills in accordance with the contract between the City and HF&H and is not intended for use by any other party for any other purpose.

In preparing this analysis, we relied on information and instructions from the City, which we consider to be accurate and reliable and did not independently verify.

Rounding differences caused by stored values in electronic format may exist.

This document addresses relevant laws, regulations, and court decisions but should not be relied upon as legal advice. Questions concerning the interpretation of legal authorities referenced in this document should be referred to a qualified attorney.

SECTION 1. EXECUTIVE SUMMARY

BACKGROUND

The City of Beverly Hills (City) provides wastewater service only to customers within the City boundary. The City owns, operates, and maintains the sewer collection system. However, the City discharges all wastewater to the City of Los Angeles’s system via the Hyperion Water Reclamation Plant. For this treatment service, the City reimburses the City of Los Angeles for its proportionate share of discharge volumes. The City’s collection system consists only of gravity pipelines. On average, the City conveys approximately 3.5 million gallons per day (MGD) to Hyperion Water Reclamation Plant without the aid of lift stations.

The present wastewater rates have not been updated since FY 2009-10. However, HF&H evaluated the current rates in 2017 and found rates sufficient to continue the enterprise’s strong financial position through FY 2021-22, without any need for a rate increase. Our projections demonstrated existing rates in FY 2017-18 would be sufficient to meet all reserve targets and revenue requirements through FY 2021-22.

CURRENT RATES

The current bi-monthly residential (Single Family and Multi Family) rates are based on a fixed charge per dwelling unit. Commercial customers (commercial, industrial, municipal, and industrial) are charged a flat rate plus additional variable charges based on flow and strength identified for a domestic user. Wastewater flows with strength characteristics exceeding domestic user levels are billed a surcharge. **Figure 1-1** shows the current rate structure.

Although it varies from year to year depending on water consumption, HF&H estimates that about two-thirds of the wastewater enterprise’s rate revenue is derived from fixed charges.

Figure 1-1. Current Rates

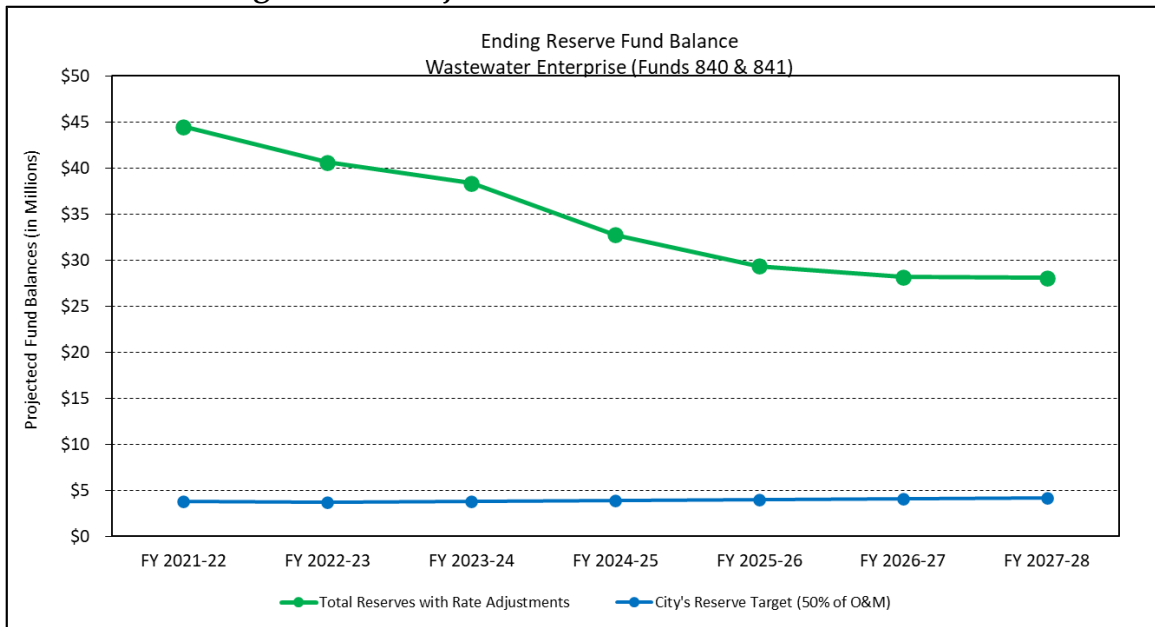
Bi-monthly Charges	Rate
Bi-monthly Service Charge	
Residential per dwelling unit	\$87.38
Commercial per account	\$34.20
Quantity Charge (\$/hcf)	
Residential	n/a
Commercial - domestic strength	\$4.74
Strength Surcharge	\$2.34

FINDINGS AND RECOMMENDATIONS

HF&H makes the following findings and recommendations.

1. **No annual revenue increases are recommended.** Despite annual operating shortfalls, the wastewater enterprise fund has enough reserves to continue meeting the City’s target balance. Also, the wastewater enterprise does not have existing debt service nor plans to issue debt service. Therefore, no revenue increases are recommended from FY 2023-24 through FY 2027-28 (see **Figure 1-2**).

Figure 1-2. Projected Year-End Reserve Balances



2. **Cost of service analysis of service charge revenue.** Service charge rates are recommended to be made the same uniform charge for all customer classes. To achieve the cost-of-service, existing residential customer service charge rates are recommended to decrease from \$87.38 per dwelling unit to \$40.08. This shift is the result of introducing a quantity charge to residential customers, thus reducing the amount of the fixed service charge. Service charge rates assessed to Commercial customers are recommended to increase from \$34.20 per account to \$40.08 per account to align with the fixed costs covered by the service charge, which does not differ by customer class.
3. **Cost of service analysis of residential quantity charge revenue.** Currently, all residential customers only pay a fixed service charge regardless of the amount of wastewater (i.e., indoor water use) that is discharged into the sewer system. It is recommended that Residential customer also be charged a quantity charge (similar to commercial) to reflect differences in indoor water use among residential households which can vary in size. Based on the cost-of-service analysis,

Residential customers would be charged \$3.58 per hundred cubic feet (HCF) of wastewater discharged, based on the adjusted water use during the billing period. Adjusted water use is determined by multiplying actual water use during the billing period multiplied by the return to sewer factor discussed in Item #4 below. As a reminder, this is a new charge which results in a lower fixed charge to residential customers (as discussed in #2 above) to ensure residents are not over charged based on the cost-of-service analysis.

4. **Return to sewer factors for calculation of quantity charge.** Customers use of water and the volume of water discharged to the sewer collection system varies by customer class. Return to sewer factors were developed to approximate the level of consumption of metered water use that is returned to the sewer collection system. These factors modify the level of water use attributed to a customer's quantity charge portion of the wastewater bill. Based on historical water use data, return to sewer factors for each customer class are as follows: Single Family is 52%; Multi-Family is 90%; and Commercial is 83%. Customers with a separate irrigation meter would be charged for all water use on the potable, non-irrigation meter and will not be charged sewer charges for the irrigation meter.
5. **Commercial quantity charge rate structure.** The City has two existing Commercial quantity charge rates. For the purposes of this report, the current quantity charge rates will be denoted as Domestic and Excess Strength. Excess Strength customers with wastewater strength exceeding domestic strength, pay an additional \$2.34 per HCF.

The proposed rates recommend the addition of a third quantity charge rate to create three Non-Residential customer classes: Commercial – Low Strength, Commercial – Medium Strength, and Commercial – High Strength. The introduction of a Medium Strength class is proposed to take into consideration mixed use commercial properties that may have a combination of low strength businesses (e.g., office space, retail stores) and high strength businesses (e.g., restaurants, coffee shops) and other businesses that may generate wastewater that is of higher strength than low-domestic strength customers, but lower than high strength customers. Low Strength customer rates are proposed to decrease from \$4.74 per HCF to \$3.58 per HCF, to re-align with the cost-of-service. High Strength customer rates are proposed to decrease from \$7.08 per HCF to \$6.95 per HCF, to re-align with the cost-of-service. The new Medium Strength customer class will be charged \$5.24 per HCF, to align with the cost-of-service.

6. **Five-year phase-in plan to reach cost of service structure for residential customers.** With the residential recommendations identified in items #2-4, a five-year schedule of revenue neutral adjustments to the rates calculated by the cost-of-service analysis is proposed. The phase-in adjustment period reduces the bill

impacts that would occur if rates were adjusted the first year (i.e., FY 2023-24). **Table 1-1** shows the cost-of-service rates for residential customers. **Table 1-2** shows the proposed rates with a five-year phase-in schedule. The five-year phase-in plan for the residential rates will require the use of approximately \$1,998,000 from reserves, as the updated service charge and quantity charge rates for residential customers will be gradually decreased and increased, respectively, each year until they each reflect the full cost-of-service on 1/1/2028.

Table 1-1. Cost of Service Rates Comparison to Current Rates

	Current Rates	Cost-of-Service Rates	\$ Difference
Bi-Monthly Service Charge			
Single and Multi Family per account	\$87.38	\$40.08	(\$47.30)
Commercial - Low Strength	\$34.20	\$40.08	\$5.88
Commercial - Medium Strength	n/a	\$40.08	\$40.08
Commercial - High Strength	\$34.20	\$40.08	\$5.88
Quantity Charge per hcf[1]			
Single and Multi Family	n/a	\$3.58	\$3.58
Commercial - Low Strength	\$4.74	\$3.58	(\$1.16)
Commercial - Medium Strength	n/a	\$5.24	\$5.24
Commercial - High Strength	\$7.08	\$6.95	(\$0.13)

[1] Quantity charge applied to sewerage water use. Sewerage water use is calculated as actual water use x Return to Sewer Factor. Return to Sewer Factors are as follows: Single Family = 52%; Multi Family = 90%; Commercial = 83%; irrigation meters = 100%

Table 1-2. Recommended Phase-In Schedule to Achieve Cost of Service Rates

	Current Rates	7/1/2024	1/1/2025	1/1/2026	1/1/2027	1/1/2028
Overall Revenue Increase						
Bi-Monthly Service Charge						
Single and Multi Family	\$87.38	\$77.92	\$68.46	\$59.00	\$49.54	\$40.08
Commercial Low Strength	\$34.20	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Commercial Medium Strength	n/a	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Commercial High Strength	\$34.20	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Quantity Charge Rate per hcf						
Single and Multi Family	\$0.00	\$0.72	\$1.43	\$2.15	\$2.86	\$3.58
Commercial Low Strength	\$4.74	\$3.58	\$3.58	\$3.58	\$3.58	\$3.58
Commercial Medium Strength	n/a	\$5.24	\$5.24	\$5.24	\$5.24	\$5.24
Commercial High Strength	\$7.08	\$6.95	\$6.95	\$6.95	\$6.95	\$6.95

This report documents the rates proposed for adoption by the City. The first rate adjustment is proposed to become effective in July 1, 2024 with subsequent adjustments every January 1 thereafter, through January 2028.

SECTION 2. INTRODUCTION

STUDY PURPOSE AND PRIORITIES

The City is responsible for setting rates in compliance with California law. Voters passed Proposition 218 in November 1996, which enacted Article XIII D of the California Constitution. Article XIII D, Section 6, requires that fees and charges for wastewater service shall not exceed the proportional cost of service.

This purpose of this report is to document that the proposed rates comply with the relevant laws in California for setting wastewater rates. This report also ensures that the rates generate sufficient revenue from conserving levels of demand to fund the wastewater enterprises operating and capital costs as well as to maintain adequate reserves.

The following are the key objectives/priorities of this study based on discussions with City staff, the Public Works Commission, and the City Council Liaison Committee:

- Ensure proposed rates will cover projected operating and capital costs throughout the five-year period.
- Ensure each customer class is covering their proportional cost of service.
- Review the current rate structure and make any recommended changes to better align the rates with the costs the City incurs to provide wastewater service to each account (e.g., move from a uniform fixed charge for all residential customers, regardless of how much indoor water is used at the property), to a fixed charge plus quantity charge to reflect variances in indoor water use among residential customers, which impacts the amount and treatment of their respective wastewater discharge.
- If the proposed rates result in significant increases to a customer class, explore alternatives for phasing in the increase to reduce rate shock in the first year. This will allow customers to re-evaluate their water use and make changes to reduce their water use in the future, as rates increase gradually over time instead of all at once.

STUDY PROCESS

The rate study was conducted following industry standards and practices promulgated by the Water Environment Federation¹. A comprehensive rate study involves four steps:

¹ *Financing and Charges for Wastewater Systems*. Water Environment Federation Manual of Practice 27. 2018.

1. Revenue requirement projections
2. Cost-of-service allocations
3. Rate structure design
4. Customer bill analysis

This study has been conducted in close collaboration with a working group of City staff, the City's Public Works Commission, the Public Works Commission's Rates Ad Hoc Committee, and the City's Public Works Liaison Committee. Over 20 meetings were held to develop alternative funding strategies, to review and refine the alternatives, and to select the preferred alternative.

Revenue requirements were projected for a five-year planning period based on operations, maintenance, capital expenses, and contributions to reserves. The cost-of-service analysis allocates the projected expenses among the customer classes in proportion to their use of the systems. Rates are then designed so that rate payers are charged equitably. The impact on customers is then determined by comparing bills under the proposed rates with bills under the current rates.

During the study process, interim work products were presented at several public meetings and workshops.

CURRENT RATES

The current bi-monthly residential (Single Family and Multi Family) rates are based on a fixed charge of \$87.38 per dwelling unit. Non-residential (Commercial) customers (commercial, municipal, and industrial) are charged a flat bi-monthly rate of \$34.20 per account plus additional quantity charges based on flow and strength identified for a domestic user. Wastewater flows with strength characteristics exceeding domestic user levels are billed a surcharge.

The present wastewater rates have not been updated since FY 2009-10 after the 2017 rate study recommended no adjustment to rates through FY 2021-22. **Table 2-1** shows the current rates.

Table 2-1 Current Wastewater Rates

Bi-monthly Charges	Rate
Bi-monthly Service Charge	
Residential per dwelling unit	\$87.38
Commercial per account	\$34.20
Quantity Charge (\$/hcf)	
Residential	n/a
Commercial - domestic strength	\$4.74
Strength Surcharge	\$2.34

The City has two existing Commercial quantity charge rates. For the purposes of this report, the current quantity charge rates will be denoted as Domestic (e.g., office buildings, retail) and Excess Strength (wastewater discharge that include significant amounts of fats, oils, grease, and food waste, e.g., restaurants, delis, grocery stores). Excess Strength customers with wastewater strength exceeding domestic strength, pay an additional \$2.34 per HCF. Currently, all metered water use is charged based on the Commercial customer’s wastewater classification as a Domestic Strength or Excess Strength customer.

SECTION 3. REVENUE REQUIREMENTS

To determine whether additional rate revenue is required, projected operating and capital expenses are compared with projected revenue from current rates. Annual surpluses and deficits are then applied to the reserve funds. Rates are then adjusted so that the expenses are covered and operating and capital reserves are maintained. The following sections summarize the methodology for determining the annual revenue requirements, the necessary annual revenue adjustments, and the projected impact these results will have on the Wastewater Enterprise fund balance.

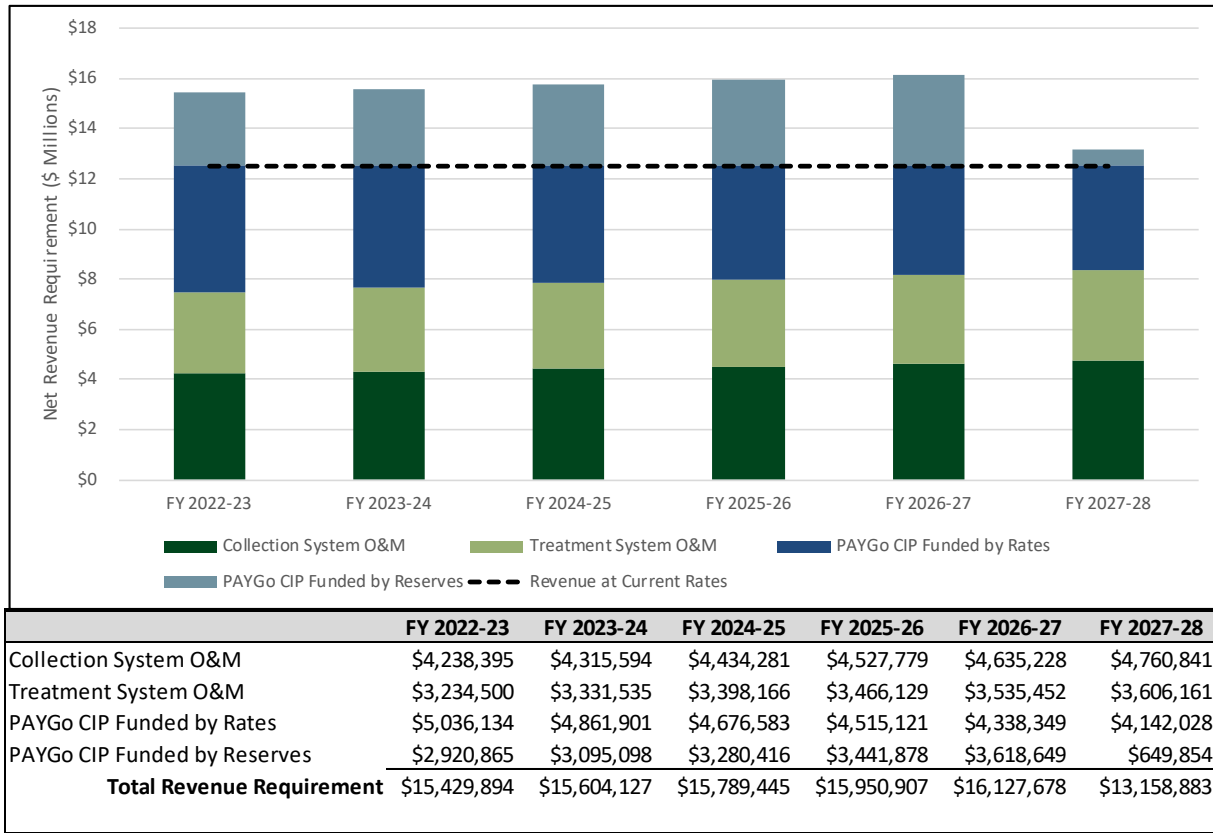
EXPENSE PROJECTIONS

A spreadsheet model was developed to derive revenue requirements for FY 2022-23 through FY 2027-28. The revenue requirements represent the costs that must be covered by revenue from rates and other sources, such as reserves. The City’s Council-approved operating and capital budget for FY 2022-23 served as the starting point for projecting the City’s expenses and revenues over the five-year financial planning period. We worked with City staff to project beyond FY 2022-23. The escalation factors in **Table 3-1** summarize effective annual percentage increases in various cost categories. The application of these assumptions to the O&M and capital expenses are summarized in **Figure 3-1** and are described in more detail below. The revenue from current rates is also shown (dotted black line).

Table 3-1. Key Modeling Assumptions

Assumptions	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Personnel Services	Per Budget	2.75%	2.75%	2.75%	2.75%	2.75%
Materials and Supplies	Per Budget	3.00%	2.00%	2.00%	2.00%	2.00%
Contractual Services - BH Operations	Per Budget	3.00%	2.00%	2.00%	2.00%	2.00%
Contractual Services - Treatment	Per Budget	3.00%	2.00%	2.00%	2.00%	2.00%
Internal Service Charges	Per Budget	Per Budget	Per Budget	Per Budget	Per Budget	3.0%
Other Expenses	Per Budget	1.00%	1.00%	1.00%	1.00%	1.00%
Project Admin. and CIP Mgmt. Charges	Per Budget	2.75%	2.75%	2.75%	2.75%	2.75%
% Increase in Revenue due to Growth	Per Budget	0.00%	0.00%	0.00%	0.00%	0.00%
Construction Cost Inflation	2.48%	5.02%	7.62%	10.29%	13.02%	15.82%
Interest on Fund Balance	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
CIP Completion Factor	100%	100%	100%	100%	100%	100%

Figure 3-1. Annual Revenue Requirement Components



REVENUE PROJECTIONS

Table 3-2 compares revenue from current rates, capacity fees, and miscellaneous (non-operating) revenues with the revenue requirement from Table 3-2. Absent rate increases, the wastewater fund will utilize reserves to absorb a total shortfall of \$16.7 million through FY 2027-28. Reserves must be reviewed to determine whether forgoing rate increases beyond FY 2027-28 is reasonable.

Table 3-2. Projected Revenue Shortfall.

	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Sewer Service Charges	\$12,509,029	\$12,509,029	\$12,509,029	\$12,509,029	\$12,509,029	\$12,509,029
Capacity Fees	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
Miscellaneous Revenues	\$1,500	\$1,515	\$1,530	\$1,545	\$1,561	\$1,577
Total Revenue	\$12,560,529	\$12,560,544	\$12,560,559	\$12,560,575	\$12,560,590	\$12,560,606
(Less) Revenue Requirement	(\$15,429,894)	(\$15,604,127)	(\$15,789,445)	(\$15,950,907)	(\$16,127,678)	(\$13,158,883)
Surplus/(Shortfall)	(\$2,869,365)	(\$3,043,583)	(\$3,228,886)	(\$3,390,332)	(\$3,567,088)	(\$598,277)

RESERVE POLICIES

In addition to covering annual expenses, wastewater revenue is used to maintain adequate unrestricted reserves. The City has established policies for the types of reserves and the appropriate balances that should be maintained for each reserve. To set rates so that these policies are met, the reserves are organized as follows.

Target Balance

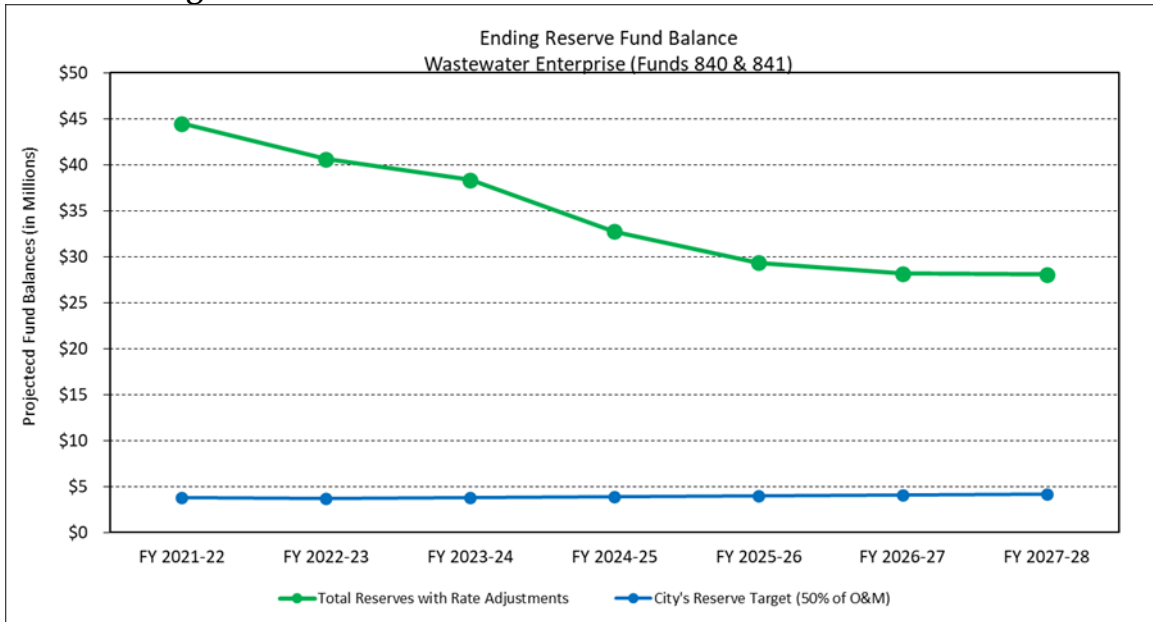
Meeting the Target Balance provides an additional increment of working capital liquidity to fund capital projects that are funded on a PAYGo basis (as opposed to those that are funded with debt) as well as other renewal and replacement capital costs. The City has an established operating target balance of 50% of annual O&M expenses. With adequate capital reserves, the City is able to pay for day to day operations, contractors, debt service, and cash-funded capital improvements, without encroaching on other reserves.

FUND BALANCE

Figure 3-2 shows the target balance and the projected annual fund balances without rate adjustments. Since the proposed rate adjustments are revenue neutral, the fund balance without the proposed rate adjustments mirrors the fund balance projections previously shown in **Figure 1-2** (i.e., Fund Balance Projections with proposed rate adjustments). Although the projections for the fund balance show straight lines between years, the fund balance will fluctuate up and down substantially during each year. The reserves are actively drawn on at all times during the year but are only periodically added to when revenue is received from rate payers. The reserves are not simply accumulated without being used.

Despite the projected shortfalls in **Table 3-2**, The City's wastewater enterprise fund has sufficient reserves to absorb the deficit (created by the need for capital improvements throughout the five-year planning period) without needing to raise rates. **Figure 3-2** depicts the City's use of reserves over the five-year period, while maintaining a fund balance (green line) greater than the City's target balance (blue line). The minimum balance is not depicted, as the reserve fund balance is not at risk of approaching this lower level of reserves during the five-year period.

Figure 3-2. Fund Balance Without Rate Revenue Increases



The City has adequate reserves to fund its projected revenue requirement over the five-year period, and rate phase-in approach, which will allow it to focus on adjusting wastewater rates to meet any potential changes identified in the cost-of-service analysis.

SECTION 4. COST OF SERVICE ANALYSIS

A cost-of-service analysis determines how much of the total revenue requirement should be paid by each customer class based on its respective share of wastewater flow and strength (i.e., biological oxygen demand (BOD) and total suspended solids (TSS), the measures of wastewater strength used by the City). The City periodically reviews and updates its rates to ensure that they are based on the cost of service. Such updates should be conducted to account for any material changes in the loadings among the classes.

This section of the report describes the cost-of-service analysis step by step. The cost-of-service analysis involves the following steps:

1. Allocate cost to the functions provided by the City’s wastewater facilities;
2. Determine units of service by function;
3. Determine unit costs of service by function;
4. Determine cost of service rates by customer class.

The cost-of-service analysis is a process of correlating the FY 2022-23 budgeted costs of the functions provided by the City with how much of those functions are required by each customer class. In addition, the City’s cost accounting for this year serves to allocate the costs into categories that are consistent with the cost of service analysis.

FUNCTIONAL COST ALLOCATIONS

Table 4-1 first presents the allocation of operating expenses to the five functional cost categories (i.e., Accounts, Capacity, Flow, BOD, and TSS). The allocations depend on whether the cost is related to treatment plant expenses, collection system operations, collection system capital, or customer O&M. Each of these functions has its own set of allocation factors that were reviewed with and determined with the City.

The functional allocations are used to calculate an Expense Composite Allocation Factor which is calculated by taking the percentage of expense costs allocated to each of the five functional cost categories. The Expense Composite Allocation Factors are used for allocating transfers, which are not associated with specific costs. The result of this series of allocations yields the revenue requirement itemized by function.

Table 4-1. Allocation of Costs to Functions

FUNCTIONAL ALLOCATION FACTORS							
Type	Total	Accounts	Capacity	Flow	BOD	TSS	
1 Treatment Plant	100.0%	0.0%	0.0%	34.0%	33.0%	33.0%	
2 Collection System - Operations	100.0%	0.0%	0.0%	90.0%	5.0%	5.0%	
3 Collection System - Capital	100.0%	0.0%	40.0%	40.0%	10.0%	10.0%	
4 Customer Account	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	
5 Expense Composite	100.0%	12.2%	20.8%	41.3%	12.9%	12.9%	

REVENUE REQUIREMENT ALLOCATION							
	Rev. Req't	Allocation	Cost Allocation				
	2022-23	Type	Accounts	Capacity	Flow	BOD	TSS
Treatment Plant							
Contractual Services - Disposal	\$3,234,500	1	\$0	\$0	\$1,099,730	\$1,067,385	\$1,067,385
PayGo Capital - Treatment	\$0	1	\$0	\$0	\$0	\$0	\$0
Subtotal	\$3,234,500		\$0	\$0	\$1,099,730	\$1,067,385	\$1,067,385
Collection System							
<u>O&M Expenses</u>							
Personnel Services	\$1,677,400	2	\$0	\$0	\$1,509,660	\$83,870	\$83,870
Materials and Supplies	\$103,200	2	\$0	\$0	\$92,880	\$5,160	\$5,160
Contractual Services - BH Operations	\$320,989	2	\$0	\$0	\$288,890	\$16,049	\$16,049
Other O&M Expenses	\$189,222	2	\$0	\$0	\$170,300	\$9,461	\$9,461
Subtotal	\$2,290,811		\$0	\$0	\$2,061,730	\$114,541	\$114,541
<u>Capital Expenses</u>							
PayGo Capital - Collection System	\$7,956,999	3	\$0	\$3,182,799	\$3,182,799	\$795,700	\$795,700
Project Admin. & CIP Mgmt. Charges	\$70,254	3	\$0	\$28,102	\$28,102	\$7,025	\$7,025
Subtotal	\$8,027,253		\$0	\$3,210,901	\$3,210,901	\$802,725	\$802,725
Other Expenses/(Revenues)							
Administrative Expenses (ISC)	\$1,877,330	4	\$1,877,330	\$0	\$0	\$0	\$0
Subtotal	\$1,877,330		\$1,877,330	\$0	\$0	\$0	\$0
Subtotal Expenses	\$15,429,894		\$1,877,330	\$3,210,901	\$6,372,361	\$1,984,651	\$1,984,651
<i>Expense Composite</i>			12.2%	20.8%	41.3%	12.9%	12.9%
Transfers to/from Reserves	(\$2,920,865)	5	(\$355,377)	(\$607,821)	(\$1,206,282)	(\$375,693)	(\$375,693)
Net Revenue Requirement	\$12,509,029		\$1,521,953	\$2,603,080	\$5,166,079	\$1,608,958	\$1,608,958
	100.0%		12.2%	20.8%	41.3%	12.9%	12.9%

Note: Rounding differences caused by stored values in electronic format may exist.

UNITS OF SERVICE

Each of the five functional categories provides service to customers as shown in **Table 4-2**. This table shows the number of accounts and estimated wastewater discharge for each customer class.

The values used for all customers reflect reduced metered water use flows based on return to sewer factors calculated as part of this study. The return to sewer factors account for irrigation and other forms of metered water that does not return to the sewer

collection system. The return to sewer factors calculated (as shown in **Table 4-3**) are unique to each customer class. For example, Single Family customers have the lowest return to sewer factor, recognizing the larger proportion of water used for irrigation purposes this customer class exhibits. In other words, the lower the return value, the less metered water is assumed to be returned to the sewer through toilets, drains, or other entry points.

The values used for BOD and TSS concentrations are based on monitoring of wastewater strengths at the Hyperion Treatment Plant, owned and operated by the City of Los Angeles .

Table 4-2. Units of Service By Function - Existing Customer Classes

	<u>Accounts</u> Units	<u>Annual Flow</u> ¹ hcf	<u>Return to</u> <u>Sewer</u> ²	<u>Sewered</u> <u>Flow</u> ³ (hcf)	<u>BOD</u> ⁴ mg/l	<u>TSS</u> ⁴ mg/l	<u>BOD</u> (lbs/year)	<u>TSS</u> (lbs/year)
Residential								
Single Family Residences	6,080	2,017,021	52%	1,049,980	215	205	1,409,217	1,343,672
Multiple Family Residences	10,117	572,457	90%	512,609	215	205	687,991	655,992
Total Residential	16,197	2,589,478		1,562,589			2,097,208	1,999,663
Domestic Strength Non Residential								
Commercial/Industrial	795	547,737	83%	455,544	215	205	611,402	582,965
Municipal	57	41,207	50%	20,523	215	205	27,544	26,263
Total Domestic Strength Non Residential	852	588,944		476,067			638,946	609,228
Excess Strength Non Residential								
Commercial/Industrial	102	186,436	83%	155,056	1,000	600	967,933	580,760
Municipal	1	1,844	50%	918	1,000	600	5,731	3,439
Total Excess Strength Non Residential	103	188,279		155,974			973,665	584,199
Total	17,152	3,366,701		2,194,630			3,709,818	3,193,090

Note: Rounding differences caused by stored values in electronic format may exist.

1. Average of CY 2017-2019 water flow data
2. Calculated percentages in Table 4-3 based on average of lowest month of consumption each year.
3. Calculated by applying the return to sewer factor to the annual flow.
4. City data

Table 4-3 shows the calculated return to sewer factors based on historical water use data compiled over 2017-2019, which is the pre-COVID period which best represents normal water use. The lowest winter water month was used as a proxy to determine the level of indoor, non-discretionary water use. The ratio of the annualized total of the lowest period of monthly use and the total annual water use of each customer class determined the return to sewer factor. The final return to sewer factors in **Table 4-3** are the average of the calculated ratios for each customer class.

Table 4-3. Return to Sewer Factors

Customer Class	Annual Flow ¹	Sewered Flow ²	Return
	hcf	hcf	to Sewer
	a	b	c = b/a
Single Family Residential			
Without Irrigation meter	2,017,021	1,049,980	52%
With Irrigation meter			100%
Irrigation meter			0%
Multiple Family Residences	572,457	512,609	90%
Low Strength Non Residential			
Commercial	547,737	455,544	83%
Municipal	41,207	20,523	50%
	<u>588,944</u>	<u>476,067</u>	
High Strength Non Residential			
Commercial	186,436	155,056	83%
Municipal	1,844	918	50%
	<u>188,279</u>	<u>155,974</u>	
	<u>3,366,701</u>	<u>2,194,630</u>	65%

1. Average of CY 2017-2019 annual metered flow
2. Annualize value of the average of lowest water consumption month of CY 2017-2019.

UNIT COSTS OF SERVICE

The cost of service corresponding to each of the five functions is calculated by dividing the functional costs in **Table 4-1** by the units of service in **Table 4-2**. The result is shown in **Table 4-4**.

Table 4-4. Unit Costs of Service by Function

Functional Costs ¹	Service Charge Component		Quantity/Quality Charge Component			Total
	Dwellings	Capacity	Flow	BOD	TSS	
Treatment Plant	\$0	\$0	\$1,099,730	\$1,067,385	\$1,067,385	\$3,234,500
Collection System O&M	\$0	\$0	\$2,061,730	\$114,541	\$114,541	\$2,290,811
Collection System Capital	\$0	\$3,210,901	\$3,210,901	\$802,725	\$802,725	\$8,027,253
Other Expenses	\$1,877,330	\$0	\$0	\$0	\$0	\$1,877,330
Transfers To/(From) Reserves	(\$355,377)	(\$607,821)	(\$1,206,282)	(\$375,693)	(\$375,693)	(\$2,920,865)
	\$1,521,953	\$2,603,080	\$5,166,079	\$1,608,958	\$1,608,958	\$12,509,029
	÷	÷	÷	÷	÷	
Units of Service²	17,152	17,152	2,194,630	3,709,818	3,193,090	
Unit Costs	accts/DUs \$88.73 \$/acct or DU	accts/DUs \$151.77 \$/acct or DU	hcf \$2.35 \$/hcf	lbs \$0.43 \$/lb	lbs \$0.50 \$/lb	
Bi-Monthly Unit Costs	\$14.79 \$/acct or DU	\$25.29 \$/acct or DU				
Portion of Rate Revenue	33%		67%			100%

1. Functionalized costs from Table 4-1.
2. Units of service from Table 4-2.

In the cost-of-service analysis, all customer classes are treated equally through the application of the same unit costs to all customers, which is the fundamental purpose of cost of service analysis. In this way, the cost of service analysis proportionately distributes the revenue requirement to customers without discrimination, after which rates can be designed to generate the revenue required to provide the necessary level of service to each class.

Rates need to be designed to generate each class’s share of the revenue requirement related to quantity charges and fixed service charges. **Table 4-5** compares the revenue projected from current rates to the cost of service by customer class. **Table 4-5** indicates that the revenue from existing rates differs from each classes’ share of the cost of service. While overall revenue does not need to increase, single family and multi family quantity charge rate revenue need to increase to bring them in line with the cost of service and commercial rate revenues need to decrease.

Table 4-5. Current Rate Revenue Compared With the Cost of Service

	Current Revenue	Cost-of-Service	Difference
Single and Multi Family	\$8,491,763	\$9,490,807	\$999,043
Commercial Domestic Strength	\$2,739,728	\$1,909,644	(\$830,085)
Commercial Excess Strength	\$1,277,538	\$1,108,579	(\$168,959)
Total	\$12,509,029	\$12,509,029	\$0

Section 5 provides the recommended modifications to the quantity charges and service charges in order to meet the current cost of service requirements shown in **Table 4-5**.

SECTION 5. RATE DESIGN

In this section, rates are first calculated based on the cost of service determined in Section 4. Those rates are compared with current rates to see how the updated cost of service compares with the previous cost of service rates. To reduce the impacts in the proposed rate structure, which increases revenue needed from residential customers. A five-year schedule of phasing in the new rates is included for residential customers.

COST OF SERVICE RATES

Tables 5-1, 5-2, and 5-3 show the derivation of the cost-of-service rates. These rates are derived by applying the unit costs of service in Table 4-4 to the units of service in Table 4-2. Under the proposed rates, Single Family and Multi Family customers would be billed \$40.08 bi-monthly per dwelling unit and \$3.58 per Hundred Cubic Feet (HCF)² of sewer flow. As identified previously in Table 4-3, Single Family customers, who do not have a separate irrigation meter, would see their metered water consumption reduced to 52% (i.e., return to sewer factor) of billed water use in order to calculate the variable portion of their wastewater bill. In contrast, Multi Family customers would see their metered water consumption reduced to 90% of billed use in the calculation of the variable portion of their wastewater bill. The specific bill impacts to each customer class will be discussed further in Section 6.

Table 5-1. Calculation of Residential Cost of Service Rates

Residential						
	Dwelling Units (DUs)	Capacity	Flow	BOD	TSS	Total (per hcf)
Single and Multi Family Residential Units ¹	16,197 DUs		1,562,589 hcf	2,097,208 lbs	1,999,663 lbs	
Sewered Flow ²			1,562,589 hcf	1,562,589 hcf	1,562,589 hcf	
Units per account		1.00 DU Ratio	1.00	1.34 lbs/hcf	1.28 lbs/hcf	
Unit Costs (\$ per Unit/year) ³	\$88.73 per DU	\$151.77 per DU	\$2.35 per hcf	\$0.43 per lbs	\$0.50 per lbs	
Total cost per Unit	\$88.73 per DU/year	\$151.77 per unit	\$2.35 per hcf	\$0.58 per hcf	\$0.64 per hcf	\$3.58
Bi-Monthly Rates	\$14.79 per DU	\$25.29 per DU \$40.08 per DU	\$2.35	\$0.58	\$0.64	\$3.58 per hcf

Note: Rounding differences caused by stored values in electronic format may exist.

- 1. 6,080 single-family account, 10,117 multi-family accounts
- 2. Sewered flow, BOD, TSS values from Residential total in Table 4-2.
- 3. Unit costs from Table 4-4.

As shown in Table 5-2, Commercial customers (which includes municipal customers) are billed per account and by flow based on estimated wastewater discharge using metered potable water use from the City as a proxy, adjusted by the 83% return to sewer factor for commercial customers and by the 50% return to sewer factor for municipal customers), as derived in Table 4-3.

² Hundred Cubic Feet = 748 gallons

Table 5-2. Calculation of Commercial Cost of Service Rates

Commercial						
	Account	Capacity	Flow	BOD	TSS	Total (per hcf)
Low Strength (Domestic Strength)						
Units ¹	852 accounts		476,067 hcf	638,946 lbs	609,228 lbs	
Sewered Flow ²	852 accounts		476,067 hcf	476,067 hcf	476,067 hcf	
Units per account		1.00 DU Ratio	1.00	1.34 lbs/hcf	1.28 lbs/hcf	
Unit Costs (\$ per Unit) ³	\$88.73 per account	\$151.77 per DU	\$2.35 per hcf	\$0.43 per lbs	\$0.50 per lbs	
Total	\$88.73 per account	\$151.77 per unit	\$2.35 per hcf	\$0.58 per hcf	\$0.64 per hcf	\$3.58
Bi-Monthly Rates	\$14.79 per account	\$25.29 per DU \$40.08 per DU	\$2.35	\$0.58	\$0.64 \$3.58 per hcf	
High Strength (Excess Strength)						
Units ¹	103 accounts		155,974 hcf	973,665 lbs	584,199 lbs	
Sewered Flow ²	103 accounts		155,974 hcf	155,974 hcf	155,974 hcf	
Units per account		1.00 DU Ratio	1.00	6.24 lbs/hcf	3.75 lbs/hcf	
Unit Costs (\$ per Unit) ³	\$88.73 per account	\$151.77 per DU	\$2.35 per hcf	\$0.43 per lbs	\$0.50 per lbs	
Total	\$88.73 per account	\$151.77 per unit	\$2.35 per hcf	\$2.71 per hcf	\$1.89 per hcf	\$6.95
Bi-Monthly Rates	\$14.79 per account	\$25.29 per account \$40.08 per account	\$2.35	\$2.71	\$1.89 \$6.95 per hcf	

Note: Rounding differences caused by stored values in electronic format may exist.

1. Units from Table 5-3.
2. Sewered flow, BOD, TSS values from Residential total in Table 4-2.
3. Unit costs from Table 4-4.

As part of the study, the City decided to expand from two to three Commercial classes. The unit costs calculated in **Table 4-4** were applied to the new customer class, Commercial – Medium Strength. The City provided wastewater strength concentrations in order to calculate the flow-based rate. The proposed bi-monthly rates for Commercial -Medium Strength customers are shown below.

Table 5-3. Calculation of New Medium Strength Customer Class Rates

Commercial						
	Account	Capacity	Flow	BOD	TSS	Total (per hcf)
Medium Strength						
COS Unit Costs (\$ per Unit) ¹	\$88.73 per account	\$151.77 per DU	\$2.35 per hcf	\$0.43 per lbs	\$0.50 per lbs	
Strength Concentration (mg/l)				600 mg/l	400 mg/l	
Strength Concentration (lb/yr)				3.75 lb/yr	2.50 lb/yr	
Unit Costs	\$88.73 per account	\$151.77 per unit	\$2.35 per hcf	\$1.62 per hcf	\$1.26 per hcf	\$5.24
Bi-Monthly Rates	\$14.79 per account	\$25.29 per account \$40.08 per account	\$2.35	\$1.62	\$1.26 \$5.24 per hcf	

Note: Rounding differences caused by stored values in electronic format may exist.

1. Unit costs from Table 4-4.

Under the proposed rates, Commercial customers billed for Domestic Strength will now be classified as Commercial – Low Strength. Commercial customers previously billed a surcharge for Excess Strength will be classified as Commercial – High Strength. Commercial - Low Strength customers would include such accounts as schools, libraries, banks, and professional offices. Commercial – Medium Strength customers would include such accounts as dry cleaners, pet groomers, tasting rooms, car washes, and gyms. Commercial - High Strength customers would include such accounts as restaurants, coffee shops, grocery stores, bakeries, and bars or taverns with dining. For

an expanded list of examples of wastewater customer class (e.g., low, medium., high) by type of commercial business, refer to **Appendix A**.

The cost-of-service rates from **Tables 5-1** through **5-3** are summarized and compared with the current rates in **Table 5-4**.

Table 5-4. Comparison of Current Rates with Cost-of-Service Rates

	Current Rates	Cost-of-Service Rates	\$ Difference
Bi-Monthly Service Charge			
Single and Multi Family per account	\$87.38	\$40.08	(\$47.30)
Commercial - Low Strength	\$34.20	\$40.08	\$5.88
Commercial - Medium Strength	n/a	\$40.08	\$40.08
Commercial - High Strength	\$34.20	\$40.08	\$5.88
Quantity Charge per hcf[1]			
Single and Multi Family	n/a	\$3.58	\$3.58
Commercial - Low Strength	\$4.74	\$3.58	(\$1.16)
Commercial - Medium Strength	n/a	\$5.24	\$5.24
Commercial - High Strength	\$7.08	\$6.95	(\$0.13)

[1] Quantity charge is applied to sewer water use. Sewer water use is the product of the return to sewer factor applied to actual water use. Return to sewer factors are as follows: Single Family = 52%; Multi Family = 90%; Commercial = 83%.

As a result of the cost of service adjustments, rates for each class increase or decrease by different percentages. As shown in **Table 4-4**, single family and multi family revenue needs to increase by \$999,043, while commercial revenue needs to decrease by \$999,043. During the study process, the City Council Liaison Committee requested HF&H to provide a five-year schedule to phase-in the residential rate adjustments to reduce the immediate impact on residential customers, in particular single family customers with high water use, as their bills will increase the greatest as the proposed rate structure is moving from a fixed charge only, to a fixed charge plus quantity charge based on actual water use adjusted by the return-to-sewer factor. **Table 5-5** provides the recommended rates to achieve the cost-of-service by 2028. A five-year phase-in is not being proposed for commercial rates as the commercial customer classes’ cost of service is less than current rate revenues at current rates and the re-alignment to the lower cost of service should be provided right away.

Table 5-5. Proposed Rates with Five-Year Phase-In to Cost of Service

	Current Rates	7/1/2024	1/1/2025	1/1/2026	1/1/2027	1/1/2028
Overall Revenue Increase						
Bi-Monthly Service Charge						
Single and Multi Family	\$87.38	\$77.92	\$68.46	\$59.00	\$49.54	\$40.08
Commercial Low Strength	\$34.20	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Commercial Medium Strength	n/a	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Commercial High Strength	\$34.20	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Quantity Charge Rate per hcf						
Single and Multi Family	\$0.00	\$0.72	\$1.43	\$2.15	\$2.86	\$3.58
Commercial Low Strength	\$4.74	\$3.58	\$3.58	\$3.58	\$3.58	\$3.58
Commercial Medium Strength	n/a	\$5.24	\$5.24	\$5.24	\$5.24	\$5.24
Commercial High Strength	\$7.08	\$6.95	\$6.95	\$6.95	\$6.95	\$6.95

SECTION 6. CUSTOMER BILL IMPACTS

Based on the recommended rates summarized in **Table 5-5**, the bi-monthly customer bill impacts were evaluated.

Tables 6-1 through **6-5** provide sample bills impacts for each of the five wastewater customer classes proposed. Each table includes the bill impacts for low (half of average), average, and high (two times average) water use for each customer class. The multi-family sample bill impacts are based on a 10-unit complex which is the most-common size within the City’s service area. The Commercial – Medium Strength comparison assumes the customer is currently being charged based on a Domestic Strength classification.

Table 6-1. Single Family Bill Impacts with Proposed Rates

Single Family - Low Water Use						
	Current	Proposed				
		<u>7/1/2024</u>	<u>1/1/2025</u>	<u>1/1/2026</u>	<u>1/1/2027</u>	<u>1/1/2028</u>
Assumptions						
Water Consumption	28	28				
Return to Sewer Factor	n/a	52%				
Sewered Flow	n/a	15				
Wastewater Bill						
Service Charge	\$87.38	\$77.92	\$68.46	\$59.00	\$49.54	\$40.08
Quantity Charge	\$0.00	\$10.80	\$21.45	\$32.25	\$42.90	\$53.70
Total Bi-Monthly Bill	\$87.38	\$88.72	\$89.91	\$91.25	\$92.44	\$93.78
Increase/(Decrease) from Prior Year		\$1.34	\$1.19	\$1.34	\$1.19	\$1.34
Cumulative Increase/(Decrease)		\$1.34	\$2.53	\$3.87	\$5.06	\$6.40
Single Family - Average Water Use						
	Current	Proposed				
		<u>7/1/2024</u>	<u>1/1/2025</u>	<u>1/1/2026</u>	<u>1/1/2027</u>	<u>1/1/2028</u>
Assumptions						
Water Consumption	56	56				
Return to Sewer Factor	n/a	52%				
Sewered Flow	n/a	29				
Wastewater Bill						
Service Charge	\$87.38	\$77.92	\$68.46	\$59.00	\$49.54	\$40.08
Quantity Charge	\$0.00	\$20.88	\$41.47	\$62.35	\$82.94	\$103.82
Total Bi-Monthly Bill	\$87.38	\$98.80	\$109.93	\$121.35	\$132.48	\$143.90
Increase/(Decrease) from Prior Year		\$11.42	\$11.13	\$11.42	\$11.13	\$11.42
Cumulative Increase/(Decrease)		\$11.42	\$22.55	\$33.97	\$45.10	\$56.52
Single Family - High Water Use						
	Current	Proposed				
		<u>7/1/2024</u>	<u>1/1/2025</u>	<u>1/1/2026</u>	<u>1/1/2027</u>	<u>1/1/2028</u>
Assumptions						
Water Consumption	112	112				
Return to Sewer Factor	n/a	52%				
Sewered Flow	n/a	58				
Wastewater Bill						
Service Charge	\$87.38	\$77.92	\$68.46	\$59.00	\$49.54	\$40.08
Quantity Charge	\$0.00	\$41.76	\$82.94	\$124.70	\$165.88	\$207.64
Total Bi-Monthly Bill	\$87.38	\$119.68	\$151.40	\$183.70	\$215.42	\$247.72
Increase/(Decrease) from Prior Year		\$32.30	\$31.72	\$32.30	\$31.72	\$32.30
Cumulative Increase/(Decrease)		\$32.30	\$64.02	\$96.32	\$128.04	\$160.34

Table 6-2. Multi Family Bill Impacts with Proposed Rates

Multi Family - Low Water Use						
	Current	Proposed				
		7/1/2024	1/1/2025	1/1/2026	1/1/2027	1/1/2028
Assumptions						
Total Water Consumption	47	47				
Dwelling Units (DUs)	10	10				
Water Consumption per unit (rounded)	4.7	4.7				
Return to Sewer Factor	n/a	90%				
Sewered Flow	n/a	4.2				
Wastewater Bill						
Service Charge	\$873.80	\$779.20	\$684.60	\$590.00	\$495.40	\$400.80
Quantity Charge	\$0.00	\$30.24	\$60.06	\$90.30	\$120.12	\$150.36
Total Bi-Monthly Bill	\$873.80	\$809.44	\$744.66	\$680.30	\$615.52	\$551.16
Total Bill Increase/(Decrease)		(\$64.36)	(\$64.78)	(\$64.36)	(\$64.78)	(\$64.36)
Increase/(Decrease) per DU		(\$6.44)	(\$6.48)	(\$6.44)	(\$6.48)	(\$6.44)
Cumulative Increase/(Decrease) per DU		(\$6.44)	(\$12.91)	(\$19.35)	(\$25.83)	(\$32.26)
Multi Family - Average Water Use						
	Current	Proposed				
		7/1/2024	1/1/2025	1/1/2026	1/1/2027	1/1/2028
Assumptions						
Total Water Consumption	93	93				
Dwelling Units	10	10				
Water Consumption per unit (rounded)	9.3	9.3				
Return to Sewer Factor	n/a	90%				
Sewered Flow	n/a	8.4				
Wastewater Bill						
Service Charge	\$873.80	\$779.20	\$684.60	\$590.00	\$495.40	\$400.80
Quantity Charge	\$0.00	\$60.48	\$120.12	\$180.60	\$240.24	\$300.72
Total Bi-Monthly Bill	\$873.80	\$839.68	\$804.72	\$770.60	\$735.64	\$701.52
Total Bill Increase/(Decrease)		(\$34.12)	(\$34.96)	(\$34.12)	(\$34.96)	(\$34.12)
Increase/(Decrease) per DU		(\$3.41)	(\$3.50)	(\$3.41)	(\$3.50)	(\$3.41)
Cumulative Increase/(Decrease) per DU		(\$3.41)	(\$6.91)	(\$10.32)	(\$13.82)	(\$17.23)
Multi Family - High Water Use						
	Current	Proposed				
		7/1/2024	1/1/2025	1/1/2026	1/1/2027	1/1/2028
Assumptions						
Total Water Consumption	186	186				
Dwelling Units	10	10				
Water Consumption per unit (rounded)	18.6	18.6				
Return to Sewer Factor	n/a	90%				
Sewered Flow	n/a	16.7				
Wastewater Bill						
Service Charge	\$873.80	\$779.20	\$684.60	\$590.00	\$495.40	\$400.80
Quantity Charge	\$0.00	\$120.24	\$238.81	\$359.05	\$477.62	\$597.86
Total Bi-Monthly Bill	\$873.80	\$899.44	\$923.41	\$949.05	\$973.02	\$998.66
Total Bill Increase/(Decrease)		\$25.64	\$23.97	\$25.64	\$23.97	\$25.64
Increase/(Decrease) per DU		\$2.56	\$2.40	\$2.56	\$2.40	\$2.56
Cumulative Increase/(Decrease) per DU		\$2.56	\$4.96	\$7.53	\$9.92	\$12.49

Table 6-3. Commercial - Low Strength Impacts with Proposed Rates

Commercial - Low Strength - Low Water Use						
	Current	Proposed				
		<u>7/1/2024</u>	<u>1/1/2025</u>	<u>1/1/2026</u>	<u>1/1/2027</u>	<u>1/1/2028</u>
Assumptions						
Water Consumption per unit	57	57				
Return to Sewer Factor	n/a	83.0%				
Sewered Flow	57	47				
Commercial Strength	Domestic	Low				
Wastewater Bill						
Service Charge	\$34.20	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Quantity Charge	\$270.18	\$168.30	\$168.30	\$168.30	\$168.30	\$168.30
Total Bi-Monthly Bill	\$304.38	\$208.38	\$208.38	\$208.38	\$208.38	\$208.38
Increase/(Decrease)		(\$96.00)	\$0.00	\$0.00	\$0.00	\$0.00
Cumulative Increase/(Decrease)		(\$96.00)	(\$96.00)	(\$96.00)	(\$96.00)	(\$96.00)
Commercial - Low Strength - Average Water Use						
	Current	Proposed				
		<u>7/1/2024</u>	<u>1/1/2025</u>	<u>1/1/2026</u>	<u>1/1/2027</u>	<u>1/1/2028</u>
Assumptions						
Water Consumption per unit	113	113				
Return to Sewer Factor	n/a	83.0%				
Sewered Flow	113	94				
Commercial Strength	Domestic	Low				
Wastewater Bill						
Service Charge	\$34.20	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Quantity Charge	\$535.62	\$336.60	\$336.60	\$336.60	\$336.60	\$336.60
Total Bi-Monthly Bill	\$569.82	\$376.68	\$376.68	\$376.68	\$376.68	\$376.68
Increase/(Decrease)		(\$193.14)	\$0.00	\$0.00	\$0.00	\$0.00
Cumulative Increase/(Decrease)		(\$193.14)	(\$193.14)	(\$193.14)	(\$193.14)	(\$193.14)
Commercial - Low Strength - High Water Use						
	Current	Proposed				
		<u>7/1/2024</u>	<u>1/1/2025</u>	<u>1/1/2026</u>	<u>1/1/2027</u>	<u>1/1/2028</u>
Assumptions						
Water Consumption per unit	226	226				
Return to Sewer Factor	n/a	83.0%				
Sewered Flow	226	188				
Commercial Strength	Domestic	Low				
Wastewater Bill						
Service Charge	\$34.20	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Quantity Charge	\$1,071.24	\$673.21	\$673.21	\$673.21	\$673.21	\$673.21
Total Bi-Monthly Bill	\$1,105.44	\$713.29	\$713.29	\$713.29	\$713.29	\$713.29
Increase/(Decrease)		(\$392.15)	\$0.00	\$0.00	\$0.00	\$0.00
Cumulative Increase/(Decrease)		(\$392.15)	(\$392.15)	(\$392.15)	(\$392.15)	(\$392.15)

Table 6-4. Commercial - Medium Strength Impacts with Proposed Rates

Commercial - Medium Strength - Low Water Use						
	Current	Proposed				
		<u>7/1/2024</u>	<u>1/1/2025</u>	<u>1/1/2026</u>	<u>1/1/2027</u>	<u>1/1/2028</u>
Assumptions						
Water Consumption per unit	57	57				
Return to Sewer Factor	n/a	83.0%				
Sewered Flow	57	47				
Commercial Strength	Domestic	Medium				
Wastewater Bill						
Service Charge	\$34.20	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Quantity Charge	\$270.18	\$246.12	\$246.12	\$246.12	\$246.12	\$246.12
Total Bi-Monthly Bill	\$304.38	\$286.20	\$286.20	\$286.20	\$286.20	\$286.20
Increase/(Decrease)		(\$18.18)	\$0.00	\$0.00	\$0.00	\$0.00
Cumulative Increase/(Decrease)		(\$18.18)	(\$18.18)	(\$18.18)	(\$18.18)	(\$18.18)
Commercial - Medium Strength - Average Water Use						
	Current	Proposed				
		<u>7/1/2024</u>	<u>1/1/2025</u>	<u>1/1/2026</u>	<u>1/1/2027</u>	<u>1/1/2028</u>
Assumptions						
Water Consumption per unit	113	113				
Return to Sewer Factor	n/a	83.0%				
Sewered Flow	113	94				
Commercial Strength	Domestic	Medium				
Wastewater Bill						
Service Charge	\$34.20	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Quantity Charge	\$535.62	\$492.24	\$492.24	\$492.24	\$492.24	\$492.24
Total Bi-Monthly Bill	\$569.82	\$532.32	\$532.32	\$532.32	\$532.32	\$532.32
Increase/(Decrease)		(\$37.50)	\$0.00	\$0.00	\$0.00	\$0.00
Cumulative Increase/(Decrease)		(\$37.50)	(\$37.50)	(\$37.50)	(\$37.50)	(\$37.50)
Commercial - Medium Strength - High Water Use						
	Current	Proposed				
		<u>7/1/2024</u>	<u>1/1/2025</u>	<u>1/1/2026</u>	<u>1/1/2027</u>	<u>1/1/2028</u>
Assumptions						
Water Consumption per unit	226	226				
Return to Sewer Factor	n/a	83.0%				
Sewered Flow	226	188				
Commercial Strength	Domestic	Medium				
Wastewater Bill						
Service Charge	\$34.20	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Quantity Charge	\$1,071.24	\$984.48	\$984.48	\$984.48	\$984.48	\$984.48
Total Bi-Monthly Bill	\$1,105.44	\$1,024.56	\$1,024.56	\$1,024.56	\$1,024.56	\$1,024.56
Increase/(Decrease)		(\$80.88)	\$0.00	\$0.00	\$0.00	\$0.00
Cumulative Increase/(Decrease)		(\$80.88)	(\$80.88)	(\$80.88)	(\$80.88)	(\$80.88)

Table 6-5. Commercial – High Strength Impacts with Proposed Rates

Commercial - High Strength - Low Water Use						
	Current	Proposed				
		<u>7/1/2024</u>	<u>1/1/2025</u>	<u>1/1/2026</u>	<u>1/1/2027</u>	<u>1/1/2028</u>
Assumptions						
Water Consumption per unit	57	57				
Return to Sewer Factor	n/a	83.0%				
Sewered Flow	57	47				
Commercial Strength	Excess	High				
Wastewater Bill						
Service Charge	\$34.20	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Quantity Charge	\$403.56	\$326.59	\$326.59	\$326.59	\$326.59	\$326.59
Total Bi-Monthly Bill	\$437.76	\$366.67	\$366.67	\$366.67	\$366.67	\$366.67
Increase/(Decrease)		(\$71.09)	\$0.00	\$0.00	\$0.00	\$0.00
Cumulative Increase/(Decrease)		(\$71.09)	(\$71.09)	(\$71.09)	(\$71.09)	(\$71.09)
Commercial - High Strength - Average Water Use						
	Current	Proposed				
		<u>7/1/2024</u>	<u>1/1/2025</u>	<u>1/1/2026</u>	<u>1/1/2027</u>	<u>1/1/2028</u>
Assumptions						
Water Consumption per unit	113	113				
Return to Sewer Factor	n/a	83.0%				
Sewered Flow	113	94				
Commercial Strength	Excess	High				
Wastewater Bill						
Service Charge	\$34.20	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Quantity Charge	\$800.04	\$653.17	\$653.17	\$653.17	\$653.17	\$653.17
Total Bi-Monthly Bill	\$834.24	\$693.25	\$693.25	\$693.25	\$693.25	\$693.25
Increase/(Decrease)		(\$140.99)	\$0.00	\$0.00	\$0.00	\$0.00
Cumulative Increase/(Decrease)		(\$140.99)	(\$140.99)	(\$140.99)	(\$140.99)	(\$140.99)
Commercial - High Strength - High Water Use						
	Current	Proposed				
		<u>7/1/2024</u>	<u>1/1/2025</u>	<u>1/1/2026</u>	<u>1/1/2027</u>	<u>1/1/2028</u>
Assumptions						
Water Consumption per unit	226	226				
Return to Sewer Factor	n/a	83.0%				
Sewered Flow	226	188				
Commercial Strength	Excess	High				
Wastewater Bill						
Service Charge	\$34.20	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08
Quantity Charge	\$1,600.08	\$1,306.35	\$1,306.35	\$1,306.35	\$1,306.35	\$1,306.35
Total Bi-Monthly Bill	\$1,634.28	\$1,346.43	\$1,346.43	\$1,346.43	\$1,346.43	\$1,346.43
Increase/(Decrease)		(\$287.85)	\$0.00	\$0.00	\$0.00	\$0.00
Cumulative Increase/(Decrease)		(\$287.85)	(\$287.85)	(\$287.85)	(\$287.85)	(\$287.85)

NEIGHBORING AGENCY BILL COMPARISON

Typical bills based on the proposed rates (effective July 1, 2024) for the City are compared with other neighboring wastewater agencies in **Figures 6-6** through **6-7**. The comparison is made for sample Single Family, Multi Family, and Commercial Low Strength (the most common commercial customer type in the City). Bills shown for neighboring agencies

reflect their current rates (as of July 1, 2023). NOTE: It is anticipated that the neighboring agencies’ rates may conduct their own rate studies and adjust rates on July 1, 2024, which is not reflected here, as those adjustments are unknown at this time. For rate structures based on flow, the average wastewater flow per customer for the City was used and is identified in the figure.

The agencies selected for this comparison have unique conditions that account for the differences in bills. Some agencies may have recently or are currently undergoing major capital improvement programs while others may not. Some agencies may receive significant support from non-operating revenue such as property taxes, which is not the case with the City.

Figure 6-6. Single Family Bi-Monthly Charge Comparison with Neighboring Agencies

Figure 6-7. Multi Family Bi-Monthly Charge per Dwelling Unit (for a 10-Unit Complex) Comparison with Neighboring Agencies

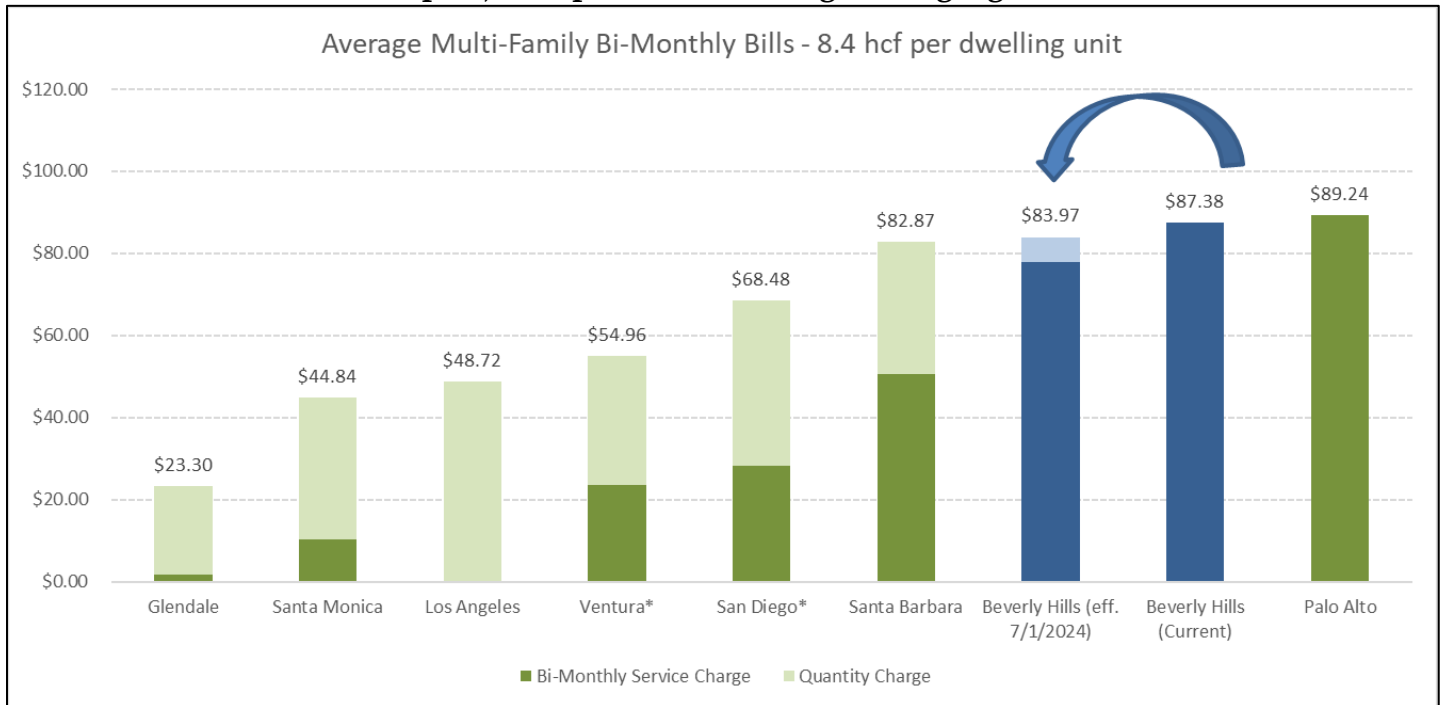
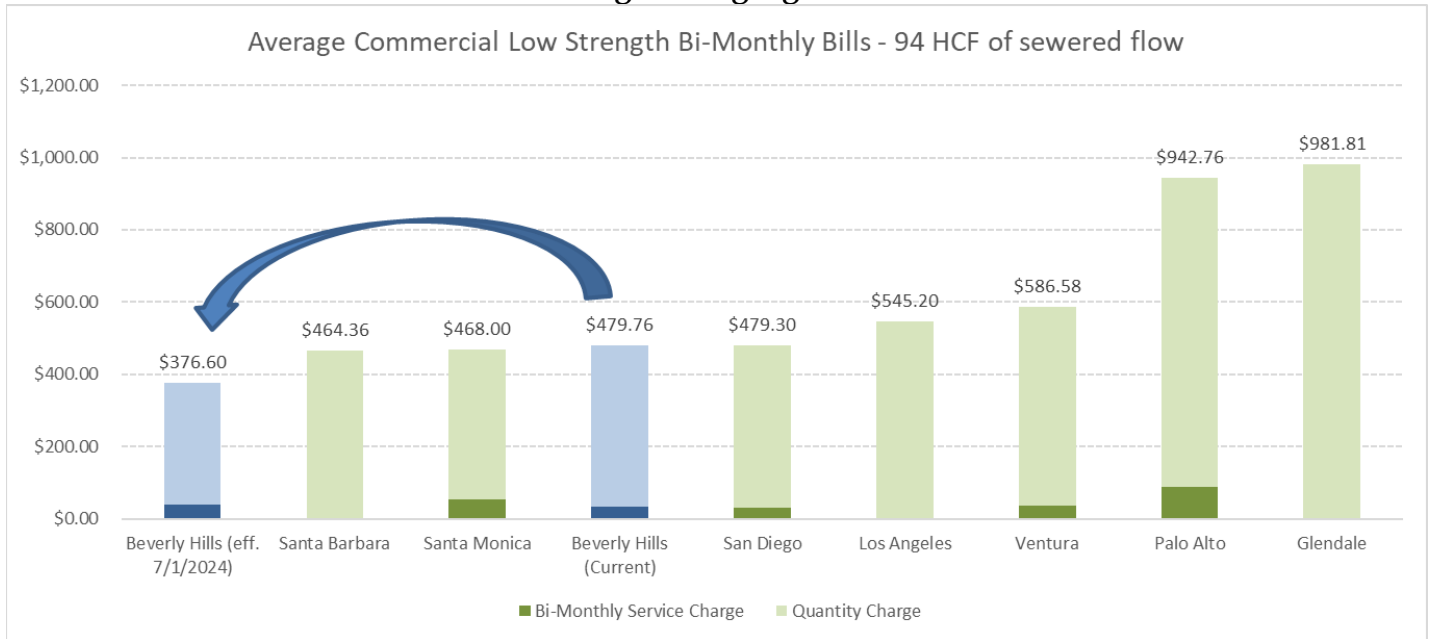


Figure 6-8. Commercial (Low Strength) Bi-Monthly Charge Comparison with Neighboring Agencies



APPENDIX A

(Examples of Commercial Customer Categorization by Strength of Wastewater Discharge)

Example Low-Strength Commercial Business Types
Banks & Financial Institutions Barber Shops/Hair Salons (Hair Cutting Only) Post Offices/Government Retail Stores Libraries Schools Halls & Lodges Offices (Business and Professional)
Example Medium-Strength Commercial Business Types
Mixed-Use Properties (i.e., mixture of office space and restaurants, nail salons, gyms, etc.) Bars & Taverns (w/o Dining) Appliance Repair Barber Shops/Hair Salons (Haircutting w/Add'l Treatments) Dry Cleaners Nail Salons Pet Groomers Commercial Laundromats Tasting Rooms Medical Offices/Hospitals Hotels, Motels, or Bed & Breakfast Pools with Restrooms (Clubhouse) Theaters Car Washes Gym or Health Club Service Stations, Garages, Auto Repair Shops Car Rental/Car Service Mini Mart with Gas Pumps (w/o Dish Washer or Garbage Disposal) Spa
Example high-Strength Commercial Business Types
Restaurants Coffee Shops Ice Cream Parlors Catering Eatery Juice Bars Bakeries Butcher Shops Bars & Taverns (w/ Dining) Grocery Stores or Markets Mini Marts (w/ Dish Washer or Garbage Disposal)



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