

**Exhibit 1**



**SOLID WASTE COST OF SERVICE STUDY  
[FINAL DRAFT]**

**SEPTEMBER 7, 2022**

**PREPARED BY**



**SOLID WASTE CONSULTANTS  
TO LOCAL GOVERNMENT**

DRAFT

PAGE INTENTIONALLY LEFT BLANK

**SOLID WASTE RATE STUDY  
TABLE OF CONTENTS**

1. EXECUTIVE SUMMARY	1
2. APPROACH AND LIMITATIONS	7
2.1 STUDY APPROACH	7
2.2 LIMITATIONS	7
3. FINANCIAL PLAN	8
3.1 COMPARISON OF PROJECTED REVENUES WITH REVENUE REQUIREMENT	8
3.2 PROJECTED OPERATING RESULTS IF RATES ARE NOT ADJUSTED	8
3.3 PROJECTED OPERATING RESULTS WITH PROPOSED RATE ADJUSTMENTS	10
3.4 PROJECTED LONG-TERM OPERATING RESULTS WITH PROPOSED RATE ADJUSTMENTS	11
4. RATE DESIGN	13
4.1 REVENUE REQUIREMENT	13
4.2 RATE DESIGN METHOD	13
4.3 RATE DESIGN CALCULATIONS	14
4.4 PROJECTED RATE REVENUE BASED ON PROPOSED RATE ADJUSTMENTS	18
5. PERCENT OF CUSTOMERS AFFECTED	22

## Table of Tables

Table 1 – Proposed Monthly Rates .....	5
Table 2 – Projected Operating Results – <i>Without</i> Rate Adjustments .....	8
Table 3 – Projected Capital Expenditures .....	9
Table 4 – Analysis of Cash <i>Without</i> Rate Adjustments .....	9
Table 5 – Projected Operating Results – <i>With</i> Rate Adjustments .....	11
Table 6 – Analysis of Cash <i>With</i> Proposed Rate Adjustment .....	11
Table 7 – Projected Revenue Requirements .....	13
Table 8 – Allocated Rate Revenue Target .....	14
Table 9 – Operating Cost Statistics .....	16
Table 10 – Direct Cost for Each Level of Service .....	17
Table 11 – Indirect Cost and Sum of Total Cost for Each Level of Service .....	18
Table 12 – Summary of Automated Cart Rate Revenue .....	19
Table 13 – Summary of Frontload Bin Rate Revenue .....	20
Table 14 – Summary of Rate Revenue and Reconciliation to Revenue Requirement .....	21
Table 15 – Percent of Customers Affected .....	22

## Table of Charts

Chart 1 – Rate Comparison – Monthly Rate for Single-family Collection Service .....	6
Chart 2 – Projected Operating Results <i>Without</i> Rate Adjustments .....	10
Chart 3 – Projected Operating Results With Rate Adjustments .....	12

## 1. EXECUTIVE SUMMARY

The City generates revenue to pay for its solid waste collection service costs through rates charged to its residential customers. The City separately records its revenues and expenses for its solid waste operations in the solid waste enterprise fund. The solid waste enterprise fund maintains a cash balance to fund its ongoing operations. The revenues of the solid waste enterprise fund are intended to fully cover the City's current and future solid waste operating and capital costs, and maintain its cash balance. Although the City's operating costs have increased due to inflation, and other significant factors, the City has not increased the solid waste rates it charges to its customers since 2010.

In addition to solid waste collection service, the City provides citywide street sweeping service, and citywide bulky item collection (including public right-of-way collection). The City also fulfills several other responsibilities such as oversight of the Glendale Recycling Center, customer outreach and education, CalRecycle regulatory compliance, and maintenance of the closed Brand Park Landfill.

### **Significant Factors Driving Cost Increases**

#### *China Ban on Recyclables*

At the beginning of 2018, China reduced the level of acceptable contamination in the recyclable material it received, and limited the type of recyclable materials it would accept. As a result, the worldwide market value of recyclables decreased significantly, reducing the revenue that solid waste service providers (including the City) previously used to offset their operating costs. This market disruption continues to create upward pressure on the City's operating costs.

#### *Commercial Franchising*

The City recently implemented significant changes to the solid waste collection services it provides in the City. In December 2021, the City implemented a franchise system for businesses, and for large multi-family complexes with five (5) or more units. Under the franchise system, four (4) private haulers now provide exclusive collection service in four (4) separate geographic areas of the City. The City is now only responsible to collect waste and recyclables from single-family customers, and from small multi-family customers with two (2) to four (4) dwelling units.

In previous years, rates for residential collection services have not been set at a rate to fully recover costs associated with those services. Furthermore, the rates for residential and multi-family of 2-4 units have not changed since 2010. The reduction in the City's overall solid waste customer base brought about by franchising the business and large multi-family

customer sectors has resulted in the City having fewer customers over which it is able to allocate its fixed costs. This has resulted in additional upward pressure on the cost per unit for the remaining residential customers.

### *SB 1383*

In addition to the significant change brought about by the franchising of the commercial waste sector, the City is in the midst of complying with the most sweeping changes to State solid waste regulations in the last thirty years. SB 1383 establishes statewide methane reduction targets, and is bringing about several fundamental changes to municipal solid waste management.

Under SB 1383, all local jurisdictions must arrange for the collection of organics, ensure that edible food is recovered, conduct education and outreach, purchase a certain amount of organic content products, secure access to organic processing capacity, and conduct extensive monitoring, compliance and enforcement activities. As a result, solid waste rates throughout the State are increasing significantly.

### *Closure of Scholl Canyon Landfill*

The Scholl Canyon Landfill is expected to permanently close around December 2025. After the landfill closes, the City's trucks will be required to travel farther to empty their loads, and may be required to use a disposal facility with a higher tipping fee. As a result, the City expects it will be required to purchase two additional route vehicles, and incur additional operating costs to use a more distant landfill. These expected additional operating costs will create additional upward pressure on the City's solid waste rates.

### *Industry Trends*

Additionally, there are several current trends in the solid waste industry that are creating extraordinary cost increases. These trends include shortages of refuse truck drivers, supply chain delays in the purchase of trucks, and increased costs for raw materials such as steel used to manufacture trucks and containers.

## **Required Rate Adjustments**

### *Operating Cash*

As a result of the impact of these industry trends, the China Ban, the cost of complying with SB 1383, and the divestiture of its business and large multi-family operations, the revenue and cost structure of the City's solid waste enterprise fund has changed significantly. To meet the current

and future financial obligations of the solid waste enterprise fund, the City must increase the rates it charges to its single family and small multi-family residential customers. If the City does not increase current collection rates, and rates remain at their current levels, the cash balance in the enterprise fund will be completely depleted in early FY 2024 (July to September 2023).

### *Collection Rates*

To fully fund the City's solid waste operations over the next five years, the City's collection rates must be increased *on average* by approximately 95% on January 1, 2023, followed by annual increases of 25% and 25% in July of 2023, and July 2024, respectively. In July 2025, 2026 and 2027, collection rates will need to be increased by 8% each year.

In addition, the City's rates, which have not increased since 2010, do not accurately reflect the City's current cost of service. As a result, the initial rate adjustment on January 1, 2023, will restructure the rate schedule to ensure that the rates more accurately reflect the City's actual cost of service. As a result, not all customers will receive the same initial rate adjustment. For example, as shown in **Table 1** on page 5, single-family residential customers with a 64-gallon container will initially receive a 150% increase. However, single-family customers with a 96-gallon container will initially receive an 82% increase. After the rates are restructured in January 2023, customer rates will be adjusted across the board by the same percent each year on July 1<sup>st</sup>. Table 1 on page 5 shows the current and proposed rates for customers with most common levels of service. The City is seeking approval of these rates for the next five years.

Although the City's rates need to be significantly increased, the same trends that are creating upward pressure on the City's rates are also impacting all other jurisdictions in California. Even after the City's rates are adjusted, they are expected to be reasonable in relation to rates for similar solid waste collection service in other jurisdictions. A comparison of the City's single-family rate to those in other jurisdictions is shown in Chart 1 on page 6.

### *Proposition 218*

The City's collection rates are subject to Article XIII D, Section 6 of the California Constitution (Proposition 218). When setting property-related user fees (such as solid waste collection rates), local jurisdictions must satisfy the following requirements:

- Revenues derived from the fee or charge must not exceed the funds required to provide the property-related service;
- Revenues derived from the fee or charge must not be used for any purpose other than that for which the fee is imposed;

- The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership must not exceed the proportional cost of the service attributable to the parcel.

The City is required to set a public 'majority protest' hearing, and provide all customers and property owners with at least 45 days prior notice of the proposed rates. Unless a majority of customers object to the proposed rates, the City Council may adopt the proposed rates at the public hearing upon a majority vote.

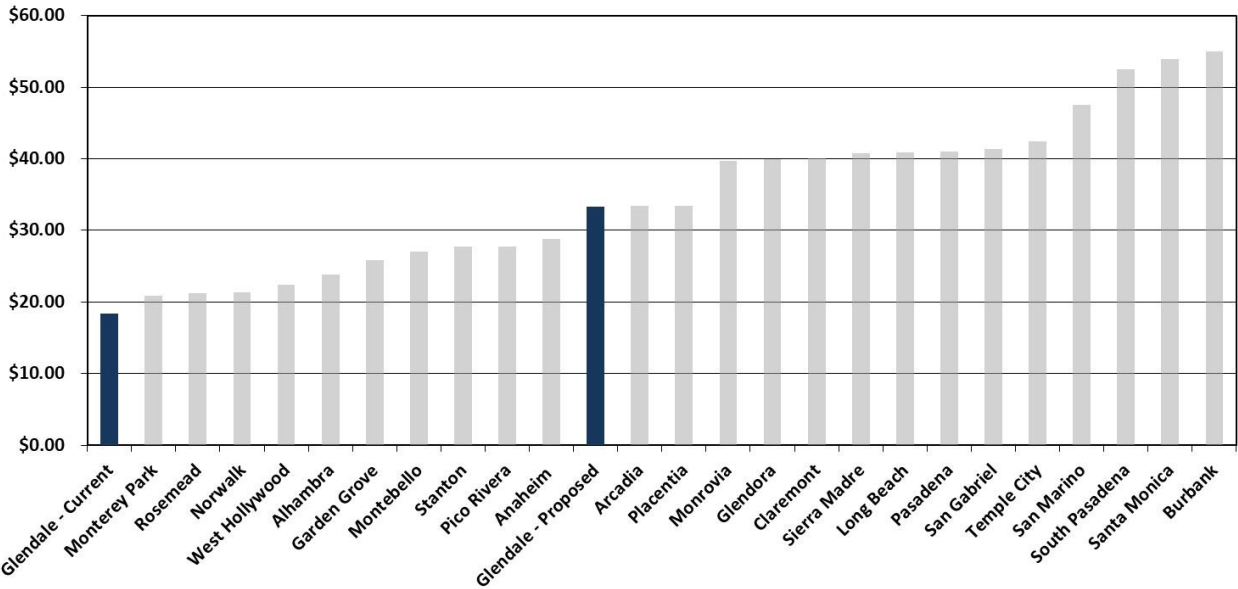
DRAFT



**Table 1 – Proposed Monthly Rates**

Description	Current Rate	Proposed Rate Effective January 1, 2023	Proposed Rate Effective July 1, 2023	Proposed Rate Effective July 1, 2024	Proposed Rate Effective July 1, 2025	Proposed Rate Effective July 1, 2026	Proposed Rate Effective July 1, 2027
<b>Automated Cart Service - Single Family</b>							
Monthly Rate Standard 64 gallon cart	\$11.72	\$29.30	\$36.63	\$45.79	\$49.45	\$53.41	\$57.68
Adjustment Amount		\$17.58	\$7.33	\$9.16	\$3.66	\$3.96	\$4.27
Adjustment Percent		150%	25%	25%	8%	8%	8%
Monthly Rate - Standard 96 gallon cart	\$18.34	\$33.35	\$41.69	\$52.11	\$56.28	\$60.78	\$65.64
Adjustment Amount		\$15.01	\$8.34	\$10.42	\$4.17	\$4.50	\$4.86
Adjustment Percent		82%	25%	25%	8%	8%	8%
<b>Automated Cart Service - Multi-family 2-4 units</b>							
Monthly Rate - Standard 64 gallon cart	\$14.82	\$29.30	\$36.63	\$45.79	\$49.45	\$53.41	\$57.68
Adjustment Amount		\$14.48	\$7.33	\$9.16	\$3.66	\$3.96	\$4.27
Adjustment Percent		98%	25%	25%	8%	8%	8%
Monthly Rate - Standard 96 gallon cart	\$18.34	\$33.35	\$41.69	\$52.11	\$56.28	\$60.78	\$65.64
Adjustment Amount		\$15.01	\$8.34	\$10.42	\$4.17	\$4.50	\$4.86
Adjustment Percent		82%	25%	25%	8%	8%	8%
Monthly Rate - Additional 64 gallon cart	\$11.72	\$29.30	\$36.63	\$45.79	\$49.45	\$53.41	\$57.68
Adjustment Amount		\$17.58	\$7.33	\$9.16	\$3.66	\$3.96	\$4.27
Adjustment Percent		150%	25%	25%	8%	8%	8%
<b>Front Loading Bin Service - MFR 2-4 units</b>							
Monthly Rate - One cubic yard bin 1/week	\$33.00	\$89.17	\$111.46	\$139.33	\$150.48	\$162.52	\$175.52
Adjustment Amount		\$56.17	\$22.29	\$27.87	\$11.15	\$12.04	\$13.00
Adjustment Percent		170%	25%	25%	8%	8%	8%
Monthly Rate - Two cubic yard bin 1/week	\$45.35	\$114.74	\$143.42	\$179.28	\$193.62	\$209.11	\$225.84
Adjustment Amount		\$69.39	\$28.68	\$35.86	\$14.34	\$15.49	\$16.73
Adjustment Percent		153%	25%	25%	8%	8%	8%
Monthly Rate - Three cubic yard bin 1/week	\$58.15	\$140.31	\$175.39	\$219.24	\$236.78	\$255.72	\$276.18
Adjustment Amount		\$82.16	\$35.08	\$43.85	\$17.54	\$18.94	\$20.46
Adjustment Percent		141%	25%	25%	8%	8%	8%
<b>Front Loading Bin Service - MFR 2-4 units - Additional Pickups</b>							
Monthly Rate - One cubic yard bin 1/week	\$22.63	\$89.17	\$111.46	\$139.33	\$150.48	\$162.52	\$175.52
Adjustment Amount		\$66.54	\$22.29	\$27.87	\$11.15	\$12.04	\$13.00
Adjustment Percent		294%	25%	25%	8%	8%	8%
Monthly Rate - Two cubic yard bin 1/week	\$22.63	\$114.74	\$143.42	\$179.28	\$193.62	\$209.11	\$225.84
Adjustment Amount		\$92.11	\$28.68	\$35.86	\$14.34	\$15.49	\$16.73
Adjustment Percent		407%	25%	25%	8%	8%	8%
Monthly Rate - Three cubic yard bin 1/week	\$22.63	\$140.31	\$175.39	\$219.24	\$236.78	\$255.72	\$276.18
Adjustment Amount		\$117.68	\$35.08	\$43.85	\$17.54	\$18.94	\$20.46
Adjustment Percent		520%	25%	25%	8%	8%	8%

Chart 1 – Rate Comparison – Monthly Rate for Single-family Collection Service



DRAFT

## 2. APPROACH AND LIMITATIONS

### 2.1 Study Approach

This cost of service study consists of a financial plan analysis, and a rate design analysis.

- **Financial Plan Analysis** – The ‘big picture.’ This analysis considers the total amount of current and projected operating and capital expenditures, available cash, any planned debt financing, and required debt service coverage requirements. The result of this analysis is the projected revenue requirement, which is matched with the projected rate revenues from the proposed rates. This ensures that the City will generate sufficient revenues to meet its financial obligations.
- **Rate Design Analysis** – This analysis identifies the cause-and-effect relationship between the activities undertaken and resources used to provide various levels of service. Rates are designed to reflect the cost of service and proportionality requirements of Proposition 218.

### 2.2 Limitations

The financial plan analysis is subject to certain limitations. The pro-forma projections in the financial plan are based on assumptions regarding future inflation, and planned capital expenditures, etc. There will usually be differences between projected and actual results, because events and circumstances frequently do not occur as expected, and those differences may be material. Moreover, these projections were prepared for the sole use of the City for the purpose of analyzing the City’s solid waste rates. They are not intended to be used for any other purpose.

### 3. FINANCIAL PLAN

#### 3.1 Comparison of Projected Revenues with Revenue Requirement

The financial plan for the solid waste enterprise fund compares the projected rate revenues with the projected revenue requirement (the enterprise fund's projected operating expenses net of any use of cash balance). The enterprise fund's projected operating results were projected over a five-year period under two scenarios. Section 3.2 below shows the projected operating results assuming that rates are *not* adjusted and remain at current levels. Section 3.3 further below shows the projected operating results assuming that rates are adjusted to generate revenue that will meet the enterprise fund's financial obligations over a five-year period.

#### 3.2 Projected Operating Results if Rates are Not Adjusted

Table 2 below shows the operating results for the solid waste enterprise fund if rates are not adjusted. Table 2 shows that the enterprise fund is currently experiencing an annual shortfall, which is expected to grow significantly over the next five years, if rates are not adjusted.

**Table 2 – Projected Operating Results – *Without* Rate Adjustments**

Description	Actual FY 2020	Actual FY 2021	Projected FY 2022	Projected FY 2023	Projected FY 2024	Projected FY 2025	Projected FY 2026	Projected FY 2027	Projected FY 2028
<b>Revenues:</b>									
Rate Revenue	\$17,397	\$17,347	\$11,404	\$6,589	\$6,654	\$6,721	\$6,788	\$6,855	\$6,923
Other Revenue	<u>7,808</u>	<u>6,409</u>	<u>6,703</u>	<u>3,924</u>	<u>3,685</u>	<u>3,901</u>	<u>4,135</u>	<u>4,169</u>	<u>4,284</u>
Total	\$25,204	\$23,756	\$18,108	\$10,513	\$10,340	\$10,622	\$10,922	\$11,024	\$11,208
<b>Expenditures:</b>									
Labor	\$9,955	\$8,649	\$6,108	\$9,147	\$7,776	\$7,907	\$8,040	\$8,175	\$8,313
Vehicles	4,100	3,635	3,584	3,723	3,656	3,150	3,213	3,277	3,343
Disposal/Processing	5,925	7,552	6,301	7,000	7,000	8,000	8,717	9,434	9,434
Overhead	<u>4,351</u>	<u>5,844</u>	<u>4,754</u>	<u>4,706</u>	<u>4,793</u>	<u>4,787</u>	<u>5,060</u>	<u>5,338</u>	<u>5,662</u>
Total Operating Expenses	\$24,330	\$25,681	\$20,748	\$24,576	\$23,224	\$23,844	\$25,030	\$26,225	\$26,752
Operating Surplus/(Shortfall)	874	(1,925)	(2,641)	(14,064)	(12,884)	(13,222)	(14,108)	(15,201)	(15,545)
Capital Expenditures	(111)	0	6,350	1,220	3,231	990	816	4,737	3,670
Total Expenditures	\$24,219	\$25,681	\$27,098	\$25,796	\$26,455	\$24,834	\$25,846	\$30,962	\$30,423
Total Surplus/(Shortfall)	\$985	(\$1,925)	(\$8,991)	(\$15,284)	(\$16,116)	(\$14,212)	(\$14,924)	(\$19,938)	(\$19,215)

(in 000s)

Table 3 on the following page shows a breakdown by asset type of the projected capital expenditures included in the projected operating results.

Table 3 – Projected Capital Expenditures

Description	Projected FY 2022	Projected FY 2023	Projected FY 2024	Projected FY 2025	Projected FY 2026	Projected FY 2027	Projected FY 2028
Sweepers	\$834		\$1,244			\$911	
Route Vehicles	4,705	830	1,516	640	434	3,476	3,198
Medium Duty Vehicles	50	40	122		32		123
Containers	111	350	350	350	350	350	350
Land Improvements	<u>650</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Capital Expenditures	\$6,350	\$1,220	\$3,231	\$990	\$816	\$4,737	\$3,670

(in 000s)

Table 4 below analyzes the annual change in cash resulting from the projected annual shortfalls in the enterprise fund. Table 4 shows how the beginning cash balance is reduced by the annual shortfall. Table 4 shows that without adjusting its current rates, the enterprise fund is expected to deplete its cash balance sometime in early fiscal 2024 (probably July – September 2023).

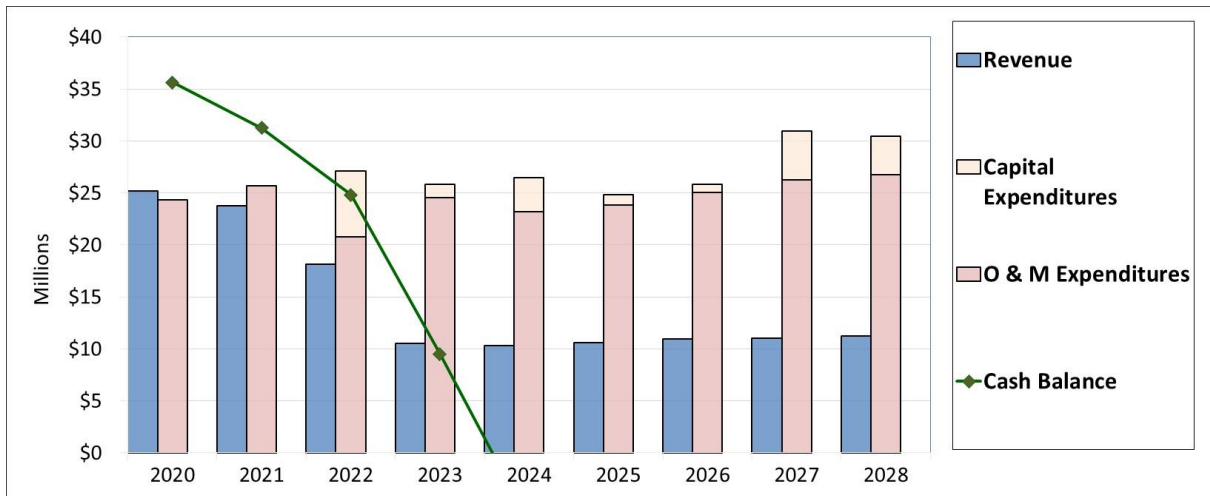
Table 4 – Analysis of Cash *Without* Rate Adjustments

Description	Actual FY 2020	Actual FY 2021	Projected FY 2022	Projected FY 2023	Projected FY 2024	Projected FY 2025	Projected FY 2026	Projected FY 2027	Projected FY 2028
<b>Cash Reserve:</b>									
Beginning Cash	\$38,763	\$35,621	\$31,258	\$24,800	\$9,516	(\$6,600)	(\$20,812)	(\$35,736)	(\$55,674)
Operating Surplus/(Shortfall)	874	(1,925)	(2,641)	(14,064)	(12,884)	(13,222)	(14,108)	(15,201)	(15,545)
Capital Expenditures	111	0	(6,350)	(1,220)	(3,231)	(990)	(816)	(4,737)	(3,670)
Other Changes to Cash	<u>(4,127)</u>	<u>(2,438)</u>	<u>2,533</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Ending Cash	\$35,621	\$31,258	\$24,800	\$9,516	(\$6,600)	(\$20,812)	(\$35,736)	(\$55,674)	(\$74,889)

(in 000s)

Chart 2 on the following page shows how the annual operating results are projected to change the balance in the enterprise fund's operating cash over the next five years if rates are not adjusted.

**Chart 2 – Projected Operating Results *Without* Rate Adjustments**



The red and blue bars in Chart 2 represent the relationship between operating expenses and current revenues, respectively. These show how the annual shortfall reduces the operating cash (green line) over time. Chart 2 graphically shows how, if rates are not adjusted, the cash balance in the solid waste enterprise fund will be completely depleted sometime during fiscal 2024.

### **3.3 Projected Operating Results with Proposed Rate Adjustments**

Table 5 on the following page shows the operating results for the solid waste enterprise fund if rates *are* adjusted. (Table 5 is comparable to Table 2, which shows the projected operating results without the rate adjustments). Table 5 shows that, if rates are adjusted, the enterprise fund will start to generate a surplus beginning in fiscal 2026.

**Table 5 – Projected Operating Results – *With* Rate Adjustments**

Description	Actual FY 2020	Actual FY 2021	Projected FY 2022	Projected FY 2023	Projected FY 2024	Projected FY 2025	Projected FY 2026	Projected FY 2027	Projected FY 2028
<b>Revenues:</b>									
Rate Revenue	\$17,397	\$17,347	\$11,404	\$9,718	\$16,221	\$20,477	\$22,335	\$24,362	\$26,571
Other Revenue	<u>7,808</u>	<u>6,409</u>	<u>6,703</u>	<u>3,924</u>	<u>3,685</u>	<u>3,901</u>	<u>4,135</u>	<u>4,169</u>	<u>4,284</u>
Total	\$25,204	\$23,756	\$18,108	\$13,642	\$19,906	\$24,379	\$26,470	\$28,531	\$30,856
<b>Expenditures:</b>									
Labor	\$9,955	\$8,649	\$6,108	\$9,147	\$7,776	\$7,907	\$8,040	\$8,175	\$8,313
Vehicles	4,100	3,635	3,584	3,723	3,656	3,150	3,213	3,277	3,343
Disposal/Processing	5,925	7,552	6,301	7,000	7,000	8,000	8,717	9,434	9,434
Overhead	<u>4,351</u>	<u>5,844</u>	<u>4,754</u>	<u>4,706</u>	<u>4,793</u>	<u>4,787</u>	<u>5,060</u>	<u>5,338</u>	<u>5,662</u>
Total Operating Expenses	\$24,330	\$25,681	\$20,748	\$24,576	\$23,224	\$23,844	\$25,030	\$26,225	\$26,752
Operating Surplus/(Shortfall)	874	(1,925)	(2,641)	(10,934)	(3,318)	535	1,440	2,306	4,103
Capital Expenditures	(111)	0	6,350	1,220	3,231	990	816	4,737	3,670
Total Expenditures	\$24,219	\$25,681	\$27,098	\$25,796	\$26,455	\$24,834	\$25,846	\$30,962	\$30,423
Total Surplus/(Shortfall)	\$985	(\$1,925)	(\$8,991)	(\$12,154)	(\$6,550)	(\$455)	\$623	(\$2,431)	\$433

(in 000s)

Table 6 below analyzes the annual change in operating cash resulting from the projected annual shortfalls and surpluses in the enterprise fund assuming that rates are adjusted. (Table 6 is comparable to the analysis of cash balances in Table 4, which shows the impact on cash balances if rates were not adjusted). Table 6 shows that, if rates *are* adjusted, the cash balance in the enterprise fund is expected to decrease significantly in fiscal years 2023 and 2024, and range between approximately \$3.8 million and \$6.2 million over the following fiscal years.

**Table 6 – Analysis of Cash *With* Proposed Rate Adjustment**

Description	Actual FY 2020	Actual FY 2021	Projected FY 2022	Projected FY 2023	Projected FY 2024	Projected FY 2025	Projected FY 2026	Projected FY 2027	Projected FY 2028
<b>Cash Reserve:</b>									
Beginning Cash	\$38,763	\$35,621	\$31,258	\$24,800	\$12,646	\$6,096	\$5,641	\$6,264	\$3,833
Operating Surplus/(Shortfall)	874	(1,925)	(2,641)	(10,934)	(3,318)	535	1,440	2,306	4,103
Capital Expenditures	111	0	(6,350)	(1,220)	(3,231)	(990)	(816)	(4,737)	(3,670)
Other Changes to Cash	<u>(4,127)</u>	<u>(2,438)</u>	<u>2,533</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Ending Cash	\$35,621	\$31,258	\$24,800	\$12,646	\$6,096	\$5,641	\$6,264	\$3,833	\$4,267

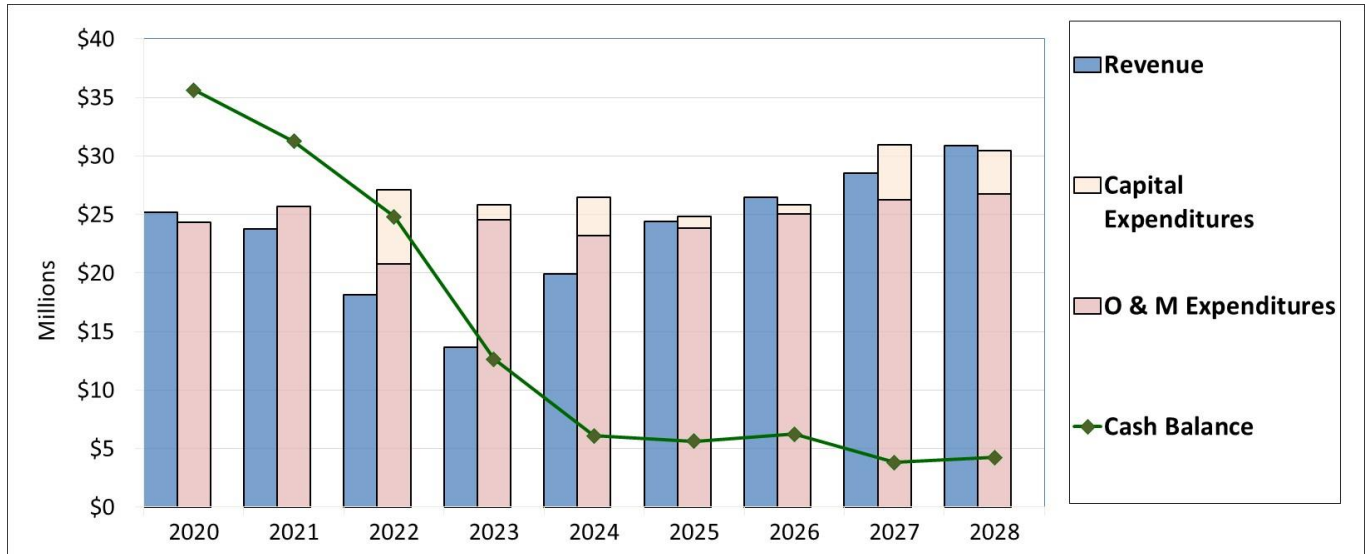
(in 000s)

### 3.4 Projected Long-term Operating Results with Proposed Rate Adjustments

Chart 3 on the following page shows how the annual operating results are projected to change the balance in the enterprise fund's operating cash over the next five years if rates *are* adjusted. (Chart 3 is comparable to Chart 2, which showed the projected operating results if rates and tip fees were not adjusted). Chart 3 shows how, if rates are adjusted, the cash balance in the solid

waste enterprise fund will be positive over the next five years. Chart 3 shows that, assuming rates are adjusted, the enterprise fund will be able to meet its current and future financial obligations.

**Chart 3 – Projected Operating Results With Rate Adjustments**





## 4. RATE DESIGN

In this analysis, cost-based collection rates were designed for each level of service to achieve the revenue requirement. Rates were designed by identifying the 'cause-and-effect' relationship between the activities or use of resources (cost drivers), and the resulting costs incurred. As a result, the individual customer rates reflect the cost of service and proportionality requirements of Proposition 218.

### 4.1 Revenue Requirement

The revenue requirement is the total rate revenue that the enterprise fund must generate to meet its annual financial obligations. These obligations include covering its operating and capital expenditures, and maintaining its cash balance. The revenue requirement is comprised of operating and maintenance costs, and rate-funded capital expenditures, net of any other or non-rate revenues. Non-rate revenues include items such as grants, interest income, and AB 939 Fees, etc. The revenue requirement is decreased in years when the City uses its cash balance to help fund its operations; the revenue requirement is increased in years when the City increases its cash balance. Table 7 below shows the enterprise fund's projected revenue requirements over the next five years. The annual revenue requirements in Table 7 are derived using the total annual expenditures and other revenue in Table 5, and the annual change in cash in Table 6.

**Table 7 – Projected Revenue Requirements**

Description	Actual FY 2020	Actual FY 2021	Projected FY 2022	Projected FY 2023	Projected FY 2024	Projected FY 2025	Projected FY 2026	Projected FY 2027	Projected FY 2028
<b>Revenue Requirement</b>									
Total Expenditures	\$24,219	\$25,681	\$27,098	\$25,796	\$26,455	\$24,834	\$25,846	\$30,962	\$30,423
Increase/(Decrease) in Cash				(\$12,154)	(\$6,550)	(\$455)	\$623	(\$2,431)	\$433
Other Revenue				(3,924)	(3,685)	(3,901)	(4,135)	(4,169)	(4,284)
Total Rate Revenue Requirement				\$9,718	\$16,221	\$20,477	\$22,335	\$24,362	\$26,571

(in 000s)

### 4.2 Rate Design Method

Cost-based collection rates were designed by identifying the cost types associated with each of these cost 'drivers':

- **Route Operating Cost** - the time it takes to travel from stop to stop in the service area. This cost was allocated among customers based on the number of pickups. For example, a multi-family customer with three bin pickups per week is allocated three times as much of this cost as a customer with one pickup per week.

- **Disposal/Processing Tip Fee Cost** – the cost of fees per ton incurred at disposal and processing sites. This cost was allocated among customers based on the amount of container capacity serviced per week. This is because the amount of container capacity serviced per week is a reasonable measure of the relative weight of waste collected and delivered to the landfill.
- **Overhead** – Indirect costs such as buildings, utilities, general and administrative costs were allocated proportionately based on the amount of direct cost allocated to each level of service.

### 4.3 Rate Design Calculations

Table 8 below, and Table 9, on the following pages show the 10 steps used to calculate the proposed cost-based rates according to the rate design method.

**Table 8 – Allocated Rate Revenue Target**

Row	Column	A	B
	Description	Projected FY 2023	Percent of Total Expenditures
<b>Step 1 - Organize Total Cost into Cost Pools (Route Operating; Disposal/Processing; and Overhead)</b>			
	<b>Total Expenditures:</b>		
1	Labor	\$9,146,655	
2	Vehicles	4,943,469	
3	Subtotal - Route Operating Cost	14,090,124	54.62%
4	Disposal/Processing	7,000,000	27.14%
5	Overhead	4,706,259	18.24%
6	<b>Total Expenditures</b>	<b>\$25,796,383</b>	<b>100.00%</b>
<b>Step 2 - Determine Total Annual Revenue Target</b>			
7	Total Expenditures	\$25,796,383	
8	Deduct Other Income	(3,923,800)	
9	Adjust for Increase (Decrease) in Cash	(12,154,176)	
10	Add 1/2 year new rate revenue due to mid year rate adj	3,129,656	
11	<b>Total Annual Rate Revenue Target</b>	<b>\$12,848,063</b>	
<b>Step 3 - Allocate Total Revenue Target to Cost Pools based on Percent of Total Expenditures</b>			
	<b>Allocated Revenue Requirement:</b>		
12	Route Operating Cost	\$7,017,682	54.62%
13	Disposal/Processing	3,486,397	27.14%
14	Overhead	2,343,984	18.24%
15	<b>Total Allocated Rate Revenue Target</b>	<b>\$12,848,063</b>	<b>100.00%</b>

Table 8 shows how the rate revenue target for the initial rates is calculated. For the initial rates only, the rate revenue *target* is different from the revenue *requirement*. The revenue requirement is the total amount of rate revenue needed for the enterprise fund to meet its financial obligations. For fiscal 2023, the revenue requirement is the \$9,718,000 shown in Table 7. The annual rate revenue target that the initial rates are designed to generate is the \$12,848,063 shown on Row 15 in Table 8.

**Step 1** in Table 8 organizes the enterprise fund's total expenditures for the base year (FY 2023) into three pools of cost: 1) Route Operating Cost, 2) Disposal/Processing Cost, and 3) Indirect Costs.

**Step 2** in Table 8 shows the total amount of targeted *annual* rate revenue that the initial rates are designed to generate. However, because the initial rates will be implemented midway during the fiscal year (January 1, 2023), this total annual targeted revenue amount will not be fully achieved. It is an annual target amount of revenue the initial rates are designed to achieve. To determine the annual revenue target amount for the first adjustment, an amount equal to 50% the new rate revenue is added to the revenue requirement for fiscal 2023. This is the \$3,129,656 amount on Row 10 in Table 8. The total annual rate revenue *target* is \$12,848,063 on Row 11 in Table 8.

**Step 3** in Table 8 shows how the annual rate revenue target is allocated among the three cost pools based on their proportionate share of total expenditures. Table 8 also shows that Indirect Costs are 18.24% of total cost. This percentage will be used further below to assign indirect costs to the rates in Step 9 in Table 11.

Table 9 on the following page shows the operating cost statistics used to calculate the rates. **Step 4** in Table 9 shows the calculation of the total number of gallons (on which Disposal/Processing Cost is assigned to the rates), and the total number of stops (on which Route Operating Cost is assigned to the rates). An equivalent stop factor was used to increase the weight of the stops for front loading bin service to reflect the fact that front loader routes take more time per stop than automated side loader routes.

**Step 5** in Table 9 shows the calculation of the average Disposal/Processing Cost per Gallon, and the average Route Operating Cost per stop. The average Disposal/Processing Cost per Gallon is derived by dividing the Annual Disposal/Processing Cost Revenue Target (from line 13 of Table 8) by the total number of gallons per year. The average Route Operating Cost per stop is derived by dividing the Annual Route Operating Cost (from line 12 of Table 8) by the total number of stops per year.

**Table 9 –Operating Cost Statistics**

Row	Column	A	B	C	D	E	F	G
	Description	Gallons per Unit	Number of Units	Gallons per Month	Gallons per Year	Number of Stops per Month	Stop Adjustment Factor	Stops per Year
<b>Step 4 - Calculate Total Number of Annual Gallons and Stops</b>								
<b>Automated Cart Service - Single Family</b>								
1	Standard 64 gallon cart	64	5,333	1,479,019	17,748,224	23,110	1	277,316
2	Standard 96 gallon cart	96	18,691	7,775,456	93,305,472	80,994	1	971,932
<b>Automated Cart Service - Multi-family 2-4 units</b>								
3	Standard 64 gallon cart	64	8,594	2,383,403	28,600,832	37,241	1	446,888
4	Standard 96 gallon cart	96	266	110,656	1,327,872	1,153	1	13,832
5	Additional 64 gallon cart	64	194	53,803	645,632	841	1	10,088
<b>Front Loading Bin Service - MFR 2-4 units</b>								
6	One cubic yard bin 1/week	202	56	49,019	588,224	243	3	8,736
7	Two cubic yard bin 1/week	404	123	215,332	2,583,984	533	3	19,188
8	Three cubic yard bin 1/week	606	24	63,024	756,288	104	3	3,744
<b>Front Loading Bin Service - Additional Pickups</b>								
9	One cubic yard bin 1/week	202	6	5,252	63,024	26	3	936
10	Two cubic yard bin 1/week	404	6	10,504	126,048	26	3	936
11	Three cubic yard bin 1/week	606	7	18,382	220,584	30	3	1,092
12	<b>Total</b>		<b>33,300</b>	<b>12,163,849</b>	<b>145,966,184</b>	<b>144,300</b>		<b>1,754,688</b>
<b>Step 5 - Use Allocated Revenue Requirement to Calculate Average Disposal Cost per Gallon; Average Route Operating Cost per Stop</b>								
<b>Average Disposal Cost per Gallon</b>								
13	Annual Disposal/Processing Revenue Requirement (from Row 13 in Step 3)				\$3,486,397			
14	Gallons per Year				145,966,184			
15	<b>Disposal/Processing Revenue Requirement per Gallon</b>				<b>\$0.0239</b>			
<b>Average Route Operating Cost per Stop</b>								
16	Annual Route Operating Revenue Requirement (from Row 12 in Step 3)							\$7,017,682
17	Stops per Year							1,754,688
18	<b>Annual Route Operating Revenue Requirement per Stop</b>							<b>\$4.00</b>

Table 10 on the following page shows the calculation of the Disposal/Processing Cost, and the Route Operating Cost, for each level of service. **Step 6** in Table 10 calculates the monthly Disposal/Processing Cost per unit for each level of service by multiplying the average Disposal/Processing Cost per gallon by the gallons per month.

**Step 7** in Table 10 calculates the monthly Route Operating Cost per unit for each level of service by multiplying the average Route Operating Cost per Stop by the stops per month. **Step 8** in Table 10 calculates the direct cost per unit by combining the Disposal/Processing Cost per unit and the Route Operating Cost per unit.

**Table 10 – Direct Cost for Each Level of Service**

Row	Column	A	B	C	D	E	F	G	H	I
	Description	Gallons per Unit	Gallons per Month per Unit	Cost per Gallon	Disposal Processing Cost per Month	Equivalent Stops per Unit	Stops per Unit per Month	Cost per Stop	Route Operating Cost per Month	Total Direct Costs
		Step 6 - Calculate Disposal/Processing cost per month for each level of service				Step 7 - Calculate Route Operating Cost per Month for each level of service				Step 8 - Sum of Disposal and Route Operating Cost per month
	<b>Automated Cart - Single Family</b>									
1	Standard 64 gallon cart	64	277	\$0.0239	\$6.62	1	4.33	\$4.00	\$17.33	\$23.95
2	Standard 96 gallon cart	96	416	0.0239	9.94	1	4.33	4.00	17.33	27.27
	<b>Automated Cart - Multi-family 2-4 units</b>									
3	Standard 64 gallon cart	64	277	0.0239	6.62	1	4.33	4.00	17.33	23.95
4	Standard 96 gallon cart	96	416	0.0239	9.94	1	4.33	4.00	17.33	27.27
5	Additional 64 gallon cart	64	277	0.0239	6.62	1	4.33	4.00	17.33	23.95
	<b>Front Loading Bin - MFR 2-4 units</b>									
6	One cubic yard bin 1/week	202	875	0.0239	20.91	3	13.00	4.00	51.99	72.90
7	Two cubic yard bin 1/week	404	1,751	0.0239	41.81	3	13.00	4.00	51.99	93.81
8	Three cubic yard bin 1/week	606	2,626	0.0239	62.72	3	13.00	4.00	51.99	114.71
	<b>Front Loading Bin - Additional Pickups</b>									
9	One cubic yard bin 1/week	202	875	0.0239	20.91	3	13.00	4.00	51.99	72.90
10	Two cubic yard bin 1/week	404	1,751	0.0239	41.81	3	13.00	4.00	51.99	93.81
11	Three cubic yard bin 1/week	606	2,626	\$0.0239	\$62.72	3	13.00	\$4.00	\$51.99	\$114.71

Table 11 on the following page calculates the indirect cost per unit, and summarizes the cost per unit of all three types of cost to arrive at the cost-based rate for each level of service. **Step 9** calculates the indirect cost per unit based on indirect cost as a proportionate share of total cost from Row 14 of Table 8. Step 10, the final step, combines the cost per unit of the Disposal/Processing Cost, Route Operating Cost, and the Indirect Cost to arrive at the cost per unit for each level of service. These cost per unit amounts are found in the proposed monthly rates in **Table 1**, and are used to recalculate the annual rate revenue in Table 12 and Table 13.

**Table 11 – Indirect Cost and Sum of Total Cost for Each Level of Service**

A	B	C	D	E	F	G
Total Direct Costs	Indirect cost as percent of total cost	Indirect Cost per month	Disposal Processing Cost per Month	Route Operating Cost per Month	Indirect Cost per month	Total Cost of Service per month
Step 9 - Calculate Indirect cost per month for each level of service			Step 10 - Summarize Disposal/Processing, Route Operating and Indirect Cost per month			
23.95	18.24%	\$5.35	\$6.62	\$17.33	\$5.35	\$29.30
27.27	18.24%	6.08	9.94	17.33	6.08	33.35
23.95	18.24%	5.35	6.62	17.33	5.35	29.30
27.27	18.24%	6.08	9.94	17.33	6.08	33.35
23.95	18.24%	5.35	6.62	17.33	5.35	29.30
72.90	18.24%	16.27	20.91	51.99	16.27	89.17
93.81	18.24%	20.93	41.81	51.99	20.93	114.74
114.71	18.24%	25.60	62.72	51.99	25.60	140.31
72.90	18.24%	16.27	20.91	51.99	16.27	89.17
93.81	18.24%	20.93	41.81	51.99	20.93	114.74
114.71	18.24%	\$25.60	\$62.72	\$51.99	\$25.60	\$140.31

#### 4.4 Projected Rate Revenue based on Proposed Rate Adjustments

Table 12 on the following page, Table 13 on page 20, and Table 14 on page 21 show how the proposed rates, when extended by the number of customers at each level of service, meet the City's annual projected revenue requirements in Table 7. Table 12 shows the recalculation of the revenue requirement for automated cart rates, Table 13 shows the recalculation of the revenue requirement for frontload bin rates, and Table 14 summarizes the total revenue requirement from each of these tables.

Table 12 shows that the rates implemented on January 1, 2023 would typically generate approximately \$12,848,000 in annual revenue. However, because they are being implemented at the midpoint in the fiscal year, they are projected to only generate approximately \$9,178,000 during fiscal 2023. This amount corresponds with the 2023 revenue requirement in Table 7.

Table 14 shows the average increase in revenue in each year. In FY 2023, the proposed rates are projected to increase annual revenue an average of 95%. In each of the fiscal years after FY 2023, the average annual growth in revenue includes an additional 1% to reflect the volume growth in the number of customers.

**Table 12 – Summary of Automated Cart Rate Revenue**

Description	Current Rates	Proposed Rates Effective January 1, 2023	Proposed Rates Effective July 1, 2023	Proposed Rates Effective July 1, 2024	Proposed Rates Effective July 1, 2025	Proposed Rates Effective July 1, 2026	Proposed Rates Effective July 1, 2027
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
<b>Customer Count</b>							
<b>Automated Cart Service - Single Family</b>							
Standard 64 gallon cart	5,333	5,333	5,386	5,440	5,494	5,549	5,604
Standard 96 gallon cart	18,691	18,691	18,878	19,067	19,258	19,451	19,646
<b>Automated Cart Service - Multi-family 2-4 units</b>							
Standard 64 gallon cart	8,594	8,594	8,680	8,767	8,855	8,944	9,033
Standard 96 gallon cart	266	266	268	270	272	274	276
Additional 64 gallon cart	194	194	196	198	200	202	204
<b>Monthly Rates</b>							
<b>Automated Cart Service - Single Family</b>							
Standard 64 gallon cart	\$11.72	\$29.30	\$36.63	\$45.79	\$49.45	\$53.41	\$57.68
Standard 96 gallon cart	18.34	33.35	41.69	52.11	56.28	60.78	65.64
<b>Automated Cart Service - Multi-family 2-4 units</b>							
Standard 64 gallon cart	14.82	29.30	36.63	45.79	49.45	53.41	57.68
Standard 96 gallon cart	18.34	33.35	41.69	52.11	56.28	60.78	65.64
Additional 64 gallon cart	\$11.72	\$29.30	\$36.63	\$45.79	\$49.45	\$53.41	\$57.68
<b>Annual Rate Revenue</b>							
<b>Automated Cart Service - Single Family</b>							
Standard 64 gallon cart	\$750,033	\$1,875,102	\$2,367,470	\$2,989,171	\$3,260,140	\$3,556,465	\$3,878,865
Standard 96 gallon cart	4,113,515	7,480,458	9,444,286	11,922,976	13,006,083	14,186,781	15,474,761
<b>Automated Cart Service - Multi-family 2-4 units</b>							
Standard 64 gallon cart	1,528,357	3,021,681	3,815,381	4,817,291	5,254,557	5,732,388	6,252,281
Standard 96 gallon cart	58,541	106,458	134,075	168,836	183,698	199,845	217,400
Additional 64 gallon cart	<u>27,284</u>	<u>68,211</u>	<u>86,154</u>	<u>108,797</u>	<u>118,680</u>	<u>129,466</u>	<u>141,201</u>
<b>Total Annual Automated Cart Rate Revenue</b>	<b>\$6,477,731</b>	<b>\$12,551,910</b>	<b>\$15,847,366</b>	<b>\$20,007,072</b>	<b>\$21,823,157</b>	<b>\$23,804,945</b>	<b>\$25,964,508</b>

**Table 13 – Summary of Frontload Bin Rate Revenue**

Description	Current Rates	Proposed Rates Effective January 1, 2023	Proposed Rates Effective July 1, 2023	Proposed Rates Effective July 1, 2024	Proposed Rates Effective July 1, 2025	Proposed Rates Effective July 1, 2026	Proposed Rates Effective July 1, 2027
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
<b>Customer Count</b>							
<b>Front Loading Bin Service - MFR 2-4 units</b>							
One cubic yard bin 1/week	56	56	57	58	59	60	61
Two cubic yard bin 1/week	123	123	124	125	126	127	128
Three cubic yard bin 1/week	24	24	24	24	24	24	24
<b>Front Loading Bin Service - Additional Pickups</b>							
One cubic yard bin 1/week	6	6	6	6	6	6	6
Two cubic yard bin 1/week	6	6	6	6	6	6	6
Three cubic yard bin 1/week	7	7	7	7	7	7	7
Total Customers	222	222	224	226	228	230	232
<b>Monthly Rates</b>							
<b>Front Loading Bin Service - MFR 2-4 units</b>							
One cubic yard bin 1/week	\$33.00	\$89.17	\$111.46	\$139.33	\$150.48	\$162.52	\$175.52
Two cubic yard bin 1/week	45.35	114.74	143.42	179.28	193.62	209.11	225.84
Three cubic yard bin 1/week	58.15	140.31	175.39	219.24	236.78	255.72	276.18
<b>Front Loading Bin Service - Additional Pickups</b>							
One cubic yard bin 1/week	22.63	89.17	111.46	139.33	150.48	162.52	175.52
Two cubic yard bin 1/week	22.63	114.74	143.42	179.28	193.62	209.11	225.84
Three cubic yard bin 1/week	\$22.63	\$140.31	\$175.39	\$219.24	\$236.78	\$255.72	\$276.18
<b>Annual Rate Revenue</b>							
<b>Front Loading Bin Service - MFR 2-4 units</b>							
One cubic yard bin 1/week	22,176	59,920	76,239	96,974	106,540	117,014	128,481
Two cubic yard bin 1/week	66,937	169,356	213,409	268,920	292,753	318,684	346,890
Three cubic yard bin 1/week	16,747	40,410	50,512	63,141	68,193	73,647	79,540
<b>Front Loading Bin Service - Additional Pickups</b>							
One cubic yard bin 1/week	1,629	6,420	8,025	10,032	10,835	11,701	12,637
Two cubic yard bin 1/week	1,629	8,261	10,326	12,908	13,941	15,056	16,260
Three cubic yard bin 1/week	<u>\$1,901</u>	<u>\$11,786</u>	<u>\$14,733</u>	<u>\$18,416</u>	<u>\$19,890</u>	<u>\$21,480</u>	<u>\$23,199</u>
<b>Total Annual Frontload Bin Rate Revenue</b>	\$111,019	\$296,153	\$373,244	\$470,391	\$512,151	\$557,583	\$607,008



**Table 14 – Summary of Rate Revenue and Reconciliation to Revenue Requirement**

Description	Projected FY 2022	Projected FY 2023	Projected FY 2024	Projected FY 2025	Projected FY 2026	Projected FY 2027	Projected FY 2028
Annual Automated Cart Rate Revenue	\$6,477,731	\$12,551,910	\$15,847,366	\$20,007,072	\$21,823,157	\$23,804,945	\$25,964,508
Annual Frontload Bin Rate Revenue	<u>111,019</u>	<u>296,153</u>	<u>373,244</u>	<u>470,391</u>	<u>512,151</u>	<u>557,583</u>	<u>607,008</u>
<b>Total Annual Rate Revenue</b>	\$6,588,750	\$12,848,063	\$16,220,610	\$20,477,463	\$22,335,308	\$24,362,529	\$26,571,515
Average Percent Increase in Rate Revenue (includes 1% for customer growth after FY 2023)		95%	26%	26%	9%	9%	9%
<b>Reconcile to Revenue Requirement:</b>							
Annual Rate Revenue		\$12,848,063	\$16,220,610	\$20,477,463	\$22,335,308	\$24,362,529	\$26,571,515
Less: Revenue attributable to mid-year rate adjustment		(\$3,129,656)					
<b>Revenue Requirement</b>		<b>\$9,718,407</b>	<b>\$16,220,610</b>	<b>\$20,477,463</b>	<b>\$22,335,308</b>	<b>\$24,362,529</b>	<b>\$26,571,515</b>

## 5. PERCENT OF CUSTOMERS AFFECTED

Table 15 below shows the current rate, and the rate proposed to become effective January 1, 2023 along with the amount of the increase and percent change. The right-hand column shows the portion of total customers that will be affected by each percent change of rate adjustment.

**Table 15 – Percent of Customers Affected**

Description	Current Rate	Proposed Rate Effective January 1, 2023	Adjustment Amount per Month	Percent Adjustment	Number of Customers Affected	Percent of Total Customers Affected
<b>Automated Cart Service - Single Family</b>						
Standard 64 gallon cart	\$11.72	\$29.30	\$17.58	150%	5,333	16.0%
Standard 96 gallon cart	\$18.34	\$33.35	\$15.01	82%	18,691	56.1%
<b>Automated Cart Service - Multi-family 2-4 units</b>						
Standard 64 gallon cart	\$14.82	\$29.30	\$14.48	98%	8,594	25.8%
Standard 96 gallon cart	\$18.34	\$33.35	\$15.01	82%	266	0.8%
Additional 64 gallon cart	\$11.72	\$29.30	\$17.58	150%	194	0.6%
<b>Front Loading Bin Service - MFR 2-4 units</b>						
One cubic yard bin 1/week	\$33.00	\$89.17	\$56.17	170%	56	0.2%
Two cubic yard bin 1/week	\$45.35	\$114.74	\$69.39	153%	123	0.4%
Three cubic yard bin 1/week	\$58.15	\$140.31	\$82.16	141%	24	0.1%
<b>Front Loading Bin Service - Additional Pickups</b>						
One cubic yard bin 1/week	\$22.63	\$89.17	\$66.54	294%	6	0.0%
Two cubic yard bin 1/week	\$22.63	\$114.74	\$92.11	407%	6	0.0%
Three cubic yard bin 1/week	\$22.63	\$140.31	\$117.68	520%	7	0.0%
Total					33,300	100.0%