

**CITY COUNCIL STUDY SESSION
CITY HALL, 291 N. MAIN STREET
PORTERVILLE, CALIFORNIA
AUGUST 29, 2023, 5:00 PM**

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City of Porterville – City Council Study Session of August 29, 2023

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Call to Order

Roll Call

Pledge of Allegiance Led by Mayor Martha A. Flores

Invocation

ORAL COMMUNICATIONS

This is the opportunity to address the Council on any matter of interest, whether on the agenda or not. Unless additional time is authorized by the Council, all commentary shall be limited to three minutes.

STUDY SESSION

- 1. Consideration for Establishing Water/ Recycled Water, Sewer and Solid Waste Rates**
Re: Review of the Water/Recycled Water, Sewer, and Solid Waste reports completed by City, Carollo Engineers, R3 Consulting Group; and provide direction on the alternatives and scenarios for implementing Proposition 218 notification for Water/Recycled Water, Sewer, and Solid Waste rate increases.

ADJOURNMENT - to the meeting of September 5, 2023, at 5:30 p.m.

In compliance with the Americans with Disabilities Act and the California Ralph M. Brown Act, if you need special assistance to participate in this meeting, or to be able to access this agenda and documents in the agenda packet, please contact the Office of City Clerk at (559) 782-7464. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting and/or provision of an appropriate alternative format of the agenda and documents in the agenda packet.

Materials related to an item on this Agenda submitted to the City Council after distribution of the Agenda packet are available for public inspection during normal business hours at the Office of City Clerk, 291 North Main Street, Porterville, CA 93257, and on the City's website at www.ci.porterville.ca.us.



CITY COUNCIL AGENDA – AUGUST 29, 2023

SUBJECT: Consideration for Establishing Water/ Recycled Water, Sewer and Solid Waste Rates

SOURCE: Public Works

COMMENT: Staff requests that the City Council consider establishing Water/Recycled Water, Sewer, and Solid Waste Rates.

Recycled Water - Carollo Engineers completed the Recycled Water Feasibility Study in October 2019. Its primary objective is to identify and analyze opportunities for supplying recycled water in and around the city of Porterville. The City is near completion of its .308 million gallons per day (MGD) tertiary water treatment facility, scheduled to operate by the end of 2023. Implementing the recycled water system will enable the City to reduce potable water use, thereby enhancing the sustainability of the distribution of water supply. As future City projects move toward complete tertiary treatment of its wastewater, recycled water will serve a crucial role in augmenting or offsetting potable water supplies. Recycled water provides new opportunities and new challenges for water and wastewater agencies providing recycled water. In light of these challenges, determining the recycled water pricing mechanism and rate structure to recover the cost of the production and distribution of recycled water must be implemented.

Sewer Rate Study - Carollo Engineers completed the Sewer Rate Study in May 2023. The Sewer Rate Study's objective is to ensure that revenues cover the cost of services, meet the debt coverage and reserve requirements, and provide revenue for capital improvements. In its findings, Carollo determined that under existing rates, revenue is insufficient to cover operation and capital costs, debt payments, and debt service coverage throughout the Study period. Carollo Engineers developed three rate structure alternatives that provide adequate revenue to address annual debt service coverage issues and provide the City with the financial capacity for future operations and capital costs.

Alternative 1: Existing Sewer Rate Structure

Residential (Single-family, Multifamily, and Trailer Park) customers are charged a flat monthly rate for wastewater services regardless of the amount of discharge contributed to the Waste Water Treatment Plant (WWTP). Alternative 1 maintains the existing rate structure and recovers the total residential class' proportionate costs. Single-family residential rates will increase 89.8% over five years, whereas Multifamily and Trailer Park rates will increase 89.9% over five years.

Non-residential (Commercial, Industrial, and Septic Tank Haulers) customers are currently charged a volumetric rate that recovers their total cost of service. Non-residential sewer rates are calculated by dividing the cost per customer class by the respective flow impacts on the WWTP treatment process.

Alternative 2: Cost of Service-Based Sewer Rates

This alternative represents the cost of service-based sewer rates. These cost-based sewer rates align with California's Proposition 218 guidelines. Single-family residential rates will increase by 130% over five years, whereas Multifamily and Trailer Parks will see an initial decrease of 22%, followed by a 31.9% increase over four years. Non-residential sewer rates under Alternative 2 remain constant with rates presented under Alternative 1.

Alternative 3: Residential Consolidation-Based Sewer Rates

This alternative represents sewer rates with a uniform residential rate (Single Family, Multi Family, and Trailer Park). Single-family residential rates will increase 85.7% over five years, whereas Multifamily and Trailer Park rates will increase 95.5% over five years. Non-residential sewer rates under Alternative 3 remain constant with those sewer rates presented under Alternatives 1 and 2.

The City's sewer rates have not been increased since 2003 and are below average in the region. To meet future financial needs, a rate increase is projected to meet the significant additional revenues needed for capital improvement costs, improved operations, and maintain prudent operating reserves. While rate increases are projected to address its financial requirements, the City's sewer rates would remain within the region's industry-standard range of rates.

Solid Waste (Refuse) Study - R3 Consulting Group completed the Solid Waste (Refuse) Rate Study in February 2023. The Rate Study provided a detailed rate analysis to measure revenues needed to provide the regulated levels of service while also helping establish fair, equitable, stable, and defensible solid waste user rates. In its findings, R3 determined that a rate increase is needed to fund existing operations and offset the current Fiscal Year revenue shortfalls. The Rate Study provides the following rate adjustment scenarios for the Council's consideration.

Scenario 1: This scenario maintains the existing rate structure. In this scenario, rates are insufficient to support the Division's current operations as a budget shortfall of approximately \$145,000 (2%) is projected for Fiscal Year (FY) 22-23. The cumulative five-year rate increase is 0%.

Scenario 2: This scenario would increase the rates by 50% effective January 1, 2024, followed by a 5% rate increase on July 1, 2024, followed by a 5% increase each of the following three years. The five-year cumulative rate increase is 82%.

Scenario 3: This scenario would increase the rates by 30% effective January 1, 2024, followed by a 25% rate increase on July 1, 2024, followed by 5% rate

increases each of the following three years. The five-year cumulative rate increase is 88%.

Scenario 4: This scenario would increase the rates by 25% effective January 1, 2024, followed by a 25% rate increase on July 1, 2024, followed by a 10% rate increase on July 1, 2025, followed by a 5% rate increase each of the following two years. The five-year cumulative rate increase is 89%.

The City's solid waste rates have not been increased since 2006 and are among the lowest in the region. To meet future financial needs, a rate increase of 50% is projected to meet the significant additional revenues needed for vehicle replacement, capital improvement costs, improved operation, support resources to meet industry standards, comply with SB 1383 Organics Recovery, and maintain prudent operating reserves.

While rate increases are projected to address its financial requirements, the City's residential and commercial rates would be well within the region's industry-standard range of rates, even with a 50% rate increase. The City's residential and commercial solid waste collection operations are expected to change significantly over the next several years as the City implements the programs and services necessary to comply with regulatory requirements.

RECOMMENDATION: That the City Council:

1. Review Water/Recycled Water, Sewer, and Solid Waste reports completed by City, Carollo Engineers, R3 Consulting Group, and
2. Provide staff with direction on the alternatives and scenarios for implementing Proposition 218 notification for Water/Recycled Water, Sewer, and Solid Waste rate increases.

ATTACHMENTS:

1. Draft Proposition 218 Notice on Proposed New Recycled Water Rates
2. Sewer Utility Rate Study
3. Solid Waste Rate Study and Financial Plan
4. Porterville - Operations Review
5. Letter Report Porterville - Collection System Outsourcing Analysis

Appropriated/Funded:

Review By:

Department Director:
Michael Knight, Public Works Director

Final Approver: John Lollis, City Manager

PROPOSITION 218 NOTICE OF PUBLIC HEARING ON PROPOSE NEW RECYLED WATER RATES

NOTICE IS HEREBY GIVEN that the City of Porterville will hold a Public Hearing on November XX, 2023, at its regularly scheduled Council meeting that starts at 6:30pm in the City Council Chambers, located at 291 North Main Street, Porterville, CA 93257, to consider the adoption of New Recycled water rates service fees. The purpose of the public hearing is to take written and oral comments and consider all written protests against the proposed rate implementations. Written protests must be filed with the City of Porterville City Clerk.

YOUR RIGHTS: If you are the record owner of a property subject to the proposed rates or a tenant directly liable for the payment of water service fees (i.e., a customer of record), you may submit a written protest against the proposed Recycled water rate. Only one written protest per parcel will be counted. Written protests may be submitted by mail to the City Clerk, City of Porterville, 291 North Main Street, Porterville, CA 93257, or in person at the public hearing, so long as they are received prior to the conclusion of public testimony at the public hearing. Please identify on the front of the envelope "Water Rate Protest" for any protest, whether mailed or submitted in person to the City Clerk. Please indicate your name and either the address(es) or water/sewer account number(s) of your property or properties. Protests submitted verbally, by e-mail, facsimile, or other electronic means will not be accepted.

Each protest must (1) be in writing; (2) state opposition to the proposed recycled water rate; (3) provide the location of the owner's identified parcel (by assessor's parcel number or street address); and (4) include the original signature of the property owner or customer of record submitting the protest. Only one written protest per parcel will be counted.

At the conclusion of the public hearing, the City Council will consider adopting the proposed water rate outlined on the reverse side of this notice. If, at the close of the public hearing, written protests against the proposed water rate are submitted by a majority of record owners of affected parcels and customers of record (50% plus one), the City will not approve the proposed water rates. If, at the close of the public hearing, written protests against the proposed rate increases do not present a majority of record owners of affected parcels and customers of record, the City Council will be authorized to impose the proposed rate up to the amounts proposed. If adopted, the new recycled water rate will be effective January 1, 2024.

THE NEED TO ESTABLISH RECYCLED WATER RATE AND METER FEE: The City of Porterville completed a Recycled Water Feasibility Study in October 2019. Its primary objective is to identify and analyze opportunities for supplying recycled water in and around the City of Porterville. The City is near completion of its .308 Million Gallon-a-day (MGD) Tertiary Water Treatment Facility, which is scheduled for operation by the end of 2023. Implementing recycled water will enable the City to offset potable water use, thereby enhancing local sustainability and drought impact resiliency to customers for irrigation and industrial uses. The City makes every effort to provide its customers with water in the most efficient and cost-effective manner possible. The City continuously evaluates operational costs and utilization of assets to maintain infrastructure efficiencies and improve water supply distribution. Tertiary Treatment of the City's Wastewater Effluent to recycled water will be crucial in augmenting or offsetting potable water supplies. The implementation of recycled water requires the proposed recycled water pricing mechanism and rate structure to recover the cost of production, distribution, and maintenance of recycled water.

PROPOSED WATER / RECYCLED WATER RATE FEE MODIFICATION: The City of Porterville's recycled water rate revenue will fund the costs of providing recycled water service. Therefore, recycled water rates must be set at sufficient levels to recover the cost of treatment, operation, maintenance, and capital improvement. Recycled water rates comprise three parts: recycled water consumption fee, recycled water meter service fees, and recycled water backflow device fee.

PROPOSED RATES FOR 2024: Recycled water usage revenues pay for the costs of delivering recycled water and are based on the quantity of recycled water consumed as measured by your water meter. The proposed water rates include (1) a monthly meter charge and (2) a water consumption use charge. The meter charge is a fixed amount calculated to recover a portion of the City's fixed costs of operating and maintaining the recycled water system. It is established on the basis of the size of the water meter serving the property. The fixed meter charge is due regardless of the quantity of water consumed. The water use charge is the rate the City charges per unit of water consumed (one unit of water equals 748 gallons or 100 cubic feet). The charge will differ from one bill to another, depending on the water consumed and your meter's size. The City Council will consider a recycled water rate structure of \$1.91 per unit for irrigation and industrial uses. In addition to consumption, a proportional rate structure by meter size is also being considered for all new meter ranges not previously covered by existing service fees. Recycled water service fees, based on meter size, pay for fixed costs of providing service and do not vary with the quantity of water purchased.

BILL IMPACT: The proposed Fee Modification for irrigation and industrial uses on a facility with a 1" recycled water meter and consuming 22 units (16,456 gallons or 2,200 cubic feet) of recycled water in a billing cycle will see a monthly bill of \$60.10. Please note that billing accounts will be lower or higher than shown depending on the actual quantity of water used.

Assistance can be provided to those requiring accommodations for disabilities in compliance with the Americans with Disabilities Act of 1990. Accommodations must be requested at least 48 hours in advance by calling: The City Clerks Office at (559) 782-7476

City staff can assist you with answering any questions about your water bill. If you have any questions regarding the information in this notice or the rates applicable to your property, please contact Field Services at (559) 782-7514.

METERED RATES			Proposed Metered Rates per Fiscal Year (FY)		
Potable Water Rate Schedule	Current Rates FY 2023/24	Proposed Rates FY 2023/24		Recycled Water Rate Schedule	Proposed Rates FY 2023/24
WATER CONSUMPTION CHARGE <i>(per 100 cubic feet)</i>	\$1.91			WATER CONSUMPTION CHARGE <i>(per 100 cubic feet)</i>	\$1.91
PHASE V RATE INCREASE†	\$2.29				
<i>Less than 1"</i>	\$18.08			<i>Less than 1"</i>	\$18.08
<i>1"</i>	\$19.89			<i>1"</i>	\$19.89
<i>1 1/4"</i>	\$24.40			<i>1 1/4"</i>	\$24.40
<i>1 1/2"</i>	\$28.92			<i>1 1/2"</i>	\$28.92
<i>2"</i>	\$36.14			<i>2"</i>	\$36.14
<i>3"</i>	\$48.79			<i>3"</i>	\$48.79
<i>4"</i>	\$59.63			<i>4"</i>	\$59.63
<i>6"</i>	\$72.29			<i>6"</i>	\$72.29
<i>8"</i>	\$90.36			<i>8"</i>	\$90.36
<i>10"</i>		\$100.40		<i>10"</i>	\$100.40

UNMETERED FLAT RATES			Proposed Unmetered Flat Rates per Fiscal Year (FY)		
Potable Water Rate Schedule	Current Rates FY 2023/24	No Proposed Rate Change FY 2023/24		No Recycled Water Flat Rate Schedule	No Proposed Rates FY 2023/24
<i>Trailer Parks</i>	\$39.77				
PHASE V RATE INCREASE†	\$47.74				
<i>All Others</i>	\$86.54				
PHASE V RATE INCREASE†	\$103.83				

BACKFLOW DEVICES			Proposed Backflow Device Rates per Fiscal Year (FY)		
Potable Water Rate Schedule	Current Rates FY 2023/24	No Proposed Rate Change FY 2023/24		Recycled Water Device Rate Schedule	Proposed Rates FY 2023/24
DEVICE SIZE					
<i>1"</i>	\$11.49				\$11.49
<i>1 1/2" – 2 1/2"</i>	\$16.09				\$16.09
<i>3"</i>	\$18.44				\$18.44
<i>4"</i>	\$22.95				\$22.95
<i>6" – 10"</i>	\$101.20				\$101.20

†Phase V Rate Increases will occur only if directed by the City Council to transition into the City's Emergency Response Phase V of its Water Conservation Plan.



City of Porterville

Sewer Utility Rate Study

FINAL | December 2022

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Abbreviations

BOD	biological oxygen demand
Carollo	Carollo Engineers, Inc.
CIP	Capital Improvement Program
City	City of Porterville
FYE	fiscal year ending
HCF	hundred cubic feet
lbs/day	pounds per day
MG	million gallons
mg/L	milligrams per liter
mgd	million gallons per day
O&M	Operations and Maintenance
RCNLD	Replacement Cost New Less Depreciation
SRF	Sewer Revolving Fund
Study	2022 Sewer Utility Rate Study
TSS	Total Suspended Solids
WEF	Water Environment Federation
WWTF	Wastewater Treatment Facility
WWTFR	Wastewater Treatment Facility Capital Fund

1.0 Introduction

1.1 City of Porterville Service Area Overview

The City of Porterville (City) provides wastewater services for all residential, commercial, and industrial discharges within the city. East Porterville's sanitary sewer service is managed by the Porter Vista Public Utilities District but treated at the City's wastewater treatment facility (WWTF). The City owns and maintains approximately 2,278 manholes, 24 lift stations, 9,980 feet of force mains, and over 48 miles of gravity sewer pipes to receive, treat, and dispose of approximately 4.69 million gallons per day (mgd) of wastewater. The WWTF has significantly expanded its capacity over time with an original capacity of 1.8 mgd in 1954 to its current capacity, since 1994, of 8.0 mgd. However, a discharge order restricts the monthly average daily discharge to 5.3 mgd. Treated effluent is pumped through a 4.5-mile pipeline to the southwest area of town where it is applied to effluent irrigation areas or percolated into the ground via percolation basins during winter months.

1.2 Study Background

1.2.1 Purpose and Key Drivers

The City retained Carollo Engineers, Inc., (Carollo), an independent rate consultant, to conduct a Sewer Utility Rate Study (Study) for the City's sewer rates for residential, commercial, industrial, and septic waste haulers. This Study is driven largely by the need for an updated analysis with sewer rates based on currently relevant assumptions, allocations, revenues, expenses, and capital improvements. The City's last sewer utility rate study was conducted in 2003 with the intent of establishing and implementing rates that would sufficiently recover annual wastewater operations for the first time, as the City was drawing down its operating and capital fund reserves and introduced a new structure that provided improved rate equity among customer classes. The analysis resulted in recommending significant rate increases, phased in over a three-year period, including a 30-year debt financing plan which the City is currently repaying.

Significant upcoming capital costs are also driving the reason for this Study. The sewer infrastructure and WWTF capital improvement programs (CIP) will incur much of its costs earlier in the study period (FY 2024 and FY 2025), while the lift station upgrade and digester improvements are notable exceptions that will remain annual expenses throughout the study period (FY 2031). For purposes of this Study, the City has identified capital projects totaling nearly \$123 million over the duration of the study period (FY 2021 to FY 2031), which will be recovered through a combination of proceeds from previous debt issuances, developer fees, and rates/cash reserves. While the City is not planning to finance these projects with additional debt issuances, it does have existing debt obligations that will continue to be paid through FY 2049. Lastly, the City was aware of local septic haulers becoming a larger portion of their flows and strengths due to the City's significantly lower rate charged per thousand gallons when compared to that of neighboring utilities. Therefore, the City sought to appropriately increase their septic rates to those more in alignment and commensurate with the actual costs the City incurs to treat their flows and strengths.

1.3 Rate Development Process Overview

1.3.1 Step-By-Step Rate Development Approach

Carollo used an industry standard step-by-step approach when reviewing the City's sewer rates. This approach is consistent with industry standards established within the Water Environment Federation's (WEF) *Manual of Practice No. 27 Financing and Charges for Wastewater Systems*. This step-by-step approach is summarized and outlined in Figure 1.

1.3.1.1 Revenue Requirements Overview

The revenue requirements analysis tests the utility's fiscal health. It compares the City's forecasted revenues to its forecasted operations and maintenance (O&M) expenses, capital improvement costs, debt service, and reserve policies to determine the adequacy of the existing rates to recover costs. If the City falls short of any of these benchmarks, then rate revenue likely needs adjustments.

Cash Flow Test

Carollo compiled the City's FY 2021 expenses (budgeted) as the base year for O&M expenses. Carollo also collected information related to current cash and restricted/unrestricted fund balances and internal and external policies, and all other future operating and non-operating revenues and expenditures. With these cost drivers established, a cash flow sufficiency test is typically used to define the annual revenues necessary in the event net cash flow at the end of each FY is negative.

Debt Coverage Test

Debt coverage is the amount of annual revenue, in excess of annual operating expenses and annual debt service, that the City must generate. This is represented as a percentage of the annual debt service and is typically outlined in the official statement for each debt issuance. The City's current annual debt coverage ratio minimum is 125 percent of annual debt service.

Reserve Funds Test

The reserve funds test reviews end of fiscal year reserve balances compared with City reserve policies. This analysis reviewed the projected reserve balances at the end of the fiscal year compared with these policy targets.

1.3.1.2 Cost of Service Overview

The goal of the cost of service evaluation is to identify an equitable and fair nexus between the costs incurred by the City and the rates assessed to each customer.

Carollo reviewed historical customer billing data to confirm the number of units connected to the system, cost drivers, and cost allocations. Carollo then identified how fixed costs versus variable costs align to functional categories.

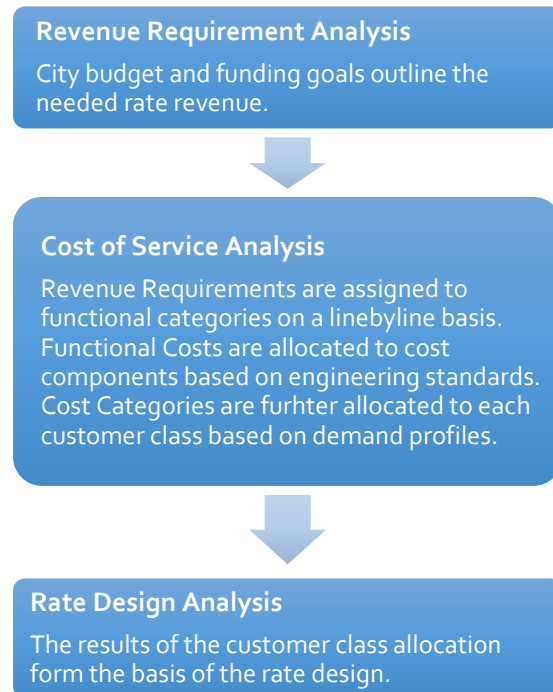


Figure 1 Overview of Rate-Setting Process

For the City, costs are primarily related to flow in million gallons (MG) and discharge/strength characteristics such as biological oxygen demand (BOD) and total suspended solids (TSS). The cost of service analysis takes the projected revenues from the previous step and allocates them to flow, BOD, TSS, and customer service functions based on the baseline system profile. These functionalized costs are allocated to each customer class in accordance with system flows and discharge/strength characteristics.

1.3.1.3 Rate Design Analysis

The Rate Design Analysis ties together the preceding steps into a final rate charged to each customer class. The rates calculated in this step incorporate the projected revenue requirements and the cost of service allocations into a fair and equitable cost recovery mechanism.

2.0 Revenue Requirements Analysis

The revenue requirements analysis has two main purposes – it serves as a means of evaluating each cost center’s fiscal health and adequacy of current rate levels; and it sets the basis for near- and long-term rate planning.

There are three tests utilized to define the recommended annual revenues necessary:

- **Cash Flow Sufficiency Test** – The cash flow test defines the amount of annual revenues that must be generated to meet annual expenditure obligations of the utility.
- **Debt Service Coverage Test** – Debt service coverage refers to the collection of revenues to meet all operating expenses and debt service obligations plus an additional multiple of that debt service. The City has a legally required minimum debt service coverage ratio of 1.25x which was used as the basis for this financial analysis. While a higher debt service coverage ratio can be more prudent and signal creditworthiness, it would likely be infeasible to incorporate an unnecessarily high ratio during other significant rate adjustment requirements.
- **Reserve Test** – End of year reserve balances for each of the City’s unrestricted reserve(s) should meet minimum target balances.

If revenues fail only one of these tests, then that respective shortfall sets the revenue increase. If multiple tests are failed, the greatest shortfall defines the required revenue increase.

Data was provided by City staff based on current projections for operating and non-operating expenditures, CIP, debt service, as well as baseline revenues. The City also provided baseline reserve balances and restricted fund targets.

2.1 Revenue Requirements Prior to Rate Increases

2.1.1 Expenditures

Table 1 and Table 2 summarize the City’s operating and non-operating expenditures forecasted during the rate-setting period (FY 2024 to FY 2028), respectively. Table 3 summarizes the City’s capital expenditures. Operating expenses are escalated by 3.0 percent annually while capital costs were provided by City staff and represent escalated dollars for their respective years.

Table 1 Operating Expenditure Forecast (\$ thousands)

Description	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Sewer Operating System	\$1,496	\$1,541	\$1,587	\$1,635	\$1,684
Water Conservation Plant	3,305	3,405	3,507	3,612	3,720
Industrial Pre-Treatment	162	166	171	176	182
Laboratory	521	537	553	570	587
Stormwater O&M	281	290	298	307	317
Total Operating Expenses	\$5,765	\$5,938	\$6,116	\$6,300	\$6,489

Note:

(1) Totals may not tie due to rounding.

Table 2 Non-Operating Expenditure Forecast (\$ thousands)

Description	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Interfund Transfers	\$600	\$600	\$600	\$600	\$600
Debt Service	4,592	7,000	6,999	6,997	7,000
Rate Funded Capital (PAYGO)	-	-	1,460	2,772	1,329
Total Non-Operating Expenses	\$5,192	\$7,600	\$9,059	\$10,370	\$8,929

Note:

(1) Totals may not tie due to rounding.

Table 3 Capital Expenditure Forecast (\$ thousands)

Description	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Sewer Replacement	\$85	\$-	\$-	\$-	\$-
Island Annexation	3,050	2,580	2,420	-	-
Other Sewer Infrastructure	80	174	230	88	91
WWTF	32,187	31,090	1,093	1,596	99
Master Plans	207	214	221	229	237
Stormwater	1,545	1,591	1,639	1,688	1,739
Total Capital Expenses	\$37,154	\$35,649	\$5,603	\$3,601	\$2,166

Note:

(1) Totals may not tie due to rounding.

2.1.2 Revenues

Table 4 summarizes the City's forecasted revenues during the rate-setting period assuming no revenue increases to Charges for Service.

Table 4 Revenue Forecast Prior to Rates and Fees Increase (\$ thousands)

Description	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Charges for Services:					
Sewer Service Charges	\$7,167	\$7,167	\$7,167	\$7,167	\$7,167
Porter Vista Revenue Offset	200	200	200	200	200
Other Revenues:					
Property Tax Assessments	187	188	189	190	191
Interest on Investments	41	42	42	42	43
Rent of Land – Agricultural	123	127	131	134	138
Sewer Dumping Charges	51	51	51	52	52
Lab Service Charges	381	383	384	386	388
Other Service Charges	5	5	5	5	5
Penalties	82	84	87	90	92
Other Revenues	5	6	6	6	6
Revenues Pre-Increase	\$8,242	\$8,252	\$8,262	\$8,272	\$8,283

Note:

(1) Totals may not tie due to rounding.

2.2 Cash Flow Test

Table 5 summarizes the City's forecasted revenues during the rate-setting period, assuming no revenue increases. The City is projected to have a cash flow deficit beginning in FY 2024.

Table 5 Cash Flow Test Prior to Rates and Fees Increase (\$ thousands)

Description	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Total Revenues	\$8,242	\$8,252	\$8,262	\$8,272	\$8,283
Total Operating Expenses	5,765	5,938	6,116	6,300	6,489
Debt Service	4,592	7,000	6,999	6,997	7,000
Interfund Transfers	600	600	600	600	600
Rate Funded Capital (PAYGO)	–	–	1,460	2,772	1,329
Total Policy Expenditures	234	597	360	652	1,237
Cash Flow Pre-Increase	\$(2,949)	\$(5,883)	\$(7,273)	\$(9,049)	\$(8,372)

Note:

(1) Totals may not tie due to rounding.

2.3 Debt Service Coverage Test

Table 6 summarizes the debt service coverage test forecast for the rate-setting period. Debt service coverage is calculated as the ratio of the City's net income to its annual debt service. Without rate increases, the City is projected to fall below its required debt service coverage ratio of 125 percent (1.25x) in FY 2024 and beyond.

Table 6 Debt Coverage Test Prior to Rates and Fees Increase (\$ thousands)

Description	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Total Revenues	\$8,242	\$8,252	\$8,262	\$8,272	\$8,283
Sewer Expenses	5,765	5,938	6,116	6,300	6,489
Debt Service	4,592	7,000	6,999	6,997	7,000
Debt Coverage (1.25x)	1,148	1,750	1,750	1,749	1,750
Coverage Ratio Pre-Increase	0.54x	0.33x	0.31x	0.28x	0.26x

Note:

(1) Totals may not tie due to rounding.

2.3.1 Capital Planning and Reserves

The projected reserve balances for the Sewer Operating Fund, Wastewater Treatment Facility Capital Fund (WWTFR), and Sewer Revolving Fund (SRF) are presented in Table 7 through Table 9, respectively.

Beginning reserve fund balances for FY 2024 and current targets were provided by City staff. The City is projected to meet its reserve policy targets in 2028, as shown in Table 10.

Table 7 Sewer Operating Fund Revenue Forecast Prior to Rates and Fees Increase (\$ thousands)

Description	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Beginning Balance	\$1,188	\$867	\$1,148	\$901	\$363
Addition to Meet Min. Balance	234	597	360	652	1,237
Cash Flows	(555)	(316)	(607)	(1,190)	782
Ending Balance Prior to Transfers	867	1,148	901	363	2,381
Transfers From/(To) WWTFR	–	–	–	–	(102)
Ending Balance	\$867	\$1,148	\$901	\$363	\$2,279
Minimum Target	\$1,422	\$1,464	\$1,508	\$1,553	\$1,600

Notes:

(1) Totals may not tie due to rounding.

(2) City's minimum reserve balance is 90 days of operating expenses.

Table 8 WWTFR Revenue Forecast Prior to Rates and Fees Increase (\$ thousands)

Description	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Beginning Balance	\$728	\$1,884	\$1,629	\$728	\$728
Transfer from Sewer Operating Fund	300	300	300	300	300
Less: Use of Funds	(300)	(1,457)	(1,202)	(300)	(300)
Ending Balance Prior to Transfers	1,884	1,629	728	728	728
Transfers From/(To) Operating	–	–	–	–	102
Ending Balance	\$1,884	\$1,629	\$728	\$728	\$830
Minimum Target	\$428	\$428	\$428	\$428	\$428

Notes:

(1) Totals may not tie due to rounding.

(2) City's minimum reserve balance is 1.0% of replacement cost new less depreciation (RCNLD).

Table 9 SRF Revenue Forecast Prior to Rates and Fees Increase (\$ thousands)

Description	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Beginning Balance	\$4,254	\$1,800	\$1,800	\$1,800	\$1,800
Transfer from Sewer Operating Fund	300	300	300	300	300
Less: Use of Funds	(2,754)	(300)	(300)	(300)	(300)
Ending Balance Prior to Transfers	1,800	1,800	1,800	1,800	1,800
Transfers From/(To) WWTFR	–	–	–	–	94
Ending Balance	\$1,800	\$1,800	\$1,800	\$1,800	\$1,894
Minimum Target	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500

Notes:

(1) Totals may not tie due to rounding.

(2) City's minimum reserve balance is 90 days of operating expenses.

Table 10 Reserves Target Test (\$ thousands)

Description	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Ending Operating Fund Balance	\$867	\$1,148	\$901	\$363	\$2,279
Days of O&M Expenditures	55 days	71 days	54 days	22 days	129 days
Operating Revenue Balance Above/(Under) Target	\$(555)	\$(316)	\$(607)	\$(1,190)	\$679

2.4 Revenue Requirements with Recommended Rate Increase

Based on the projected deficits in the debt service coverage test presented in Table 6, Carollo recommends annual revenue increases of 32.5 percent from FY 2024 to FY 2025 and 8.5 percent annual revenue increases from FY 2026 to FY 2028. 3.0 percent annual revenue increases are recommended throughout the remainder of the study period. The revenue plan shown in Table 11 is projected to generate sufficient revenues to meet all three financial tests and provide adequate financial capacity for unexpected future cashflow events.

Table 11 Cash Flow with Recommended Revenue (\$ thousands)

Description	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Revenue Increase	32.5%	32.5%	8.5%	8.5%	8.5%
Baseline Rate Revenue	7,367	7,367	7,367	7,367	7,367
Revenue from Increase	2,394	5,567	6,666	7,859	9,153
Non-Operating Revenue	875	885	895	905	916
Less: Rate Increase Delay	–	–	–	–	–
Less: Expenditures	(11,191)	(14,135)	(15,535)	(17,322)	(16,655)
Cash Flow After Increases	\$(555)	\$(316)	\$(607)	\$(1,190)	\$782

3.0 Cost of Service

The cost-of-service portion of the rate analysis creates an equitable and fair basis for collecting rates from each customer class. This analysis initially allocates costs to functional categories based on how the City's system is designed and operated. These functional category costs are then allocated to each customer class based on how they use the system, as measured by the units for each functional category. For instance, customer classes with higher overall flow will be assigned a greater share of costs incurred to convey and treat that volume of flow. Classes with higher BOD or TSS concentrations in their wastewater discharge will be allocated a greater share of costs to handle and treat these constituents.

The functional cost allocation takes these projected revenue requirements and allocates them to individual functional costs related to the City's collection, treatment, and administrative processes. Each of the City's expenses are allocated based on the respective function it serves. In the City's case, these functions are flow, BOD, and TSS.

The customer class allocation takes these functional costs and further assigns them to each class based on their typical usage of the system. Classes that generate more flow or have more accounts are assigned a greater share of flow or customer service-related costs, respectively. Finally, rate design calculates a rate for each class based on the total allocated costs and the units for cost recovery.

3.1 Functional Cost Allocation

The City's last rate study, completed in 2003, developed cost allocation factors to recover previously excluded operational costs. The approach used in that study is maintained here because the City's cost driver categories are largely unchanged, however since the number of capital costs have increased significantly, the focus for this step was how to best allocate each to flow, BOD, and TSS.

Table 12 outlines the City's three cost allocation categories. Given a lack of available information to determine otherwise and to keep the calculations straightforward and replicable, individual capital costs are allocated in full, half, or equally divided in thirds across the three functions. The total allocation split for capital costs is the quotient of the summed allocated cost divided by total capital cost. Existing debt service and fixed assets are both allocated in nearly equal thirds while O&M expenses are half allocated to flow with the remaining 50 percent split equally among both BOD and TSS. Similar to the capital cost calculation, the total functional allocation percentages are the quotient of the allocated amounts divided by the total estimated costs.

Table 12 Cost Allocation Percentage Bases

Allocation Items	Flow	BOD	TSS
Operating Expenses	50.0%	25.0%	25.0%
Existing Debt Service	34.0%	33.0%	33.0%
Capital Costs	27.7%	36.2%	36.2%
Fixed Assets	34.0%	33.0%	33.0%
Total	35.0%	32.5%	32.5%

As shown in Table 12, the City's total costs are almost evenly split between flow (35.0 percent), followed by BOD and TSS (both at 32.5 percent). The functional allocation uses the full study period (FY 2022 to FY 2031) rather than the five-year rate-setting period so that rates continue recovering these anticipated costs, regardless of the particular year in which they were incurred. Results of the cost allocation are shown in Table 13.

Table 13 Cost Allocation Results (\$ thousands)

Expenditure Items	Flow	BOD	TSS
Operating Expenses	\$31,148	\$15,574	\$15,574
Existing Debt Service	20,551	19,947	19,947
Capital Costs	32,467	42,398	42,398
Fixed Assets	5,982	5,806	5,806
Total	\$90,148	\$83,725	\$83,725

Annual revenue requirements, including their allocations by functional category for the duration of the rate-setting period, are shown in Table 14.

Table 14 Functional Cost Allocations throughout the Rate-Setting Period (\$ thousands)

Functional Categories	Allocation	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Flow	35.0%	\$ 3,323	\$ 4,404	\$ 4,778	\$ 5,184	\$ 5,625
BOD	32.5%	3,087	4,090	4,437	4,815	5,224
TSS	32.5%	3,087	4,090	4,437	4,815	5,224
Total Revenue Requirement		\$9,499	\$12,585	\$13,655	\$14,815	\$16,074

3.2 Customer Class Allocation

The annual allocated revenue requirements are allocated to each customer class based on the number of units of service that each customer class has for a particular category. That calculation starts by measuring the units of service for each class. The total number of accounts, annual flow, and annual BOD and TSS loadings are shown in Table 15. This table also shows the percent of the total for each class for each particular constituent.

City staff provided Carollo with customer billing data which included the number of accounts, dwelling units, and flow (mgd) for use in development of the cost-of-service analysis as well as development of revenue under existing rates. The cost-of-service analysis determines each class's proportional contribution (through each of the three cost allocation categories; Flow, BOD, and TSS) based on billing data supplied by City staff.

Due to limited current class-specific strength data (milligrams per liter [mg/L] for BOD and TSS), Carollo maintained the existing assumed strengths used in the previous 2003 study. Those strengths are then converted into pounds per day (lbs/day) by multiplying each customer class's flow by their respective strengths (mg/L) times 8.34 pounds per gallon. These resulting pounds, by customer class, are then divided by total contributed pounds to arrive at respective allocation percentages by customer class. The most notable change since the previous study is that flows from each customer class have markedly increased while septic waste haulers have significantly increased their flows and as a result their contaminant contributions.

Table 15 Accounts, Flow, BOD, and TSS by Class

Customer Classes	Accounts	Dwelling Units	Flow		BOD			TSS		
			mgd	%	mg/L	lbs	%	mg/L	lbs	%
Residential										
Single Family Residential	11,804	39,779	3.0153	57.3%	250	6,287	56.6%	175	4,401	49.1%
Multi-Family Residential	656	7,675	1.0669	20.3%	250	2,224	20.0%	175	1,557	17.4%
Trailer Park – Spaces	263	1,178	0.1638	3.1%	250	341	3.1%	175	239	2.7%
Commercial										
Car Wash, Laundry, Packing House	23		0.0278	0.5%	100	23	0.2%	150	35	0.4%
Bars, Hotels w/o Dining	13		0.0164	0.3%	200	27	0.2%	200	27	0.3%
Stores, Offices, Markets	695		0.6105	11.6%	150	764	6.9%	150	764	8.5%
Hospital, Rest Homes	27		0.0202	0.4%	250	42	0.4%	100	17	0.2%
Multi-Unit with Cons	4		0.0013	0.0%	250	3	0.0%	150	2	0.0%
Mortuaries	2		0.0025	0.0%	800	17	0.2%	800	17	0.2%
Service Stations and Auto Repairs	63		0.0695	1.3%	180	104	0.9%	280	162	1.8%
Restaurants	98		0.0834	1.6%	800	557	5.0%	600	417	4.7%
Churches	61		0.0746	1.4%	150	93	0.8%	150	93	1.0%
Schools	51		0.0518	1.0%	130	56	0.5%	100	43	0.5%
City of Porterville	23		0.0215	0.4%	150	27	0.2%	150	27	0.3%
State Hospital	1		0.0013	0.0%	250	3	0.0%	100	1	0.0%
Industrial	15		0.0215	0.4%	150	27	0.2%	100	18	0.2%
Septic Tanks	7		0.0114	0.2%	0	512	4.6%	12,000	1,139	12.7%
Totals	13,806	48,633	5.2597			11,108			8,959	

Each of the functional categories are allocated to each customer class by multiplying the annual revenue requirements for a FY 2024 test year in Table 14 by their respective allocation percentages in Table 15. This step is repeated for each of the three constituents (Flow, BOD, TSS) thereby determining each customer class's respective FY 2024 Test Year revenue requirement, by constituent, in Table 16.

Table 16 Total Cost Allocation by Class for FY 2024 Test Year

Customer Classes	Flow	BOD	TSS	Total Rev Req
Residential				
Single Family Residential	\$1,905,248	\$1,746,947	\$1,516,201	\$5,168,396
Multi-Family Residential	674,105	618,096	536,455	1,828,656
Trailer Park – Spaces	103,484	94,886	82,353	280,722
Commercial				
Car Wash, Laundry, Packing House	\$17,572	\$6,445	\$11,986	\$36,002
Bars, Hotels w/o Dining	10,383	7,616	9,443	27,443
Stores, Offices, Markets	385,775	212,234	263,144	861,153
Hospital, Rest Homes	12,779	11,718	5,811	30,308
Multi-Unit with Cons	799	732	545	2,076
Mortuaries	1,597	4,687	5,811	12,096
Service Stations and Auto Repairs	43,929	29,001	55,934	128,864
Restaurants	52,715	154,671	143,830	351,216
Churches	47,124	25,925	32,144	105,193
Schools	32,747	15,614	14,892	63,252
City of Porterville	13,578	7,470	9,262	30,310
State Hospital	799	732	363	1,894
Industrial	13,578	7,470	6,175	27,222
Septic Tanks	7,188	142,368	392,264	541,820
Total	\$3,323,400	\$3,086,611	\$3,086,611	\$9,496,622

4.0 Rate Design Analysis

The rate design analysis ties together the prior two steps (revenue requirement analysis and cost of service analysis) into fair and equitable rates assessed to each customer. The allocated costs shown in Table 16 outline the costs to be recovered from each customer class. Rate design then calculates an appropriate unit cost for each customer class. The City requested Carollo calculate rates under three rate structures. The first alternative maintains the existing rate structure, which charges multifamily residential and trailer park customers 95 percent of the single family residential rate. The second rate structure recovers class cost of service revenue requirements. The third alternative categorizes all residential customers as one residential customer class.

4.1 Alternative 1: Existing Sewer Rate Structure

4.1.1 Residential Sewer Rates

Residential (Single Family, Multifamily, and Trailer Park) customers are currently charged a flat monthly rate for wastewater services regardless of the amount of flows contributed to the WWTP. Alternative 1 maintains the existing rate structure and recovers the total residential class's proportionate costs. Table 17 illustrates rates for each of the residential customer classes throughout the rate-setting period.

Table 17 Alternative 1 – Existing and Proposed Residential Sewer Rates

Residential Customer Classes	FYE 2023 (Existing)	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	5-Year Cumulative Increase
Single Family Residential – Per Unit	\$26.87	\$30.20	\$39.95	\$43.35	\$47.00	\$51.00	89.8%
Multifamily Residential – Per Unit	25.52	28.69	37.96	41.18	44.65	48.45	89.9%
Trailer Park – Per Space	25.52	28.69	37.96	41.18	44.65	48.45	89.9%

4.1.2 Non-Residential Sewer Rates

Non-Residential (Commercial, Industrial, and Septic Tank Haulers) customers are currently charged a volumetric rate that recovers their total cost of service. Non-Residential sewer rates are calculated by dividing the cost per customer class by the amount of respective flow. Existing and Alternative 1 Non-Residential rates, throughout the rate-setting period, are shown in Table 18.

Table 18 Alternative 1 – Existing and Proposed Non-Residential Sewer Rates

Non-Residential Customer Classes	FYE 2023 (Existing)	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	5-Year Cumulative Increase
Car Wash, Laundry, Packing House	\$0.96	\$2.66	\$3.52	\$3.82	\$4.14	\$4.50	368.8%
Bars, Hotels w/o Dining	1.22	3.43	4.54	4.93	5.34	5.80	375.4%
Stores, Offices, Markets	1.04	2.90	3.83	4.16	4.51	4.90	371.2%
Hospital, Rest Homes	1.09	3.08	4.07	4.42	4.80	5.20	377.1%
Multi-Unit with Cons.	1.19	3.37	4.46	4.84	5.25	5.70	379.0%
Mortuaries	1.95	9.81	13.00	14.10	15.30	16.60	751.3%
Service Stations and Auto Repairs	1.36	3.80	5.04	5.47	5.93	6.43	372.8%
Restaurants	2.97	8.63	11.44	12.41	13.46	14.61	391.9%
Churches	0.42	2.90	3.83	4.16	4.51	4.90	1,066.7%
Schools	0.30	2.51	3.32	3.60	3.91	4.24	1,313.3%
City of Porterville	0.83	2.90	3.83	4.16	4.51	4.90	490.4%
State Hospital	1.09	3.08	4.07	4.42	4.80	5.20	377.1%
Industrial – per hcf	0.93	2.60	3.44	3.74	4.05	4.40	373.1%
Septic Tanks – per 1,000 gallons	22.70	130.50	172.90	187.60	203.55	220.85	872.9%

4.2 Alternative 2: Cost of Service-Based Sewer Rates

Alternative 2 of this Study represents cost of service-based sewer rates. These cost-based sewer rates align with California's Proposition 218 guidelines. Alternative 2 existing and proposed Residential and Non-Residential rates are shown in Table 19 and Table 20, respectively. Please note that Non-Residential sewer rates under Alternative 2 remain constant with those rates presented under Alternative 1.

Table 19 Alternative 2 – Existing and Proposed Residential Sewer Rates

Residential Customer Classes	FYE 2023 (Existing)	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	5-Year Cumulative Increase
Single Family Residential	\$26.87	\$36.50	\$48.35	\$52.50	\$56.95	\$61.80	130.0%
Multifamily Residential	25.52	19.90	26.35	28.55	31.00	33.65	31.9%
Trailer Park	25.52	19.90	26.35	28.55	31.00	33.65	31.9%

Table 20 Alternative 2 – Existing and Proposed Non-Residential Sewer Rates – per HCF

Non-Residential Customer Classes	FYE 2023 (Existing)	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	5-Year Cumulative Increase
Car Wash, Laundry, Packing House	\$0.96	\$2.66	\$3.52	\$3.82	\$4.14	\$4.50	368.8%
Bars, Hotels w/o Dining	1.22	3.43	4.54	4.93	5.34	5.80	375.4%
Stores, Offices, Markets	1.04	2.90	3.83	4.16	4.51	4.90	371.2%
Hospital, Rest Homes	1.09	3.08	4.07	4.42	4.80	5.20	377.1%
Multi-Unit with Cons.	1.19	3.37	4.46	4.84	5.25	5.70	379.0%
Mortuaries	1.95	9.81	13.00	14.10	15.30	16.60	751.3%
Service Stations and Auto Repairs	1.36	3.80	5.04	5.47	5.93	6.43	372.8%
Restaurants	2.97	8.63	11.44	12.41	13.46	14.61	391.9%
Churches	0.42	2.90	3.83	4.16	4.51	4.90	1,066.7%
Schools	0.30	2.51	3.32	3.60	3.91	4.24	1,313.3%
City of Porterville	0.83	2.90	3.83	4.16	4.51	4.90	490.4%
State Hospital	1.09	3.08	4.07	4.42	4.80	5.20	377.1%
Industrial – per hcf	0.93	2.60	3.44	3.74	4.05	4.40	373.1%
Septic Tanks – per 1,000 gallons	22.70	130.50	172.90	187.60	203.55	220.85	872.9%

4.3 Alternative 3: Residential Consolidation-Based Sewer Rates

Alternative 3 of this Study represents sewer rates with a uniform residential rate. Alternative 3 existing and proposed Residential and Non-Residential rates are shown in Table 21 and Table 22, respectively. Please note that Non-Residential sewer rates under Alternative 3 remain constant with those sewer rates presented under Alternatives 1 and 2.

Table 21 Alternative 3 – Existing and Proposed Residential Sewer Rates

Residential Customer Classes	FYE 2023 (Existing)	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	5-Year Cumulative Increase
Single Family Residential	\$26.87	\$29.55	\$39.10	\$42.40	\$46.00	\$49.90	85.7%
Multifamily Residential	25.52	29.55	39.10	42.40	46.00	49.90	95.5%
Trailer Park	25.52	29.55	39.10	42.40	46.00	49.90	95.5%

Table 22 Alternative 3 – Existing and Proposed Non-Residential Sewer Rates

Non-Residential – per hcf Customer Classes	FYE 2023 (Existing)	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	5-Year Cumulative Increase
Car Wash, Laundry, Packing House	\$0.96	\$2.66	\$3.52	\$3.82	\$4.14	\$4.50	368.8%
Bars, Hotels w/o Dining	1.22	3.43	4.54	4.93	5.34	5.80	375.4%
Stores, Offices, Markets	1.04	2.90	3.83	4.16	4.51	4.90	371.2%
Hospital, Rest Homes	1.09	3.08	4.07	4.42	4.80	5.20	377.1%
Multi-Unit with Cons.	1.19	3.37	4.46	4.84	5.25	5.70	379.0%
Mortuaries	1.95	9.81	13.00	14.10	15.30	16.60	751.3%
Service Stations and Auto Repairs	1.36	3.80	5.04	5.47	5.93	6.43	372.8%
Restaurants	2.97	8.63	11.44	12.41	13.46	14.61	391.9%
Churches	0.42	2.90	3.83	4.16	4.51	4.90	1,066.7%
Schools	0.30	2.51	3.32	3.60	3.91	4.24	1,313.3%
City of Porterville	0.83	2.90	3.83	4.16	4.51	4.90	490.4%
State Hospital	1.09	3.08	4.07	4.42	4.80	5.20	377.1%
Industrial – per hcf	0.93	2.60	3.44	3.74	4.05	4.40	373.1%
Septic Tanks – per 1,000 gallons	22.70	130.50	172.90	187.60	203.55	220.85	872.9%

5.0 Customer Bill Impacts

The following graphs depict the monthly bill for each residential customer class under Alternatives 1, 2, and 3. Additionally, the monthly bill for restaurants is highlighted as an example under the commercial classes.

5.1 Single Family Residential

Figure 2 through Figure 4 illustrate the bill impact under each rate structure alternative for Single Family Residential customers. Both alternatives assess this charge on a per unit basis regardless of contributed flows. Figure 5 compares the single-family residential bill under each alternative.

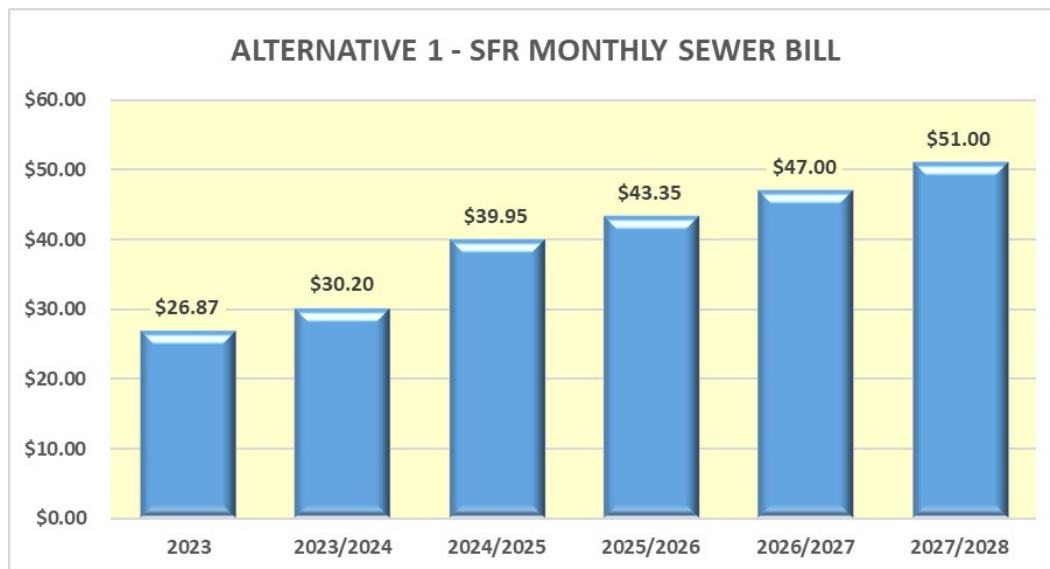


Figure 2 Alternative 1 Single Family Residential Monthly Bill

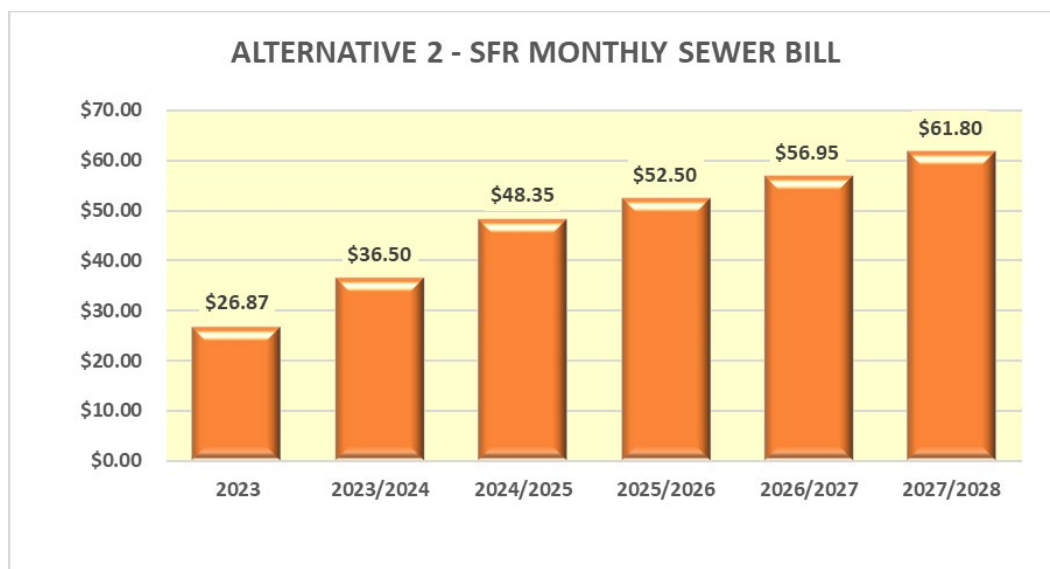


Figure 3 Alternative 2 Single Family Residential Monthly Bill

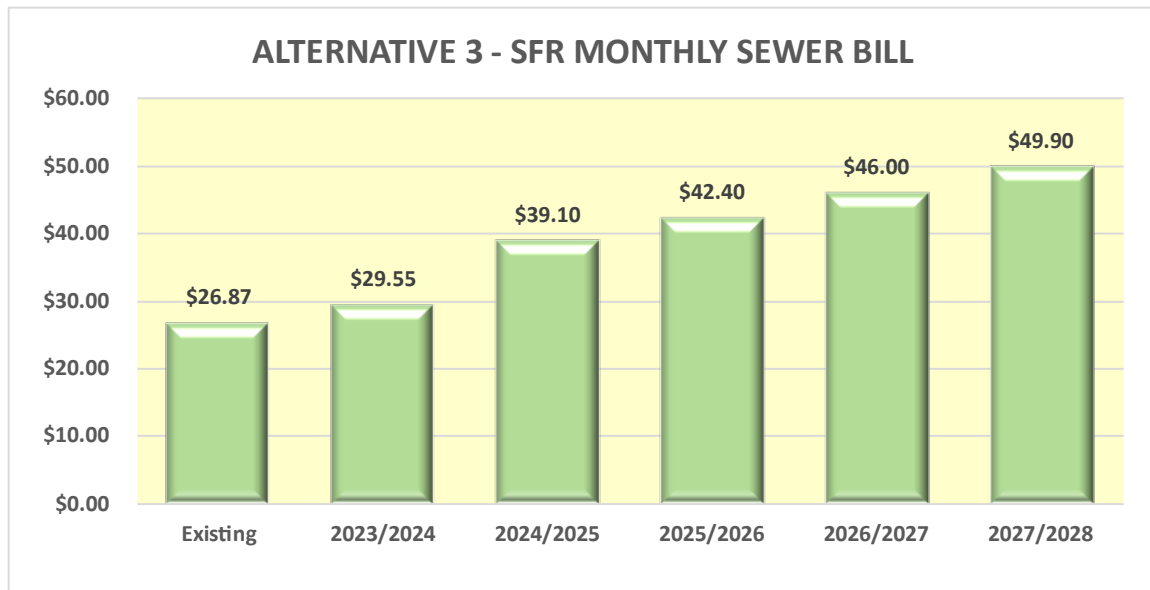


Figure 4 Alternative 3 Single Family Residential Monthly Bill

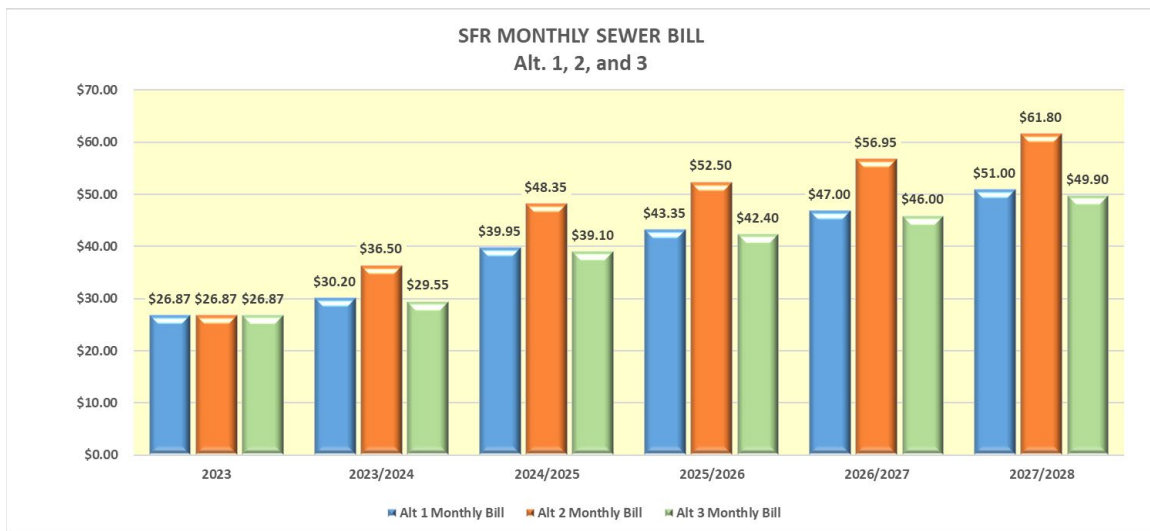


Figure 5 Single Family Residential Monthly Bill Comparison

5.2 Multi-Family Residential and Trailer Parks

Figures 6 through Figure 8 illustrate bill impacts under each rate structure alternative for multifamily residential and trailer park customers.

Similar to single family residential, this charge is assessed on a per unit or per space basis, respectively, for multifamily residential and trailer park customers. Figure 9 compares the bill impacts under the three alternatives.

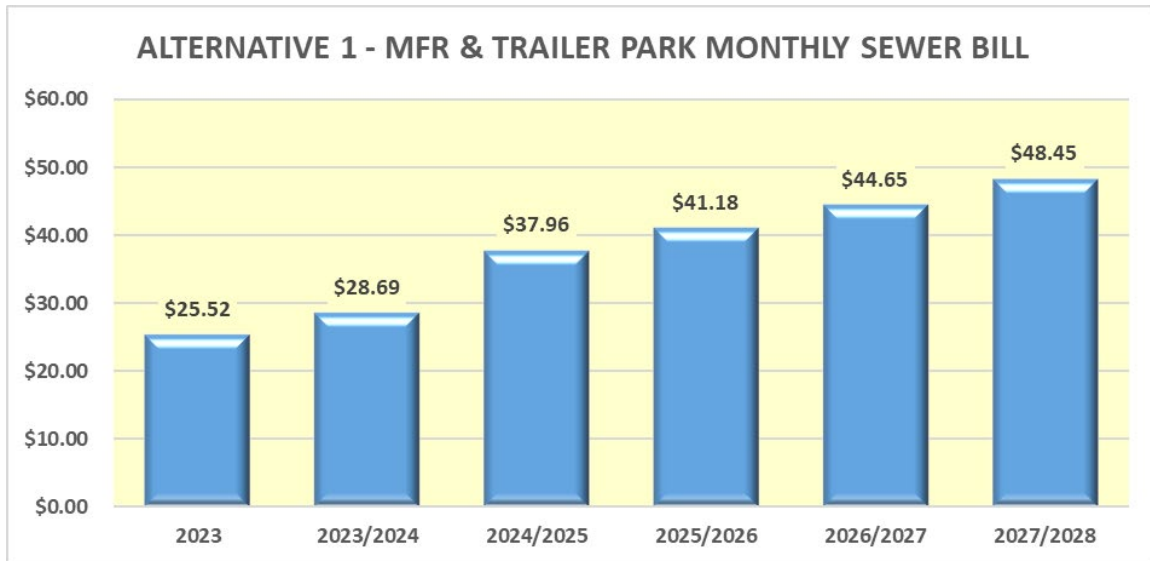


Figure 6 Alternative 1 Multifamily and Trailer Park Monthly Bill

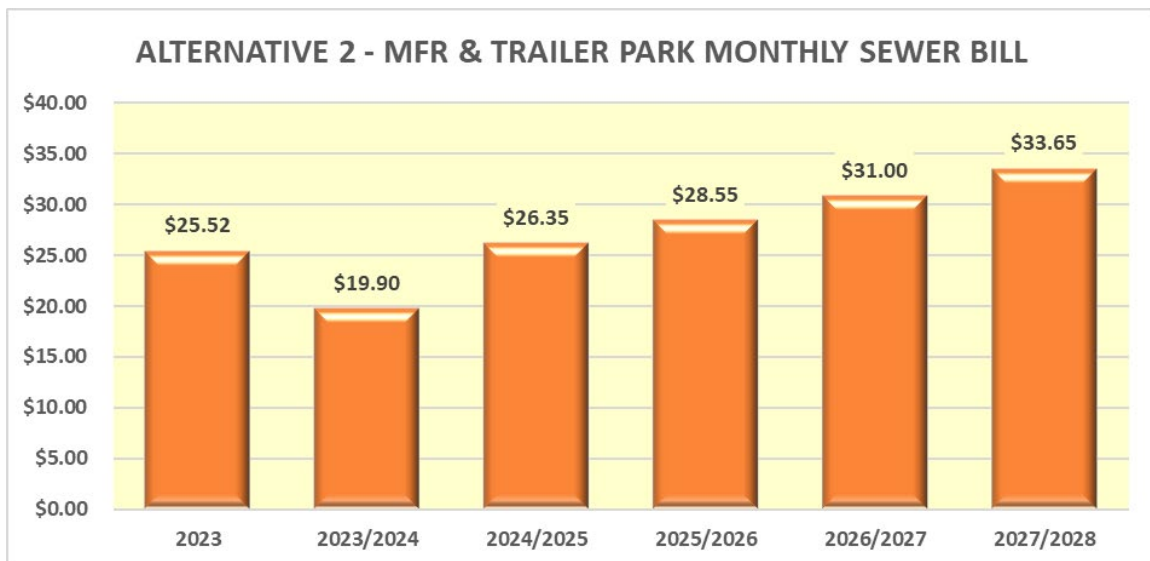


Figure 7 Alternative 2 Multifamily and Trailer Park Monthly Bill

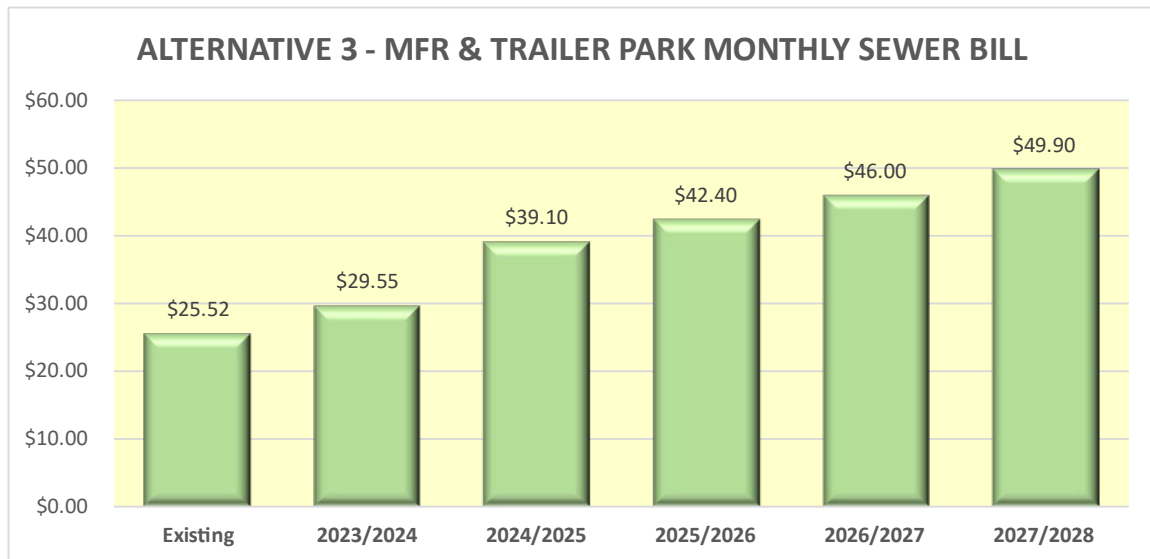


Figure 8 Alternative 3 Multifamily and Trailer Park Monthly Bill

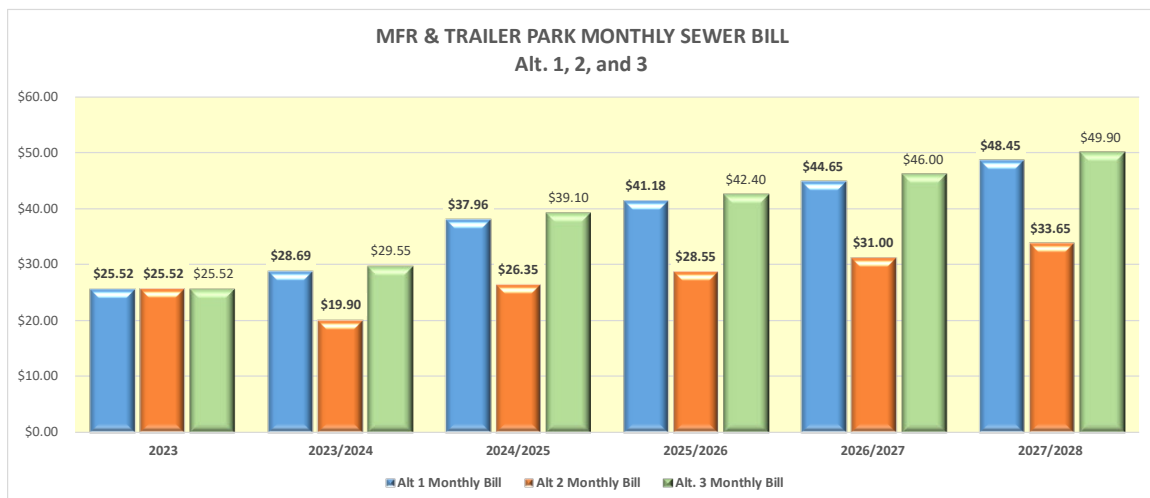


Figure 9 Multifamily and Trailer Park Monthly Bill Comparison

5.3 Commercial

Strictly for illustration purposes, Carollo reviewed the bill impact based on a hypothetical commercial customer classified under “Restaurants” and assumed a monthly flow of 15 hundred cubic feet (HCF), as shown in Figure 10. Unlike residential customers, commercial class customers are billed volumetrically per HCF, with the sole exception of septic tank haulers who are assessed on a per thousand-gallon basis.

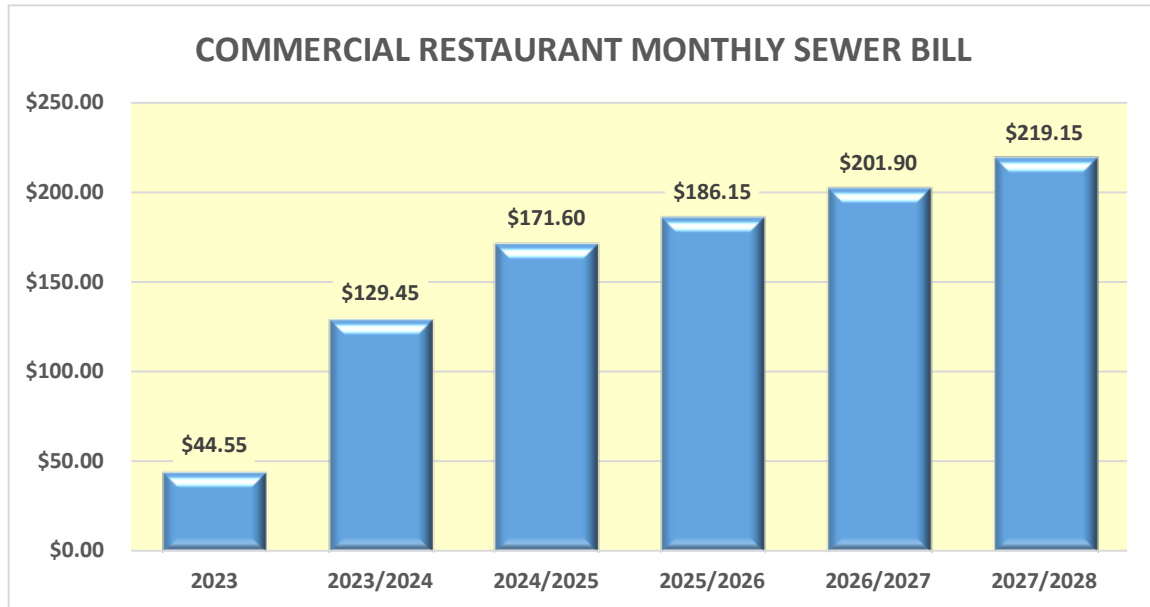


Figure 10 Commercial Restaurant Monthly Sewer Bill (Assumes 15 HCF)

6.0 Findings and Recommendations

Based on the data, assumptions, and approaches detailed in the previous sections, Carollo recommends the following:

6.1 Revenue Requirements

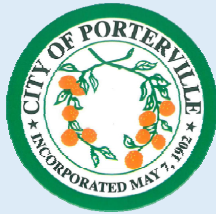
Revenue under existing rates is insufficient to cover operating and capital costs, debt payments, and debt service coverage throughout the study period (FY 2021 – FY 2031). As such, Carollo recommends the City increases wastewater rate revenue by 32.5 percent annually starting in FY 2024 and continuing through FY 2025, then reduce the rate revenue increase to 8.5 percent annually from FY 2026 through FY 2028, and lastly implement 3.0 percent annual rate revenue increases throughout the remainder of the study period (through FY 2031). These annual rate revenue increases will provide adequate revenue to address annual debt service coverage issues in the later years of the rate-setting period while also providing the City with future financial capacity to address unexpected operational and capital costs.

6.2 Alternative 2 – Cost of Service Based Sewer Rates

Carollo recommends the cost of service-based sewer rates presented under Alternative 2 for all customer classes as shown in Table 23 and Table 24. These rates ensure each customer class pays their fair and proportionate share of costs. These rates are supported by the cost-of-service analysis and further adhere to California State legal requirements, including Proposition 218.

Appendix A

REVENUE REQUIREMENTS, COST OF SERVICE ANALYSIS, & RATE DESIGN SCHEDULES



City of Porterville

2020 Sewer Rate Study

Assumptions

Escalator	Constant	Meter Size	MEUs	Months	% of Revenue	% of Sales
Operations	3.0%	5/8"	1	July	100%	8.3%
Labor	3.0%	3/4"	1.5	August	92%	8.3%
Energy	3.0%	1"	2	September	83%	8.3%
Chemicals	3.0%	1.5"	4.5	October	75%	8.3%
Construction / Capital	3.0%	2"	6.5	November	67%	8.3%
Water Cost	3.0%	3"	14	December	58%	8.3%
Account Growth	0.5%	4"	24.5	January	50%	8.3%
Metered Water Demand	0.5%	6"	53.5	February	42%	8.3%
No Increase	0.0%	8"	91.5	March	33%	8.3%
Inflation + Growth	3.5%	10"	137.5	April	25%	8.3%
Metered Demand + Growth	1.0%	12"	201.5	May	17%	8.3%
Fire Demand	0.0%			June	8%	8.3%
Interest	1.0%					
Utilities + Delivered Water Demand	3.5%					
Capacity Maintenance	2.4%					
Developer Fees	1.0%					
Property Taxes	1%					
One time revenue	-100%					
One time expense	-100%					

Future Debt Issue Term	20 years
Future Debt Interest Rate	4.25%
Future Issue Cost	1.5%

Current Debt DSCR	1.25x
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Operating Fund Target	90 days
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City of Porterville
2020 Sewer Rate Study
Revenue Requirement

	Budget		Forecasted -->						
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	
Cash Flow Test									
Operating Revenues									
Charges for Services	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	
Total Operating Revenues	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	
Non-Operating Revenues									
Other Revenues	\$ 846,596	\$ 855,844	\$ 865,284	\$ 874,923	\$ 884,765	\$ 894,816	\$ 905,082	\$ 915,569	
Total Non-Operating Revenues	\$ 846,596	\$ 855,844	\$ 865,284	\$ 874,923	\$ 884,765	\$ 894,816	\$ 905,082	\$ 915,569	
Total Revenues	\$ 8,213,858	\$ 8,223,105	\$ 8,232,546	\$ 8,242,185	\$ 8,252,027	\$ 8,262,078	\$ 8,272,344	\$ 8,282,831	
Operating Expenses									
Total Sewer Operating System	\$ 1,368,902	\$ 1,409,969	\$ 1,452,268	\$ 1,495,836	\$ 1,540,711	\$ 1,586,933	\$ 1,634,541	\$ 1,683,577	
Total Water Conservation Plant	3,024,857	3,115,603	3,209,071	3,305,343	3,404,503	3,506,638	3,611,837	3,720,193	
Total Industrial Pre-Treatment	148,001	152,378	156,886	161,530	166,313	171,239	176,313	181,540	
Total Laboratory	477,075	491,387	506,129	521,313	536,952	553,061	569,652	586,742	
Total Stormwater O&M	-	265,115	273,068	281,261	289,698	298,389	307,341	316,561	
Total Operating Expenses	\$ 5,018,835	\$ 5,434,452	\$ 5,597,423	\$ 5,765,282	\$ 5,938,178	\$ 6,116,260	\$ 6,299,685	\$ 6,488,612	
Non-Operating Expenses									
Total Interfund Transfers	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	
Debt Service	2,231,098	2,209,113	2,187,309	4,592,148	6,999,501	6,998,695	6,997,275	7,000,322	
Rate Funded Capital (PAYGO)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,460,483	\$ 2,772,404	\$ 1,329,036	
Total Non-Operating Expenses	\$ 2,831,098	\$ 2,809,113	\$ 2,787,309	\$ 5,192,148	\$ 7,599,501	\$ 9,059,178	\$ 10,369,679	\$ 8,929,358	
	\$ 363,924	\$ (20,460)	\$ (152,186)	\$ (2,715,246)	\$ (5,285,653)	\$ (5,452,878)	\$ (5,624,616)	\$ (5,806,104)	
Policy Expenditures									
Additional Expenditures	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Additions to Meet Minimum Fund Balances	\$ -	\$ -	\$ 40,185	\$ 233,760	\$ 597,278	\$ 359,955	\$ 652,253	\$ 1,236,717	
Total Policy Expenditures	\$ -	\$ -	\$ 40,185	\$ 233,760	\$ 597,278	\$ 359,955	\$ 652,253	\$ 1,236,717	
Additional Expenditures OVERRIDE									
Additions to Meet Minimum Fund Balances OVERRIDE									
Total Expenses	\$ 7,849,933	\$ 8,243,565	\$ 8,424,916	\$ 11,191,191	\$ 14,134,957	\$ 15,535,393	\$ 17,321,618	\$ 16,654,688	
Cash Flow Surplus / (Deficit)	\$ 363,924	\$ (20,460)	\$ (192,370)	\$ (2,949,006)	\$ (5,882,931)	\$ (7,273,315)	\$ (9,049,274)	\$ (8,371,857)	



City of Porterville

2020 Sewer Rate Study

Revenue Requirement

	Budget		Forecasted -->					
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Reserves Target Test								
Ending Operating Fund Balance	\$ 1,363,038	\$ 1,340,002	\$ 1,187,816	\$ 866,930	\$ 1,148,164	\$ 901,094	\$ 363,215	\$ 2,278,975
Days of O&M Expenditures	100 days	90 days	78 days	55 days	71 days	54 days	22 days	129 days
Operating Reserve Balance Above / (Under) Target	\$ 125,517	\$ -	\$ (192,370)	\$ (554,646)	\$ (316,044)	\$ (607,025)	\$ (1,190,132)	\$ 679,043

Debt Coverage Test

Revenues									
Sewer Sales	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262
Total Non-Operating Revenues	846,596	855,844	865,284	874,923	884,765	894,816	905,082	915,569	
Total Revenues	\$ 8,213,858	\$ 8,223,105	\$ 8,232,546	\$ 8,242,185	\$ 8,252,027	\$ 8,262,078	\$ 8,272,344	\$ 8,282,831	
Expenses									
Sewer Expenses	\$ 5,018,835	\$ 5,434,452	\$ 5,597,423	\$ 5,765,282	\$ 5,938,178	\$ 6,116,260	\$ 6,299,685	\$ 6,488,612	
Debt Service	2,231,098	2,209,113	2,187,309	4,592,148	6,999,501	6,998,695	6,997,275	7,000,322	
Debt Coverage	1.25x	557,775	552,278	546,827	1,148,037	1,749,875	1,749,674	1,749,319	1,750,081
Total Expenses	\$ 7,807,708	\$ 8,195,843	\$ 8,331,559	\$ 11,505,468	\$ 14,687,555	\$ 14,864,629	\$ 15,046,279	\$ 15,239,015	
Current Debt DSCR (Before Rate Adjustment)	1.43x	1.26x	1.20x	0.54x	0.33x	0.31x	0.28x	0.26x	
Debt Coverage Surplus / (Deficit)	\$ 406,150	\$ 27,262	\$ (99,013)	\$ (3,263,283)	\$ (6,435,528)	\$ (6,602,551)	\$ (6,773,935)	\$ (6,956,185)	

Revenue Requirement

Revenue Surplus/(Shortfalls)	\$ 363,924	\$ (20,460)	\$ (192,370)	\$ (3,263,283)	\$ (6,435,528)	\$ (7,273,315)	\$ (9,049,274)	\$ (8,371,857)
	Surplus	Cash Flow Driven	Cash Flow Driven	Coverage Driven	Coverage Driven	Cash Flow Driven	Cash Flow Driven	Cash Flow Driven
Revenue Increase Month	July	July	July	July	July	July	July	July
Calculated Rate Increase	0.3%	2.7%	44.3%	87.4%	98.8%	122.9%	113.7%	
Rate Increase Override	0.0%	0.0%	32.5%	32.5%	8.5%	8.5%	8.5%	
Utilized Rate Increase	0.0%	0.0%	32.5%	32.5%	8.5%	8.5%	8.5%	
Cumulative Rate Increase	0.0%	0.0%	32.5%	75.6%	90.5%	106.7%	124.2%	



City of Porterville

2020 Sewer Rate Study

Revenue Requirement

	Budget		Forecasted -->						
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	
Resulting Cash Flows									
Rate Revenues before Rate Increase	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262
Rate Revenues from Rate Increase	-	-	-	2,394,360	5,566,887	6,666,290	7,859,141	9,153,386	
NON-Operating Revenues	846,596	855,844	865,284	874,923	884,765	894,816	905,082	915,569	
Less: Rate Increase Delay	-	-	-	-	-	-	-	-	
Less: Expenditures	(7,849,933)	(8,243,565)	(8,424,916)	(11,191,191)	(14,134,957)	(15,535,393)	(17,321,618)	(16,654,688)	
Resulting Cash Flow	\$ 363,924	\$ (20,460)	\$ (192,370)	\$ (554,646)	\$ (316,044)	\$ (607,025)	\$ (1,190,132)	\$ 781,528	
Rate Revenue Requirement	\$ 7,367,262	\$ 7,367,262	\$ 7,367,262	\$ 9,761,622	\$ 12,934,148	\$ 14,033,551	\$ 15,226,403	\$ 16,520,647	
DSCR (after increase)	1.81x	1.65x	1.60x	1.25x	1.25x	1.39x	1.53x	1.69x	



* assuming no rate increase and the same number of units and usage



City of Porterville

2020 Sewer Rate Study

Operations & Maintenance Expenses

		Budget		Forecasted -->							
		Growth Factor	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Expenses											
Sewer Operating System											
Personnel Services											
5030-060-010	Salaries, Regular	Labor	\$ 176,270	\$ 275,560	\$ 283,827	\$ 292,342	\$ 301,112	\$ 310,145	\$ 319,450	\$ 329,033	\$ 338,904
5030-060-020	Salaries, Part-time	Labor	-	6,000	6,180	6,365	6,556	6,753	6,956	7,164	7,379
5030-060-030	Salaries, Overtime	Labor	8,932	9,000	9,270	9,548	9,835	10,130	10,433	10,746	11,069
5030-060-090	Benefits	Labor	98,782	140,990	145,220	149,576	154,064	158,685	163,446	168,349	173,400
Total Personnel Services			\$ 283,984	\$ 431,550	\$ 444,497	\$ 457,831	\$ 471,566	\$ 485,713	\$ 500,285	\$ 515,293	\$ 530,752
Maintenance											
5030-060-110	Vehicle Maintenance	Operations	\$ 148,149	\$ 150,000	\$ 154,500	\$ 159,135	\$ 163,909	\$ 168,826	\$ 173,891	\$ 179,108	\$ 184,481
5030-060-120	Building/Grounds Maintenance	Operations	19,061	4,000	4,120	4,244	4,371	4,502	4,637	4,776	4,919
5030-060-140	Computer Equipment Maintenance	Operations	6,661	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149
5030-060-190	Other Equipment Maintenance	Operations	25,924	31,000	31,930	32,888	33,875	34,891	35,937	37,016	38,126
Total Maintenance			\$ 199,795	\$ 190,000	\$ 195,700	\$ 201,571	\$ 207,618	\$ 213,847	\$ 220,262	\$ 226,870	\$ 233,676
Services											
5030-060-220	Printing/Copying	Operations	\$ 8,279	\$ 8,300	\$ 8,549	\$ 8,805	\$ 9,070	\$ 9,342	\$ 9,622	\$ 9,911	\$ 10,208
5030-060-230	Professional/Temp Service	Operations	4,862	15,000	15,450	15,914	16,391	16,883	17,389	17,911	18,448
5030-060-260	Rent of Property & Equipment	Operations	707	2,000	2,060	2,122	2,185	2,251	2,319	2,388	2,460
5030-060-280	Administrative Expense	Operations	128,610	131,500	135,445	139,508	143,694	148,004	152,445	157,018	161,728
Total Services			\$ 142,458	\$ 156,800	\$ 161,504	\$ 166,349	\$ 171,340	\$ 176,480	\$ 181,774	\$ 187,227	\$ 192,844
Supplies & Materials											
5030-060-320	Office/Computer Supplies	Operations	\$ 2,215	\$ 3,000	\$ 3,090	\$ 3,183	\$ 3,278	\$ 3,377	\$ 3,478	\$ 3,582	\$ 3,690
5030-060-340	Maintenance and Repair Material	Operations	34,537	45,000	46,350	47,741	49,173	50,648	52,167	53,732	55,344
5030-060-350	Tools/Equipment	Operations	2,592	2,500	2,575	2,652	2,732	2,814	2,898	2,985	3,075
Total Supplies & Materials			\$ 39,344	\$ 50,500	\$ 52,015	\$ 53,575	\$ 55,183	\$ 56,838	\$ 58,543	\$ 60,300	\$ 62,109
Other Operating Costs											
5030-060-410	Meeting Expense	Operations	\$ 383	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5030-060-420	Utilities	Operations	68,888	69,875	71,971	74,130	76,354	78,645	81,004	83,434	85,937
5030-060-430	Uniform Allowance	Operations	1,238	3,000	3,090	3,183	3,278	3,377	3,478	3,582	3,690
5030-060-440	Training Expense	Operations	341	3,000	3,090	3,183	3,278	3,377	3,478	3,582	3,690
5030-060-450	Publication and Dues	Operations	410	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230
5030-060-460	Postage	Operations	31,220	32,050	33,012	34,002	35,022	36,073	37,155	38,269	39,417
Total Other Operating Costs			\$ 102,480	\$ 108,925	\$ 112,193	\$ 115,559	\$ 119,025	\$ 122,596	\$ 126,274	\$ 130,062	\$ 133,964
Risk Management Expenses											
5030-060-520	Insurance, Liability	Operations	\$ 26,400	\$ 26,400	\$ 27,192	\$ 28,008	\$ 28,848	\$ 29,713	\$ 30,605	\$ 31,523	\$ 32,469
Total Risk Management Expenses			\$ 26,400	\$ 26,400	\$ 27,192	\$ 28,008	\$ 28,848	\$ 29,713	\$ 30,605	\$ 31,523	\$ 32,469
Other Expenses											
5030-060-660	Other Expense	Operations	2,160	12,000	12,360	12,731	13,113	13,506	13,911	14,329	14,758
5030-060-670	Franchise Fee	Operations	332,727	332,727	342,709	352,990	363,580	374,487	385,722	397,293	409,212
Total Other Expenses			\$ 334,887	\$ 344,727	\$ 355,069	\$ 365,721	\$ 376,693	\$ 387,993	\$ 399,633	\$ 411,622	\$ 423,971



			Budget		Forecasted -->							
Growth Factor			FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	
5030-060-730	Capital Outlay											
	Other Machinery/Equipment	Construction / Capital	\$ 53,436	\$ 60,000	\$ 61,800	\$ 63,654	\$ 65,564	\$ 67,531	\$ 69,556	\$ 71,643	\$ 73,792	
Total Capital Outlay			\$ 53,436	\$ 60,000	\$ 61,800	\$ 63,654	\$ 65,564	\$ 67,531	\$ 69,556	\$ 71,643	\$ 73,792	
Total Sewer Operating System			\$ 1,182,784	\$ 1,368,902	\$ 1,409,969	\$ 1,452,268	\$ 1,495,836	\$ 1,540,711	\$ 1,586,933	\$ 1,634,541	\$ 1,683,577	
			6%	16%	3%	3%	3%	3%	3%	3%	3%	
Water Conservation Plant												
Personnel Services												
5030-065-010	Salaries, Regular	Labor	\$ 451,815	\$ 537,103	\$ 553,216	\$ 569,813	\$ 586,907	\$ 604,514	\$ 622,650	\$ 641,329	\$ 660,569	
5030-065-030	Salaries, Overtime	Labor	20,637	20,000	20,600	21,218	21,855	22,510	23,185	23,881	24,597	
5030-065-090	Benefits	Labor	264,961	313,914	323,331	333,031	343,022	353,313	363,912	374,830	386,075	
Total Personnel Services			\$ 737,413	\$ 871,017	\$ 897,148	\$ 924,062	\$ 951,784	\$ 980,337	\$ 1,009,747	\$ 1,040,040	\$ 1,071,241	
Maintenance												
5030-065-110	Vehicle Maintenance	Operations	\$ 102,834	\$ 112,000	\$ 115,360	\$ 118,821	\$ 122,385	\$ 126,057	\$ 129,839	\$ 133,734	\$ 137,746	
5030-065-120	Building/Grounds Maintenance	Operations	13,801	25,000	25,750	26,523	27,318	28,138	28,982	29,851	30,747	
5030-065-140	Computer Equipment Maintenance	Operations	12,468	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	
5030-065-190	Other Equipment Maintenance	Operations	53,444	19,000	19,570	20,157	20,762	21,385	22,026	22,687	23,368	
Total Maintenance			\$ 182,547	\$ 161,000	\$ 165,830	\$ 170,805	\$ 175,929	\$ 181,207	\$ 186,643	\$ 192,242	\$ 198,010	
Services												
5030-065-220	Printing/Copying	Operations	\$ 661	\$ 700	\$ 721	\$ 743	\$ 765	\$ 788	\$ 811	\$ 836	\$ 861	
5030-065-230	Professional/Temp Service	Operations	383,749	500,000	515,000	530,450	546,364	562,754	579,637	597,026	614,937	
5030-065-260	Rent of Property & Equipment	Operations	29,039	35,000	36,050	37,132	38,245	39,393	40,575	41,792	43,046	
5030-065-280	Administrative Expense	Operations	524,654	525,000	540,750	556,973	573,682	590,892	608,619	626,877	645,684	
Total Services			\$ 938,103	\$ 1,060,700	\$ 1,092,521	\$ 1,125,297	\$ 1,159,056	\$ 1,193,827	\$ 1,229,642	\$ 1,266,531	\$ 1,304,527	
Supplies & Materials												
5030-065-320	Office/Computer Supplies	Operations	\$ 2,635	\$ 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	
5030-065-330	Janitorial Supplies	Operations	-	-	-	-	-	-	-	-	-	
5030-065-340	Maintenance and Repair Material	Operations	112,745	152,000	156,560	161,257	166,095	171,077	176,210	181,496	186,941	
5030-065-350	Tools/Equipment	Operations	5,202	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	
Total Supplies & Materials			\$ 120,582	\$ 162,000	\$ 166,860	\$ 171,866	\$ 177,022	\$ 182,332	\$ 187,802	\$ 193,436	\$ 199,240	
Other Operating Costs												
5030-065-410	Meeting Expense	Operations	\$ 297	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
5030-065-420	Utilities	Operations	449,359	451,640	465,189	479,145	493,519	508,325	523,575	539,282	555,460	
5030-065-430	Uniform Allowance	Operations	4,888	6,000	6,180	6,365	6,556	6,753	6,956	7,164	7,379	
5030-065-440	Training Expense	Operations	1,000	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	
5030-065-450	Publication and Dues	Operations	2,709	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	
5030-065-460	Postage	Operations	12	500	515	530	546	563	580	597	615	
5030-065-490	Special Consumables	Operations	161,011	187,000	192,610	198,388	204,340	210,470	216,784	223,288	229,986	
Total Other Operating Costs			\$ 619,276	\$ 655,140	\$ 674,794	\$ 695,038	\$ 715,889	\$ 737,366	\$ 759,487	\$ 782,271	\$ 805,740	
Risk Management Expenses												
5030-065-520	Insurance, Liability	Operations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Risk Management Expenses			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	



City of Porterville

2020 Sewer Rate Study

Operations & Maintenance Expenses

		Growth Factor		Budget		Forecasted -->					
			FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
5030-065-660	Other Expenses										
	Other Expense	Operations	93	20,000	20,600	21,218	21,855	22,510	23,185	23,881	24,597
	Total Other Expenses		\$ 93	\$ 20,000	\$ 20,600	\$ 21,218	\$ 21,855	\$ 22,510	\$ 23,185	\$ 23,881	\$ 24,597
5030-065-730	Capital Outlay										
	Other Machinery/Equipment	Construction / Capital	92,152	95,000	97,850	100,786	103,809	106,923	110,131	113,435	116,838
	Total Capital Outlay		\$ 92,152	\$ 95,000	\$ 97,850	\$ 100,786	\$ 103,809	\$ 106,923	\$ 110,131	\$ 113,435	\$ 116,838
Total Water Conservation Plant			\$ 2,690,166	\$ 3,024,857	\$ 3,115,603	\$ 3,209,071	\$ 3,305,343	\$ 3,404,503	\$ 3,506,638	\$ 3,611,837	\$ 3,720,193
			4%	12%	3%	3%	3%	3%	3%	3%	3%
Industrial Pre-Treatment											
Personnel Services											
5030-066-010	Salaries, Regular	Labor	33,567	46,538	47,934	49,372	50,853	52,379	53,950	55,569	57,236
5030-066-090	Benefits	Labor	15,884	23,263	23,961	24,680	25,420	26,183	26,968	27,777	28,611
Total Personnel Services			\$ 49,451	\$ 69,801	\$ 71,895	\$ 74,052	\$ 76,273	\$ 78,562	\$ 80,918	\$ 83,346	\$ 85,846
Maintenance											
5030-066-110	Vehicle Maintenance	Operations	8,991	9,000	9,270	9,548	9,835	10,130	10,433	10,746	11,069
5030-066-120	Building/Grounds Maintenance	Operations	35,880	40,000	41,200	42,436	43,709	45,020	46,371	47,762	49,195
5030-066-190	Other Equipment Maintenance	Operations	-	2,000	2,060	2,122	2,185	2,251	2,319	2,388	2,460
Total Maintenance			\$ 44,871	\$ 51,000	\$ 52,530	\$ 54,106	\$ 55,729	\$ 57,401	\$ 59,123	\$ 60,897	\$ 62,724
Services											
5030-066-230	Professional/Temp Service	Operations	13,136	20,000	20,600	21,218	21,855	22,510	23,185	23,881	24,597
Total Services			\$ 13,136	\$ 20,000	\$ 20,600	\$ 21,218	\$ 21,855	\$ 22,510	\$ 23,185	\$ 23,881	\$ 24,597
Supplies & Materials											
5030-066-320	Office/Computer Supplies	Operations	-	-	-	-	-	-	-	-	-
5030-066-340	Maintenance and Repair Material	Operations	658	500	515	530	546	563	580	597	615
5030-066-350	Tools/Equipment	Operations	-	300	309	318	328	338	348	358	369
Total Supplies & Materials			\$ 658	\$ 800	\$ 824	\$ 849	\$ 874	\$ 900	\$ 927	\$ 955	\$ 984
Other Operating Costs											
5030-066-420	Utilities	Operations	1,592	1,600	1,648	1,697	1,748	1,801	1,855	1,910	1,968
5030-066-430	Uniform Allowance	Operations	-	50	52	53	55	56	58	60	61
5030-066-440	Training Expense	Operations	-	1,500	1,545	1,591	1,639	1,688	1,739	1,791	1,845
5030-066-450	Publication and Dues	Operations	89	150	155	159	164	169	174	179	184
Total Other Operating Costs			\$ 1,681	\$ 3,300	\$ 3,399	\$ 3,501	\$ 3,606	\$ 3,714	\$ 3,826	\$ 3,940	\$ 4,059
Risk Management Expenses											
5030-066-520	Insurance, Liability	Operations	2,100	2,100	2,163	2,228	2,295	2,364	2,434	2,508	2,583
Total Risk Management Expenses			\$ 2,100	\$ 2,100	\$ 2,100	\$ 2,100	\$ 2,100	\$ 2,100	\$ 2,100	\$ 2,100	\$ 2,100
Other Expenses											
5030-066-660	Other Expense	Operations	-	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230
Total Other Expenses			\$ -	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230



City of Porterville

2020 Sewer Rate Study

Operations & Maintenance Expenses

		Budget		Forecasted -->								
		Growth Factor	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	
Capital Outlay												
5030-066-730	Other Machinery/Equipment	Operations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Outlay			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Industrial Pre-Treatment												
			70%	32%	3%	3%	3%	3%	3%	3%	3%	3%
Laboratory												
Personnel Services												
5030-068-010	Salaries, Regular	Labor	\$ 166,865	\$ 205,852	\$ 212,028	\$ 218,388	\$ 224,940	\$ 231,688	\$ 238,639	\$ 245,798	\$ 253,172	
5030-068-030	Salaries, Overtime	Labor	1,336	1,400	1,442	1,485	1,530	1,576	1,623	1,672	1,722	
5030-068-090	Benefits	Labor	86,201	108,603	111,861	115,217	118,673	122,234	125,901	129,678	133,568	
Total Personnel Services			\$ 254,402	\$ 315,855	\$ 325,331	\$ 335,091	\$ 345,143	\$ 355,498	\$ 366,163	\$ 377,147	\$ 388,462	
Maintenance												
5030-068-110	Vehicle Maintenance	Operations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5030-068-120	Building/Grounds Maintenance	Operations	5,580	6,350	6,541	6,737	6,939	7,147	7,361	7,582	7,810	
5030-068-190	Other Equipment Maintenance	Operations	25,320	35,320	36,380	37,471	38,595	39,753	40,946	42,174	43,439	
Total Maintenance			\$ 30,900	\$ 41,670	\$ 42,920	\$ 44,208	\$ 45,534	\$ 46,900	\$ 48,307	\$ 49,756	\$ 51,249	
Services												
5030-068-220	Printing/Copying	Operations	\$ 256	\$ 300	\$ 309	\$ 318	\$ 328	\$ 338	\$ 348	\$ 358	\$ 369	
5030-068-230	Professional/Temp Service	Operations	17,111	17,000	17,510	18,035	18,576	19,134	19,708	20,299	20,908	
5030-068-260	Rent of Property & Equipment	Operations	3,231	4,000	4,120	4,244	4,371	4,502	4,637	4,776	4,919	
Total Services			\$ 20,598	\$ 21,300	\$ 21,939	\$ 22,597	\$ 23,275	\$ 23,973	\$ 24,693	\$ 25,433	\$ 26,196	
Supplies & Materials												
5030-068-320	Office/Computer Supplies	Operations	\$ 2,031	\$ 2,100	\$ 2,163	\$ 2,228	\$ 2,295	\$ 2,364	\$ 2,434	\$ 2,508	\$ 2,583	
5030-068-330	Janitorial Supplies	Operations	-	-	-	-	-	-	-	-	-	
5030-068-340	Maintenance and Repair Material	Operations	138	200	206	212	219	225	232	239	246	
5030-068-350	Tools/Equipment	Operations	-	1,500	1,545	1,591	1,639	1,688	1,739	1,791	1,845	
Total Supplies & Materials			\$ 2,169	\$ 3,800	\$ 3,914	\$ 4,031	\$ 4,152	\$ 4,277	\$ 4,405	\$ 4,537	\$ 4,674	
Other Operating Costs												
5030-068-420	Utilities	Operations	\$ 18,017	\$ 19,000	\$ 19,570	\$ 20,157	\$ 20,762	\$ 21,385	\$ 22,026	\$ 22,687	\$ 23,368	
5030-068-430	Uniform Allowance	Operations	416	600	618	637	656	675	696	716	738	
5030-068-440	Training Expense	Operations	-	2,500	2,575	2,652	2,732	2,814	2,898	2,985	3,075	
5030-068-450	Publication and Dues	Operations	1,304	1,400	1,442	1,485	1,530	1,576	1,623	1,672	1,722	
5030-068-460	Postage	Operations	137	250	258	265	273	281	290	299	307	
5030-068-490	Special Consumables	Operations	55,436	63,000	64,890	66,837	68,842	70,907	73,034	75,225	77,482	
Total Other Operating Costs			\$ 75,310	\$ 86,750	\$ 89,353	\$ 92,033	\$ 94,794	\$ 97,638	\$ 100,567	\$ 103,584	\$ 106,692	
Risk Management Expenses												
5030-068-520	Insurance, Liability	Operations	\$ 4,200	\$ 4,200	\$ 4,326	\$ 4,456	\$ 4,589	\$ 4,727	\$ 4,869	\$ 5,015	\$ 5,165	
Total Risk Management Expenses			\$ 4,200	\$ 4,200	\$ 4,326	\$ 4,456	\$ 4,589	\$ 4,727	\$ 4,869	\$ 5,015	\$ 5,165	



City of Porterville

2020 Sewer Rate Study

Operations & Maintenance Expenses

			Budget		Forecasted -->						
		Growth Factor	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
5030-068-660	Other Expenses										
	Other Expense	Operations	\$ 546	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230
	Total Other Expenses		\$ 546	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194	\$ 1,230
5030-068-730	Capital Outlay										
	Other Machinery/Equipment	Operations	\$ 2,242	\$ 2,500	\$ 2,575	\$ 2,652	\$ 2,732	\$ 2,814	\$ 2,898	\$ 2,985	\$ 3,075
	Total Capital Outlay		\$ 2,242	\$ 2,500	\$ 2,575	\$ 2,652	\$ 2,732	\$ 2,814	\$ 2,898	\$ 2,985	\$ 3,075
Total Laboratory			\$ 390,367	\$ 477,075	\$ 491,387	\$ 506,129	\$ 521,313	\$ 536,952	\$ 553,061	\$ 569,652	\$ 586,742
			-1%	22%	3%	3%	3%	3%	3%	3%	3%
Interfund Transfers											
4210	Transfers from Other Funds	No Increase	\$ 3,892	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4210	Transfers to Other Funds	No Increase	(730,570)	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000
Total Interfund Transfers			\$ (726,678)	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000
Stormwater O&M											
TBD	Stormwater Operation & Maintenance	Operations			\$ 265,115	\$ 273,068	\$ 281,261	\$ 289,698	\$ 298,389	\$ 307,341	\$ 316,561
Total Stormwater O&M			\$ -	\$ -	\$ 265,115	\$ 273,068	\$ 281,261	\$ 289,698	\$ 298,389	\$ 307,341	\$ 316,561
Total Expenses			\$ 3,648,536	\$ 5,618,835	\$ 6,034,452	\$ 6,197,423	\$ 6,365,282	\$ 6,538,178	\$ 6,716,260	\$ 6,899,685	\$ 7,088,612
			70%	54%	7%	3%	3%	3%	3%	3%	3%



FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
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SRF	\$ 207,000	\$ 121,000	\$ 195,438	\$ 164,954	\$ 82,553	\$ 85,236	\$ 88,006	\$ 90,866
Sewer Bond Refi	-	2,955,000	3,050,000	3,050,000	2,580,000	2,420,000	-	-
Developer Fees	321,198	554,223	200,000	207,000	214,000	221,000	229,000	237,000
Unfunded	-	4,388,000	5,746,000	3,045,000	2,682,350	2,783,642	3,188,263	1,738,911
WWTFR	5,085,261	1,261,928	84,590	30,687,340	30,090,178	93,109	96,135	99,259
Capital Funding Needs	\$ 5,613,459	\$ 9,280,151	\$ 9,276,028	\$ 37,154,294	\$ 35,649,081	\$ 5,602,987	\$ 3,601,404	\$ 2,166,036

[illegible]

Sewer Operating Fund	\$	2,382,042	\$	1,363,038	\$	1,340,002	\$	1,187,816	\$	866,930	\$	1,148,164	\$	901,094	\$	363,215	\$	2,278,975
Wastewater Treatment Facility Capital Fund (WWTFR)		7,436,799		8,998,727		3,530,376		727,786		1,884,371		1,629,290		727,786		727,786		830,271
Sewer Revolving Fund (SRF)		6,153,740		6,574,740		6,877,317		4,253,879		1,800,000		1,800,000		1,800,000		1,800,000		1,893,819
Ending Balance - All Funds	\$	15,972,581	\$	16,936,505	\$	11,747,695	\$	6,169,481	\$	4,551,301	\$	4,577,454	\$	3,428,880	\$	2,891,001	\$	5,003,065
<i>Interest Earnings</i>	<i>\$</i>	<i>-</i>	<i>\$</i>	<i>164,545</i>	<i>\$</i>	<i>143,421</i>	<i>\$</i>	<i>89,586</i>	<i>\$</i>	<i>53,604</i>	<i>\$</i>	<i>45,644</i>	<i>\$</i>	<i>40,032</i>	<i>\$</i>	<i>31,599</i>	<i>\$</i>	<i>39,470</i>

[illegible]



City of Porterville

2020 Sewer Rate Study

Reserves & CIP Funding Plan

Projected

Forecasted -->

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Sewer Operating Fund									
Beginning Balance	\$ 2,362,470	\$ 2,382,042	\$ 1,363,038	\$ 1,340,002	\$ 1,187,816	\$ 866,930	\$ 1,148,164	\$ 901,094	\$ 363,215
Addition to meet min. balance	-	-	-	40,185	233,760	597,278	359,955	652,253	1,236,717
Cash Flows	1,610,244	363,924	(20,460)	(192,370)	(554,646)	(316,044)	(607,025)	(1,190,132)	781,528
Ending Balance Prior to Year End Transfers	\$ 3,972,714	\$ 2,745,966	\$ 1,342,579	\$ 1,187,816	\$ 866,930	\$ 1,148,164	\$ 901,094	\$ 363,215	\$ 2,381,460
Year End Transfers									
Transfers From/(To) WWTRF		(1,261,928)	(2,577)	-	-	-	-	-	(102,485)
Transfers From/(To) SRF		(121,000)							
Ending Balance	\$ 2,382,042	\$ 1,363,038	\$ 1,340,002	\$ 1,187,816	\$ 866,930	\$ 1,148,164	\$ 901,094	\$ 363,215	\$ 2,278,975
<i>Days of O&M Expenditures</i>	199 days	100 days	90 days	78 days	55 days	71 days	54 days	22 days	129 days
<i>Minimum Target</i>	\$ 1,078,820	\$ 1,237,521	\$ 1,340,002	\$ 1,380,186	\$ 1,421,576	\$ 1,464,208	\$ 1,508,119	\$ 1,553,347	\$ 1,599,932
<i>Maximum Target</i>	\$ 2,157,640	\$ 2,475,042	\$ 2,680,004	\$ 2,760,373	\$ 2,843,153	\$ 2,928,416	\$ 3,016,238	\$ 3,106,694	\$ 3,199,864
Interest Earnings		\$ 18,725	\$ 13,515	\$ 12,639	\$ 10,274	\$ 10,075	\$ 10,246	\$ 6,322	\$ 13,211
Wastewater Treatment Facility Capital Fund (WWTRF)									
Beginning Balance	\$ 6,048,218	\$ 7,436,799	\$ 8,998,727	\$ 3,530,376	\$ 727,786	\$ 1,884,371	\$ 1,629,290	\$ 727,786	\$ 727,786
Unused Bond Proceeds		-	-	-	1,156,585	901,504	-	-	-
Transfer From Sewer Operating Fund		300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Less: Use of Funds	-	-	(5,770,928)	(3,102,590)	(300,000)	(1,456,585)	(1,201,504)	(300,000)	(300,000)
Ending Balance Prior to Year End Transfers	\$ 6,048,218	\$ 7,736,799	\$ 3,527,799	\$ 727,786	\$ 1,884,371	\$ 1,629,290	\$ 727,786	\$ 727,786	\$ 727,786
Year End Transfers									
Transfer (To)/From Operating (Year End)		\$ 1,261,928	\$ 2,577	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 102,485
Ending Balance	\$ 7,436,799	\$ 8,998,727	\$ 3,530,376	\$ 727,786	\$ 1,884,371	\$ 1,629,290	\$ 727,786	\$ 727,786	\$ 830,271
<i>Minimum Target</i>	\$ 427,786	\$ 427,786	\$ 427,786	\$ 427,786	\$ 427,786	\$ 427,786	\$ 427,786	\$ 427,786	\$ 427,786
<i>Maximum Target</i>	\$ 855,572	\$ 855,572	\$ 855,572	\$ 855,572	\$ 855,572	\$ 855,572	\$ 855,572	\$ 855,572	\$ 855,572
Interest Earnings		\$ 82,178	\$ 62,646	\$ 21,291	\$ 13,061	\$ 17,568	\$ 11,785	\$ 7,278	\$ 7,790
Sewer Revolving Fund (SRF)									
Beginning Balance	\$ 5,749,619	\$ 6,153,740	\$ 6,574,740	\$ 6,877,317	\$ 4,253,879	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000
Transfer From Sewer Operating Fund		300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Less: Use of Funds	-	-	-	(2,923,438)	(2,753,879)	(300,000)	(300,000)	(300,000)	(300,000)
Ending Balance Prior to Year End Transfers	\$ 5,749,619	\$ 6,453,740	\$ 6,874,740	\$ 4,253,879	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000
Year End Transfers									
Transfers From/(To) Operating Reserve		\$ 121,000	\$ 2,577	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 93,819
Ending Balance	\$ 6,153,740	\$ 6,574,740	\$ 6,877,317	\$ 4,253,879	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000	\$ 1,893,819
<i>Minimum Target</i>	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000
<i>Maximum Target</i>									
Interest Earnings		\$ 63,642	\$ 67,260	\$ 55,656	\$ 30,269	\$ 18,000	\$ 18,000	\$ 18,000	\$ 18,469



City of Porterville

2020 Sewer Rate Study

Debt Service

	FYE 2020	FYE 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
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Debt Service Summary

Current Debt									
Principal Payment	\$ 724,000	\$ 919,000	\$ 1,028,000	\$ 1,138,000	\$ 1,176,000	\$ 1,221,000	\$ 1,265,000	\$ 1,310,000	\$ 1,360,000
Interest Payment	1,222,494	1,312,098	1,181,113	1,049,309	1,009,114	964,432	919,626	873,206	826,253
Total Current Debt Service	\$ 1,946,494	\$ 2,231,098	\$ 2,209,113	\$ 2,187,309	\$ 2,185,114	\$ 2,185,432	\$ 2,184,626	\$ 2,183,206	\$ 2,186,253
Future Debt									
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ 1,047,035	\$ 2,138,568	\$ 2,229,458	\$ 2,324,210	\$ 2,422,988
Interest Payment	-	-	-	-	1,360,000	2,675,501	2,584,612	2,489,860	2,391,081
Total Future Debt Service	\$ -	\$ -	\$ -	\$ -	\$ 2,407,035	\$ 4,814,069	\$ 4,814,069	\$ 4,814,069	\$ 4,814,069
All Debt									
Principal Payment	\$ 724,000	\$ 919,000	\$ 1,028,000	\$ 1,138,000	\$ 2,223,035	\$ 3,359,568	\$ 3,494,458	\$ 3,634,210	\$ 3,782,988
Interest Payment	1,222,494	1,312,098	1,181,113	1,049,309	2,369,114	3,639,933	3,504,238	3,363,066	3,217,334
Total Debt Service	\$ 1,946,494	\$ 2,231,098	\$ 2,209,113	\$ 2,187,309	\$ 4,592,148	\$ 6,999,501	\$ 6,998,695	\$ 6,997,275	\$ 7,000,322

Current Debt Service

2018 Installment Sale Agreement (Refunding 2011 A Revenue Bond)									
Principal Payment	\$ 514,000	\$ 699,000	\$ 798,000	\$ 898,000	\$ 926,000	\$ 961,000	\$ 995,000	\$ 1,030,000	\$ 1,065,000
Interest Payment	866,571	836,698	714,513	591,909	561,314	526,632	492,226	456,606	420,853
Total Debt Service	\$ 1,380,571	\$ 1,535,698	\$ 1,512,513	\$ 1,489,909	\$ 1,487,314	\$ 1,487,632	\$ 1,487,226	\$ 1,486,606	\$ 1,485,853
2019 Sewer Revenue Certificates of Participation (2019 Financing Project)									
Principal Payment	\$ 210,000	\$ 220,000	\$ 230,000	\$ 240,000	\$ 250,000	\$ 260,000	\$ 270,000	\$ 280,000	\$ 295,000
Interest Payment	355,923	475,400	466,600	457,400	447,800	437,800	427,400	416,600	405,400
Total Debt Service	\$ 565,923	\$ 695,400	\$ 696,600	\$ 697,400	\$ 697,800	\$ 697,800	\$ 697,400	\$ 696,600	\$ 700,400



City of Porterville

2020 Sewer Rate Study

Debt Service

	FYE 2020	FYE 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
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Future Revenue Bond Issuance

Debt Issuance Input	\$ -	\$ -	\$ -	\$ -	\$ 32,000,000	\$ 32,000,000	\$ -	\$ -	\$ -
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2020 Issue		1	2	3	4	5	6	7	8	9
Principal Payment	20 years	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	4.25%	-	-	-	-	-	-	-	-	-
Total Debt Service		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

2021 Issue		1	2	3	4	5	6	7	8
Principal Payment	20 years	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	4.25%	-	-	-	-	-	-	-	-
Total Debt Service		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

2022 Issue		1	2	3	4	5	6	7
Principal Payment	20 years	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	4.25%	-	-	-	-	-	-	-
Total Debt Service		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

2023 Issue		1	2	3	4	5	6
Principal Payment	20 years	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	4.25%	-	-	-	-	-	-
Total Debt Service		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

2024 Issue		1	2	3	4	5
Principal Payment	20 years	\$ 1,047,035	\$ 1,091,534	\$ 1,137,924	\$ 1,186,286	\$ 1,236,703
Interest Payment	4.25%	1,360,000	1,315,501	1,269,111	1,220,749	1,170,332
Total Debt Service		\$ 2,407,035	\$ 2,407,035	\$ 2,407,035	\$ 2,407,035	\$ 2,407,035

2025 Issue		1	2	3	4
Principal Payment	20 years	\$ 1,047,035	\$ 1,091,534	\$ 1,137,924	\$ 1,186,286
Interest Payment	4.25%	1,360,000	1,315,501	1,269,111	1,220,749
Total Debt Service		\$ 2,407,035	\$ 2,407,035	\$ 2,407,035	\$ 2,407,035



Sewer Infrastructure CIP

Phase III - Putnam/RR to Plano
Phase IV - Baker/Murry
Phase V - Murry/Harrison to Putnam
Phase VI - Roche/Alley/Henrahan

Total Sewer Replacement Program	\$	107,000	\$	46,000	\$	118,000	\$	85,000	\$	-	\$	-	\$	-	\$	-
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- *Area 1 (456A & 457) Poplar/Brown/Wisconsin/Jaye St
- *Area 5 (456B & 456C) Olive/Center/Cloverleaf/Jaye St
- >Annexation 474 - Beverly Grand Area Boyles/Beverly/Prospect/Maston Sts
- >Annexation 475 - Westfield/Jaye Area Villa/Woods/Jaye/Mulberry
- >Annexation 476 - Akin/Ponca Area Yates/Worth/3rd/4th/Lincoln/Gibbons
- >Annexation 478 - Cobb/Dogwood Areas Cobb/Dogwood/Elderwood/Putnam
- >Annexation 479 - Robb Island Area Atkins/Lucy/Waukesha/Maston/Cobb/ S

Total Island Annexation Sewer Projects	\$	-	\$	2,955,000	\$	3,050,000	\$	3,050,000	\$	2,580,000	\$	2,420,000	\$	-	\$	-
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Lift Station Upgrade
Main St. @ SR 190 Casing (Poplar conn)
Main St. @ SR 190 Vandalia Ave Pipe (Poplar conn)
Mathew St Capacity Analysis - Lift St. No. 11 Mulberry to Henderson
Mulberry (Los Robles east)
Newcomb - Henderson south to Grand Ave. - Pipe
Hwy 190 - Jaye St. to E. St. - Pipe
Hwy 190 - E. St. to Main St. - Pipe
Vandalia Ave. - Main St. to Plano St. - Pipe

Total Other Projects	\$	115,000	\$	939,000	\$	473,438	\$	79,954	\$	173,553	\$	229,787	\$	88,006	\$	90,866
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SRF	\$	207,000	\$	121,000	\$	195,438	\$	164,954	\$	82,553	\$	85,236	\$	88,006	\$	90,866
Sewer Bond Refi		-		2,955,000		3,050,000		3,050,000		2,580,000		2,420,000		-		-
Developer Fees		15,000		361,000		-		-		-		-		-		-
Unfunded		-		503,000		396,000		-		91,000		144,551		-		-
Total Sewer Infrastructure CIP	\$	222,000	\$	3,940,000	\$	3,641,438	\$	3,214,954	\$	2,753,553	\$	2,649,787	\$	88,006	\$	90,866

TRUE TRUE TRUE TRUE TRUE TRUE TRUE



City of Porterville

2020 Sewer Rate Study

Capital Improvement Plan

Project Description

Funding Source

FY 2021

FY 2022

FY 2023

FY 2024

FY 2025

FY 2026

FY 2027

FY 2028

Wastewater Treatment Facility CIP

Other Projects

Blower Building Floor Coating/Noise Attenuation	WWTFR	\$	125,000										
Canopy for dewatering equipment	WWTFR		24,928										
Digester #2 and #3 Repairs, incl wastegas flare replacement and piping	WWTFR		2,477,475										
Digester Cleaning/Coating/Equipment Replacement	WWTFR		79,349	81,928	84,590	87,340	90,178	93,109	96,135	99,259			
Effluent Outfall Pump Replacement	WWTFR					600,000							
Emergency Generator for WWTF (200kW)	WWTFR		150,000										
Manhole 10A Inspection/Repair	WWTFR		99,760										
Reclamation Area Pipeline Installation	WWTFR		100,000										
Septic Station Retrofit	WWTFR		70,000										
Sludge/Grit Staging Area	WWTFR		300,000										
Sludge Line - Westwood Bridge over Tule River	WWTFR			30,000									
WAS Pump Replacement	WWTFR		300,000										
Wastewater Needs Assessment and Master Plan	WWTFR		38,828										
Total Other Projects		\$	3,765,340	\$ 111,928	\$ 84,590	\$ 687,340	\$ 90,178	\$ 93,109	\$ 96,135	\$ 99,259			

Digester #1 and #4 Repairs

Digester Design	WWTFR	\$	325,000										
Digester Construction	Unfunded			1,500,000									
Total Digester #1 and #4 Repairs		\$	325,000	\$ 1,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Odor Control Project - Phase 2

Odor Control Design	WWTFR		\$ 250,000										
Odor Control Construction	Unfunded			1,750,000									
Total Odor Control Project - Phase 2		\$	-	\$ 250,000	\$ 1,750,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Office Building Repair

Office Building - Design	WWTFR	\$	200,000										
Office Building - Relocation to temp structure	WWTFR		50,000										
Office Building - Remediation and Demolition	WWTFR		100,000										
Office Building - Construction	WWTFR			700,000									
Total Office Building Repair		\$	350,000	\$ 700,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Plant #2 Evaluation & Repairs

Plant #2 - Evaluation	WWTFR	\$	25,000										
Plant #2 - Design	WWTFR		125,000										
Plant #2 - Construction	Unfunded			400,000									
Total Plant #2 Evaluation & Repairs		\$	150,000	\$ 400,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Plant #1 Evaluation & Repairs

Plant #1 - Evaluation	Unfunded		\$ 25,000										
Plant #1 - Design incl re-asphalt	Unfunded		\$ 125,000										
Plant #1 - Construction incl asphalt repairs	Unfunded			600,000									
Total Plant #1 Evaluation & Repairs		\$	-	\$ 150,000	\$ 600,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -



City of Porterville

2020 Sewer Rate Study

Capital Improvement Plan

Project Description	Funding Source	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Tertiary Treatment									
Tertiary Treatment - CEQA	WWTFR	\$ 269,921							
Tertiary Treatment - Property Acquisition	WWTFR	\$ 200,000							
Tertiary Treatment - Design	Unfunded		585,000	1,500,000	1,500,000	1,000,000			
Tertiary Treatment - Nitrification/De-nitrification Project - Consultant Service	WWTFR		200,000		30,000,000	30,000,000			
Tertiary Treatment - Nitrification/De-nitrification Project - Construction	Unfunded								
Tertiary Treatment - Construction / Sludge bed Relocation	Unfunded						1,000,000	1,500,000	
Total Tertiary Treatment		\$ 469,921	\$ 785,000	\$ 1,500,000	\$ 31,500,000	\$ 31,000,000	\$ 1,000,000	\$ 1,500,000	\$ -
Wastewater Treatment Facility CIP by Funding Source									
WWTFR		\$ 5,060,261	\$ 1,261,928	\$ 84,590	\$ 30,687,340	\$ 30,090,178	\$ 93,109	\$ 96,135	\$ 99,259
Unfunded		-	2,635,000	3,850,000	1,500,000	1,000,000	1,000,000	1,500,000	-
Total Wastewater Treatment Facility CIP		\$ 5,060,261	\$ 3,896,928	\$ 3,934,590	\$ 32,187,340	\$ 31,090,178	\$ 1,093,109	\$ 1,596,135	\$ 99,259
		TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
Master Plans									
MASTER PLANS - Sewer Master Plan Payback	Developer Fees	\$ 187,141	\$ 193,223	\$ 200,000	\$ 207,000	\$ 214,000	\$ 221,000	\$ 229,000	\$ 237,000
MASTER PLANS - Master Plan Update	Developer Fees	71,533							
MASTER PLANS - Comprehensive Impact Fee Study	Developer Fees	47,524							
MASTER PLANS - Comprehensive Impact Fee Study	WWTFR	25,000							
Total Master Plans		\$ 331,198	\$ 193,223	\$ 200,000	\$ 207,000	\$ 214,000	\$ 221,000	\$ 229,000	\$ 237,000
Stormwater Capital Projects									
STORMWATER - Programmed Capital Project Budget	Unfunded	\$ -	\$ 1,250,000	\$ 1,500,000	\$ 1,545,000	\$ 1,591,350	\$ 1,639,091	\$ 1,688,263	\$ 1,738,911
Total Stormwater Capital Projects		\$ -	\$ 1,250,000	\$ 1,500,000	\$ 1,545,000	\$ 1,591,350	\$ 1,639,091	\$ 1,688,263	\$ 1,738,911



City of Porterville
2020 Sewer Rate Study
Capital Improvement Plan

Asset #	Description	Acq date	ENR-CCI	Total Life	Acquisition Cost	Salvage Value	Other Period Accumulated Depreciation	Current Period Depreciation	Net Value	Trended Depreciation	Replacement Cost New Less Depreciation (RCNLD)
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Assets Summary

Total Sewer System					\$ 41,605,682	\$ -	\$ 5,994,939	\$ 11,599,242	\$ 24,011,502	\$ 57,970,875	\$ 42,778,613
2602	Grit Collector Rehab	6/30/1999	1.92	240	\$ 31,775	\$ -	\$ 3,177	\$ 28,597	\$ -	\$ 60,937	\$ -
5695	Chlorine Building	6/30/1999	1.92	600	279,583	-	11,183	75,488	192,912	166,215	369,961
6545	1998 Ford F-150 Pickup	2/10/1998	1.96	60	15,890	-	10,593	5,297	-	31,189	-
6896-1	2003Freightliner 5-7 Ton Dump Truck	7/1/2014	1.18	84	63,044	-	-	63,044	-	74,702	-
6935-1	ISO Model 6700FR Refrigerated Composite Sa	9/22/1999	1.92	60	13,007	-	4,553	8,455	-	24,945	-
6939-1	Repair 125hp Effluent Pump	11/9/1999	1.92	60	15,193	-	5,064	10,129	-	29,137	-
6940-1	Digester waste Gas Burner	6/1/2000	1.87	60	3,629	-	786	2,843	-	6,778	-
6983	Effluent Flow meter 24" 150 psi Outfall Line	6/9/2000	1.87	60	2,955	-	640	2,315	-	5,519	-
7046	Land- Newcomb/Morton	7/1/1953	19.37	-	22,000	-	-	-	22,000	-	426,058
7047	Land- Newcomb/Morton	7/2/1953	19.37	-	22,000	-	-	-	22,000	-	426,058
7048	Land- Newcomb/Morton	7/3/1953	19.37	-	22,000	-	-	-	22,000	-	426,058
7049	Land- Newcomb/Morton	7/4/1953	19.37	-	22,000	-	-	-	22,000	-	426,058
7050	Land- Prospect/Morton	7/5/1953	19.37	-	5,500	-	-	-	5,500	-	106,515
7144	Gantry Crane	9/6/2000	1.87	60	1,483	-	247	1,236	-	2,769	-
7188	Land- Underhill Property 12261 Road 216	11/3/2000	1.87	-	748,877	-	-	-	748,877	-	1,398,775
7191	Storage Building	6/30/2001	1.83	480	19,696	-	-	8,863	10,833	16,259	19,873
7360	169 Acres land- Nuckols Property (302-010-0-	6/30/2003	1.74	-	1,144,912	-	-	-	1,144,912	-	1,987,097
7365	Cast Iron Case Pump	10/24/2002	1.78	120	9,799	-	-	9,799	-	17,416	-
7369	Percolation Pond on the Underhill Property (8	6/30/2003	1.74	-	376,541	-	-	-	376,541	-	653,521
7369-1	Percolation Pond on the Underhill Property (F	6/30/2004	1.63	-	34,746	-	-	-	34,746	-	56,744
7371	Monitoring Well FY2003 #89-9674	6/30/2003	1.74	600	128,288	-	-	41,052	87,236	71,249	151,407
7450	Effluent Manhole- Teapot Dome (89-9695)	6/30/2004	1.63	480	24,724	-	-	9,272	15,453	15,142	25,236
7483	Land- Hunsaker Property (163.4 acres for Perc	10/8/2004	1.63	-	743,829	-	-	-	743,829	-	1,214,775
7513	Upgrade SCADA	6/30/2006	1.50	60	43,927	-	-	43,927	-	65,849	-
7514	Sludge Drying Beds Expansion	6/30/2006	1.50	600	863,485	-	-	224,506	638,979	336,549	957,872
7581	2008 Ford F150 4x2 Regular Cab Shortbed Pick	4/17/2008	1.40	60	14,178	-	-	14,178	-	19,823	-
7605	2008 Ford F350 with 12' Flatbed and Crane (EC	5/2/2008	1.40	84	33,744	-	-	33,744	-	47,179	-
7616	Waukesha Model#VGS11GSID Standby Engine	11/28/2007	1.46	120	282,788	-	-	282,788	-	412,236	-
7668	Rotary Screw Air Compressor and Refrigeratec	6/30/2009	1.36	120	17,318	-	-	17,318	-	23,481	-
7669	Rotary Screw Air Compressor and Refrigeratec	6/30/2009	1.36	120	17,318	-	-	17,318	-	23,481	-
7670	Orival Electric Filter with 500micron Screen an	7/30/2008	1.40	120	8,911	-	-	8,911	-	12,459	-
7671	Air Conditioning Unit for Headquarters Building	7/1/2008	1.40	120	7,152	-	-	7,152	-	9,999	-
7672	Air Conditioning Unit for Outfall Building	7/1/2008	1.40	120	7,152	-	-	7,152	-	9,999	-
7702	Reclamation Road 216 Pipeline and Weir	6/30/2010	1.32	480	161,723	-	-	36,387	125,336	48,025	165,422
7739	2011Kawasaki KAF400ABFL Mule Off-Road EQ	4/13/2011	1.28	60	9,394	-	-	9,394	-	12,035	-
7746	5 Ton 14Seer Trane HVAC - WWTF Control Bui	5/31/2011	1.28	120	13,000	-	-	10,508	2,492	13,462	3,192
7747	5 Ton 14Seer Trane HVAC - WWTF Control Bui	5/31/2011	1.28	120	13,000	-	-	10,508	2,492	13,462	3,192
7748	3 1/2 Ton 14 Seer Trane HVAC - WWTF Sludge	5/31/2011	1.28	120	5,400	-	-	4,365	1,035	5,592	1,326
7749	150 hp Turbine Pump with 150' Column (Recla	1/30/2011	1.28	120	23,157	-	-	19,491	3,667	24,970	4,697
7847	12" Henke Blade & JRB Hyd Coupler for WWTF	6/14/2013	1.22	60	28,643	-	-	28,643	-	34,861	-
8044	2018 Peterbilt 348 Dump Truck EQ36879	11/28/2017	1.08	120	134,593	-	-	21,310	113,282	23,062	122,595
8046	Sewage Plant	7/1/1953	19.37	600	858,755	-	825,020	33,735	-	16,630,897	-
8057	Super Shredder SS6-8000 Lower walks in-line I	1/16/2018	1.05	60	17,239	-	-	5,172	12,067	5,432	12,676
8066	2018 Ford F250 4x2 Crew Cab Pickup Truck EQ	3/14/2018	1.05	60	28,508	-	-	7,602	20,906	7,986	21,960
8099	Triple Seal System Submersible Mixer XRW 30	11/12/2018	1.05	60	7,376	-	-	984	6,393	1,033	6,715
8114	John Deere TE 4x2 Electric Utility Vehicle EQ#	4/15/2019	1.03	60	14,632	-	-	732	13,900	754	14,317
8122	World Lift WRTD60 Forklift EQ#6882	4/30/2019	1.03	120	49,795	-	-	830	48,965	855	50,434
8137	2019 John Deere 624L Wheel loader EQ#6884	6/27/2019	1.03	84	201,464	-	-	-	201,464	-	207,508
8139	Boiler Trerice - 3 way Valve Model # 940E-25K	6/28/2019	1.03	60	10,054	-	-	-	10,054	-	10,356
8257	Effluent Outfall System	1/1/1986	2.71	360	118,275	-	60,897	57,378	-	319,983	-
8258	Monitoring Wells	7/1/1986	2.71	360	3,265	-	1,629	1,636	-	8,833	-
8277	Outfall To Drying Creek	6/1/1989	2.52	600	419,182	-	101,303	150,905	166,974	635,017	420,411
8281	Industrial Monitoring Manholes	6/1/1989	2.52	600	20,625	-	4,984	7,425	8,216	31,243	20,686
8285	Replace RAS Motor and Drive	6/1/1989	2.52	120	13,615	-	13,615	-	-	34,281	-
89-9623	WWTF Bar Screen and Auger Conveyor	10/31/2010	1.32	480	408,681	-	-	88,072	320,609	116,240	423,149
89-9636	WWTF Biological Odor Control System	10/16/2018	1.05	240	1,255,346	-	-	47,075	1,208,270	49,449	1,269,194
89-9642	6 inch Transfer Line From Digester 1 to Digest	9/30/2013	1.22	240	128,159	-	-	36,846	91,313	44,846	111,138
89-9650	WWTF Telemetry and SCADA Hardware Syster	6/5/2015	1.16	120	194,295	-	-	79,337	114,958	91,863	133,107
89-9658	Digester Mixing Pump and Valves	4/9/2016	1.12	120	51,514	-	-	16,742	34,772	18,817	39,082
89-9659	Influent Pump Station, 4 Flygt Pumps, and VFC	4/30/2014	1.18	300	928,900	-	-	191,972	736,927	227,469	873,189
89-9675	Reclamation Area Monitor Well	1/31/2011	1.28	480	28,621	-	-	6,023	22,599	7,716	28,952
89-9683	DAFT - Chain, Drive, and Flights	8/28/2014	1.18	240	109,761	-	-	26,526	83,236	31,430	98,626
89-9694	WWTF Operations Building Reroof With Polyu	6/30/2011	1.28	240	67,377	-	-	26,951	40,426	34,528	51,791
9015-10	Land - Grand Ave (APN#251-350-016)	6/30/2019	1.03	-	301,285	-	-	-	301,285	-	310,324
9064	Sewer Lift Station /wt cons plit	7/1/1972	6.63	600	15,000	-	8,687	5,411	902	93,446	5,981
9087	Sewage Plant Addition	6/1/1979	3.87	600	5,078,995	-	2,234,488	1,833,697	1,010,810	15,741,386	3,911,218
9088	Sewer Plant Piping	6/1/1981	3.29	600	14,809	-	5,923	5,345	3,541	37,039	11,639
9089	Sewage Plant Expansion	6/1/1981	3.29	600	41,736	-	15,690	15,624	102,929	34,260	34,260
9090	Sewage Plant Expansion	6/1/1983	2.86	600	4,080	-	1,469	1,472	1,139	8,405	3,255
9091	Sewage Plant Expansion	6/1/1987	2.64	600	1,893,126	-	529,991	683,001	680,134	3,198,978	1,793,690
9338	Plant Expansion	6/30/1988	2.57	600	51,387	-	13,360	18,500	19,527	81,921	50,210
9602	Sewer Equipment, Miscellaneous Capital Repa	6/30/1992	2.33	120	59,895	-	53,408	6,487	-	139,612	-
9606-1	WWTF Grit System Towers and Barscreens	6/30/2009	1.36	600	1,002,893	-	-	200,579	802,314	271,958	1,087,831
9607	Sludge Bed Expansion - Airpopt	3/31/1997	1.99	360	261,266	-	37,013	156,760	67,494	386,473	134,614
9608	Sewer Manhole, Olive/Wisconsin	6/30/1997	1.99	600	1,752	-	140	631	981	1,537	1,957
9608-09	Effluent Pipeline & Land Leveling at Reclamat	6/30/2009	1.36	600	1,036,610	-	-	207,322	829,288	281,100	1,124,404
9630	Sludge Pond Paving	6/30/1989	2.52	240	37,973	-	20,324	17,649	-	95,609	-
9631	WWTF Flow meter Rehabilitation	6/30/1993	2.23	240	4,951	-	1,980	2,970	-	11,041	-
9635	Digester Rehabilitation	6/30/1991	2.40	480	34,987	-	8,747	15,744	10,496	58,858	25,225
9638	Lift Station Pump Replacement	6/30/1990	2.46	240	36,503	-	20,077	16,426	-	89,637	-
9639-1	WWTF Huber Screw Press Sludge Dewatering	6/30/2017	1.08	480	4,754,075	-	-	237,704	4,516,371	257,245	4,887,659
9646	Outfall Pump Drive	6/30/1991	2.40	120	14,567	-	14,567	-	-	35,008	-
9648	WWTF Expansion Design	6/30/1994	2.15	240	1,227,609	-	429,663	797,945	-	2,637,673	-
9655	Temporary Sludge Beds	6/30/1993	2.23	60	85,604	-	85,604	-	-	190,920	-
9666-1	Franklin Miller Spirallift Washer Grinder Comp	11/29/2017	1.08	120	229,669	-	-	36,364	193,304	39,354	209,196
9673-1	Cleaver Brooks Fire tube Boiler Model #CFC-7C	2/16/2018	1.05	120	82,790	-	-	11,728	71,061	12,320	74,644
9673-2	Cleaver Brooks Fire tube Boiler Model #CFC-7C	2/16/2018	1.05	120	82,790	-	-	11,728	71,061	12,320	74,644
9676	Monitoring Wells	7/1/1995	2.12	600	156,904	-	23,013	54,954	78,937	165,593	167,653
9696	WWTF Expansion From 4MGD to 8MGD	3/31/1996	2.07	600	13,487,974	-	1,416,237	4,855,671	7,216,066	12,967,642	14,919,759
9813	Digester Repair	6/30/2000	1.87	480	123,961	-	3,099	55,782	65,080	109,980	121,558
9814	Digester Repair	6/30/2000	1.87	480	1,086,358	-	27,159	488,861	570,338	963,838	1,065,294
9815	Hydrogen Sulfide Removal System	6/30/2000	1.87	480	24,344	-	609	10,955	12,780	21,599	23,871



City of Porterville

2020 Sewer Rate Study

Usage Forecast

3-yr average

	CY 2017	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022	CY 2023	CY 2024	CY 2025	CY 2026	CY 2027	CY 2028
Retail Usage Summary												
Single Family Residential	2,362,076	2,544,313	1,974,167	2,443,120	2,455,336	2,467,613	2,479,951	2,492,350	2,504,812	2,517,336	2,529,923	2,542,573
Multi-Family Residential	503,318	484,304	405,241	490,570	493,023	495,488	497,966	500,455	502,958	505,472	508,000	510,540
Commercial/Institutional	570,647	606,507	511,233	596,534	599,517	602,514	605,527	608,555	611,597	614,655	617,729	620,817
Industrial	22,068	21,077	12,372	20,730	20,834	20,938	21,043	21,148	21,253	21,360	21,467	21,574
Landscape Irrigation	241,303	279,744	230,431	264,361	265,683	267,012	268,347	269,688	271,037	272,392	273,754	275,123
Other	165,205	180,099	154,814	174,392	175,264	176,140	177,021	177,906	178,796	179,690	180,588	181,491
Total Retail Usage Summary	3,864,617	4,116,044	3,288,258	3,989,708	4,009,657	4,029,705	4,049,854	4,070,103	4,090,453	4,110,906	4,131,460	4,152,117
					0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Single Family Residential												
January	104,360	163,949	72,299	134,155	134,825	135,499	136,177	136,858	137,542	138,230	138,921	139,616
February	96,186	126,931	94,284	111,559	112,116	112,677	113,240	113,806	114,375	114,947	115,522	116,100
March	126,077	129,327	56,319	127,702	128,341	128,982	129,627	130,275	130,927	131,581	132,239	132,900
April	178,891	128,599	54,666	153,745	154,514	155,286	156,063	156,843	157,627	158,415	159,207	160,004
May	223,134	232,216	28,462	227,675	228,813	229,957	231,107	232,263	233,424	234,591	235,764	236,943
June	226,588	281,732	207,213	238,511	239,704	240,902	242,107	243,317	244,534	245,756	246,985	248,220
July	277,166	264,395	270,913	270,825	272,179	273,540	274,907	276,282	277,663	279,052	280,447	281,849
August	275,233	349,428	343,943	322,868	324,482	326,105	327,735	329,374	331,021	332,676	334,339	336,011
September	262,691	274,181	295,157	277,343	278,730	280,123	281,524	282,932	284,346	285,768	287,197	288,633
October	229,824	219,989	232,436	227,416	228,553	229,696	230,845	231,999	233,159	234,325	235,496	236,674
November	215,867	231,877	172,573	206,772	207,806	208,845	209,889	210,939	211,994	213,054	214,119	215,189
December	146,059	141,689	145,902	144,550	145,273	145,999	146,729	147,463	148,200	148,941	149,686	150,434
Total Single Family Residential	2,362,076	2,544,313	1,974,167	2,443,120	2,455,336	2,467,613	2,479,951	2,492,350	2,504,812	2,517,336	2,529,923	2,542,573
Multi-Family Residential												
January	30,905	39,700	26,296	35,303	35,479	35,656	35,835	36,014	36,194	36,375	36,557	36,740
February	30,425	30,437	30,619	30,431	30,583	30,736	30,890	31,044	31,199	31,355	31,512	31,670
March	37,344	31,693	19,066	34,519	34,691	34,865	35,039	35,214	35,390	35,567	35,745	35,924
April	43,309	30,310	17,684	36,810	36,994	37,179	37,364	37,551	37,739	37,928	38,117	38,308
May	46,269	41,871	8,619	44,070	44,290	44,512	44,734	44,958	45,183	45,409	45,636	45,864
June	43,072	47,888	38,790	43,250	43,466	43,684	43,902	44,122	44,342	44,564	44,787	45,011
July	48,970	41,754	41,582	44,102	44,323	44,544	44,767	44,991	45,216	45,442	45,669	45,897
August	47,067	53,884	54,651	51,867	52,127	52,387	52,649	52,912	53,177	53,443	53,710	53,979
September	50,331	46,727	48,850	48,636	48,879	49,124	49,369	49,616	49,864	50,113	50,364	50,616
October	43,521	40,209	43,386	42,372	42,584	42,797	43,011	43,226	43,442	43,659	43,877	44,097
November	46,164	45,564	40,935	44,221	44,442	44,664	44,888	45,112	45,338	45,564	45,792	46,021
December	35,941	34,267	34,763	34,990	35,165	35,341	35,518	35,695	35,874	36,053	36,234	36,415
Total Multi-Family Residential	503,318	484,304	405,241	490,570	493,023	495,488	497,966	500,455	502,958	505,472	508,000	510,540
Commercial/Institutional												
January	31,288	42,385	27,333	36,837	37,021	37,206	37,392	37,579	37,767	37,956	38,145	38,336
February	32,707	37,287	35,638	34,997	35,172	35,348	35,525	35,702	35,881	36,060	36,240	36,422
March	42,149	36,840	21,482	39,495	39,692	39,890	40,090	40,290	40,492	40,694	40,898	41,102
April	47,645	38,652	19,332	43,149	43,364	43,581	43,799	44,018	44,238	44,459	44,682	44,905
May	51,331	55,719	3,001	53,525	53,793	54,062	54,332	54,604	54,877	55,151	55,427	55,704
June	47,919	58,907	52,303	53,043	53,308	53,575	53,843	54,112	54,382	54,654	54,928	55,202
July	52,405	50,231	53,566	52,067	52,328	52,589	52,852	53,117	53,382	53,649	53,917	54,187
August	53,170	72,589	73,512	66,424	66,756	67,090	67,425	67,762	68,101	68,441	68,784	69,128
September	57,967	61,162	69,296	62,808	63,122	63,438	63,755	64,074	64,394	64,716	65,040	65,365
October	55,398	54,983	55,513	55,298	55,574	55,852	56,132	56,412	56,694	56,978	57,263	57,549
November	57,959	60,523	59,036	59,173	59,469	59,766	60,065	60,365	60,667	60,970	61,275	61,581



City of Porterville

2020 Sewer Rate Study

Usage Forecast

3-yr average

	CY 2017	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022	CY 2023	CY 2024	CY 2025	CY 2026	CY 2027	CY 2028
December	40,709	37,229	41,221	39,720	39,918	40,118	40,318	40,520	40,723	40,926	41,131	41,337
Total Commercial/Institutional	570,647	606,507	511,233	596,534	599,517	602,514	605,527	608,555	611,597	614,655	617,729	620,817
Industrial												
January	1,140	1,519	700	1,330	1,336	1,343	1,350	1,356	1,363	1,370	1,377	1,384
February	1,271	1,363	944	1,317	1,324	1,330	1,337	1,344	1,350	1,357	1,364	1,371
March	2,065	1,634	6	1,850	1,859	1,868	1,877	1,887	1,896	1,906	1,915	1,925
April	1,482	1,484	20	1,483	1,490	1,498	1,505	1,513	1,520	1,528	1,536	1,543
May	2,681	2,053	3	2,367	2,379	2,391	2,403	2,415	2,427	2,439	2,451	2,463
June	1,753	1,949	1,370	1,691	1,699	1,708	1,716	1,725	1,733	1,742	1,751	1,759
July	1,416	2,027	1,846	1,763	1,772	1,781	1,790	1,799	1,808	1,817	1,826	1,835
August	2,528	2,505	2,634	2,556	2,568	2,581	2,594	2,607	2,620	2,633	2,646	2,660
September	1,833	1,814	1,448	1,698	1,707	1,715	1,724	1,733	1,741	1,750	1,759	1,767
October	2,100	1,819	1,346	1,755	1,764	1,773	1,781	1,790	1,799	1,808	1,817	1,826
November	2,348	1,825	1,177	1,783	1,792	1,801	1,810	1,819	1,828	1,838	1,847	1,856
December	1,451	1,085	878	1,138	1,144	1,149	1,155	1,161	1,167	1,173	1,178	1,184
Total Industrial	22,068	21,077	12,372	20,730	20,834	20,938	21,043	21,148	21,253	21,360	21,467	21,574
Landscape Irrigation												
January	3,907	11,024	2,441	7,466	7,503	7,540	7,578	7,616	7,654	7,692	7,731	7,769
February	2,821	8,051	3,927	5,436	5,463	5,490	5,518	5,546	5,573	5,601	5,629	5,657
March	3,712	10,898	959	7,305	7,342	7,378	7,415	7,452	7,489	7,527	7,565	7,602
April	14,739	8,463	1,587	11,601	11,659	11,717	11,776	11,835	11,894	11,953	12,013	12,073
May	19,707	22,096	2,189	20,902	21,006	21,111	21,217	21,323	21,429	21,536	21,644	21,752
June	21,709	33,341	23,247	26,099	26,229	26,361	26,492	26,625	26,758	26,892	27,026	27,161
July	34,450	32,246	29,950	32,215	32,376	32,538	32,701	32,864	33,029	33,194	33,360	33,527
August	31,840	41,229	46,287	39,785	39,984	40,184	40,385	40,587	40,790	40,994	41,199	41,405
September	32,614	36,851	43,555	37,673	37,862	38,051	38,241	38,432	38,625	38,818	39,012	39,207
October	30,724	30,584	36,965	32,758	32,921	33,086	33,251	33,418	33,585	33,753	33,922	34,091
November	30,561	31,425	23,349	28,445	28,587	28,730	28,874	29,018	29,163	29,309	29,456	29,603
December	14,519	13,536	15,975	14,677	14,750	14,824	14,898	14,972	15,047	15,123	15,198	15,274
Total Landscape Irrigation	241,303	279,744	230,431	264,361	265,683	267,012	268,347	269,688	271,037	272,392	273,754	275,123
Other												
January	954	3,678	924	2,316	2,328	2,339	2,351	2,363	2,374	2,386	2,398	2,410
February	979	2,709	1,352	1,844	1,853	1,862	1,872	1,881	1,891	1,900	1,910	1,919
March	1,593	2,972	359	2,283	2,294	2,305	2,317	2,328	2,340	2,352	2,364	2,375
April	5,225	3,205	1,095	4,215	4,236	4,257	4,279	4,300	4,321	4,343	4,365	4,387
May	16,940	15,728	203	16,334	16,416	16,498	16,580	16,663	16,746	16,830	16,914	16,999
June	21,425	23,528	19,888	21,614	21,722	21,830	21,939	22,049	22,159	22,270	22,382	22,493
July	25,099	25,788	25,741	25,543	25,670	25,799	25,928	26,057	26,188	26,319	26,450	26,582
August	27,152	32,166	30,578	29,965	30,115	30,266	30,417	30,569	30,722	30,876	31,030	31,185
September	23,881	26,932	27,644	26,152	26,283	26,415	26,547	26,679	26,813	26,947	27,082	27,217
October	18,071	21,069	22,189	20,443	20,545	20,648	20,751	20,855	20,959	21,064	21,169	21,275
November	19,717	16,272	14,553	16,847	16,932	17,016	17,101	17,187	17,273	17,359	17,446	17,533
December	4,169	6,052	10,288	6,836	6,871	6,905	6,939	6,974	7,009	7,044	7,079	7,115
Total Other	165,205	180,099	154,814	174,392	175,264	176,140	177,021	177,906	178,796	179,690	180,588	181,491



City of Porterville
2020 Sewer Rate Study
Capital Costs Allocation

	Estimated Costs	Flow	ALLOCATION PERCENTAGES		ALLOCATION AMOUNTS		
			BOD	TSS	Flow	BOD	TSS
CAPITAL COSTS ALLOCATION							
Phase III - Putnam/RR to Plano	\$0	100%			\$0	\$0	\$0
Phase IV - Baker/Murry	46,000	100%			46,000	0	0
Phase V - Murry/Harrison to Putnam	118,000	100%			118,000	0	0
Phase VI - Roche/Alley/Henrahan	85,000	100%			85,000	0	0
*Area 1 (456A & 457) Poplar/Brown/Wisconsin/Jaye St	1,200,000	100%			1,200,000	0	0
*Area 5 (456B & 456C) Olive/Center/Cloverleaf/Jaye St	1,755,000	100%			1,755,000	0	0
>Annexation 474 - Beverly Grand Area Boyles/Beverly/Prospect/Maston Sts	1,500,000	100%			1,500,000	0	0
>Annexation 475 - Westfield/Jaye Area Villa/Woods/Jaye/Mulberry	1,550,000	100%			1,550,000	0	0
>Annexation 476 - Akin/Ponca Area Yates/Worth/3rd/4th/Lincoln/Gibbons	3,050,000	100%			3,050,000	0	0
>Annexation 478 - Cobb/Dogwood Areas Cobb/Dogwood/Elderwood/Putnam/Thurman/Harrison	2,580,000	100%			2,580,000	0	0
>Annexation 479 - Roby Island Area Atkins/Lucy/Waukesha/Maston/Cobb/ Slaughter/Roby	2,420,000	100%			2,420,000	0	0
Lift Station Upgrade	769,740	100%			769,740	0	0
Main St. @ SR 190 Casing (Poplar conn)	58,853	100%			58,853	0	0
Main St. @ SR 190 Vandalia Ave Pipe (Poplar conn)	85,698	100%			85,698	0	0
Mathew St Capacity Analysis - Lift St. No. 11 Mulberry to Henderson	0	100%			0	0	0
Mulberry (Los Robles east)	91,000	100%			91,000	0	0
Newcomb - Henderson south to Grand Ave. - Pipe	396,000	100%			396,000	0	0
Hwy 190 - Jaye St. to E. St. - Pipe	352,000	100%			352,000	0	0
Hwy 190 - E. St. to Main St. - Pipe	151,000	100%			151,000	0	0
Vandalia Ave. - Main St. to Plano St. - Pipe	361,000	100%			361,000	0	0
Blower Building Floor Coating/Noise Attenuation	0		50%	50%	0	0	0
Canopy for dewatering equipment	0		50%	50%	0	0	0
Digester #2 and #3 Repairs, incl wastegas flare replacement and piping	0		50%	50%	0	0	0
Digester Cleaning/Coating/Equipment Replacement	840,840		50%	50%	0	420,420	420,420
Effluent Outfall Pump Replacement	600,000		50%	50%	0	300,000	300,000
Emergency Generator for WWTF (200kW)	0		50%	50%	0	0	0
Manhole 10A Inspection/Repair	0		50%	50%	0	0	0
Reclamation Area Pipeline Installation	0	100%			0	0	0
Septic Station Retrofit	0		50%	50%	0	0	0
Sludge/Grit Staging Area	0		50%	50%	0	0	0
Sludge Line - Westwood Bridge over Tule River	30,000		50%	50%	0	15,000	15,000
WAS Pump Replacement	0		50%	50%	0	0	0
Wastewater Needs Assessment and Master Plan	0	34%	33%	33%	0	0	0
Digester #1 and #4 Repairs	0		50%	50%	0	0	0
Digester Design	0		50%	50%	0	0	0
Digester Construction	1,500,000		50%	50%	0	750,000	750,000
Odor Control Project - Phase 2	0		50%	50%	0	0	0
Odor Control Design	250,000		50%	50%	0	125,000	125,000
Odor ControlConstruction	1,750,000		50%	50%	0	875,000	875,000
Office Building - Design	0	34%	33%	33%	0	0	0
Office Building - Relocation to temp structure	0	34%	33%	33%	0	0	0
Office Building - Remediation and Demolition	0	34%	33%	33%	0	0	0
Office Building - Construction	700,000	34%	33%	33%	238,000	231,000	231,000
Plant #2 Evaluation & Repairs	0	34%	33%	33%	0	0	0
Plant #2 - Evaluation	0	34%	33%	33%	0	0	0
Plant #2 - Design	0	34%	33%	33%	0	0	0
Plant #2 - Construction	400,000	34%	33%	33%	136,000	132,000	132,000
Plant #1 - Evaluation	25,000	34%	33%	33%	8,500	8,250	8,250
Plant #1 - Design incl re-asphalt	125,000	34%	33%	33%	42,500	41,250	41,250
Plant #1 - Construction incl asphalt repairs	600,000	34%	33%	33%	204,000	198,000	198,000
Tertiary Treatment - Design	4,585,000		50%	50%	0	2,292,500	2,292,500
Tertiary Treatment - Nitrification/De-nitrification Project - Consultant Services - Plant Expansion	60,200,000		50%	50%	0	30,100,000	30,100,000



City of Porterville
2020 Sewer Rate Study
Capital Costs Allocation

	Estimated Costs	ALLOCATION PERCENTAGES			ALLOCATION AMOUNTS		
		Flow	BOD	TSS	Flow	BOD	TSS
Tertiary Treatment - Nitrification/De-nitrification Project - Construction	0		50%	50%	0	0	0
Tertiary Treatment - Construction / Sludge bed Relocation	12,500,000		50%	50%	0	6,250,000	6,250,000
MASTER PLANS - Sewer Master Plan Payback	1,999,223	34%	33%	33%	679,736	659,744	659,744
MASTER PLANS - Master Plan Update	0	34%	33%	33%	0	0	0
MASTER PLANS - Comprehensive Impact Fee Study	0	34%	33%	33%	0	0	0
MASTER PLANS - Comprehensive Impact Fee Study	0	34%	33%	33%	0	0	0
STORMWATER - Programmed Capital Project Budget	14,588,504	100%			14,588,504	0	0
TOTAL	\$117,262,858	27.7%	36.2%	36.2%	\$32,466,531	\$42,398,164	\$42,398,164
OVERALL COST ALLOCATION							
2021/22 through 2030/31 Expenses							
O&M	\$62,296,828	50%	25%	25%	31,148,414	15,574,207	15,574,207
Existing - Debt Service	60,445,012	34%	33%	33%	20,551,304	19,946,854	19,946,854
Capital Costs	117,262,858	28%	36%	36%	32,466,531	42,398,164	42,398,164
Fixed Assets - WWTP	\$17,594,180	34%	33%	33%	5,982,021	5,806,079	5,806,079
TOTAL	\$257,598,878	35.0%	32.5%	32.5%	90,148,270	83,725,304	83,725,304



City of Porterville

2020 Sewer Rate Study

Capital Costs Allocation

Customer Classification	Accounts	Dwelling Units	Flow MGD	BOD mg/L	TSS mg/L	BOD lb/Day	TSS lb/Day	Usage (HCF/Mo)
<u>RESIDENTIAL CUSTOMER CLASSES</u>								
Single Family Residential - Units	11,804	39,779	3.0153	250	175	6,287	4,401	120,934
Multifamily Residential - Units	656	7,675	1.0669	250	175	2,224	1,557	42,788
Trailer Park - Spaces	263	1,178	0.1638	250	175	341	239	6,569
		48,633						
<u>COMMERCIAL CUSTOMER CLASSES</u>								
Car Wash, Laundry, Packing House	23		0.0278	100	150	23	35	1,115
Bars, Hotels w/o Dining	13		0.0164	200	200	27	27	659
Stores, Offices, Markets	695		0.6105	150	150	764	764	24,487
Hospital, Rest Homes	27		0.0202	250	100	42	17	811
Multi-Unit with Cons	4		0.0013	250	150	3	2	51
Mortuaries	2		0.0025	800	800	17	17	101
Service Stations and Auto Repairs	63		0.0695	180	280	104	162	2,788
Restaurants	98		0.0834	800	600	557	417	3,346
Churches	61		0.0746	150	150	93	93	2,991
Schools	51		0.0518	130	100	56	43	2,079
City of Porterville	23		0.0215	150	150	27	27	862
State Hospital	1		0.0013	250	100	3	1	51
PVPUD	1	2,544						
Industrial	15		0.0215	150	100	27	18	862
Septic Tanks	7		0.0114	5,400	12,000	512	1,139	456
TOTALS	13,807	51,177	5.2597			11,108	8,959	210,950



City of Porterville

2020 Sewer Rate Study

Capital Costs Allocation

Customer		Dwelling	COST ALLOCATION			Total Revenue	Projected	Projected	Monthly
Classification	Accounts	Units	Flow	BOD	TSS	Requirement	Annual Water Use (HCF)	Rates (\$/HCF)	Flat Rate
<u>RESIDENTIAL CUSTOMER CLASSES</u>									
Single Family Residential - per unit	11,804	39,779	\$1,905,248	\$1,746,947	\$1,516,201	\$5,168,396	1,471,362	\$3.51	\$36.50
Multifamily Residential - per unit	656	7,675	674,105	618,096	536,455	1,828,656	520,590	3.51	19.90
Trailer Park - per space	263	1,178	103,484	94,886	82,353	280,722	79,917	3.51	19.90
<u>COMMERCIAL CUSTOMER CLASSES</u>									
Car Wash, Laundry, Packing House	23		\$17,572	\$6,445	\$11,986	\$36,002	13,570	\$2.66	
Bars, Hotels w/o Dining	13		10,383	7,616	9,443	27,443	8,019	3.43	
Stores, Offices, Markets	695		385,775	212,234	263,144	861,153	297,922	2.90	
Hospital, Rest Homes	27		12,779	11,718	5,811	30,308	9,869	3.08	
Multi-Unit with Cons	4		799	732	545	2,076	617	3.37	
Mortuaries	2		1,597	4,687	5,811	12,096	1,234	9.81	
Service Stations and Auto Repairs	63		43,929	29,001	55,934	128,864	33,925	3.80	
Restaurants	98		52,715	154,671	143,830	351,216	40,710	8.63	
Churches	61		47,124	25,925	32,144	105,193	36,392	2.90	
Schools	51		32,747	15,614	14,892	63,252	25,289	2.51	
City of Porterville	23		13,578	7,470	9,262	30,310	10,486	2.90	
State Hospital	1		799	732	363	1,894	617	3.08	
Industrial - per hcf	15		13,578	7,470	6,175	27,222	10,486	2.60	
Septic Tanks - per 1,000 gallons	7		7,188	142,368	392,264	541,820	5,551	97.61	
								130.49	4,152
TOTALS	13,806	48,633	\$3,323,400	\$3,086,611	\$3,086,611	\$9,496,622	2,566,555		
Allocation percentages			35.0%	32.5%	32.5%				
Annual cost requirements			\$3,323,400	\$3,086,611	\$3,086,611	\$9,496,622			



City of Porterville

2020 Sewer Rate Study

Capital Costs Allocation

Customer Classification	Revenue Under Existing Rates	2028 Test Year Cost of Service	Change
<u>RESIDENTIAL CUSTOMER CLASSES</u>			
Single Family Residential - per unit	\$3,806,082	\$8,753,846	130.0%
Multifamily Residential - per unit	2,350,453	3,099,246	31.9%
Trailer Park - per space	360,824	475,773	31.9%
RESIDENTIAL SUBTOTAL	\$6,517,359	\$12,328,865	89.2%
<u>COMMERCIAL CUSTOMER CLASSES</u>			
Car Wash, Laundry, Packing House	\$13,027	\$61,065	368.8%
Bars, Hotels w/o Dining	9,783	46,508	375.4%
Stores, Offices, Markets	309,839	1,459,818	371.2%
Hospital, Rest Homes	10,757	51,319	377.1%
Multi-Unit with Cons	734	3,516	379.0%
Mortuaries	2,406	20,478	751.3%
Service Stations and Auto Repairs	46,138	218,137	372.8%
Restaurants	120,908	594,771	391.9%
Churches	15,285	178,321	1066.7%
Schools	7,587	107,227	1,313.3%
City of Porterville	8,703	51,381	490.4%
State Hospital	672	3,207	377.1%
COMMERCIAL SUBTOTAL	\$545,839	\$2,795,749	412.2%
Industrial - per hcf	\$9,752	\$46,138	373.1%
Septic Tanks - per 1,000 gallons	\$94,260	\$917,058	872.9%
Porter Vista	\$200,052	\$448,488	124.2%
TOTALS	\$7,367,262	\$16,536,299	124.4%

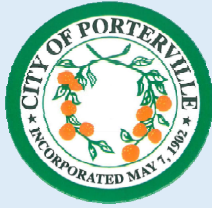


City of Porterville

2020 Sewer Rate Study

Rate Design: Alternative 1 Rates - Existing Rate Structure

Description	Existing Rates	2023/24	2024/25	2025/26	2026/27	2027/2028	5-Year Cumulative Increase
Revenue Increase		32.5%	32.5%	8.5%	8.5%	8.5%	124.2%
<u>RESIDENTIAL</u>							
Single Family Residential - per unit	\$26.87	\$30.20	\$39.95	\$43.35	\$47.00	\$51.00	89.8%
Multifamily Residential - per unit	25.52	28.69	37.96	41.18	44.65	48.45	89.9%
Trailer Park - per space	25.52	28.69	37.96	41.18	44.65	48.45	89.9%
<u>COMMERCIAL - per hcf</u>							
Car Wash, Laundry, Packing House	\$0.96	\$2.66	\$3.52	\$3.82	\$4.14	\$4.50	368.8%
Bars, Hotels w/o Dining	1.22	3.43	4.54	4.93	5.34	5.80	375.4%
Stores, Offices, Markets	1.04	2.90	3.83	4.16	4.51	4.90	371.2%
Hospital, Rest Homes	1.09	3.08	4.07	4.42	4.80	5.20	377.1%
Multi-Unit with Cons	1.19	3.37	4.46	4.84	5.25	5.70	379.0%
Mortuaries	1.95	9.81	13.00	14.10	15.30	16.60	751.3%
Service Stations and Auto Repairs	1.36	3.80	5.04	5.47	5.93	6.43	372.8%
Restaurants	2.97	8.63	11.44	12.41	13.46	14.61	391.9%
Churches	0.42	2.90	3.83	4.16	4.51	4.90	1,066.7%
Schools	0.30	2.51	3.32	3.60	3.91	4.24	1,313.3%
City of Porterville	0.83	2.90	3.83	4.16	4.51	4.90	490.4%
State Hospital	1.09	3.08	4.07	4.42	4.80	5.20	377.1%
Industrial - per hcf	\$0.93	\$2.60	\$3.44	\$3.74	\$4.05	\$4.40	373.1%
Septic Tanks - per 1,000 gallons	\$22.70	\$130.50	\$172.90	\$187.60	\$203.55	\$220.85	872.9%
REVENUE RECOVERED FROM RATES	\$7,167,210	\$9,548,698	\$12,632,662	\$13,707,949	\$14,863,322	\$16,130,383	
ACTUAL COST OF SERVICE		\$9,496,622	\$12,583,023	\$13,652,580	\$14,813,050	\$16,072,159	
VARIANCE - \$		\$52,077	\$49,639	\$55,369	\$50,272	\$58,224	
VARIANCE - %		0.5%	0.4%	0.4%	0.3%	0.4%	



City of Porterville

2020 Sewer Rate Study

Rate Design: Alternative 2 Rates - Cost of Service

Description	Existing Rates	2023/24	2024/25	2025/26	2026/27	2027/2028	5-Year Cumulative Increase
Revenue Increase		32.5%	32.5%	8.5%	8.5%	8.5%	124.2%
RESIDENTIAL							
Single Family Residential - per unit	\$26.87	\$36.50	\$48.35	\$52.50	\$56.95	\$61.80	130.0%
Multifamily Residential - per unit	25.52	19.90	26.35	28.55	31.00	33.65	31.9%
Trailer Park - per space	25.52	19.90	26.35	28.55	31.00	33.65	31.9%
COMMERCIAL - per hcf							
Car Wash, Laundry, Packing House	\$0.96	\$2.66	\$3.52	\$3.82	\$4.14	\$4.50	368.8%
Bars, Hotels w/o Dining	1.22	3.43	4.54	4.93	5.34	5.80	375.4%
Stores, Offices, Markets	1.04	2.90	3.83	4.16	4.51	4.90	371.2%
Hospital, Rest Homes	1.09	3.08	4.07	4.42	4.80	5.20	377.1%
Multi-Unit with Cons	1.19	3.37	4.46	4.84	5.25	5.70	379.0%
Mortuaries	1.95	9.81	13.00	14.10	15.30	16.60	751.3%
Service Stations and Auto Repairs	1.36	3.80	5.04	5.47	5.93	6.43	372.8%
Restaurants	2.97	8.63	11.44	12.41	13.46	14.61	391.9%
Churches	0.42	2.90	3.83	4.16	4.51	4.90	1,066.7%
Schools	0.30	2.51	3.32	3.60	3.91	4.24	1,313.3%
City of Porterville	0.83	2.90	3.83	4.16	4.51	4.90	490.4%
State Hospital	1.09	3.08	4.07	4.42	4.80	5.20	377.1%
Industrial - per hcf	\$0.93	\$2.60	\$3.44	\$3.74	\$4.05	\$4.40	373.1%
Septic Tanks - per 1,000 gallons	\$22.70	\$130.50	\$172.90	\$187.60	\$203.55	\$220.85	872.9%
REVENUE RECOVERED FROM RATES	\$7,167,210	\$9,507,220	\$12,589,044	\$13,662,201	\$14,822,526	\$16,087,810	
ACTUAL COST OF SERVICE		\$9,496,622	\$12,583,023	\$13,652,580	\$14,813,050	\$16,072,159	
VARIANCE - \$		\$10,598	\$6,021	\$9,621	\$9,476	\$15,651	
VARIANCE - %		0.1%	0.0%	0.1%	0.1%	0.1%	



City of Porterville

2020 Sewer Rate Study

Rate Design: Alternative 3 Rates - Residential Consolidation

Description	Existing Rates	2023/24	2024/25	2025/26	2026/27	2027/2028	5-Year Cumulative Increase
Revenue Increase		32.5%	32.5%	8.5%	8.5%	8.5%	124.2%
<u>RESIDENTIAL</u>							
Single Family Residential - per unit	\$26.87	\$29.55	\$39.10	\$42.40	\$46.00	\$49.90	85.7%
Multifamily Residential - per unit	25.52	29.55	39.10	42.40	46.00	49.90	95.5%
Trailer Park - per space	25.52	29.55	39.10	42.40	46.00	49.90	95.5%
<u>COMMERCIAL - per hcf</u>							
Car Wash, Laundry, Packing House	\$0.96	\$2.66	\$3.52	\$3.82	\$4.14	\$4.50	368.8%
Bars, Hotels w/o Dining	1.22	3.43	4.54	4.93	5.34	5.80	375.4%
Stores, Offices, Markets	1.04	2.90	3.83	4.16	4.51	4.90	371.2%
Hospital, Rest Homes	1.09	3.08	4.07	4.42	4.80	5.20	377.1%
Multi-Unit with Cons	1.19	3.37	4.46	4.84	5.25	5.70	379.0%
Mortuaries	1.95	9.81	13.00	14.10	15.30	16.60	751.3%
Service Stations and Auto Repairs	1.36	3.80	5.04	5.47	5.93	6.43	372.8%
Restaurants	2.97	8.63	11.44	12.41	13.46	14.61	391.9%
Churches	0.42	2.90	3.83	4.16	4.51	4.90	1,066.7%
Schools	0.30	2.51	3.32	3.60	3.91	4.24	1,313.3%
City of Porterville	0.83	2.90	3.83	4.16	4.51	4.90	490.4%
State Hospital	1.09	3.08	4.07	4.42	4.80	5.20	377.1%
Industrial - per hcf	\$0.93	\$2.60	\$3.44	\$3.74	\$4.05	\$4.40	335.5%
Septic Tanks - per 1,000 gallons	\$22.70	\$130.50	\$172.90	\$187.60	\$203.55	\$220.85	796.7%
REVENUE RECOVERED FROM RATES	\$7,167,210	\$9,547,994	\$12,633,376	\$13,702,998	\$14,865,100	\$16,128,620	
ACTUAL COST OF SERVICE		\$9,496,622	\$12,583,023	\$13,652,580	\$14,813,050	\$16,072,159	
VARIANCE - \$		\$51,373	\$50,353	\$50,418	\$52,050	\$56,461	
VARIANCE - %		0.5%	0.4%	0.4%	0.4%	0.4%	



CONSULTING GROUP, INC.
RESOURCES • RESPECT • RESPONSIBILITY

Final Report:

Solid Waste Rate Study and Financial Plan



SUBMITTED TO:

City of Porterville, CA

February 18, 2023

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Attachments

1	Scenario #1 - No Rate Adjustment
2	Scenario #2 - 7/1/23 50% + 5% annually thereafter
3	Scenario #3 - 7/1/23 30% + 7/1/24 25% + 5% annually thereafter
4	Scenario #4 - 7/1/23 25% + 7/1/24 25% + 7/1/25 10% + 5% annually thereafter
5	Commercial Rate Survey 50% Rate Increase

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1 Introduction

R3 Consulting Group (R3) was initially engaged by the City of Porterville (City) to conduct a Solid Waste Study that involved the following major tasks:

1. **Solid Waste Collection System Operational Review** - Evaluating how the Field Services Division (Division) currently provides solid waste services, and making recommendations for improving the overall performance of the City's municipal solid waste management system;
2. **Technology Review** - Assessing a range of technologies for potential use by the Division, including: RFID tags; smartphone mobile applications; and upgraded field communications systems;
3. **Rate Study and Financial Plan** - Developing an Excel-based Rate Model / Financial Plan to be used to project the Division's costs over a 10 year planning period accounting for, among other things, timely vehicle replacement and other future capital costs;
4. **Jurisdictional Rate Survey** - Comparing the City's solid waste rates to those of other cities in the greater San Joaquin Valley;
5. **Solid Waste Vehicle Impact Fee** – Quantifying a fee that could be charged to the Division for that portion of the City's street maintenance costs associated with damage caused by the Division's solid waste vehicles; and
6. **Proposition 218 Hearing** - Supporting the City's compliance with Proposition 218 requirements.

The work scope was subsequently amended to include:

7. **SB 1383 Compliance Services** - Assisting the City with various tasks in support of its compliance with SB 1383, which becomes effective January 1, 2022; and
8. **Privatization / Outsourcing Analysis** - Evaluating the potential for privatizing the City's municipal solid waste collection operations.

This document focuses on the **Task 3 - Rate Study and Financial Plan** and **Task 4 - Jurisdictional Survey** tasks. Project Objectives are provided, followed by our Summary Findings, Related Issues, Detailed Findings, a description of the Rate Model Design, Rate Adjustment Scenarios, and the results of the Jurisdictional Rate Survey. We have also included in **Section 3 Related Issues**, a summary of the **Task 1 - Solid Waste Collection System Operational Review** and **Task 8 - Privatization / Outsourcing Analysis** preliminary findings. Those findings are presented to help frame and inform the Financial Plan findings and the various rate adjustment scenarios that are presented.

2 Project Objectives

- Develop an Excel-based Rate Model to project Division costs over a ten (10) year planning period, and use that Rate Model to develop a 5-Year rate adjustment plan

that provides sufficient revenues to cover required capital and operating costs, while maintaining sufficient financial reserves (i.e., Financial Plan); and

- Conduct a Rate Survey up to ten (10) municipalities within the greater San Joaquin Valley region to be used as a comparative benchmark for existing rates and proposed rates developed from the rate study.

3 Summary Findings

The City's solid waste rates have not been increased since 2006 and are among the lowest if not the lowest in the region. Those rates however are not sufficient to support the Division's current operations as a budget shortfall of approximately \$145,000 (2%) is projected for fiscal year (FY) 22-23. In addition, significant additional revenues are needed to:

- Replace vehicles that are old and past their planned replacement date;
- Fund capital improvement costs for the Division's recycling and green waste transfer stations, and administration and maintenance facilities;
- Improve the Division's operations and supporting resources to bring them in line with industry standards;
- Comply with SB 1383; and
- Maintain prudent operating reserves.

To meet those financial needs, a rate increase on the order of **50%** is projected to be required. Even with such a large increase, the City's residential rate would still be lower than the average rate of the various jurisdictions in the region that were included in the **Section 8 - Rate Survey**. **Section 7** of this report provides various rate adjustment scenarios for the City's consideration.

4 Related Issues

R3 has completed the **Task 1 - Solid Waste Collection System Operational Review** and **Task 8 - Privatization / Outsourcing Analysis** for the City. The findings from those two tasks are provided below. The findings of the **Solid Waste Collection System Operational Review** impact the Division's expenses and, as such, the **Rate Study and Financial Plan** rate modeling and rate adjustment scenarios. It is therefore important to understand those impacts. The findings of the **Privatization / Outsourcing Analysis** do not directly impact the current rate modeling and rate adjustment scenarios but do provide information about that option for the City's consideration.

4.1 Solid Waste Collection System Operational Review

Overall Assessment of Performance

The Division is doing a good job with available resources however, those resources are not adequate to support an operation that is in line with industry standards for safety, customer service, and operational performance. Staff appear to be dedicated and qualified but significant advancements in the industry over the past 20 years covering all aspects of collection operations have largely not been incorporated into the Division's operations. If the

Division is to operate to industry standards, not only is a significant investment needed, but there needs to be a complete systematic revamping of how the Division's operations and services are structured, operated, and managed. That includes perhaps most notably establishing clear objective performance standards, providing regular associated operational and safety training, and the daily collection and analysis of key operational data to support effective and efficient operations and continuous improvement.

Outsourcing Impact - Many of the Division's collection vehicles are old and need to be replaced. Their purchase should be made according to the Division's vehicle replacement schedule and not be delayed. Should the City subsequently decide to outsource its operations, all of the Division's vehicles and equipment, and any remaining capital debt could be required to be assumed by the selected private operator.

SB 1383 Required Programs

To comply with SB 1383, the Division needs to expand its current commercial recycling and organics collection services to most if not all commercial accounts. It also needs to provide for the collection of residential food waste and other organics through its current residential yard waste collection program. In addition, the City needs to establish a residential and commercial SB 1383 inspection and enforcement program, develop a commercial edible food recovery program, and track and report required information to CalRecycle, among other things. All of which requires additional funding.

Outsourcing Impact - If the City outsourced municipal operations, many but not all of the City's SB 1383 requirements and responsibilities could be transferred to the franchised hauler, although the City would retain responsibility for ensuring regulatory compliance.

Same Day Residential Collection Services

The Division provides weekly collection of residential trash, recyclables, and green waste Monday through Friday. The City is divided into four (4) zones with collection services for each of the three commodities scheduled for different days within each collection zone. Under this type of "districted" system routes are distributed throughout the City on any given day.

The industry standard is to provide all residential collection services on the same day, with routes typically "sweeping" across the service area over the course of one week. That type of collection system structure is the most common and has a number of benefits. Those benefits include allowing for more efficient route supervision, and route support to cover open routes or assist with heavy workloads as all routes are in the same area each day. Some residents may also find that placing all carts out for service on the same day is preferable to having to place separate carts out for service on three separate days. Neighborhood esthetics may also improve as the presence of carts and associated truck traffic is limited to one day per week.

As part of our review, R3 was asked to assess the potential for switching from the current multiple day collection service to same day residential service. Division management reported that it is not opposed to switching to same day service but highlighted related issues and concerns, including that on street parking and tight cul-de-sacs may make it difficult for all three (3) carts to be positioned so that the collection vehicles can access the carts. Management considers switching to single day service to be a significant operational challenge, which it is, and management is appropriately cautious. With that said, same day service appears feasible based on our high level review. It may however require a separate

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route for hard to service accounts (e.g., those in tight cul-de-sacs) and will require sufficient planning, public education and outreach. A complete system reroute will also require electronic account mapping capacity, and dedicated staff and/or consultant resources.

Outsourcing Impact - If the City decided to outsource its operations, it could require the selected contractor to provide same day service and manage the transition process from the current districted system.

4.2 Privatization / Outsourcing Analysis

- **Municipal Versus Outsourced Operations in California** - Of the more than 500 incorporated cities and counties in California the vast majority contract with the private sector for some or all solid waste management services through exclusive and/or non-exclusive franchise systems. There are currently less than 50 municipal operated solid waste management collection systems in the State, with many/most of those operations in the Central Valley.
- **Advantages/Responsibilities of Municipal Operations** - Perhaps the greatest advantage of municipal operations is the direct control that the jurisdiction has over its solid waste management system. With that total control, however, also comes the jurisdiction's total responsibility for the safety of those operations, and the operational, financial, and regulatory compliance aspects of those operations.
- **Challenges/Disadvantages of Municipal Operations** - One of the greatest challenges / disadvantages of municipal operations, as compared to private sector services, is the lack of economies of scale and supporting corporate resources. Municipal operations also typically lack direct control over key fundamental support services, including vehicle maintenance, customer service, and billing. Additionally, City Council goals and objectives (e.g., minimize rate impacts to residents) may not always align with the operational and financial needs of solid waste management operations, which are ever increasing in large part due to unfunded state mandates.
- **Required Franchise Fee If Operations are Outsourced** - Should the City decide to outsource operations not all related costs would go away, including staffing to manage the private operator's performance and other contract requirements. Those costs that would remain with the City are projected to be on the order of \$750,000 annually. That does not include any Division pension or other liabilities that would remain with the City. To fund those costs it is expected that the City would establish a franchise fee. Franchise fees on the order of 10% (or more) of gross revenues are common in the industry. As a point of reference, at projected annual revenues on the order of \$10 million a 10% franchise fee would generate \$1 million annually, enough to cover the projected costs that would remain with a little left over.
- **Value of City's Solid Waste Collection System to the Private Sector** - The City's solid waste collection system (franchise) is a valuable commodity. Over a 10-year term, total revenues are expected to be on the order of \$100 million and more than double that over a 20-year term.
- **Outsourcing Case Studies** - Two outsourced municipal collection operations that we are aware of, in the City of Hemet in 2011, and the City of San Bernardino in 2016, both resulted in significant revenue to each city with no initial rate increase. Should the City

decide to outsource its operations, it could require certain payments from the private sector operator, in addition to franchise fees, provided those payments were legally defensible. Increased payments to the City would translate into increased rates for the private hauler.

- **Benefits of Outsourcing** - In addition to any potential financial benefits, benefits of outsourcing include the ability to place many of the responsibilities for complying with AB 341, AB 1826 and SB 1383 on the contracted hauler. Outsourcing also removes any additional pension liability the City might incur with continued municipal operations.
- **Outsourcing Impact on Displaced Employees** - Consideration of outsourcing needs to consider the impact on Division staff that would be displaced. If the City were to outsource its operations, we recommend that it require the selected contractor to offer employment to all qualified displaced City employees, provide medical and dental coverage, provide a matching 401K retirement program, maintain the former City employees' seniority levels, and honor all existing prescheduled vacation time. The City might also consider requiring a transition payment or bonus to displaced employees similar to the transition payments the cities of Hemet and San Bernardino received for their displaced employees when they outsourced municipal services.
- **Outsourcing Financial Goals** - Should the City decide to outsource operations, a minimum City objective could be the ability to cover all City solid waste management costs, including contract management, and any associated pension or other liabilities through franchised hauler payments to the City without raising rates. To the extent that additional legally defensible City revenues (contractor fee payments) could be generated without raising rates, the financial benefit of outsourcing would improve.

4.3 Recommended Approach Going Forward

From an operational and financial position we suggest that the City move forward as if it will continue to provide municipal services, which it will at least for a year or more even if it should decide to outsource services. Much of what the City puts into the Division's operations going forward will transfer to a private operator if those operations were outsourced. The private operator can be required to purchase all of the City's vehicles, equipment, and other specified assets, and offer employment to all qualified displaced Division employees. To a large degree outsourcing simply changes who is responsible for providing and managing collection services; shifting that responsibility from the City to the private hauler. Many other system components, including drivers, route supervisors, vehicles and rates may change very little.

5 Detailed Findings

1. Solid Waste Fund - The City's solid waste fund is a self-sustaining Enterprise Fund that was established to account for revenues and expenditures associated with the City's solid waste management system, street sweeping, graffiti removal, and household hazardous waste. The FY 22-23 budgeted expenses are **\$6.70 million**.

The Solid Waste Fund has an operating reserve, which contains the unrestricted fund balance. As a general rule of thumb, an operating reserve of **15% - 25%** is a common target operating reserve fund balance, providing a "rainy day savings account" for unexpected

R3

Rate Study and Financial Plan

cash flow shortages, expense or unforeseen liabilities. The Division has fiscal year ending (FYE) 22-23 projected operating reserves of approximately **\$711,000**, or roughly **11%** of annual operating expenses, versus a proposed target of **15% - 25%**.

In addition, the Solid Waste Fund has two separate reserve funds:

Note: The Division has established a Solid Waste Capital Reserve Fund for funding capital projects as well as equipment replacement. The total available balance for that fund at the beginning of FY 22-23 was approximately **\$6.7 million**. For purposes of tracking capital project expenses separate from equipment replacement expenses we have established a separate Solid Waste Equipment Replacement Fund and assigned **\$4.0 million** of the total **\$6.7 million** beginning FY 22-23 reserve to that Solid Waste Equipment Replacement Fund, with the remaining **\$2.6 million** assigned to the Capital Reserve Fund.

a. Solid Waste Capital Reserve Fund - The City established the Solid Waste Capital Reserve Fund in FY 01-02 as a reserve for capital expansion. The FY 22-23 budget provides funding in the amount of \$760,000 for the following projects:

- Corporation yard parking lot rehabilitation - \$60,000
- Transfer station concrete pad (green waste) - \$250,000
- Transfer station cover - \$150,000
- Transfer station scales - \$300,000

Additional the Rate Model accounts for expenses of **\$200,000** annually, starting in FY 23-24 to support further improvements to the recycling and green waste transfer stations.

The Rate Model also provides an additional **\$200,000** in annual funding starting in FY 23-24 to fund the following capital expenses:

- Office expansion - \$1,000,000
- Maintenance facility expansion - \$1,000,000

The following one-time expenses totaling **\$495,000** for FY 23-24 are also included in the Rate Model:

- Customer relations management (CRM) system - \$400,000
- Safety program development / implementation - \$50,000
- Recovered organic material product procurement program development costs - \$25,000
- Edible food recovery program implementation costs - \$20,000

b. Solid Waste Equipment Replacement Reserve Fund - The Division's Equipment Replacement Reserve Fund is used to fund the purchase of collection vehicles and other equipment. The Fund had a FYE 21-22 balance of **\$4.0 million**. That balance is projected to decrease to **\$2.8 million** at the end of this FY (22-23) as a result of the planned purchase of three (3) residential side loaders and two (2) commercial

front loaders. All of the vehicles planned to be replaced this FY are old and past their scheduled replacement date.

The Equipment reserve Fund is budgeted to receive **\$833,000** in revenue from Interdepartmental Service Charges in FY 22-23. A similar level of ongoing funding is assumed over the 10-year planning period, with **3.0%** annual adjustments for inflation. Vehicle replacement costs are projected to average approximately **\$1.1 million** annually over the 10-year planning period, and cart and container replacement costs are projected to average approximately **\$400,000** annually.

2. **Franchise Fees / Street Maintenance Fees** - The Solid Waste Fund is charged “franchise fees” that are used to fund street maintenance costs associated with the impact of solid waste vehicles on the City’s streets. For FY 22-23 the total budgeted Franchise Fee expense is approximately **\$336,000**.
3. **Overall Assessment** - The City’s Solid Waste Fund has not had a rate increase since 2006 and it is in need of significant additional revenues to:
 - Replace many of its existing vehicles over the next 5 years at an average annual cost of **\$1.5 million**;
 - Secure additional management and operational staff and other resources needed to bring its operations in line with industry standards (estimated at **\$548,000** annually) (see #5 below); and
 - Take actions necessary to comply with SB 1383, which became effective on January 1, 2022 (estimated at **\$1.2 million** annually) (see #6 below).

A rate increase on the order of **50%** would bring FY 22-23 projected revenues in line with expenses (i.e., eliminate the current \$145,000 FY 22-23 projected shortfall), and assuming 5% annual rate increases thereafter, meet projected Solid Waste Fund capital and operating needs over the next five years. This would increase the monthly residential rate by **\$8.93**, from **\$17.85** to **\$26.78**. **Section 7** below provides a discussion of various Rate Adjustment Scenarios.

4. **The City’s Rate are Among the Lowest in the Region** - While significant rate increases are projected to be required to address the above financial requirements, the City’s current residential rates are among the lowest, if not the lowest in the region. The City’s current commercial rates also generally compare favorably to other rates in the region. Even with a **50%** rate increase the City’s residential and commercial rates would be well within the range of rates in the region. See **Section 8 - Jurisdictional Rate Survey** below for a more detailed comparison of the City’s residential and commercial rates to those of other jurisdictions in the region.
5. **Additional Staffing, Vehicles and Other Resources Needed to Support Operations that are Consistent with the Industry Standard** - **Table 1** provides a projection of one-time and ongoing annual City costs for the additional resources recommended to support operations that are in line with industry standards for safety, customer service, and operational performance. As shown, one-time costs are projected at **\$450,000**, with ongoing annual costs at **\$548,000** annually (**8%** of current expenses).
6. **The City’s Rates Have Not Increased Since 2006** - Since that time the consumer price index

Rate Study and Financial Plan

(West Urban) has increased **51%** and the Water Sewer Trash index, which arguable is more representative of the change in solid waste related costs than the CPI, has doubled (i.e., increased **100%**).

7. **The Solid Waste Division will Have Additional New Expenses Related to SB 1383 Compliance** - Table 2 provides a projection of one-time and ongoing annual City costs required to comply with SB 1383. As shown, one-time costs are projected at **\$45,000**, with ongoing annual costs at **\$1.2 million** annually (**18%** of current expenses).
8. **Commercial Organic Material Collection Rates** - The City currently sets its commercial organic rates the same as its commercial recycling rates. Under SB 1383 we suggest the City review both its commercial recycling and organic rates and consider setting “bundled” solid waste rates that include a minimum level for both recycling (e.g., 95-gallons) and organic (e.g., 65-gallon) service. We also recommend that the City review the rates for recycling and organic services in excess of any such minimum levels with consideration for the cost of those additional service levels.
9. **Cost of Service Rates** - The City’s residential and commercial solid waste collection systems are expected to change significantly over the next several years as the City implements required programs and services necessary for it to comply with SB 1383. Once those systems have stabilized the City may want to update its Rate Model, and at the same time conduct a cost of service rate analysis. A cost of service analysis would separately identify the costs and revenues associated with residential, commercial, roll-off and street sweeping services. Based on that information, the City could establish residential, commercial, and roll-off “cost of service” rates that reflect the actual cost of those services, without any surpluses or subsidies among the different services, should it wish to do so.

Table 1

High-Level Cost Estimates - Operational Improvement		
Required Resource	Cost	
	One-Time	Ongoing
One (1) Supervisor		\$80,000
One (1) Route (Truck-Driver-O&M)		\$150,000
Overtime Savings		-\$42,000
One (1) Data Analyst		\$90,000
Develop/Implement Safety Program	\$50,000	\$50,000
Customer Database Software/Program	\$400,000	\$120,000
Operational Consulting Services		\$100,000
Totals	\$450,000	\$548,000

FY 22-23 Expenses **\$6,700,000**

% of Expenses **8%**

R3

Table 2

High-Level Cost Estimates - SB 1383 Compliance		
Required Resource	Cost	
	One-Time	Ongoing
Residential		
Organics Processing		\$520,000
Procurement Requirements	\$25,000	\$56,000
SB 1383 Program Coordinator		\$95,000
One (1) Code Enforcement Officer		\$83,000
Commercial		
One (1) Organics Route (truck-driver-O&M)		\$150,000
One (1) Recycling Route (truck-driver-O&M)		\$150,000
Organics Processing		\$52,000
Edible Food Waste Recovery	\$20,000	\$100,000
One (1) Code Enforcement Officer		covered above
Totals	\$45,000	\$1,206,000

FY 22-23 Expenses \$6,700,000

% of Expenses 18%

6 Rate Model Design

The “Rate Model” that was developed is designed to project revenues and expenses for the Division over a 10-year planning period. The Rate Model consists of the following work sheets, which are described in more detail below:

1. Rate Model Summary (RM 1)
2. Revenues (RM 2)
3. Expenses (RM 3)
4. Capital Reserve Fund (RM 4)
5. Equipment Replacement Fund (RM 5)

Rate Model Summary (RM 1)

Rate Model Summary (RM 1) is used to input all revenue and expense annual percentage adjustments in the Rate Model and provides key summary financial data over the planning period. The upper portion is the **Summary Results** area which provides a summary of critical financial data based on the established revenue and expense adjustments, or as may otherwise be adjusted (overridden) on (RM 2) and (RM 3). The lower portions are the **Revenue**

R3

Rate Study and Financial Plan

Adjustments area (including rate revenue and non-rate revenue) and **Expense Adjustments** area. All revenue and expense adjustments should be entered in these applicable sections.

Revenues (RM 2)

This worksheet provides the Division's FY 22-22 revenues, and projects those revenues out over the planning period based on the percentage adjustments listed on (RM 1), or as overridden on this sheet.

The Division's budget includes both rate revenues (i.e., revenues from charges to customers for solid waste, recycling and organic collection services), and non-rate revenues.

Rate revenues are billed, tracked, and reported for each of the Division's 3 major lines of business:

1. **Residential Refuse Charges**
2. **Commercial Refuse Charges**
3. **Roll-Off Refuse Charges**

Non-rate revenues include Recycling Revenues (recyclable material sales revenue), State Grants, Interest on Investments and Penalties.

Expenses (RM 3)

This worksheet provides the Division's FY 22-23 expenses, and projects those expenses out over the planning period based on the expense percentage adjustments listed on (RM 1), or as overridden on this sheet.

(RM 3) mirrors the structure of the Division's budget, which tracks and projects expenses for each of the following six (6) operations:

1. **Refuse Collection and Disposal** (residential, commercial, roll-off solid waste collection)
2. **Green Waste**
3. **Street Sweeping**
4. **Curbside Recyclables Collection** (residential recycling)
5. **Recyclable Waste** (commercial recycling)
6. **Graffiti Removal** (currently contracted to a non-profit)

(RM 3) is supported by the following two (2) worksheets:

- **3A - Ops Improvement Costs** - Recommended expenses to support operations that are in line with industry standards; and
- **3B - SB 1383 Compliance Costs** - Projected expenses related to SB 1383 compliance requirements.

Capital Reserve Fund (RM 4)

As discussed above, the City established the Solid Waste Capital Reserve Fund in FY 01-02 as a reserve for capital expansion. Revenues flowing into the Capital Reserve Fund are shown along with planned expenses, and the associated fiscal year beginning and ending reserve balance. (RM 4) provides for transfers (funding) from the Solid Waste Fund to support the identified capital costs (Row 14).

R3

Equipment Replacement Fund (RM 5)

The Division's Equipment Replacement Reserve Fund is used to fund collection vehicles and other equipment, including residential and commercial cart and container replacements. Revenues flowing into the Equipment Replacement Fund are shown along with planned expenses, and the associated fiscal year beginning and ending reserve balance. (RM 5) provides for:

- Interdepartmental Service Charges (Row 12, which come from the Solid Waste Fund as currently budgeted; and
- Additional transfers (funding) from the Solid Waste Fund to support the identified capital costs (Row 15).

This worksheet is supported by RM 5A - Equipment Replacement Schedule, which provides the equipment replacement schedule that drives the required vehicle expenses.

7 Rate Adjustment Scenarios

The Division is faced with a number of significant challenges that require financial support and a significant rate increase is required to support the Division's necessary capital and operating expenses. For planning purposes we prepared the following five year rate adjustment scenarios for the City's consideration:

- **Scenario 1**- No rate adjustment (**Attachment 1**);
- **Scenario 2** – A **50%** rate increase effective July 1, 2023 followed by **5%** rate increases each of the next four (4) years through FY 27-28 (**Attachment 2**);
- **Scenario 3** – **30%** rate increase effective July 1, 2023 followed by a **25%** rate increase on July 1, 2024, followed by **5%** rate increases each of the following three (3) years through FY 27-28 (**Attachment 3**); and
- **Scenario 4** - **25%** rate increase effective July 1, 2023 followed by a **25%** rate increase on July 1, 2024, followed by **10%** rate increase on July 1, 2025, followed by **5%** rate increases each of the following two years (2) years through FY 27-28 (**Attachment 4**).

Each of the above rate adjustment scenarios results in projected operating reserves equivalent to 18% or more of operating reserves at the end of FY 27-28. However, lowering the initial July 1, 2023 rate adjustment under **Scenarios 3** and **Scenario 4** would result in negative operating reserves in FY 23-24. With that said, in both of those cases the Division's other reserve fund balances (Capital Reserve Fund and Equipment Replacement Fund) are projected to sufficient to cover those revenue shortfalls, if needed.

Table 3 provides a summary of each of the four (4) rate adjustment scenarios showing the associated FYE operating reserve balances, FYE balance of the other reserve funds (Capital Reserve and Equipment Replacement Reserve), and the associated residential rate.

Rate Study
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Table 3

	Scenario 1						Cumulative Rate Increase
	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	
Rate Adjustment	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%
FYE Operating Reserves	\$ 710,905	\$ (2,323,011)	\$ (5,796,390)	\$ (9,731,206)	\$ (14,150,530)	\$ (19,078,588)	
FYE Other Reserves	\$ 4,667,941	\$ 1,878,261	\$ 1,088,091	\$ 911,851	\$ 121,433	\$ 1,028,213	
Residential Rate	\$ 17.85	\$ 17.85	\$ 17.85	\$ 17.85	\$ 17.85	\$ 17.85	
Average Regional Rate	\$ 27.81						

	Scenario 2						Cumulative Rate Increase
	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	
Rate Adjustment	0.0%	50.0%	5.0%	5.0%	5.0%	5.0%	82%
FYE Operating Reserves	\$ 710,905	\$ 944,274	\$ 1,228,273	\$ 1,565,432	\$ 1,958,410	\$ 2,409,998	
Percent of Expenditures	11%	10%	12%	15%	18%	21%	
FYE Other Reserves	\$ 4,667,941	\$ 1,878,261	\$ 1,088,091	\$ 911,851	\$ 121,433	\$ 1,028,213	
Residential Rate	\$ 17.85	\$ 26.78	\$ 28.11	\$ 29.52	\$ 31.00	\$ 32.55	

	Scenario 3						Cumulative Rate Increase
	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	
Rate Adjustment	0.0%	30.0%	25.0%	5.0%	5.0%	5.0%	88%
FYE Operating Reserves	\$ 710,905	\$ (362,640)	\$ 248,087	\$ 928,311	\$ 1,681,508	\$ 2,511,325	
Percent of Expenditures	11%	-4%	2%	9%	15%	22%	
FYE Other Reserves	\$ 4,667,941	\$ 1,878,261	\$ 1,088,091	\$ 911,851	\$ 121,433	\$ 1,028,213	
Residential Rate	\$ 17.85	\$ 23.21	\$ 29.01	\$ 30.46	\$ 31.98	\$ 33.58	

	Scenario 4						Cumulative Rate Increase
	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	
Rate Adjustment	0.0%	25.0%	25.0%	10.0%	5.0%	5.0%	89%
FYE Operating Reserves	\$ 710,905	\$ (689,368)	\$ (487,052)	\$ 274,854	\$ 1,113,817	\$ 2,033,688	
Percent of Expenditures	11%	-7%	-5%	3%	10%	18%	
FYE Other Reserves	\$ 4,667,941	\$ 1,878,261	\$ 1,088,091	\$ 911,851	\$ 121,433	\$ 1,028,213	
Residential Rate	\$ 17.85	\$ 22.31	\$ 27.89	\$ 30.68	\$ 32.21	\$ 33.82	

8 Rate Survey

The City has not increased rates since July 1, 2006. **Table 4** below provide a comparison of the City's residential rates to the surveyed jurisdictions, assuming a **50%** rate increase effective July 1, 2023 (Scenario 1). As shown, the City's current residential rates are the lowest of the jurisdictions surveyed. Even with a **50%** July 1, 2023 rate increase, the City's monthly residential rate would still more than **\$1.00** per month (**4%**) less than the average rate of the jurisdictions surveyed.

Note: it is expected that some if not many of the rates for the other jurisdictions shown in **Table 4** will need to be increased to provide funding for SB 1383 requirements, which would make the City's rates more favorable in comparison.

Attachment 6 provides a comparison of the City's commercial rates to those of the jurisdictions surveyed based on a **50%** rate increase. As shown, the City's current commercial trash, recycling, and organics rates are significantly lower than the average rate of the surveyed jurisdictions. With a **50%** rate increase the City's commercial trash rates for the identified service levels range from **32% lower** to **1% higher** than the average, the commercial recycling

rate ranges from the same as the average (**0% difference**) to **28% higher** than the average, and the commercial organics rates range from **33% lower** to **4% higher** than the average.

Table 4

Jurisdiction	County	Population	Hauler	Effective Date	Curbside Recycling	Green Waste	Monthly Rate (1)
Porterville	Tulare	59,655	Municipal	7/1/2006	Weekly	Weekly	\$ 17.85
Exeter	Tulare	11,030	Mid-Valley	1/1/2020	Weekly	Weekly	\$ 21.26
Farmersville	Tulare	11,399	Mid-Valley	2020	Weekly	Weekly	\$ 22.63
Madera	Madera	65,415	Mid Valley	7/1/2013	Weekly	Weekly	\$ 23.22
Visalia	Tulare	138,649	Municipal	7/2/2013	Weekly	Weekly	\$ 23.85
Woodlake	Tulare	7,773	Mid-Valley	1/1/2019	Weekly	Weekly	\$ 24.45
Hanford	Kings	59,349	Municipal	7/1/2018	Weekly	Weekly	\$ 25.20
Tulare	Tulare	67,834	Municipal	7/1/2021	Bi-Weekly	Bi-Weekly	\$ 25.53
Fresno	Fresno	545,769	Municipal	7/1/2021	Weekly	Weekly	\$ 25.35
Bakersfield	Kern	392,756	Municipal	7/1/2016	Weekly	Weekly	\$ 25.49
Lindsay	Tulare	13,154	Mid-Valley	7/1/2020	Weekly	Weekly	\$ 25.79
Chowchilla	Madera	18,196	Mid Valley	7/1/2020	Weekly	Weekly	\$ 26.63
Sanger	Fresno	27,185	Mid Valley	2011-2012	Weekly	Weekly	\$ 27.57
Coalinga	Fresno	17,199	Mid Valley	7/1/2019	Weekly	Weekly	\$ 28.01
Wasco	Kern	27,193	Municipal	1/1/2016	Not Provided	Weekly	\$ 28.12
Selma	Fresno	24,436	WMI	2013-2014	Weekly	Weekly	\$ 28.60
Dinuba	Tulare	25,994	Pena	7/1/2018	Weekly	Weekly	\$ 29.53
Clovis	Fresno	119,175	Allied	7/1/2020	Weekly	Weekly	\$ 35.17
Reedley	Fresno	25,917	Municipal	4/1/2020	Weekly	Weekly	\$ 37.89
Merced	Merced	88,120	Municipal	7/1/2020	Weekly	Weekly	\$ 44.49

(1) The City's month rate includes street sweeping. Some of the comparative rates include and others do not include street sweeping.

Average	\$ 27.83
Porterville Rate	\$ 17.85
Porterville Rate vs. Average	\$ (9.98)
	-56%

Porterville SB 1383 Rate @	50.0%	\$ 26.78
Porterville SB 1383 Rate vs. Average Rate		\$ (1.06)
		-4%

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3	CITY OF PORTERVILLE Prepared by R3 Consulting Group										
4	SOLID WASTE RATE MODEL Rate Model Summary (RM 1)										
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8	SUMMARY RESULTS Revenue Expenditures Overall Surplus/(Shortfall) as % of Total Expenditures Current Residential Rate = \$17.85 Monthly Residential Rate Change % Cumulative Change % Annual Change % Operating Reserve Beginning of FY (July 1) End of FY (June 30) % of Expenditures Months of Expenditures Other Reserve Fund FYE Balances Capital Reserve Fund (FYE) Equipment Replacement Fund (FYE) Total (FYE)	CELL DATA SOURCES User Input Calculated Value									
9		1	2	3	4	5	6	7	8	9	10
10		FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31	FY 31-32
11		Budget (City Data)	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
12		\$ 6,555,353	\$ 6,555,353	\$ 6,555,353	\$ 6,555,353	\$ 6,555,353	\$ 6,555,353	\$ 6,882,082	\$ 7,225,146	\$ 7,585,365	\$ 7,963,594
13		\$ 6,700,256	\$ 9,589,269	\$ 10,028,732	\$ 10,490,169	\$ 10,974,677	\$ 11,483,411	\$ 11,517,582	\$ 12,078,461	\$ 12,667,384	\$ 13,285,753
14		\$ (144,903)	\$ (3,033,916)	\$ (3,473,379)	\$ (3,934,816)	\$ (4,419,324)	\$ (4,928,058)	\$ (4,635,500)	\$ (4,853,314)	\$ (5,082,019)	\$ (5,322,159)
15		-2%	-32%	-35%	-38%	-40%	-43%	-40%	-40%	-40%	-40%
16		FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31	FY 31-32
17		\$ 17.85	\$ 17.85	\$ 17.85	\$ 17.85	\$ 17.85	\$ 17.85	\$ 18.74	\$ 19.68	\$ 20.66	\$ 21.70
18		0%	0%	0%	0%	0%	0%	5%	10%	16%	22%
19		0%	0%	0%	0%	0%	0%	5%	5%	5%	5%
20											
21		\$ 855,808	\$ 710,905	\$ 2,323,011	\$ 5,796,390	\$ 9,731,206	\$ 14,150,530	\$ 19,078,588	\$ 23,714,089	\$ 28,567,403	\$ 33,649,422
22		\$ 710,905	\$ 2,323,011	\$ 5,796,390	\$ 9,731,206	\$ 14,150,530	\$ 19,078,588	\$ 23,714,089	\$ 28,567,403	\$ 33,649,422	\$ 38,971,582
23		11%	-24%	-58%	-93%	-129%	-166%	-206%	-237%	-266%	-293%
24		1.3	-2.9	-6.9	-11.1	-15.5	-19.9	-24.7	-28.4	-31.9	-35.2
25		FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31	FY 31-32
26		\$ 1,904,193	\$ 1,309,193	\$ 1,203,193	\$ 1,091,013	\$ 972,468	\$ 847,366	\$ 715,511	\$ 576,701	\$ 430,726	\$ 277,372
27		\$ 2,763,748	\$ 569,068	\$ (115,102)	\$ (179,162)	\$ (851,035)	\$ 180,847	\$ 460,023	\$ (174,831)	\$ 121,348	\$ 719,985
28		\$ 4,667,941	\$ 1,878,261	\$ 1,088,091	\$ 911,851	\$ 121,433	\$ 1,028,213	\$ 1,175,534	\$ 401,870	\$ 552,073	\$ 997,357
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32	REVENUE AND EXPENSE ADJUSTMENTS RATE ADJUSTMENT TIMING INPUTS										
33	Rate Adjustment Effective Date Note: All fiscal years begin July 1st, and the default rate adjustment date will result in decreased rate revenues for the projected fiscal year.	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31	FY 31-32
34		July 1st	July 1st	July 1st	July 1st	July 1st	July 1st	July 1st	July 1st	July 1st	July 1st
35											
36											
37		FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31	FY 31-32
38		Revenue Category									
39		Fees & Grants	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
40		Use of Money & Property	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
41		Residential Rates - Rate Revenue	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%	5.0%
42		Commercial Rates - Rate Revenue	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%	5.0%
43		Roll-Off Rates - Rate Revenue	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%	5.0%
44		Recycling Revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
45		Transfers from Other Funds	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
46		Transfers to Other Funds	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
47		Other Revenue	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
48	Actual Overall Revenue Adjustment User-Overridden Revenue Adjustments on RM2? User-Overridden Projected Revenue on RM2?		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
49			None	None	None	None	None	None	None	None	None
50			Yes, 1	Yes, 1	Yes, 1	Yes, 1	Yes, 1	Yes, 1	Yes, 1	Yes, 1	Yes, 1
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32	RFVFNUE AND EXPENSE ADJUSTMENTS										
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Current Rates															
2 yard															
1x / week															
2x / week															
	Jurisdiction	County	Population	Hauler	Effective Date	Recycling Included in "Current Rates"	Trash			Recycling			Organics		
							Service Level	Rate		Service Level	Rate		Service Level	Rate	
2															
3															
4															
5															
6															
8	Hanford	Kings	53,032	Municipal	7/1/2018	Separate Rate	\$ 67.60	\$ 70.90	2yd - 1x	\$ 67.60	\$ 135.20	\$ 141.80	3yd - 2x	2yd - 2x	\$ 135.20
9	Madera	Madera	18,196	Mid Valley	2013	Separate Rate	\$ 52.11	\$ 31.22	2yd - 1x	not offered	\$ 102.40	\$ 55.98	2yd - 2x	not offered	not offered
10	Sanger	Fresno	27,185	Mid Valley	2010	Separate Rate	\$ 248.49	Recycling Fee = \$1.70 per unit	not offered	not offered	Recycling Fee = \$1.70 per unit	not offered	not offered	not offered	not offered
11	Porterville	Tulare	59,655	Municipal	5/1/2009	Separate Rate	\$ 49.60	\$ 37.20	2yd - 1x	\$ 37.20	\$ 99.20	\$ 74.40	2yd - 2x	2yd - 2x	\$ 74.40
12	Fresno	Fresno	545,769	Allied-Mid Val	7/1/2020	Separate Rate	\$ 79.18	\$ 26.89	2yd - 1x	\$ 48.32	\$ 158.31	\$ 53.70	2yd - 2x	2yd - 2x	\$ 96.60
13	Visalia	Tulare	138,649	Municipal	2013	Separate Rate	\$ 67.45	\$ 39.05	2yd - 1x	\$ 60.15	\$ 124.20	\$ 67.40	2yd - 2x	2yd - 2x	\$ 109.60
14	Chowchilla	Madera	392,756	Mid Valley	7/1/2020	Separate Rate	\$ 83.98	\$ 35.07	2yd - 1x	\$ 59.62	\$ 161.73	\$ 63.13	2yd - 2x	2yd - 2x	\$ 107.32
15	Tulare	Tulare	67,834	Municipal	7/1/2020	Yes	\$ 119.43	bundled with garbage	N/A	\$ 240.70	bundled with garbage				N/A
16	Reedley	Fresno	25,917	Municipal	7/1/2020	Separate Rate	\$ 122.85	\$ 66.19	3yd - 1x	\$ 11.37	\$ 204.71	\$ 90.26	3yd - 2x	96-gal - 1x	\$ 11.37
17	Dinuba	Tulare	25,994	Pena	2/1/2020	Yes	\$ 127.42	bundled with garbage	not offered	\$ 228.16	bundled with garbage	not offered			
18	Lindsay	Tulare	13,154	Mid Valley	10/1/2019	Separate Rate	\$ 82.33	\$ 52.11	2yd - 1x	\$ 79.30	\$ 143.93	\$ 52.11	2yd - 1x	2yd - 2x	\$ 143.96
19	Bakersfield	Kern	392,756	Municipal	2020-2021	Yes	\$ 138.52	\$ 88.06	3yd - 1x	\$ 119.17	\$ 201.13	\$ 192.74	3yd - 2x	3yd - 2x	\$ 254.95
20	Woodlake	Tulare	7,773	Mid-Valley	1/1/2019	Separate Rate	\$ 96.97	\$ 78.29	2yd - 1x	\$ 85.00	\$ 165.37	\$ 78.29	2yd - 1x	2yd - 1x	\$ 85.00
22	Merced	Merced	65,415	Municipal	7/1/2020	Separate Rate	\$ 122.28	\$ 106.39	2yd - 1x	\$ 130.49	\$ 225.16	\$ 194.72	2yd - 2x	2yd - 2x	\$ 240.90
23	Coalinga	Fresno	17,199	Mid Valley	7/1/2019	Separate Rate	\$ 168.91	\$ 38.51	2yd - 1x	\$ 79.21	\$ 168.91	\$ 71.51	2yd - 2x	2yd - 2x	\$ 148.53
24															
25						Average	\$ 98.47	\$ 55.82		\$ 74.02	\$ 168.51	\$ 94.67		\$ 133.34	
26						Porterville Rate	\$ 49.60	\$ 37.20		\$ 37.20	\$ 99.20	\$ 74.40		\$ 74.40	
27						Porterville Rate vs. Average	\$ (48.87)	\$ (18.62)		\$ (69.31)		\$ (20.27)			
28															
29															
34						Porterville SB 1383 Rates @	\$ 74.40	\$ 55.80		\$ 55.80	\$ 148.80	\$ 111.60		\$ 111.60	
35						Porterville SB 1383 Rates vs. Average Rates	\$ (24.07)	\$ (0.02)		\$ (18.22)	\$ (19.71)	\$ 16.93		\$ (21.74)	
36												15%		\$ -19%	

	B	C	D	E	F	G	T	U	V	W	X	Y	AA	AB	AC	AD
						Recycling Included in "Current Rates"	Current Rates									
							3 year									
							1x / week			2x / week						
							Recycling		Organics		Trash		Recycling		Organics	
							Service Level	Rate	Service Level	Rate	Service Level	Rate	Service Level	Rate	Service Level	Rate
2							3yd - 1x	\$ 94.50	\$ 70.90	2yd - 1x	\$ 135.20	\$ 189.00	\$ 3yd - 2x	\$ 141.80	2yd - 2x	\$ 135.20
3							3yd - 1x	\$ 65.84	\$ 41.89	not offered	not offered	\$ 130.34	\$ 3yd - 2x	\$ 72.72	not offered	not offered
4							not offered	not offered	not offered	not offered	not offered	not offered	not offered	not offered	not offered	not offered
5							3 yd - 1x	\$ 74.40	\$ 55.80	3 yd - 1x	\$ 55.80	\$ 148.80	\$ 3yd - 2x	\$ 111.60	\$ 3yd - 2x	\$ 111.60
6							3yd - 1x	\$ 117.02	\$ 39.48	3yd - 1x	\$ 71.03	\$ 232.12	\$ 3yd - 2x	\$ 78.08	3yd - 2x	\$ 140.47
8	Hanford	Kings	53,032	Municipal	7/1/2018	Separate Rate	\$ 83.00	\$ 47.40	3yd - 1x	\$ 72.05	\$ 154.10	\$ 82.90	\$ 3yd - 2x	\$ 82.90	3yd - 2x	\$ 132.20
9	Madera	Madera	18,196	Mid Valley	2013	Separate Rate	\$ 107.52	\$ 44.69	3yd - 1x	\$ 75.97	\$ 211.92	\$ 80.44	\$ 3yd - 2x	\$ 80.44	3yd - 2x	\$ 136.75
10	Sanger	Fresno	27,185	Mid Valley	2010	Separate Rate	\$ 153.34	bundled with garbage	N/A		\$ 308.61	bundled with garbage			N/A	
11	Porterville	Tulare	59,655	Municipal	5/1/2009	Separate Rate		not offered				not offered				
12	Fresno	Fresno	545,769	Allied-Mid Val	7/1/2020	Separate Rate	\$ 178.34	bundled with garbage	not offered		\$ 313.89	bundled with garbage			not offered	
13	Visalia	Tulare	138,649	Municipal	2013	Separate Rate	\$ 114.27	\$ 72.33	2yd - 1x	\$ 79.30	\$ 198.97	\$ 3yd - 2x	\$ 121.39	2yd - 2x	\$ 143.96	
14	Chowchilla	Madera	392,756	Mid Valley	7/1/2020	Separate Rate	\$ 172.26	\$ 88.06	3yd - 1x	\$ 119.17	\$ 253.53	\$ 3yd - 2x	\$ 192.74	3yd - 2x	\$ 254.95	
15	Tulare	Tulare	67,834	Municipal	7/1/2020	Yes	\$ 135.42	\$ 109.60	2yd - 1x	\$ 85.00	\$ 231.02	\$ 3yd - 1x	\$ 109.60	2yd - 1x	\$ 85.00	
16	Reedley	Fresno	25,917	Municipal	7/1/2020	Separate Rate	\$ 133.28	\$ 115.84	3yd - 1x	\$ 142.30	\$ 247.20	\$ 3yd - 2x	\$ 213.63	3yd - 2x	\$ 264.54	
17	Dinuba	Tulare	25,994	Pena	2/1/2020	Separate Rate	\$ 253.04	\$ 60.51	2yd - 1x	\$ 79.21	\$ 253.04	\$ 3yd - 2x	\$ 121.02	2yd - 2x	\$ 148.53	
18	Lindsay	Tulare	13,154	Mid Valley	10/1/2019	Separate Rate										
19	Bakersfield	Kern	392,756	Municipal	2020-2021	Yes										
20	Woodlake	Tulare	7,773	Mid-Valley	1/1/2019	Separate Rate										
21	Merced	Merced	65,415	Municipal	7/1/2020	Separate Rate										
22	Coalinga	Fresno	17,199	Mid Valley	7/1/2019	Separate Rate										
23																
24																
25						Average	\$ 129.40	\$ 67.86		\$ 95.47	\$ 220.96	\$ 120.54		\$ 120.54		\$ 160.18
26						Porterville Rate	\$ 74.40	\$ 55.80		\$ 55.80	\$ 148.80	\$ 111.60		\$ 111.60		\$ 111.60
27						Porterville Rate	\$ (55.00)	\$ (12.06)		\$ (12.06)	\$ (72.16)	\$ (8.94)		\$ (8.94)		\$ (48.58)
28						vs. Average	-74%	-22%			-48%	-8%				-44%
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CONSULTING GROUP, INC.

RESOURCES • RESPECT • RESPONSIBILITY

*Sloan*VAZQUEZMcAfee
MUNICIPAL SOLID WASTE ADVISORS

Final Report:

Solid Waste Operational Review (Route Study)



SUBMITTED TO:

City of Porterville, CA

August 11, 2022

R3

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- B City of Phoenix Training Guide
- C Safe Driver Observation Form
- D Initial Fair Days Work Analysis
- E Operational Assessment and Technology Review Report

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Executive Summary

Overall Assessment

The City of Porterville's (City) Field Services Division (Division) is doing a good job with available resources however, those resources are not adequate to support an operation that is in line with industry standards for safety, customer service, and operational performance. Staff appear to be dedicated and qualified but significant advancements in the industry over the past 20 years covering all aspects of collection operations have largely not been incorporated into the Division's operations. If the Division is to operate to industry standards not only is a significant investment needed, but there needs to be a systematic revamping of how the Division's operations and services are structured, operated, and managed. In addition, the Division needs significant additional resources to comply with SB 1383 which became effective January 1, 2022.

To move forward effectively, the Division needs to establish clear policies and procedures. It needs to put in place comprehensive new hire, and refresher safety and operations training programs that are based on those established policies and procedures. It needs to strengthen its customer service system. Performance standards need to be established, and relevant data collected and analyzed on a daily, weekly, and monthly basis to support safe and effective operations. To accomplish the above, the Division will need additional experienced staff, and an annual budget for necessary supporting services (e.g., training program development, routing expertise, customer relations management (CRM) support, internal coaching, etc.).

Note: Division management has begun making changes to existing operations in support of the findings presented in this Operational Review.

Key Findings

Operational Review

Key findings of the operational review pertaining to the three pillars of an effective solid waste operation: Safety, Customer Service, and Operational Performance are as follows:

Safety

- Pre-trips and post-trips are not conducted properly or consistently by all drivers.
- There is no formal policy or procedure for managing and addressing overweight vehicle occurrences.
- The current safety program is not to industry standards. Solid waste collection relevant safety information should be provided and additional safety data should be internally tracked and analyzed.
- Drivers are trained and signed off by other drivers. Supervisor(s) and/or management should be the authoritative party in deciding qualifications of a new hire throughout the probationary period.

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Operational Review

Customer Service

- The customer database is not centralized, and multiple software programs are used to track and monitor customer account activity.
- Clerical Assistants, who essentially serve as the Division customer service representatives and dispatchers are not universally trained, and each has his/her own way of performing job functions. This is problematic when coverage is necessary and leads to delays in work processes.
- Communication with drivers is currently problematic. Drivers are using personal cell phones which they are not required to utilize for work and therefore do not have to make and/or receive Division-related calls.
- Missed Pick-Ups (MPUs) are not currently tracked and managed in a manner that deters repeat service failures.
- Service fees are not consistently applied. Additionally, some service fees are not charged at a rate consistent with the cost of the service provided (e.g., return services typically cost on the order of \$50.00 per return service and the Division currently charges \$10.00).

Operational Performance

- The Division does not have a comprehensive list of documented policies and procedures.
- There is not sufficient route supervision, or analytical support to provide management and supervisor(s) with the information needed to effectively manage operations.
- The residential and commercial collection systems are understaffed, which results in considerable overtime.
- Daily workloads are not effectively balanced among existing routes;

Fair day work standards need to be developed for the residential and commercial collection systems and those systems rerouted based on those established standards.
- The Division does not use time clocks which could be beneficial and are the industry standard.
- Same day service can be implemented, although it may require some special routing for hard to service accounts. Should the City decide to implement same day service it will need to restructure and reroute its entire residential collection system. This will provide the opportunity for optimizing residential routes and daily workloads.

Technology Review

As part of the Operational Review, Sloan, Vazquez, McAfee (SVM) evaluated several potential technology enhancements for Division consideration. SVM's Operational Assessment Technology Report is provided in **Attachment E**. Key findings are provided below.

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Integrated Customer Relationship Manager Software

- The use of an industry-specific customer service relationship manager (CRM) has become essential for efficient and cost-effective solid waste operations.
- The City's solid waste operation lacks an effective integrated CRM.
- Customer Service and related functions can be greatly improved by procuring an industry-specific CRM to process customer requests, complaints, and inquiries.
- Introducing a new CRM will require advance planning and on-going coordination, including selecting the best system, meeting the requirements for conversion, creating the CRM database, and training staff.

On-Board Devices (Tablets/Computers)

- With the proliferation of smaller devices such as laptops, workbooks, tablets, and even telephones, the functionality of device access has expanded the opportunities for efficiency gains and service quality improvements.
- While using these devices mounted in a collection vehicle may at times be too expensive or ambitious, the more practical uses for this technology are in route supervision, container pick-up and delivery, bulky item collection, and routing and billing auditing.
- The City does not currently use on-board devices due to a lack of an integrated CRM.
- To introduce on-board devices, the solid waste operation must either acquire a CRM system or choose a standalone product from a vendor such as FleetMind or SmartWare.

RFID Tag Identification

- The application of RFID tags offers the potential to improve container management and tracking.
- Bar Code labels can also be used to improve container inventory management but offer less functionality than RFID tags. Bar Code labels are attached to containers as a sticker.
- To introduce RFID tags, the solid waste operation must either also acquire a CRM system or choose a standalone product from vendors such as FleetMind or SmartWare.

On-Board Interior/Exterior Camera Monitoring System

- Most vehicles are equipped with a 2-camera system; one for the hopper area and a back-up camera provided by Safety Vision and multiple other manufacturers.
- Almost all of the Division's collection vehicles are equipped with Lytx event recorders that capture the driver and provide a front view.
- The Lytx system allows for GPS tracking of vehicles, capturing evidence during accidents, and critical incidents for use in safety training or compliance.
- To maximize the benefit from the use of systems such as Lytx requires an intentional effort to assign staff and provide training to perform new tasks.

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Operational
Review

- While the Lytx system provides useful tools, the system is currently underutilized due to lack of training and recent changes in personnel.

On-Board Truck Scales

- The Porterville operation does not currently equip its fleet with on-board scales.
- Procuring and installing on-board scales can range between \$15,000 to \$20,000 per truck.
- Because of the heavy demands placed on them in while loading trucks, on-board scales are high maintenance and are often out-of-order. Furthermore, maintenance personnel typically do not consider them a high priority when it comes to repairing them.
- To justify these expenditures would require a focused effort to use the on-board scales to maximize payloads that could result in a reduction in number of trucks and personnel needed to provide collection service.

Upgraded Field Communications

- Porterville operation uses a two-way radio system with a base in the office as the primary means of communication with the drivers.
- When out of range, drivers use their personal cell phones as a secondary means of communication to call the office landline.
- Solid waste operations have adapted by continuing the use of radio service when available, and by migrating to push-to-talk systems or to the use of cellular phones.
- A notable trend is the reduction in oral communication by use of on-board devices to communicate with the customer service system in real time. This advancement is not viable without a dedicated CRM system.

1 Introduction

R3 Consulting Group (R3) was originally engaged by the City to conduct a Solid Waste Study that involved the following major tasks:

- Solid Waste Collection System Operational Review** – Evaluating how the Division currently provides solid waste services, and making recommendations for improving the overall performance of the City’s municipal solid waste management system;
- Technology Review** – Assessing a range of technologies for potential use by the Division, including: RFID tags; smartphone mobile applications; and upgraded field communications systems;
- Rate Model / Financial Plan** – Developing an Excel-based Rate Model / Financial Plan to be used to project the Division’s costs over an extended planning period (e.g., 1-5 and 5-10 years) accounting for, among other things, timely vehicle replacement and other future capital costs;
- Jurisdictional Rate Survey** – Comparing the City’s solid waste rates to those of other cities in the greater San Joaquin Valley;

- **Solid Waste Vehicle Impact Fee** – Quantifying a fee that could be charged to the Division for that portion of the City's the street maintenance costs associated with repairs caused by the City's solid waste vehicles; and
- **Proposition 218 Hearing** – Supporting the City's compliance with Proposition 218 requirements.

This document addresses the **Solid Waste Collection System Operational Review** and **Technology Review**.

2 Project Objective

To review the Division's operations to identify opportunities for improved efficiency and provide recommendations for specific changes to support operations and services on par with generally practiced industry standards.

3 Approach | Scope of Review

As part of our review R3 conducted a wide range of tasks, including but not limited to:

- Observing various functions within the operations of the Division, including fleet maintenance;
- Observing morning routines and day-to-day operational activities;
- Interviewing personnel in each area of the Division (management, supervisor/driver(s), dispatch/customer service);
- Reviewing existing policies and procedures;
- Evaluating existing routes and workloads; and
- Reviewing a wide range of information and data (to the degree available) including:
 - Safety statistics;
 - Load weight data and the tracking of load weights and overweight vehicles;
 - Productivity data including residential and commercial workloads;
 - Residential collection routes;
 - Job descriptions;
 - Missed pickup data;
 - Vehicle replacement schedule;
 - Organizational structure, and roles and responsibilities;
 - Driver training program; and
 - Tracking of work hours.

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4 Background

The City is a charter city that was incorporated in 1901. The City has a current population of nearly 60,000 and is located in Tulare County; 17 miles east of State Route 99, approximately 70 miles south of Fresno and 50 miles north of Bakersfield. The incorporated area of the City covers approximately 17.6 square miles and is in the process of annexation to incorporate additional acreage and associated residences and businesses.

Division Services

The Division provides residential, commercial, and roll off services to the following:

- Approximately 14,000 residential customers (cans);
- Approximately 1,200 commercial customers (bins);¹
- Approximately 100 commercial roll-off customers (boxes); and
- Up to 90 (temporary) residential customers (bins).

By City ordinance, the Division is the exclusive hauler for all residential and commercial solid waste services, including permanent and temporary roll-off services. All residential and commercial solid waste loads are taken to the Tulare County Teapot Dome Landfill for disposal². Division vehicles that haul loads of green waste and recyclable materials are taken to the City's transfer station where a third-party contractor hauls the material offsite for processing.

Staffing Schedule

All route drivers work four (4) ten (10) hour days per week, with residential and commercial services provided five (5) days per week. There is also one (1) Saturday commercial trash route. Roll-off containers are collected Monday through Friday.

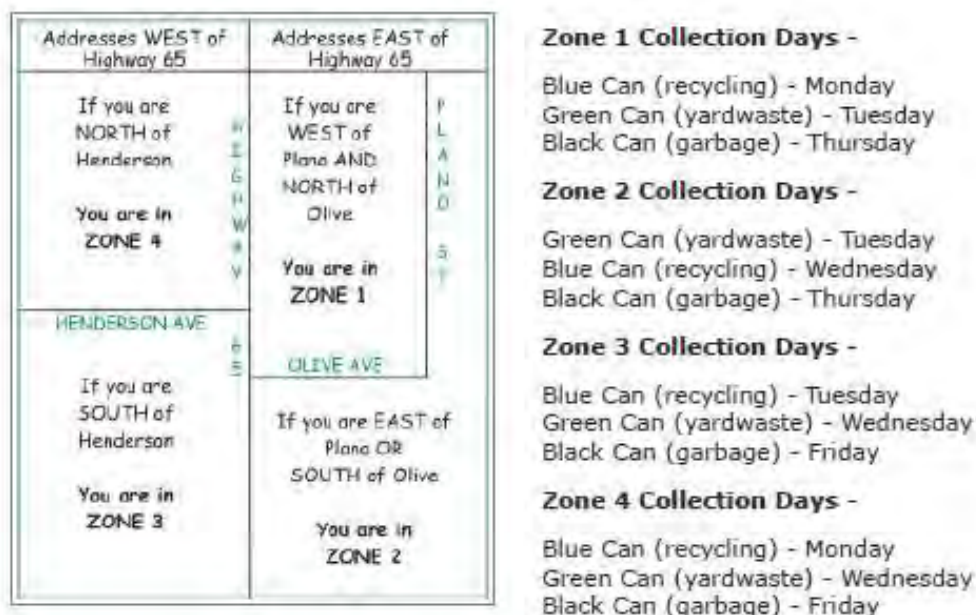
4.1 Residential Collection System

The City is divided into four (4) collection zones, each representing a section of the City that would receive service for each individual commodity (solid waste, recycling, and green waste) on three separate days. The zoning description and associated collection breakdown is provided in **Figure 1** on the following page.

¹ There are a few commercial accounts that utilize residential containers (cans) for service.

² The County has informed the Division that the Teapot Dome facility will be closing within the next 2 years at which point the Division will need to deliver trash to the County's Woodville Landfill located at 19800 Road 152, 5 mi S of SR 137, 7 mi SE of Tulare, Visalia, CA 93291.

Figure 1
Residential Routes



The Division is considering moving away from the current structure that requires residents to place each container out for collection on three separate days to a structure in which customers bring all three cans to the curb for collection on the same day, which is the industry standard. A review of the Same Day Service option is provided in Section 7. Most but not all accounts receive curbside services, with some limited alley collection.

Current residential service is provided primarily utilizing 95-gallon cans for trash (black) and green waste (green) and 65-gallon cans for recyclables (blue), although customers can opt for 35- or 65-gallon cans for trash and 65-gallon cans for green waste. Each residential can is serviced once per week.

Note: The City's black, green, and blue cart color convention is in line with CalRecycle requirements under SB 1383.

Currently, there are a total of 28 defined weekly residential routes spread over the five service days. The routing breakdown by day is provided in **Table 1**:

Table 1
Residential Routes by Day and Commodity

Day of Week	Trash	Recycling	Organics	Total
Monday	0	4	0	4
Tuesday	0	2	4	6
Wednesday	0	0	4	4
Thursday	7	0	0	7
Friday	7	0	0	7
Total	14	6	8	28

Container maintenance/delivery routes: Monday through Friday, as needed

Operational
Review

Residential services are provided with the following resources:

Staffing

- 1 - supervisor position
- 2 - lead worker positions
- 8 - residential operator positions
- 1 - maintenance/delivery position

Equipment

- Inventory of approximately 16,000 each of black, green, and blue cans
- 11 - automated side loaders (ASL)
- 1 - ½ ton pickup truck for container delivery, removals, and repairs
- 1 - ½ ton pickup truck for supervisor(s)
- 3 - flatbed trucks for special deliveries, special hauls, and alley clean ups

4.2 Commercial Collection System

The Division provides commercial collection services for trash (six days per week), recycling (five days per week), and organic waste (one day per week) utilizing front-end loading (FEL) vehicles. Service is provided utilizing a variety of bin sizes ranging from 2 to 6 yards. Commercial food waste is collected in 2 or 3-yard bins. The commercial FELs are all single compartment trucks that carry one waste stream at a time. The Division provides temporary commercial bin (2 to 6 yard) rentals for residential usage and FEL drivers may service up to 12 per day during regular route collection.

Table 2, below, provides an accounting of the commercial lifts for each day of the week and in total. **Table 3**, on the following page, provides an accounting of the number of routes per day for each of the three commodities.

Table 2
Commercial Accounts and Pickups by Commodity

Commodity	Accounts	Pickups							Ave Weekly Freq.
		Mon	Tues	Wed	Thurs	Fri	Sat	Total	
Trash	1,023	364	326	306	354	329	110	1,789	1.7
Recycling	212	104	8	98	100	90	15	415	2.0
Organics	18	2	6	13	2	4	2	29	1.6

Table 3
Commercial Routes by Day and Commodity

Day of Week	Trash	Recycling	Organics
Monday	2	1	0
Tuesday	2	1	0
Wednesday	2	1	1
Thursday	2	1	0
Friday	2	1	0
Saturday	1	0	0
Total	11	5	1

Note: *There is conflicting data on schedule for commercial recycling and organics services. Table 2 data shows both commercial recycling and commercial organics services six (6) days per week. The Division reported that recycling and organics bins scheduled for Saturday are collected on the trash route and commingled with trash. This practice should be discontinued with recycling and organics Saturday rescheduled for weekday collection by the appropriate routes. Additionally, organics accounts should be consolidated on to one or two weekday collections.*

Commercial services are provided with the following resources:

Staffing

- 1 - supervisor position (same supervisor responsible for residential services)
- 2 - lead worker positions (overlaps with residential positions)
- 5 - commercial operator positions

Equipment

- Inventory of approximately 23 one-yd, 210 two-yd, 760 three-yd, 450 four-yd, and 40 six-yd bins
- 8 - front-end loaders

4.3 Roll-Off Services

The Division provides roll-off bin service for the following materials:

- Mixed waste;
- Construction and demolition debris; and
- Green waste.

Roll-off services are provided with the following resources:

Operational
Review**Staffing**

- 1 - supervisor position (same supervisor responsible for residential and commercial services)
- 2 - roll-off operator positions

Equipment

- Inventory of approximately 5 fifteen-yd and 96 thirty-yd boxes. Drivers also service 9 privately-owned compactors.
- 4 - roll-off trucks.

Roll Off operations service (drop-off, switch-out, pick-up), up to 12 boxes per day.

4.4 Street Sweeping

The City provides street sweeping services to residential and commercial streets, arterial streets, City-maintained parking lots, and paved alleyways. Frequency of services in residential and commercial areas are once per month, with the exception of Downtown Porterville, which are serviced once per week. Approximately 475 miles of streets swept once per month.

Staffing

- 1 - supervisor position (same supervisor responsible for services listed above)
- 1 - full time employee

Equipment

- 3 - vacuum sweepers
- 1 - broom sweeper

4.5 Other Services

The Division also provides the following services:

- **Free Dump Day** – The Division provides 2 (two) free dump day events per year; one in April and one in October at the City Corporation Yard. These events are provided so that residents (City residents only) can dispose of excess trash, green waste, cardboard, concrete, metal, and e-waste free of charge.
- **Christmas Tree Drop-Off** – The program is conducted for a two-week period beginning the first Monday following Christmas Day. 30-yard roll-off boxes are placed at the City Corporation Yard for residents to drop off their used Christmas trees. At the conclusion of the two-week period, and as needed during the two-week period, the roll off boxes are hauled to the green waste site at the Tulare County Landfill.

4.6 Transfer Stations

The City has a permitted transfer station located at 555 North Prospect Street that is permitted for the following operations:

- Transfer / Processing Facility (MRF)
- Compostable Materials Handling Operations

The facility is permitted for 500 tons per day, and 136 vehicles per day (97 collection vehicles and 39 transfer trailers). All residential green waste, commercial organics, and residential and commercial recyclables are delivered to the transfer station. The recycling transfer station consists of a concrete pad as shown in **Picture 1** below. Recycling routes tip their loads of recyclables directly into transfer trailers. Green waste is tipped onto a dirt surface, as shown below in **Picture 2**, and then loaded into drop boxes which are then transferred to Pena's Disposal Service at 12094 Avenue 408 in Cutler, CA. The Division's capital improvement program calls for improving both the green waste and recycling transfer stations, and also adding administrative space and expanded vehicle maintenance facilities.

Picture 1
Recyclables Transfer Station



Picture 2
Green Waste Transfer Station



4.7 Facilities | Contract Services

Trash

The City's trash collection trucks haul their loads to Tulare County's Teapot Dome Landfill. The County has informed the City that the Tea Pot Dome Landfill will be closing within the next 2 years. At that point the City will need to deliver solid waste to the County's Woodville Landfill. Hauling loads to the Woodville Landfill is expected to result in an estimated 20 additional minutes per load.

Green Waste

Green waste is taken to the City's transfer station where it is dumped on the tipping floor and then loaded into roll-off boxes and hauled by Pena's Disposal Service to its facility located at 12094 Avenue 408 in Cutler, CA.

Recyclables

Recyclable material is taken to the City's transfer station where it is dumped on the tipping floor and then loaded into roll-off boxes and hauled by Pena's Disposal Service to its facility located at 12094 Avenue 408 in Cutler, CA.

5 The Challenge of Municipal Operations

Perhaps the greatest advantage of municipal operations is the direct control that the jurisdiction has over its solid waste management system. A jurisdiction also has the ability to be responsive to issues that arise outside of regular collection (e.g., trash resulting from homelessness, illegal dumping, etc.). Alternatively, with total control also comes total responsibility for the safety, and operational, financial, and regulatory compliance aspects of those services.

One of the greatest disadvantages of municipal operations, as compared to private sector operations, is the lack of economies of scale, and supporting resources provided by a corporate office. Municipal operations also typically lack direct control over key fundamental support services (i.e., safety, vehicle maintenance, customer service, and billing). Additionally, City Council goals and objectives (e.g., minimize rate impacts to residents) may not always align with the operational and financial needs of solid waste management operations, which are ever increasing in part due to unfunded state mandates.

In the private sector, a hauler's general manager reports directly to the regional manager, and their goals and objectives are fully aligned. Those goals and objectives are supported by larger corporate resources, which are significant in the case of regional and national haulers (e.g., Republic, Waste Management, Mid Valley Disposal). Those resources include dedicated safety managers, comprehensive and ongoing safety training programs, GIS routing capacity, and clearly established policies and procedures. While municipal operations have and continue to incorporate best management industry practices, as noted above they are at a fundamental disadvantage to the private sector due to the lack of economies of scale, dedicated corporate support services, and the lack of direct control over their critical support services. If the City is to operate a municipal collection system to industry standards, City management, and current and future City Councils need to fully support that effort by providing the necessary operational and financial resources.

6 Findings and Recommendations

In considering our findings and recommendations provided below, we encourage the Division to take a measured, organized, and methodical approach to implementing any changes. This includes developing appropriate supporting policies and procedures, providing associated

staff training and oversight, and holding staff accountable for performance so that desired changes become standard operating procedures and are sustained.

6.1 Safety

1. Pre-Trips Are Not Being Done Consistently

Pre-trip inspections are required for the operation of commercial vehicles pursuant to federal law. During a pre-trip inspection a driver completes a Driver Vehicle Inspection Report (DVIR) to record all findings, positive and negative, regarding the operation of a commercial vehicle. DVIRs no longer need to be kept in the vehicle itself, but are required to be completed daily, filed, and kept for no less than 3 months. The importance of a pre-trip inspection is to identify potential vehicle failures prior to the vehicle entering public roadways to reduce the risk of accidents and avoid service interruptions.

As part of our review, R3 observed morning routines and dispatch operations. The quality of pre-trip routines varied considerably among drivers. Some would exit the yard without conducting a pre-trip, some would conduct some standard pre-trip activities, including testing their hydraulics to ensure they were working, but none of the drivers conducted a brake test.

Recommendations:

- A. *Reorganize the collection vehicle parking lot to group vehicles by launch time (i.e., commercial vehicles grouped together and assigned stalls, etc.). The assigned parking locations enable supervisor/management to observe and ensure that proper pre-trips are being conducted more effectively.*
- B. *Develop a specific policy and protocol for pre- **and post-trip** inspections and implement a new hire and refresher training program for all employees to ensure that they understand the policy and protocol and have been effectively trained.*
- C. *Morning supervision should be implemented in order to ensure that the morning launch routine (including the pre-trip inspection) is conducted concisely, effectively, and completely. . Incorporating this requirement may result in an adjustment of the Supervisor's schedule from 4 days per week 10 hours per day to 5 days per week 8 hours per day, or the addition of another Supervisor (or at least equitable position).*

2. Drivers are Overloading Vehicles

The Division currently records overweight vehicles, but that information is not tracked and reported daily to the offending drivers. Additionally, there is no policy or procedure for management's daily review of vehicle load weights.

The Division's 2019 Overweight Trips Report identified a total of 335 overweight vehicles for the year, which is 5% of the total trash loads hauled in 2019. There were three (3) drivers that accounted for 47.5% of all overweight loads. Overweight loads create maintenance issues, increase associated street maintenance costs, and put the City at risk should an overweight

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vehicle be involved in an accident. The industry standard is to track vehicle weights on a daily basis, identify all overweight loads, and take immediate corrective action with the drivers.³

For purposes of an industry standard, WMI's overweight vehicle policy is that any load that is overweight by less than 1 ton triggers a root cause analysis (and form) and monitoring with adjustments as needed depending on circumstances of the root cause. Any load that is overweight by more than 1 ton is automatic disciplinary action and a root cause analysis.

Recommendations:

D. Implement an **Overweight Vehicle Policy** and notify and train staff for compliance with that policy. **Attachment A** provides a draft Overweight Vehicle Policy (and Overweight Load Incident Review reporting form), that we recommend the Division review, revise as appropriate, and implement. As noted, under the proposed policy supervisor(s) (or administrative staff) would be responsible for printing out daily Vehicle Weight Reports. The Field Services Supervisor would be responsible for:

- Reviewing those reports at the end of each day and identifying all overweight vehicles and the offending driver;
- Reviewing all cases of overweight loads with drivers the next day; and
- Documenting an Overweight Load Incident Review before that driver starts his or her route the next day.

3. Division Specific OSHA Form 300 and Other Safety Data is not Tracked, Analyzed and Reported

Tracking OSHA frequency rates, severity rates, and vehicle accidents is the industry standard. While OSHA data is tracked at the Public Works Department level, Division specific data is not tracked and there are no established safety standards, metrics, or historical OSHA results against which to measure performance. The lack of Division specific vehicle accident, and worker injury data at a level that allows for identifying and evaluating the root causes, means the Division does not have the information it needs to determine the primary causes of vehicle accidents and injuries. As such, it has no basis upon which to establish policies and procedures to address those root causes and develop targeted safety training.

Recommendations:

E. Starting with 2021 data, begin tracking and reporting the following data specific to the Division:

- OSHA and Non-OSHA reportable accidents and injuries;

³ A standard for enforcing weight laws has been established by the CHP. The standard states, "Vehicles weighing in excess of the legal limits by 100 pounds or more shall not be permitted to proceed until the overload has been adjusted or removed." In practice, CHP may allow for a 200-pound *variation factor*. After applying the variation factor, any vehicle exceeding the axle weight, axle group weight, or gross weight limits by 100 pounds or more will be issued a citation and required either to adjust the load to make it legal or obtain an overweight permit before proceeding.

- OSHA Total Reportable Incident Rates (TRIR) [injury frequency rate];
- Days Away from Work, Job Restriction or Transfer (DART) Rates [injury severity rate]
- Vehicle accident-related benchmarks:
 - Vehicle Accident Recordable Rate (VARR) – The number of operational hours between vehicle accidents – the higher the VARR, the better.
 - Property Accident Recordable Rate (PARR) – The number of operational hours between property accidents – the higher the PARR, the better.
 - Severity Rate – calculation of days away from work due to injury
 - Number of vehicle accidents and number of property accidents per 100,000 miles driven.⁴

Conduct root cause assessment of all accidents and injuries and track and report that data in support of specific actions to address primary causes of accidents and injuries.

4. The Division Does Not Have a Solid Waste Specific Safety Training Program

The consideration of “Safety First” is the industry standard and the foundation of effective solid waste management operations. It impacts customer service, employee morale, operational costs, and other factors. Solid waste and recyclable materials collectors have one of the most dangerous jobs in the country, consistently ranking in the top ten jobs with respect to the number of fatal injuries per 100,000 full-time employees; higher than both police officers and firefighters. Waste Management, Inc. and Republic Services, the two largest private solid waste management companies in the country, have dedicated considerable attention to safety, which has been reflected in significant improvements in their safety records over time.

Our experience has been, however, that municipal solid waste operations tend to have relatively poor safety records, as compared to the industry. This is likely due to a combination of factors, including relatively limited safety resources as compared to larger private haulers, and the success of the safety programs of the largest private operators in the industry. This has resulted in improvements to the industry safety standard against which individual operator safety performance, including that of municipal operations, is measured.

A good safety program is proactive, considers the specific causes of driving accidents and worker injuries and focuses training on addressing those underlying root causes. Our findings related to the lack of effective vehicle pre-trips and excessive overweight vehicle discussed above, highlight safety issues that should be City and Division priorities.

⁴ Track all vehicle accidents in detail including date, time, weather, location, type of accident, cause of accident, party at fault, etc. Review prior existing vehicle accident data, categorize, and evaluate as to type and cause to determine the most common types of accidents (e.g., backing, intersections, etc.) and establish associated training.

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While the City's Risk Management Department appears to be conducting required "general" safety training via distribution of a City-wide safety binder, the Division does not have a dedicated "solid waste collection" specific training program. Such a program is a best management practice, and a fundamental component of an effective solid waste management operation. Developing and implementing such a program requires safety staffing, training (i.e., train the trainer), and supporting resources, which the City/Risk Management/Division does not currently have.

Note: *The Division currently pays an annual licensing fee for a Lytx (hardware and software) program that incorporates a system of cameras on each collection vehicle for the purpose of improving driver behavior. The tool itself is valuable, but there is not currently a system in place to utilize the program proactively and effectively, which diminishes its value.*

Recommendations:

- F. *Hire a full-time Administrative Analyst, ideally with an analytical and safety background who would initially have direct responsibility for completing, or otherwise facilitating completion of the following:*
 - i. *Implementation of a Management by Metrics (M&M) program that includes, at a minimum, the recommended benchmarks listed in **Item 20** below (The Division Realizes the Value of Performance Benchmarking but Does Not Currently Have the Resources Necessary to Implementing a Broad-Based Program).*
 - ii. *Root cause analysis of every vehicle accident and worker injury and tracking of the top 5 causes of vehicle accidents and top 5 causes of worker injuries within the Division.*
 - iii. *Developing a Division New Hire and Refresher (and Cross) Training Program that is based on understanding the underlying causes of the Division's vehicle accidents and worker injuries.⁵*
- G. *Have Division management, supervisor(s), and lead workers (if warranted) actively participate in SWANA safety training opportunities.⁶*
- H. *Provide supervisor(s) with appropriate route supervisor training, relevant software training (Lytx, Access, Excel), and management reports developed to provide actionable performance data.*
- I. *Develop Cross-Training Program - Delegation of duties and cross-training are key to the success of the division.*

⁵ Weekly Safety Meetings should include vehicle safety, physical safety, OSHA, HHW safety, refresher topics like lock-out tag-out, and other relevant topics.

⁶ SWANA's annual Safety Summit is a curated program track that focuses solely on all aspects of solid waste safety, including garbage truck safety, safe practices in landfills and transfer stations, and more. Speakers talk about their experiences with enforcing rules and regulations with everything, from OSHA to fires.

- J. Utilize existing Lytx program and train managerial staff on functionality and proper coaching techniques to drive behavioral change.⁷

Safety Training Case Study

Attachment B provides an article on the City of Phoenix's safety program, which provides a good overview of an effective Safety Program that decreased accidents from 8.1 per 100,000 miles driven in 2000, to 0.89 accidents per 100,000 miles driven in 2012. As noted, prospective candidates that have the necessary paperwork first take a Driving Skills Assessment Test. If the candidate passes that test, they go on to an interview process, followed by a Personal Selection Inventory (PSI) Assessment, which is helpful in identifying customer service and safety orientated employees. Successful candidates then report to the City of Phoenix Employee Driver Training Academy (EDTA) for three weeks of classroom and course training, during which time they are evaluated on driving skills by the training Solid Waste Foreman, who will decide if they need more training or are to move on to Field Training, with an authorized training Solid Waste Equipment Operator (SWEO), who has been authorized to train after undergoing "train the trainer" training. The SWEO is then assigned to a training route, after being signed off by the trainer and management. Refresher training is accomplished through weekly tailgate safety program meetings; same day and time each week to establish and maintain consistency in expectation.

Suggested Initial Safety Focus

Republic Services, the second largest waste hauler in the country, has a comprehensive corporate safety program with its "Safe Actions for Excellence" (SAFE) booklet providing its Safety Policy and related standards and responsibilities. A key part of Republic's safety program is its **Focus 6** training that focuses on eliminating the six most common or significant types of industry specific accidents:

- *Intersections;*
- *Employees;*
- *Backing;*⁸
- *Rollovers;*
- *Pedestrians; and*
- *Rear Collisions.*

⁷ Lytx is designed to capture video and audio inside and outside the vehicle when triggered by abrupt actions (such as hard braking, sudden acceleration, swerving or a collision) and provide real-time feedback. The risky driving events are then analyzed, scored by a third-party evaluator, and posted to a secure website for driver coaching and improvement. Lytx, when properly implemented also helps protect the City from false damage claims related to the Division's vehicles.

⁸ A large portion of total accidents in the Solid Waste industry occur while backing. However, backing accidents are 100% Preventable.

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Absent Division specific data on its most common accidents and injuries, we suggest the Division (with City Risk Management support, as possible) start the development of the Division's Safety Program by developing policies and procedures, and providing training specific to each of the six (6) areas listed above.

Additionally, we suggest implementing a policy of zero-tolerance around an explicit list of specific actions, similar to what Waste Management utilizes. The following list is referred to by Waste Management as the **Life Critical Rules**:

- **Never** back a vehicle with someone on the riding steps.
- **Never** back a dual drive vehicle from the right side without the proper mirrors, camera(s)/monitor.
- **Never** exceed the speed limits posted or set by policy for school zones, riding steps, and stand-up right-side driving.
- **Always** comply with Hazardous Energy Control Program (Lock Out / Tag Out (LOTO)) procedures.
- **Always** comply with seatbelt rules.
- **Never** zigzag.
- **Never** double-side unless approved by management and specific conditions are met.
- **Never** modify or disable equipment safety devices.
- **Always** comply with tipping floor or workplace rules.
- **Always** apply parking brakes when exiting a vehicle.
- **Never** use a communication device while driving or operating vehicles or mobile equipment.

The Life Critical Rules listed above were named as such because each of the described actions lead to industry fatalities of either the driver involved or members of the public. These rules are the core of Waste Management's safety program and drivers are required to memorize each of these rules.

The Division should adopt a similar list (updated as appropriate for relevancy) of non-negotiable zero tolerance safety rules as the foundational piece of any safety program development.

5. Drivers Are Trained and Signed Off by Other Drivers

Drivers are currently joining the Division as probationary employees and begin training immediately with other drivers. At the end of the probationary period, the drivers sign off on the probationary driver rather than management.

The lack of documented Division specific policies and procedures or formal operational standards for drivers (see Solid Waste Specific Policies and Procedures below) means there is no ability to train drivers to established policies and procedures, and objective performance standards. Without such standards, it is not possible for there to be a consistent training program or protocol, or to ensure that drivers are receiving all appropriate training.

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Recommendations:

- K. *Initial Refuse Driver training should be conducted by a qualified safety representative and should include classroom and on-route training. On-route training should be done by trusted staff (preferably trusted drivers) but must be reviewed and signed off by supervisor(s) to ensure that drivers are being trained correctly (regarding safety, service, and efficiency) before being elevated from probationary status.*
- L. *Develop a formal documented new hire and refresher safety and customer service training program.*

6. The Division Does Not Have a Formal “Safe Driver Observation” Program in Place

An industry best management practice is for supervisors to conduct regular formal field observations to monitor the performance and safety of route drivers, which the Division does not currently do. A suggested standard is for supervisors to observe each route at least once per month. Such field observations should cover all drivers, with more focus on newer drivers, or drivers that have had an accident or injury, or where issues were previously identified during such observations.

The Division’s ability to conduct consistent and effective safe driver observations is hindered by the lack of documented policies and procedures and performance standards.

Recommendations:

- M. *Provide supervisor(s) with safety observation training*
- N. *Begin regular documented Safety Observations by Supervisor(s)*
- O. **Attachment C** *contains a copy of a Safe Driver Observation Form used by Waste Management (WM) that we suggest the City tailor to its needs. Note that the specific items to be observed listed under “Description” are associated with a specific Rule #, which is documented in WM’s Operations and Safety Rules Book. The review of all documented operations and safety rules is part of WM’s new hire and ongoing refresher training.*

6.2 Customer Service**7. Standardize Clerical Assistant Processes**

Clerical Assistants act as customer service representatives and dispatchers for Division operations. One major concern regarding customer service is that each of the clerical assistants has their own method for conducting work, which is problematic. Training of all operational data tracking, monitoring, filing, etc. needs to be universal, not just for the clerical assistants but for management as well. Fluidity in transitioning work from one employee to another, is essential especially during times of employee absence, whether temporary (sick, vacation) or long-term (vacated position).

Recommendations:

- P. *The Division needs to design a uniform process for the application of procedures for operational activities. All staff need to be trained on the new processes and those*

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processes must to be instituted, managed, and maintained. Any future employees need to be trained on the same set of expectations and application of procedural processes.

8. Reduce Frequency of Route Rotations

Drivers currently rotate routes every four (4) months. Routing rotations are not necessarily uncommon, however the frequency; every 4 months, is uncommon. The theory behind routing rotations is that it keeps drivers fresh and attentive as they learn new areas, and reduces customer claims of “targeting” by specific drivers related to service issues. While drivers can benefit from a change in routine from servicing the same area week after week, it is common for customer service issues to spike during routing rotations/transitions due to unfamiliarity of the route and associated customers, as well as a change in typical arrival time of the new driver.

Recommendations:

- Q. Adjust route rotation frequency to once every 2 years, or at the very least annually, in order to increase routing efficiencies while simultaneously reducing customer complaints regarding service-related issues.*

9. Tracking and Analyzing Customer Services Issues

Customer service issues, including missed pickups (MPUs), are not currently tracked and monitored in a way that allows for effective analysis and management. Ideally, the Division would review customer complaints based on type, frequency, and patterns (e.g.: repeat customers, repeat drivers) on a regular basis and manage accordingly to reduce occurrences.

Recommendations:

- R. In order to manage service-related customer complaints, the Division must be able to measure the type and frequency of incoming complaints. Until a centralized customer database system is incorporated into Division operations, a spreadsheet should be created to track occurrences by recording the following information: date of complaint, type of complaint, name of customer, customer address (and associated route and driver), corrective action taken, and date of resolution. Ideally, the Division should start the process by inputting the past years’ worth of hand tags into a spreadsheet to create a baseline and identify repeat occurrences and monitor problem customers and/or problem drivers by monitoring frequency and repeat activity.*

6.3 Operational Performance

10. Replace Vehicles as Scheduled

Having safe and well-maintained collection vehicles is critical to collection system performance. The Division has a fleet replacement schedule that provides for the timely replacement of vehicles.

Recommendations:

- S. Adequately fund the Division’s Equipment Replacement Fund to ensure that funding is available for timely vehicle and equipment replacement.*

11. The Division Needs Additional Resources to Support Operations that are In Line with Industry Standards

The Division is understaffed in several key positions, including management/supervision, analytical support, and route drivers. Filling these positions with qualified personnel is vital to the overall success of the Division.

a) Residential Routes

A review of the current residential solid waste workload finds that residential trash routes are currently averaging 1,045 accounts per day. Recycling and green waste routes collect an average of 1,829 accounts per day. The residential trash route workload is at the higher end of what is likely a reasonable range for a 10-hour workday, with a number of routes with more than 1,100 accounts per day, and two with more than 1,200. This data, along with anecdotal information about the significant amounts of overtime that the Division incurs suggests that at least one-addition residential route is needed, along with a rebalancing of the daily workloads among routes.

b) Commercial Routes

A review of the current commercial solid waste workload finds that commercial trash routes are currently averaging 168 stops (accounts) per day (excluding Saturdays). Recycling routes collect an average of 96 stops per day (excluding Saturdays) and green waste routes collect an average of 6 stops per day (excluding Saturdays). In our experience, the typical productivity range for commercial collection systems is roughly 80-100+ bins per day for an 8-hour per day route. A 10-hour day route would bump the range up to 120-130+ bins. This would suggest that the current commercial trash route workloads may be excessive, although that trash workload would be expected to decrease with the full implementation of SB 1383 commercial recycling and commercial organics collection programs.

With the implementation of expanded commercial organics and commercial recycling services there should be a significant shift in the amount of commercial solid waste disposed, with organics and recyclables that are currently disposed captured through those expanded collection programs. As those programs are implemented, the Division should seek to optimize collection services for each individual account adjusting cart and container sizes and collection frequency to provide for efficient collection of the weekly quantities of each material generated. The goal should be to minimize the weekly frequency of collection for each commodity by increasing the size (and/or number) of carts and containers as feasible.

A complete review of the commercial collection system structure, including the number of routes and daily workloads, should be undertaken in conjunction with the implementation of the City's SB 1383 commercial collection system. Our rate modeling provides for two additional commercial routes to support expanded commercial recycling and commercial organics collection services (See Item #13 *"The Division Needs Additional Resources to Comply with SB 1383 and Other Regulatory Requirements"* below.)

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Roll off can be the most challenging aspect of collection operations to manage and requires active monitoring. Roll-off routes collect up to 12 loads per driver per day, which is in line with a typical 10-hour per day roll-off collection service. There may be opportunities to increase commercial roll off services through roll-off route sequencing (haul matching) to optimize container delivery and collection and effectively improve collection efficiencies.

d) Field Services Supervisor (Route Supervisor)

As currently structured, the Division has one (1) Field Services Supervisor who works a 4 day 10 hour schedule. As such, the Division does not have onsite route supervision during all weekday operations, with lead drivers addressing supervisor issues during those un-covered operating hours. The Field Services Supervisor is not present during pre-trips due to a start time scheduled after the drivers leave the yard for the day. The Field Services Supervisor does not conduct safety meetings or tailgates, which is common practice, but does provide a clipboard of information for drivers to read on their own. While the City has a Lytx DriveCam system it does not appear that the Field Services Supervisor is using the full capacity of that system to monitor and improve driver performance. Due to the lack of an effective communication system between customer service and route drivers, the Field Services Supervisor is largely responsible for relaying messages to the drivers from customer service, which is not productive.

The Field Services Supervisor position is the critical link between management and drivers and sets the tone for operations. The City's Field Services Supervisor(s) need to understand industry standards and practices, and proactively participate in those efforts that are required for the Division to operate to industry standards. To do that the Field Services Supervisor(s) will need to receive appropriate training.

The current City job classification for the Field Services Supervisor (and the other solid waste management positions) are not specific to the Division's solid waste operations. Solid waste specific job classifications and descriptions need to be drafted that clearly establish roles and responsibilities for safety, customer service, and operational performance respective of the solid waste operation. This is particularly important for the Field Services Supervisor position, with all current and future Field Services Supervisors receiving training in support of their job responsibilities.

The Division needs additional solid waste specific management/supervisory staffing to support both the management of daily operations, and operational improvements. That staffing need could potentially be met by an additional Field Services Supervisor, with industry standard operating experience, or a new solid waste dedicated management position that reports to the Field Services Superintendent (e.g., Assistant Solid Waste Superintendent).

e) Administrative Analyst

The Division does not currently have dedicated analytical support staff. The tracking and analysis of data, which is fundamental to the Division's ability to effectively manage and improve operations, is largely the responsibility of the Field Services Superintendent. The Field Services Superintendent needs to focus on directing and

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improving the Division's operations and the City's solid waste management system, not the daily management of front-line staff, or the management and analysis of data.

f) Maintenance Staffing

Fleet Services currently has 6 mechanics on staff, but only 1 dedicated mechanic (and 1 that is flexed as needed) at a given time that work regularly on solid waste vehicles, which is simply not enough for a fleet of approximately 30 vehicles. The industry standard typically ranges from 7 to 11 vehicles per mechanic. Field Services currently only provides preventative maintenance and brake work for solid waste vehicles while outsourcing most repairs to a third-party company.

At least one additional solid waste vehicle dedicated mechanic is warranted, however our understanding is that at this time there is not a sufficient number of vehicle maintenance bays to accommodate an additional dedicated mechanic. The Rate Model Capital Reserve Fund (RM 4) provides for \$200,000 annually over 10 years to fund office and maintenance facility expansion, which would provide the facility infrastructure needed to support an additional solid waste vehicle dedicated mechanic.⁹ **Table 4**, on the following page, provides high level cost estimates of recommended additional Division resources, but does not currently provide for an additional mechanic position, which may need to be reconsidered pending the ability of the Fleet Services facilities to support that additional position.

Recommendations:

- T. The Rate Modeling that was performed for the Division provides funding for the additional resources listed in **Table 4** to support industry standard operations. Those resources include an additional Supervisor (or higher solid waste dedicated management position), one addition residential route (truck and driver), and a data analyst. It is recommended that the City approve the rate adjustments needed to fund those additional resources.*

⁹ Note: One repair bay that is contractually obligated to the Burton Unified School District (BUSD) under a contract that expires in August 2023.

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Table 4

High-Level Cost Estimates - Operational Improvement		
Required Resource	Cost	
	One-Time	Ongoing
One (1) Supervisor		\$80,000
One (1) Route (Truck-Driver-O&M)		\$150,000
Overtime Savings		-\$42,000
One (1) Data Analyst		\$90,000
Develop/Implement Safety Program	\$50,000	\$50,000
Customer Database Software/Program	\$400,000	\$120,000
Operational Consulting Services		\$100,000
Totals	\$450,000	\$548,000

12. The Division Needs Additional Resources to Comply with SB 1383 and Other Regulatory Requirements

a) AB 341 and AB 1826

CalRecycle informed the City on March 5, 2020 that it will **not** be referred to CalRecycle's Jurisdictional Compliance Unit for non-compliance with AB 341: Mandatory Commercial Recycling (MCR), and AB 1826: Mandatory Commercial Organics Recycling (MORe). However, CalRecycle noted several significant gaps in the implementation of the City MCR and MORe programs that the City needs to address. In addition, the City needs to comply with SB 1383, which expands residential and commercial organic material diversion requirements, and becomes effective January 1, 2022.

b) SB 1383

SB 1383 (Short-lived Climate Pollutants) represents the most sweeping solid waste management legislation in 30 years. The City will need to enhance its residential and commercial collection systems to provide for the collection of organic material (e.g., food waste, yard waste) from all residential and commercial accounts which started January 1, 2022, and meet the other SB 1383 requirements, including public education and outreach, cart colors and labeling, reporting, and regulatory monitoring and enforcement.

Recommendations:

- U. *The Rate Modeling that was performed for the Division provides funding for the following additional resources listed in **Table 5**, on the following page, to support SB 1383 (and AB 341 & AB 1826). It is recommended that the City approve the required rate adjustments to fund the necessary resources.*

Table 5

High-Level Cost Estimates - SB 1383 Compliance		
Required Resource	Cost	
	One-Time	Ongoing
Residential		
Organics Processing		\$520,000
City Municipal Ordinance (1)	\$18,000	\$0
Procurement Requirements	\$25,000	\$56,000
SB 1383 Program Coordinator		\$95,000
One (1) Code Enforcement Officer		\$83,000
Commercial		
One (1) Organics Route (truck-driver-O&M)		\$150,000
One (1) Recycling Route (truck-driver-O&M)		\$150,000
Organics Processing		\$52,000
City Municipal Ordinance (1)	\$18,000	\$0
Edible Food Waste Recovery	\$40,000	\$100,000
One (1) Code Enforcement Officer		covered above
Totals	\$101,000	\$1,206,000

13. Establish Fair Day Work Standards for Collection Operations

Fundamental to the Division's achieving reasonable levels of productivity is establishing daily workload standards for the residential, commercial and roll-off collection systems that are safe, fair and reasonable. The Division should review, and as appropriate revise its workload standards for its residential collection system. The residential collection system then needs to be rerouted based on that standard with an objective of balancing the total daily workload among each of the daily routes. If the City wishes to implement same day service that should be done in conjunction with rerouting the residential collection system. A similar type of review should be done for the Division's commercial collection operations.

Evaluation of work standards and developing fair day work standards is a straightforward process in theory. The amount of work which a collection crew can be expected to accomplish in a full day of work depends upon how much time is available for collection and how long it takes to service a typical account. By identifying each of the non-collection (off-route) daily tasks and determining an accurate time requirement for each of those tasks the total time available for collection can be determined:

$$\begin{aligned}
 &[\text{Total time in the day}] - [\text{Time required for non-collection tasks}] \\
 &= [\text{Total time available for collection}]
 \end{aligned}$$

By dividing the total time available for collection by the average time required to service an account, the total number of accounts which a typical route should be capable of servicing in

R3

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a full day of work can be determined. Routes can then be designed around that targeted standard number of accounts per route per day.¹⁰

The goal is not to make collection crews work harder or faster but to quantify the amount of work which should reasonably be expected from a crew, and assure that the existing system work standard is consistent with this reasonable expectation. Once an appropriate standard has been established and implemented, the focus should shift to identifying and implementing changes to the operation which will:

1. Increase the amount of time on route / decreasing non-productive time; and
2. Decrease the amount of time required to service an account.

Reductions in the amount of time required to service an account may be realized through training, more effective routing, improved equipment specifications, revised service levels and other means. Increases in the time available for collection may be realized by reducing disposal site turn-around times, revising pre and post trip requirements or methods, revising work scheduling (e.g., earlier collection hours, four ten-hour days), revising union contract terms (e.g., non-paid lunch) or other actions. To translate any increases to the amount of on-route time or decreases to the amount of time required to service an account to the bottom line the fair day work standard needs to be adjusted accordingly and the system rerouted to the new standard.

Attachment D provides an initial fair days' work analysis. The City can use this analysis as a starting point revising overall and individual route workloads to account for the specifics of individual routes, as appropriate. Row 100 shows the calculated number of routes required while Row 102 shows the actual number. In the case of the yard waste and recycling routes, the participation rate (row 38) has been set at the weekly setout percentage that results in the calculated number of routes equal to the actual number (i.e., 55% for green waste and 41% for recycling). These figures should be revised as appropriate based on actual participation rates, with green waste routes potentially adjusted to reflect seasonal changes in participation rates.

Based on the data inputs shown, a total of 7.6 daily solid waste routes are required to service the daily workload versus the 7 actual daily routes. This analysis assumes 3 legal loads per day while the reported tonnages would require a 4th load each day (Row 48) to keep loads at or below the legal load weight, which would increase the number of required routes. The use of the Woodville Landfill versus the Tea Pot Dome Landfill would increase the calculated number of routes slightly due to the additional travel time per load.

Note: *The above analysis is based on a system at 100% capacity (i.e., the number of routes provides the capacity needed to service the workload within the exact number of available hours). In practice, the collection system will typically be over or under capacity depending on growth, but in either case routes should be adjusted so that the workloads are not unreasonably high or low. In the case of systems that are over capacity overtime may be required until it makes sense to add an additional route.*

¹⁰ For fully automated residential collection system we suggest that a productivity benchmark of 2.5 accounts per on-route minute (24 seconds per account) be used as an initial target. Additional review may be warranted to refine that target.

Recommendations:

- V. *Establish Fair Day Work Standards for the residential collection system and reroute the residential collection system to the established standard. This should be done in conjunction with the shift to same day service if the City decides to pursue that option.*
- W. *“Right size” commercial service levels and minimize weekly trash, recycling and organics collection service frequency system after SB 1383 commercial recycling and organics collection programs are fully implemented. Establish a Fair Day Work Standards for the commercial SB 1383 collection system and reroute the collection system to the established standard.*

14. Work Schedule / Planned Overtime

Division route drivers currently work four days per week, 10 hours per day (4x10), versus a more standard five day per week, 8 hour per day (5x8) schedule. The major potential benefit of a 10-hour day is the potential to increase productivity by maximizing the number of accounts collected each day without requiring an additional load. Typically, there are perhaps five (5) hours per day of productive on-route time during the course of an 8-hour day (~60% daily productivity hours), with breaks/lunch, pre- and post-trip requirements and travel time to and from the processing facility/transfer station/landfill and route all requiring time that is not available for collection. If, however, additional time is available to collect more accounts without requiring another load (which generates additional non-productive time) that additional collection time is 100 percent productive (as compared to 60% average daily productive hours). A 4x10 hour schedule is advantageous if it generates more time on route per week for the system than a 5x8 schedule, and vice versa. Within each of those systems, increases in daily productive hours can be realized with the use of planned overtime to allow routes to complete a full final load each day.

Recommendations:

- X. *In conjunction with any rerouting of the residential collection system, evaluate the current 4x10 schedule versus a 5x10 schedule, and the potential benefits of planned overtime within each of those work schedules.*

15. The Division Does Not Have Comprehensive Documented Policies and Procedures

The Division does not have documented policies and procedures, or formal operational standards for drivers, and as such no means for training drivers to specific objective standards or holding them accountable for performance.¹¹ Having an adequate body of policies and procedures that address key areas of operations and management expectations is essential to the effective management of any organization. Key policies and procedures need to be documented, performance standards need to be (re)established, and staff held accountable for performance, both positive and negative.

¹¹ Accountability must be present and enforced as needed, to all employees, without discrimination.

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- Y. Consolidate all existing formal and informal policies and procedures, which are to serve as the Division's current policies and procedures.*
- Z. Identify the Top 10 polices and procedure needs and draft policy and procedures.*
- AA. Develop comprehensive policies and procedures with expected standards of performance for safety, customer service, productivity, and other important areas of focus, including pre- and post-trip inspection procedures.*

16. Drivers Linger Around the Yard When Not Monitored

Prior to beginning their routes, drivers were observed operating at different speeds following each morning meeting. Some drivers would immediately head to their trucks and leave while others would linger, get coffee, converse with other drivers, or otherwise kill time. All drivers should be productive when on Division time, unless they are on a break, and there should be an established structuring (standard operating procedure) for the morning dispatch and roll-out process that gets vehicles on route, quickly and efficiently following required pre-trip inspections and any other driver dispatch requirements.

Recommendations:

- BB. Re-establish expectations and introduce organized morning launches. Drivers must be informed that they need to be ready to work at their respective start times. The drivers should leave as a group to begin their pre-trips and all drivers should leave the yard in a timely and efficient manner. The Division should also review the end of the day post-trip process and establish similar driver expectations for post-trip inspections, as these inspections are much more difficult to supervise due to varying route end times.*

17. Lack of Time Clocks

Refuse drivers manually fill in their time sheets daily, and essentially operate on an honor system. The Supervisor spends hours a week manually calculating and verifying driver hours before submitting them to management for review and subsequent approval. The use of time clocks, which is an industry best practice, will reduce human error and improve the efficiency of all staff currently involved in the manual maintenance of time sheets. Time clocks also track vacation, sick time, and other accrued hours. If time clocks are implemented, the Division will have to add rules and regulations regarding time clock usage to its policies and procedures.

Recommendations:

- CC. The Division should consider the use of time clocks, which is an industry best practice.*

18. Assessment of the Number of Missed Pick-Ups and Missed Pick-Up Policy¹²

A Missed Pick Up (MPU) is determined when a customer calls in and does not take responsibility for the miss, essentially placing the blame on the driver. MPUs that are reported

¹² Customers who call in misses are questioned, even if it is their first time. If it is suspected that the miss was actually a late out, drivers will monitor the home going forward and call in if a can is not

by 11:30 am will typically be collected the same day and those that are reported after 11:30 am will be recovered the following day. One major issue with this specific to the Division that most other collection operations do not face is that commodities rotate by day of the week, which leads to contamination of loads when service of a commodity is provided on a day that that commodity is not being collected (i.e.: collecting trash on a green waste day). Return fees (fees applied to cover the costs of returning to service a missed collection) for collecting MPUs (whether at the fault of the driver or customer) are not applied consistently. The current return fee of \$10 is well below the actual cost of service, which is typically on the order of \$50 or more per return service provided.

The Division estimates that each residential route (solid waste, recycling and organics) spends an average of 15-20 minutes per day servicing MPU's.

Waste Management Inc. has a standard of less than one missed pickup per 1,250 customers, which it measures and evaluates on a weekly and monthly basis.

Note: *The Residential Rate Schedule currently offers a "Special Rate" for return services collection at a rate of \$10.00. We suggest this rate be reviewed. It has been our experience that the cost to provide an extra residential pickup (i.e., return to collect a can that was not placed out for collection at the time the route passed that account), is on the order of at least five times that cost (i.e., \$50.00).*

Recommendations:

- DD. Adopt WM's MPU minimum standard of one (1) MPU per 1,250 accounts.
- EE. Track and report MPUs daily.
- FF. Supervisor(s) review daily any MPUs that occurred the day prior and root cause the issue via discussions with drivers and/or customers. The purpose is to prevent future misses by determining the root cause and adjusting accordingly.

19. The Division Realizes the Value of Performance Benchmarking but Does Not Currently have the Resources Necessary to Implement a Broad-Based Program

Division management clearly understands the value of performance benchmarking and has been tracking certain data in support of managing by metrics (M&M). However, the lack of adequate management support staff (e.g., a dedicated Management Analyst) limits the Division's ability to put in place and sustain an effective management by metrics program.

Effective performance measures help an organization understand, manage and improve performance – ***"That which is not measured is not managed."*** Specifically, performance measures can help the Division determine:

- How well the Division is performing;
- If it is meeting its goals;

out, and a record of the call is entered into the Division's database, which timestamps it. If the customer then calls in saying that their can was missed it is explained to them that it was recorded that the can was not out and that there is a \$10 charge to come back. It is not unusual for the Division to do a couple of return services before applying the fee.

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- If customers are satisfied; and
- Where improvement is needed.

Performance measures should be designed to measure both:

- **Effectiveness** – How well the Division is achieving its objectives, such as:
 - Productivity / coverage – the number of customers served;
 - Accomplishments – the overall outcome or achievement of a program or service; and
 - Quality – the proportion of services provided without error, the ratio of complaints to total services provided, and the proportion of services produced at a specified standard.
- **Efficiency** – How well the Division is using its resources, such as:
 - Per unit costs;
 - Cycle time;
 - Response time;
 - Backlog;
 - Per unit full time equivalents;
 - Staffing ratios; and
 - Back up vehicle ratios.

When developing, reviewing and updating performance benchmarks, the Division should consider the following guidelines:

- Link performance to specific documented operating objectives;
- **Start with a few measures and use as few as possible;**
- Assign responsibility and accountability for tracking and reporting data to specific staff;
- Track and report current data (e.g., monthly, quarterly, annual) as well as historical trends and make that information available to all staff through postings, meetings and training activities; and
- Use the measures *in a positive manner, and not to find fault with employees.*

Recommendations:

GG. Hire Administrative Analyst who reports to the Field Services Superintendent (or Field Services Manager)

HH. Expand current Management by Metrics efforts focusing on the following four (4) Initial M&M Operational Standards:¹³

1. Vehicle Load Weights

¹³ Consideration should also be given to tracking Vehicle Idle Times, and Travel Speeds as part of an M&M program.

2. *Missed Pickups*
3. *TRIR, DART, VARR and HARR rates*
4. *Pre- and Post-Trip Inspections*

7 Same Day Service

As discussed above, the Division provides weekly collection of residential trash, recyclables, and green waste Monday through Friday. The City is divided into four (4) zones with collection services for each of the three commodities scheduled for different days within each collection zone. Under this type of “districted” system routes are distributed throughout the City on any given day.

The industry standard is to provide all residential collection services on the same day, with routes typically “sweeping” across the service area over the course of one week. A sweeping system is the most common type of system used and has a number of benefits including allowing for more efficient route support to cover open routes, or assist with heavy workloads since all routes are in the same area. Similarly, supervision of routes is more efficient with all routes in the same area. Residents may also find that placing all cans out for service at the same time on one day preferable to having to place separate containers out for service on three separate days.

As part of our review, R3 was asked to assess the potential for switching from the current multiple day collection service to same day residential service. Management reported that is not opposed to switching to same day service but there are related issues and concerns, including that on street parking and tight cul-de-sacs may make it difficult for three (3) containers to be positioned so that the collection vehicles have direct access to the containers for collection.

Management considers switching to single day service to be a significant operational challenge, and it is, and management is appropriately cautious. With that said, same day service appears feasible based on our limited review, however, it may require a separate route for hard to service accounts (e.g., those in tight cul-de-sac’s), and will require sufficient planning, public education and outreach, and most importantly sufficient resources for the Division to undertake such a change.

Routing of residential solid waste collection vehicles using a “same day service” - “sweep” system rather than a “districted” system involves the following three separate tasks:

1. Breaking the total weekly system workload into daily collection areas (Monday, Tuesday, Wednesday, Thursday, and Friday);¹⁴
2. Breaking each of those daily collection areas into individual route areas; and

¹⁴ The weekly refuse workload is typically used to develop the five daily service areas, with recycling and green waste workloads and routes then incorporated into each daily service area, with adjustments as necessary and appropriate.

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3. Routing each collection vehicle within its assigned route area (i.e., establishing the vehicle travel path).

The first two tasks can be completed effectively with ArcGIS (formerly ArcView), but require that all residential accounts be identified on an ArcGIS residential solid waste data layer. Once that has been done the basic process is to draw a polygon around the City to document the total number of residential accounts and containers (the weekly residential account workload). The City can then be broken up into the five daily collection areas by trial and error. This is done by simply drawing polygons around different areas of the City, along major thoroughfares or collector streets to the extent possible, that contain approximately 20 percent of the weekly residential workload to establish the five individual daily collection areas.¹⁵ Once the daily collection areas have been established, the individual route areas can be designed following a similar process with the daily workload distributed among each of the daily routes, with each route designed to have a relatively similar number of accounts, all other factors the same. Peak season workloads for green waste can be handled by adding helper routes, similar to the existing “tail-end” routes, or by actually developing a separate routing system for peak season that incorporates additional assigned routes.

Before the Division can effectively reroute the residential collection system, however, it will need to develop an accurate ArcGIS residential solid waste data layer, which R3 understands it does not currently have. We suggest that developing that capability should be a primary short-term objective of the Division.

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¹⁵ Service area characteristics, the distance from the landfill, and areas of future growth should all be considered in designing the size and location of the various daily collection areas.

Overweight Vehicle Policy

1. Drivers are not to exceed the maximum legal weight for the vehicle being operated. If unsure of the weight limit for a vehicle, see a Supervisor.

Note: *We suggest the City consider prominently displayed the legal payload weight in the same place on every vehicle.*

2. All commercial and residential routes will have documented cut-off points, clearly indicating where the driver is to make a disposal trip during standard conditions. In addition, all commercial and residential routes will have documented “rain” cut-off points, clearly indicating where disposal trips are required during wet weather or any other conditions that may cause normal weights of containers to escalate.

Note: *A refuse driver may not change cut off points and/or reduce disposal trips without specific verbal authorization from a Supervisor. A violation of this procedure will result in a verbal warning.*

3. Supervisors will print refuse driver vehicle weights daily, regardless of whether there were any overweights. Supervisors will then review and sign the above reports daily, and file them by date for easy reference [This step is taken to document that Supervisors have reviewed vehicle weights on a daily basis].

4. For each overweight incident:

- The refuse driver will immediately contact dispatch/Supervisor and inform them of the overweight incident (i.e., Drivers are to confirm that their loads are not overweight upon receiving the weight ticket at the facility scale house, and report any overweight loads to dispatch/Supervisor before leaving the facility).
- Supervisor and Driver will generate an Overweight Load Incident Review form. Completed forms will be filed by driver name for easy reference. *The focus of these sessions is improvement, not discipline.*
- For permanent roll off accounts, a customer service representative or a Supervisor will communicate to the customer the necessary adjustments needed to ensure compliance.
- If the refuse driver was properly following the cut off points and/or action plan, the Supervisor and driver will review the error and make adjustments accordingly. However, if the refuse driver was not following the cut off points and/or corrective action plan, the following rules failure counseling process will be followed:
 - o 1st Offense: Discussion/Coaching
 - o 2nd Offense: Documented Verbal Warning
 - o 3rd Offense: Documented Written Warning
 - o 4th Offense: Final Written Warning & 3-Day Suspension
 - o 5th Offense: 5-Day Suspension and/or Dismissal

Rules failures must be of the same rule and occur within a rolling 12-month period.

Note: *It is important to note that the above processes are a minimum, and the Solid Waste Supervisor has the ability to elevate/accelerate the process based on the level of negligence, employee's lack of improvement, failure of multiple rules, etc. The Solid Waste Supervisor should consult the Field Services Superintendent to ensure consistency and process integrity.*

DRAFT

Overweight Load Incident Review

Date: _____ Route: _____

Truck #: _____ Driver: _____

Commercial: Trash Recycling Organics
Residential: Trash Recycling Green Waste
Roll Off

Maximum Load Capacity: _____ tons Previous Violations:

Load #1 _____ tons	Date: _____
Load #2 _____ tons	Date: _____
Load #3 _____ tons	Date: _____
Load #4 _____ tons	Date: _____

Was the cut-off point followed? _____

Driver Explanation: _____

What would have prevented this overweight? _____

Lead Worker comments, including next actions taken: _____

Counseling Action: None Verbal Written Final Written Dismissal

Driver Signature: _____ Date: _____

Lead Worker Signature: _____ Date: _____

Solid Waste Equipment Operator Safety Training Process

September 18, 2014 **Tony Miano**

A strong safety program is key to the City of Phoenix, AZ's success in preventing. Since 2000, the Public Works Department has made it a priority to assist SWEOs prevent accidents and be more safety conscious during day-to-day operations.

Since 2000 the City of Phoenix, AZ Public Works Department, Solid Waste Field Services Division has used a comprehensive hiring and training process to ensure that all Solid Waste Equipment Operators (SWEO) follow the established guidelines for driving and collection of refuse and recycling for the City of Phoenix.

This safety training program gives each SWEO the knowledge to safely drive and operate solid waste equipment. This proven safety training program has decreased accidents from 8.1 accidents per 100,000 miles driven in 2,000 to 0.89 accidents per 100,000 miles driven in 2012. Concurrently, annual miles driven, customer base and employees increased by 50 percent over the same period.

As part of the Public Works Department safety training program, the Solid Waste Division prides itself in obtaining high customer satisfaction ratings while driving and operating in a safe manner on city streets. This safety training program consists of the following six elements.

#1: The Hiring Process

Hiring is a four-step process:

1. It starts with the review of applications by a Human Resources Analyst who reviews all of the applications for minimum qualifying *application standards* set by the Public Works Department. For example, an important requirement for applicants is to have an adequate amount of heavy equipment driving experience.
2. If an applicant is qualified at the application stage then they will be invited to participate in a *driving skills assessment test*, which requires them to safely and effectively maneuver an obstacle course in a garbage truck while being timed.
3. If the applicant successfully maneuvers through the obstacle course without hitting too many obstacles, they will be invited to participate in the *interview process* where they will be interviewed by a panel of four supervisory staff from within and outside the solid waste field.
4. The final criteria before being selected to become a SWEO for the City of Phoenix is for the applicant to take and score high enough on a *personnel selection inventory (PSI)* assessment, which is administered manually or electronically by solid waste staff, which is helpful in identifying customer service and safety-oriented employees.

#2 Basic Training Camp

After successfully going through the four-steps of the hiring process, the newly hired SWEO will report to the City of Phoenix Employee Driver Training Academy (EDTA) for three weeks of classroom and course training. The new class of SWEOs will be trained on the State of Arizona CDL requirements, the City of Phoenix policies and procedures, and basic operations of all solid waste equipment on the training course. During the three-week training period, SWEOs will be evaluated on driving skills by the training Solid Waste Foreman. Based on their evaluation, the Foreman will decide if a new SWEO needs further course training beyond the three weeks before sending them to the field office for route training. We offer one additional week of training if they do not graduate from the academy at that time they will fail probation and are relieved of their duties. We had employees needing extra training, but we never had anyone fail probation at week four of the process.

#3 Field Training

The first step in the field training is to assign the new SWEO to an authorized training SWEO. The authorized SWEO is one who has been authorized to train after undergoing “train the trainer” training in how to properly train the new SWEO. A new SWEO will generally train with his peer (training SWEO) for two to three weeks on the operation of equipment and route collection. The trainer and trainee will sign off on a training log, which tracks the new SWEO’s progress. After the new SWEO reaches the point where they have progressed to completing 80 percent of the route, then his new Foreman and Superintendent will sign off that the SWEO is ready to go out on a route alone.

The second step in field training is to assign the new SWEO to a training route after being signed off by trainer and management staff. The SWEO is on probation for the first year and is evaluated on performance at the three- and six-month periods. This evaluation period is most crucial to properly evaluate the new SWEO’s progress and offer them whatever assistance is needed in order to improve. The Foreman, Solid Waste Supervisor and Superintendent review the new SWEO’s evaluation closely before signing off on their three- and six-month evaluations.

#4 Refresher Training (Tailgate Meetings)

Training for all SWEOs is an ongoing process in which they get weekly “tailgate meeting” training on the division’s safety program. The Public Works Department also has a Safety Section with dedicated Safety Analysts who provide training when requested. In addition, the division has a safety committee, which meets quarterly to discuss employee safety concerns.

#5 Post-Accident Training—Accident Reduction Training (ART)

After any accident where a SWEO is involved, the incident is investigated thoroughly by the Foreman and an accident report is created and presented to the SWEO for review and signature. After the SWEO has signed the accident report or responded in writing and after careful consideration by management staff, the accident will be ruled either chargeable or non-chargeable. In the case of a chargeable vehicular accident, the SWEO is sent to Accident Reduction Training to be evaluated and re-trained on accident prevention.

#6 Performance Standards and Accountability

City of Phoenix SWEOs are held to strict performance standards and safety is a prime concern. SWEOs are rated on their performance standards yearly as part of their annual performance evaluation. SWEOs are held accountable for any reported garbage misses on their routes, garbage spills, staff complaints and fluid spills.

In addition, SWEOs are held accountable for any chargeable or preventable accidents. A strong safety program is key to the department’s success in preventing accidents and since the year 2000, the Public Works Department has made it a priority to assist SWEOs prevent accidents and be more safety conscious during day-to-day operations. Industrial accidents have also been of concern to the City of Phoenix and by providing personal protection equipment to staff, injury accidents have also decreased.

Finally, no safety program would be successful if not for the constant follow-up and reminders that SWEOs are given daily to make they are conducting proper pre and post trip inspections. The City of Phoenix pre- and post-trip program consists of random pre-trip inspections, which occur weekly as well as quarterly random safety inspections of safety equipment. In addition, pre-trip testing occurs at the time of each SWEO’s yearly performance evaluation.

Tony Miano has 33 years in the solid waste industry, with 28 plus years with the City of Phoenix, AZ retiring as Public Works Assistant Director (Acting). Most recently, he holds a position as Public Works, Solid Waste Manager for the City of Tempe, AZ. Tony also maintains active membership in the American Public Works Association (APWA), and is the Past President of SWANA’s Arizona Chapter. He can be reached at (480) 350-8051 or via e-mail at tony_miano@tempe.gov.



SAFE DRIVER/HELPER OBSERVATION FORM

OBA ID:		Observer Name:	
Employee ID:		Equipment #:	
Employee Name:		Observation Start:	
Rulebook:	Collections	Observation End:	
Original Supervisor:		Assigned Supervisor:	
OBA Reason:			

Position	Drive Type	Vehicle Observed	Line of Business	Location
☐ Driver	☐ Single Drive	☐ Rear End Loader	☐ Commercial	☐ In-Cab
☐ Helper	☐ Dual Drive	☐ Side Loader	☐ Residential	☐ On Route
		☐ Roll Off	☐ Comm. & Residential	☐ Landfill
		☐ Front End Loader		☐ Transfer Station
		☐ Tractor Trailer		☐ In Yard
		☐ Luger		☐ Event Recorder
		☐ Port-O-Let		
		☐ Delivery Truck		
		☐ Automated Side Load		

WEATHER CONDITIONS Check One From Each Section

☐ Clear	☐ Fog	☐ Rain	☐ Snow/Ice	Temperature	☐ °F or ☐ °C (Check One)
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Performance Code	Observations	Safety Decisions
C - Compliant	1. Exceeded Expectations	1. Rule Review
NI - Needs Improvement	2. Applied Rule Correctly	2. Additional Training
NC - Non-Compliant	3. Inconsistent Application of Rule	3. Disciplinary Action
NO - Not Observed	4. Complete Rule Miss	4. Equipment Issue

Note: Shaded rules are required/Life Critical or Top Missed, *Italicized rules are Associated Rules*

Before Starting the Route								
Description	Rule #	C	NI	NC	NO	Observations	Safety Decision	Comments
Safety PPE, Tools, & Equipment	1.3							
Seat Belts	1.10							
Safely Securing the Vehicle	1.18							
Equipment Safety Devices	1.19							
Leaving a Vehicle Unattended	1.21							
DVIR (Pre-Trip)	2.9							
Driving to the Route								
Description	Rule #	C	NI	NC	NO	Observations	Safety Decision	Comments
Visibility for the Driver	4.1							
Maintaining Space	4.2							
Safe Driving Requirements	4.3							
Backing	4.4							
Intersections and Turning	4.5							
Working on the Route								
Description	Rule #	C	NI	NC	NO	Observations	Safety Decision	Comments
Parking/Emergency Brake	3.1							
Driver/Helper Awareness	5.1							
Emergency Flasher/Strobe Light	5.2							
Three Points of Contact	5.3							
In/Out and On/Off the Truck	5.4							
Climbing on Top of Trucks	5.5							
Walking Working Surfaces	5.6							
Prepare the Truck for Travel	5.7							
Zigzagging	5.8							
Double Siding	5.9							

Unauthorized Waste	5.10								
Before Driving to Disposal Site	5.11								
Heat/Cold Stress	5.12								
Reaching into Containers	5.13								
Helpful/Curious Customers	5.15								
Driver & Helper Communication	12.1								
Traffic Safety Precautions	12.2								
Driver's Resp/Helper on Step	12.4								
Helper's Resp on Step	12.5								
Helper Safety	12.6								
Packer Panel Operation	12.7								
Personal and Public Safety	13.2								
Prepare the Truck for Travel	13.8								
Travel Position	14.1								
On Route	14.2								
Servicing Containers	14.2.1								
Arriving at Customer's Location	16.1								
PPE & Customer Hazards	16.4								
Preparing the Truck for Travel	17.9								
Travel/Work Pos. for Com FEL	17.9.1								
Residential FEL Travel Position	17.9.2								
Residential FEL Working Pos.	17.9.3								
DD Operating Requirements	18.1								
Work Brake Application	18.2								
Mirror Adjustments	18.3								
Restraint Systems	18.4								
Dual Drive Brake System	18.5								
Cont. Preparation & Selection	20.1								
Boom Operation	20.2								
Transporting Container(s)	20.3								
Surveying the Site	20.4								
Container Enclosure Inspec.	20.5								
Container Location	20.6								

Containers

Description	Rule #	C	NI	NC	NO	Observations	Safety Decision	Comments
Overweight Containers	6.1							
Overloaded Containers	6.2							
Safe Lifting Technique	6.3							
Hand Trucks (Dollies)	6.4							
Container Placement	6.5							
Moving Containers w/Casters	6.6							
Loading the Hopper	12.3							
Backing into Containers	13.1							
Lifting Systems	13.3							
Cable and Hook	13.4							
Hydraulic Lift Bar	13.5							
Trunnion Bars	13.6							
Container Lock	13.7							
Loading Platforms	15.1							
Servicing Containers	15.2							
Hopper Loading	15.3							
Overloaded/Overweight Cont.	16.2							
Servicing Containers	16.3							
Overfilled Containers	16.5							
Tarping Open Top Containers	16.6							
Hoisting the Container	16.7							

Secure Container to Rails	16.8								
Container Enclosures	17.1								
Approaching the Container	17.2								
Lifting the Container	17.3								
Container Dropped in Hopper	17.4								
Material on Top of Truck	17.5								
Forks/Arms/Hopper Door Jams	17.6								
Replace the Empty Container	17.7								
Backing Out From Container	17.8								

Disposal Location

Description	Rule #	C	NI	NC	NO	Observations	Safety Decision	Comments
Locate a Safe Disposal Location	7.1							
Walking at Disposal Location	7.2							
Overhead Clearance	7.3							
Tailgates	7.4							
Lower Equip. Before Moving	7.5							
Frozen Loads	7.6							
Clean Behind the Blade	7.7							
Prepare the Truck for Travel	7.8							
At the Disposal Location	16.9							
Removing the Tarp	16.10							
Opening the Tailgate/Door	16.11							
Back Door Stuck	16.12							
Material Stuck in Container	16.13							
Prep Cont. & Truck for Travel	16.14							
Backing into the Disposal Area	17.10							
Discharging the Load	17.11							
Transporting Containers	17.12							
Trailer Stands & Wheel Chocks	19.1							
Top Loading Trailers	19.2							
Tractor Trailer- Tipper Use	19.3							

Back at the Yard

Description	Rule #	C	NI	NC	NO	Observations	Safety Decision	Comments
Housekeeping	9.1							
DVIR (Post-Trip)	9.6							
Complete Driver's Log	9.7							

Customer Engagement

Description	Rule #	C	NI	NC	NO	Observations	Safety Decision	Comments
Lids/Gates & Locks Closed	CE 1							
Container In Proper Area	CE 2							
Spilled Trash Cleaned Up	CE 3.1							
HOC Process Used	CE 3.2							
Extra TOG Reported	CE 4							
Wearing Proper/Clean Uniform	CE 5							
Professional Customer Service	CE 6							
Container Issues Recorded	CE 7							
Customer Follow Up	CE 8							

OTHER OBSERVATIONS - Coaching comments and safety action items

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Observer's Signature and Date	Employee's Signature and Date

1	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
3																	
4																	
5																	
6	City of Porterville																
7	TARGET PRODUCTIVITY ANALYSIS																
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City of Porterville Operational Assessment Technology Review

DRAFT REPORT

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March 9, 2021

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EXECUTIVE SUMMARY

The City of Porterville retained the services of a consultant team led by R3 Consulting, including Sloan Vazquez McAfee (SVM), to assist with conducting an evaluation of the costs, efficiency and effectiveness of several operations systems technology enhancements and to provide recommendations whether the systems would be cost effective and beneficial to the City of Porterville's solid waste operation.

The City identified the following technology enhancements for review and evaluation.

- An RFID Tag Identification System
- On-Board Interior/Exterior Camera Monitoring System,
- On-Board Truck Scales,
- Upgraded Field Communications, and

In addition, because they are at the center of the technologies available to solid waste collection, the following two technology enhancements have been reviewed.

- Integrated Customer Relationship Management System
- On-Board Devices (Tablets/Computers)

Integrated Customer Relationship Manager (CRM)

Common practice for solid waste operations is for the customer service center to be equipped with an industry-specific customer relationship manager (CRM) software system. The use of an industry-specific CRM has become essential for efficient and cost-effective solid waste operations. In order to consistently deliver quality, value-driven customer service, it is critical for an operation to have a well-designed and functional system that ensures customer service information is accurate, current and accessible on-demand.

Findings:

- Porterville's solid waste operation lacks an effective integrated customer service relationship manager (CRM).
- Customer Service and related functions can be greatly improved by procuring an industry-specific CRM to process customer requests, complaints, and inquiries.
- Introducing a new CRM will require advance planning and on-going coordination, including selecting the best system, meeting the requirements for conversion, creating the CRM database, and training staff.

- It is important to note that technology alone cannot resolve problems. Projects of this magnitude will fail without an internal champion to provide leadership. The process must be led internally by a capable and committed supporter of the new CRM.
- An additional benefit to managing the introduction of a new system is that it can become a catalyst for change. The process affords management an opportunity to review, assess, and challenge the status quo and redefine the entire workflow to improve efficiencies and quality of service.

Recommendations:

- SVM recommends the City develop and put out an RFP for an integrated customer relationship manager/billing system to include on-board device technology and functionality.
- Proposers must include the main customer service/billing platform and on-board devices separately for the City's consideration.
- The RFP should invite providers of on-board technology such as FleetMind and RouteWare.
- Proposers with customer service/billings systems must include the option to integrate with at minimum FleetMind and RouteWare.

On-Board Devices (Tablets/Computers)

On-board devices are essentially extensions of the CRM system. In effect, it is a device mounted inside the collection vehicle networked to communicate remotely with the CRM system.

Findings:

- With the proliferation of smaller devices such as laptops, workbooks, tablets and even telephones, the functionality of device access has expanded the opportunities for efficiency gains and service quality improvements.
- While using these devices mounted in a collection vehicle may at times be too expensive or ambitious, the more practical uses for this technology are in route supervision, container pick-up and delivery, bulky item collection, and route and billing auditing.
- The City does not currently use on-board devices due to a lack of an integrated CRM.
- The use of mobile devices such as tablets for these functions would complement other efforts to reduce inefficiency and increase cost-effectiveness and customer value.
- To introduce On-Board Devices, the solid waste operation must either also acquire a CRM system or choose a standalone product from a vendor such as FleetMind or SmartWare.

Recommendations:

- Should the City proceed with a CRM system, the City should also consider adopting on-board devices.

RFID Tag Identification

RFID tags are radio frequency identification devices embedded onto containers. In a solid waste operation, the application of RFID tags offers the potential to improve container management and tracking. Because containers represent a significant capital investment, it is important to manage and track this important asset in a reliable and effective manner. Alternatively, Bar Code labels can be used to improve container inventory management but offer less functionality than RFID tags. Bar Code labels are attached to containers as a sticker.

Findings:

- The main areas in which container management can benefit from RFID tags are 1) Container Inventory & Tracking, and 2) Service Verification.
- Bar Code labels are more limited than RFIDs Tags in that they will likely get dirty and unreadable requiring special cleaning products to help keep the label clean.
- Bar Code labels can be useful when used by container maintenance staff with handheld scanners. However, they do not work with sensors mounted on vehicles.
- Porterville has not purchased RFID equipped containers.
- Existing residential containers would need to be equipped with RFID tags or replaced with RFID equipped containers to benefit from RFID tag technology.
- The cost to tag existing carts with RFID's can range from \$10.00 to \$15.00 per cart.
- Any option that does not equip every container, or at least the majority of them, with an RFID tag would result in a less effective system.
- Converting to RFID tags is most efficient and cost-effective with the acquisition of new containers.
- To introduce RFID tags, the solid waste operation must either also acquire a CRM system or choose a standalone product from vendors such as FleetMind or SmartWare.

Recommendations:

- A more practical solution is to consider the service of FleetGenius by using their aGenda software. It can be implemented as a stand-alone program with smartphones and/or tablets. Although the program can be used for any type of delivery and pickup, it has been customized to address the needs of the solid waste container management environment. Since it is based on a monthly subscription, it is easy to implement and does not require a large up-front investment. In addition to container management, the program can be used for scheduling bulky item pickups, temporary container, including and roll-off boxes.

On-Board Interior/Exterior Camera Monitoring System

The primary application for on-board cameras has been to improve safety. More recent innovations include front view and interior view cameras that can record continuously, or that can engage upon

sensing the force of an impact. The recorded information can become useful to safety personnel for accident investigation and to determine the cause of the incident.

Another application for cameras is to capture service-related conditions such as over-filled containers, obstacles blocking containers or containers not set out for collection and thus preventing service delivery, and damaged containers needing repairs including graffiti removal. Most on-board tablets have the capacity to connect with the truck mounted cameras for picture taking and transmission to the central CRM/Billing system.

Findings:

- Almost all of Porterville's collection vehicles are equipped with Lytx event recorders that capture the driver and provide a front view.
- Most vehicles are equipped with a 2-camera system; one for the hopper area and a back-up camera provided by Safety Vision and multiple other manufacturers.
- The Lytx system provides web access to real-time fleet tracking and to recordings of previous periods for managerial review.
- The Lytx system allows for GPS tracking of vehicles, capturing evidence during accidents, and critical incidents for use in safety training or compliance.
- To maximize the benefit from the use of systems such as Lytx requires an intentional effort to assign staff and provide training to perform new tasks. However, the benefits from these technologies are derived from reviewing recorded events, evaluating what occurred, and using these as learning opportunities to improve safety.
- While the Lytx system provides useful tools, the system is currently underutilized due to lack of training and recent changes in personnel.

Recommendations:

- Maximize the benefits of the Lytx system by formalizing tasks, integrating into a job description and training staff to use the Lytx system.

On-Board Truck Scales

On-board scales are truck mounted scales that detect the weight of the truck while in operation. The two reasons for on-board scales are 1) to comply with gross vehicle weight limitations, and 2) to maximize payloads. Knowing the weight of a truck is indispensable to complying with maximum weight limits imposed by laws. Maximizing payloads is just as important.

Supervisors rely on weight tickets to determine if routes are "right sized" to maximize payloads and to avoid overloading trucks. The problem is that this information is received after the fact. On-board scales are intended to remedy this problem by taking the guessing out and ensuring that trucks are not loaded beyond the legal limit but not underloaded as well.

Findings:

- Procuring and installing on-board scales can range between \$15,000 to \$20,000 per truck.
- Because of the heavy demands placed on them in while loading trucks, on-board scales are high maintenance and are often out-of-order.
- Maintenance personnel do not consider them a high priority when it comes to repairing them.
- To justify these expenditures would require a focused effort to use the on-board scales to maximize payloads that could result in a reduction in number of trucks and personnel needed to provide collection service.
- The Porterville operation does not currently equip its fleet with on-board scales.

Recommendations:

- SVM does not recommend the installation of on-board scales to the City's solid waste operation fleet.
- The City could equip one or two trucks with on-board scales and use them to test routes. Also, scales can be mounted on a scout truck for checking the weight of containers at specific accounts. This would allow supervision to better assess the load factors of each route and to identify customers with excessive weight needs.

Upgraded Field Communications

The ability to communicate with field staff such as route supervisors and drivers is indispensable to providing quality and timely solid waste service. Traditionally, solid waste operations have used two-way radios for communications with a dispatcher functioning as the central base. There are some limitations with signal perimeter range or coverage and with "black spots" or "dead zones".

Findings:

- Porterville operation uses a two-way radio system with a base in the office as the primary means of communication with the drivers.
- When out of range, drivers use their personal cell phones as a secondary means of communication to call the office landline.
- Due to the practicality of mobile phones, field personnel and office staff have relied on using personal mobile phones.
- Mobile phones allow for texting, taking and transmitting pictures, and private conversations, which allow for faster resolution of problems.
- While the supervisor is provided a work cell phone, drivers depend on their personal cell phones.
- Solid waste operations have adapted by continuing the use of radio service when available, and by migrating to push-to-talk systems or to the use of cellular phones.

- A notable trend is the reduction in oral communication by use of on-board devices to communicate with the customer service system in real time. This advancement is not viable without a dedicated CRM system.

Recommendations:

- Provide drivers with cell phones.
- Introduce on-board devices to allow for transmission of routine service-related information in real time.

2. INTRODUCTION

2.2 PROJECT PURPOSE

The purpose of this task is to evaluate the costs, efficiency and effectiveness of several operations systems technology enhancements (technology enhancements) and to provide recommendations whether the systems would be cost-effective and beneficial to the City of Porterville's solid waste operation.

The City identified the following technology enhancements for review and evaluation.

- An RFID Tag Identification System
- On-Board Interior/Exterior Camera Monitoring System,
- On-Board Truck Scales,
- Upgraded Field Communications, and

In addition, because they are at the center of the technologies available to solid waste collection, the following two technology enhancements have been reviewed.

- Integrated Customer Relationship Management System
- On-Board Devices (Tablets/Computers)

2.3 PROJECT APPROACH

The technology enhancements evaluation was initiated with a kick-off meeting on August 4, 2020. Concurrently, an information request was submitted to gather additional information regarding the operations. A site visit was conducted on October 21st and 22, 2020 to gain an overview of the current operations, conduct interviews with key personnel, supervisors and staff, request specific information, conduct observation of the customer service center, ask questions, and record issues and events that were deemed relevant to achieve the goals of this evaluation.

During this visit Team Member, Enrique Vazquez of Sloan Vazquez McAfee (SVM) met with and interviewed the following City staff;

- Richard Tree, Field Services Manager
- Jose Lopez, Field Services Supervisor,
- Bertha Yarbrough, Clerical Assistant II.

The purpose of these meetings and interviews was to get a comprehensive understanding of the City's solid waste operation and to assess the systems and practices being used to perform customer service, billing, container tracking and inventory management, and field communications.

Subsequent to the site visit, Mr. Vazquez researched and met with vendors who offered industry-specific products to evaluate the functionalities and features of each product and to determine their suitability to the City's solid waste operations' needs.

3. BACKGROUND

The City's solid waste operation is a typical municipal solid waste department. Its primary purpose is to remove the City's solid waste and dispose of it safely and in a timely manner. The main organizational functions within such an operation include;

- Collection Operations: Responsible for equipment and personnel required to collect and dispose of solid waste and recycling materials;
- Fleet Maintenance: Responsible for the mechanical upkeep of the vehicles and equipment;
- Container Management: Responsible for maintaining, delivering and tracking containers;
- Customer Service: Responsible for handling inquiries and services request from customers;
- Billing: Responsible for the timely production and distribution of invoices and billing statements, receipt and posting of payments.

For most solid waste operations, the customer service center is the communication nexus with its customers. Hence, the organization and management of the customer service center is vital to the delivery of efficient and consistent quality service.

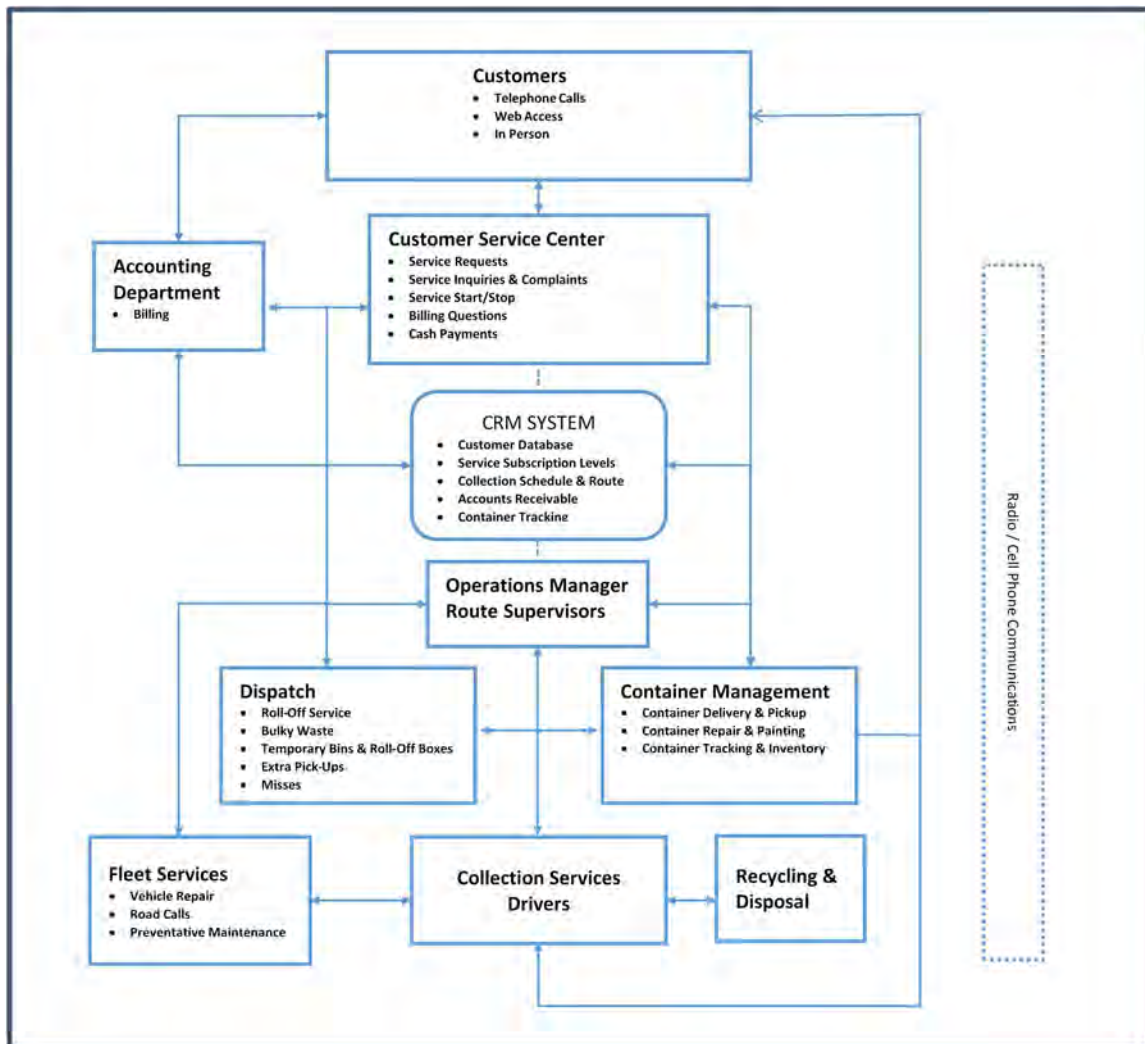
Calls into the Customer Service Center fall into the following general categories:

- Establish new service,
- Request additional service,
- Amend existing service (such as cart or bin exchanges),
- File a service complaint,
- Billing, and
- General questions.

At its basic level, a solid waste operation directs the personnel and equipment to collect and dispose of solid waste and recycling materials. The other functions serve as support functions that can be organizationally directed by the solid waste collection operation or can be provided by other departments and / or outsourced to vendors.

The general workflow for a solid waste operation is depicted, at a high level, from customer calls to billing, in **Figure 1 – Typical Solid Waste Operation Workflow Diagram**.

FIGURE 1 – TYPICAL SOLID WASTE OPERATION WORKFLOW DIAGRAM



In the City of Porterville, solid waste operation includes responsibility for container management, and customer service. Fleet maintenance is provided by the fleet maintenance department which is also responsible for all the City's vehicles. Billing is provided by the Finance Department, the City's water billing system using the Incode Utility Billing System¹.

4. EVALUATION OF OPERATIONS SYSTEMS

A major consideration identified by the City when evaluating the operations systems was their compatibility and potential for integration so that "everything works together" as efficiently and seamlessly as possible. Determining the compatibility and integration capacity of an operations system

¹ Incode is a software product by Tyler Technologies for municipal utility billing functions.

requires both the evaluation and understanding of the technology itself and, the organizational structure in which it will operate.

Common practice for solid waste operations is for the customer service center to be equipped with an industry-specific customer relationship manager (CRM) software system. The use of an industry-specific CRM has become essential for efficient and cost-effective solid waste operations. In order to consistently deliver quality, value-driven customer service, it is critical for an operation to have a well-designed and functional system that ensures customer service information is accurate, current and accessible on-demand.

It is important to note that Porterville's solid waste operation does not use a unified CRM system for managing the workflow related to services rendered to their solid waste customers. In fact, the solid waste operation does not perform its customer service functions through a centralized customer service call center. To perform routine administrative functions and for workflow management, staff uses emails to communicate and excel worksheets for recording and tracking requirements.

The following sections will address the specific technology enhancements identified by the SWD for potential benefits to the SWD solid waste operation.

4.1 RFID TAG IDENTIFICATION

RFID tags are radio frequency identification devices embedded onto containers. In a solid waste operation, the application of RFID tags offers the potential to improve container management and tracking. Because containers represent a significant capital investment, it is important to manage and track this important asset in a reliable and effective manner. Alternatively, Bar Code labels can be used to improve container inventory management but offer less functionality than RFID tags. Bar Code labels are attached to containers as a sticker.

4.1.1 CURRENT CONTAINER OPERATIONS

The operation is not staffed with a designated work crew to perform the container management functions of receiving, delivering, retrieving, maintaining (washing, welding, painting, etc.) of containers. These container management functions are performed by several drivers who are also welders. These tasks are completed upon completion of their route collection assignment. Because this is a secondary assignment to these work crews, container functions are not completed in a timely manner.

The City does not keep an official container inventory. Service requests are generated by office staff. The driver loads delivery truck based on the number of service requests. Upon container delivery, the driver hand writes the serial numbers and returns the service requests to office staff for entry into an Excel database. The Excel table is updated with the current location of each container when 1) containers are delivered to a customer site, 2) containers are retrieved from a customer site and returned to the city facilities for storage, and 3) containers are retired from service. The information is maintained and updated by office staff.

City staff is uncertain as to how many containers are equipped with bar code labels. However, residential carts purchased after 2016 are equipped with bar code labels. The bar code labels are not used for tracking and inventory purposes at this time. No containers are equipped with RFID tags.

4.1.2 POTENTIAL USES AND BENEFITS OF RFID TAGS

With either RFID tags or Bar Code labels, container tracking can be more accurate and reliable because each container can be associated with a specific location, either at a customer location or at the storage yard in inventory. RFID tags or Bar Code labels can be read electronically with a scanning device. This offers various ways to automate and improve container management efficiency.

The main areas in which container management can benefit from RFID tags are

- Container Inventory & Tracking, and
- Service Verification.

Bar Code labels are more limited than RFID Tags in that they will likely get dirty and unreadable requiring special cleaning products to help keep the label clean. Bar Code labels can be useful when used by container maintenance staff with handheld scanners. However, they do not work with sensors mounted on vehicles.

4.1.2.1 CONTAINER INVENTORY & TRACKING

Newly purchased containers can be received into inventory using a handheld scanner to quickly record the serial number into an electronic file. When delivering containers to a customer, staff can scan the RFID tag or Bar Code label and assign the container to the customer location while at the same time, removing it from the City yard inventory list. Likewise, when removing containers from customer locations, the containers is scanned, identified and received into the City yard inventory. Containers that have been moved, misplaced, or stolen can be identified, retrieved and assigned to the proper location.

4.1.2.2 SERVICE VERIFICATION

On the collection route, route trucks can be equipped with on-board devices that integrate various operational functions including software and scanners that can read and associate container serial numbers with service locations. This can be used to verify that containers have been serviced. The information can be transmitted to update the CRM system in real-time so that customer service personnel can avail themselves of the most current information. Bar Code labels are impractical for service verification due to its tendency to become dirty and requiring cleaning. Driver's primary job is to empty containers efficiently. Pausing to clean bar codes would cause excessive delays.

4.1.3 PRACTICAL CONSIDERATIONS

If the reason for using RFID tags is container inventory and tracking, the first step is to ensure that all containers are equipped with an RFID tags. Residential carts can be purchased with embedded RFID tags at no significant additional cost. Hence, it is most efficient and cost-effective to convert to RFID tags

concurrent with the acquisition of new containers. Porterville has not purchased RFID equipped containers. Existing residential containers would need to be equipped with RFID tags or replaced with RFID equipped containers to benefit from RFID tag technology. Any option that does not equip every container, or at least the majority of them, with an RFID tag would result in a less effective system.

When considering RFID technology, an important consideration is the costs for installing RFID tags onto the containers. The process of installing RFID on existing carts is challenging and labor intensive because crews have to be deployed into the field to locate and install the RFID tags. To ensure maximum tagging, more than one cycle through a route is required, since not all carts are located in the first round. Even so, it is never certain that every cart can be located and tagged. The cost to tag existing carts with RFID's can range from \$10.00 to \$15.00 per cart.

The timing for replacing containers with RFID tags requires planning as well. The introduction of RFID tags may require the installation of equipment on the vehicles as well as the embedding of RFID tags on the containers. As previously stated, embedding RFID tags onto existing containers can be costly.

Alternatively, the City's solid waste operation could improve container tracking by adopting handheld scanners for use by container management crews.

If the reason for using RFID tags is service verification, then an on-board device will be required. In actual application, RFID tags have been found to be most reliable when used with residential carts. A frequent complaint from operations using RFID tags for service verification is that truck mounted scanners fail to read RFID tags at 100% and their ability to read RFID tags deteriorate over time. There is virtually no application of RFID tags with commercial bins. For this reason, most on-board computer systems are equipped to detect the container lifting cycle as an alternative method for service verification. Other systems use both RFID and lifting motion.

4.2 ON-BOARD INTERIOR/EXTERIOR CAMERA MONITORING SYSTEM

Cameras have become ubiquitous in the solid waste industry. The primary application has been to improve safety with the adoption of "back-up cameras" or rear-mounted cameras that provide a rear view as the driver travels in reverse. Back-up cameras engage automatically when the truck is shifted into reverse. As technology has advanced and the price of cameras has declined, solid waste operations have begun using multi-camera systems to provide the driver with a rear view and side views, for greater all-around visibility during operations.

More recent innovations include front view and interior view cameras that can record continuously, or that can engage upon sensing the force of an impact. The sensitivity for engaging can be set by the user. These cameras are intended to engage as rapidly as possible whenever the vehicle is involved in an accident. The recorded information can become useful to safety personnel for accident investigation and to determine the cause of the incident.

Another application for cameras is to capture service-related conditions such as over-filled containers, obstacles blocking containers or containers not set out for collection and thus preventing service delivery, and damaged containers needing repairs including graffiti removal. Most on-board tablets have the capacity to connect with the truck mounted cameras for picture taking and transmission to the central CRM/Billing system.

4.2.1 CURRENT ON-BOARD INTERIOR/EXTERIOR CAMERA MONITORING SYSTEM

Almost all of Porterville's collection vehicles are equipped with Lytx event recorders that capture the driver and provide a front view. In addition, most vehicles are equipped with a 2-camera system; one for the hopper area and a back-up camera provided by Safety Vision and multiple other manufacturers. The Lytx system also provides web access to real-time fleet tracking and to recordings of previous periods for managerial review. The Lytx system allows for GPS tracking of vehicles, capturing evidence during accidents, and critical incidents for use in safety training or compliance.

While the Lytx system provides useful tools, the system is currently underutilized due to lack of training and recent changes in personnel.

4.2.2 PRACTICAL CONSIDERATIONS

To maximize the benefit from the use of systems such as Lytx requires an intentional effort to assign staff and provide training to perform new tasks. A common mistake when adopting camera and systems is to simply install the technology and expect an automatic improvement. However, the benefits from these technologies are derived from reviewing recorded events, evaluating what occurred, and using these as learning opportunities to improve safety. Supervisors can benefit from these technologies with the proper training.

4.3 ON-BOARD TRUCK SCALES

On-board scales are truck mounted scales that detect the weight of the truck while in operation. The two reasons for on-board scales are 1) to comply with gross vehicle weight limitations, and 2) to maximize payloads. Knowing the weight of a truck is indispensable to complying with maximum weight limits imposed by laws. In other industries, the load of the vehicle can be calculated based on the product that is loaded onto the truck. In a solid waste operation, the solid waste is being loaded at each stop and the driver cannot be certain as to the weight of the truck. Maximizing payloads is just as important. Solid waste collection vehicles are capital intensive. It is prudent to maximize the productivity of each truck by ensuring that every trip is carrying as close to its maximum capacity as possible.

Traditionally, solid waste operators have relied on the judgment of experienced drivers to correctly determine the weight of their truck. Solid waste collection vehicles are typically weighed at the disposal facility. The weight tickets have been the primary source of weight information for operations management. These provide supervision with the ability to determine if routes are "right sized" to maximize payloads and to avoid overloading trucks. The problem is that this information is received

after the fact. On-board scales are intended to remedy this problem by taking the guessing out and ensuring that trucks are not loaded beyond the legal limit but not underloaded as well.

4.3.1 CURRENT

The Porterville operation does not currently equip its fleet with on-board scales.

4.3.2 PRACTICAL CONSIDERATIONS

On-board scales have been in use for several decades. Yet, the general consensus from frontline supervision is that they “don’t work”. Because of the heavy demands placed on them in while loading trucks, on-board scales are high maintenance and are often out-of-order. Maintenance personnel do not consider them a high priority when it comes to repairing them. Depending on the specific product, the cost to procure and install on-board scales can range between \$15,000 to \$20,000 per truck. There is also an increase in truck maintenance costs.

To justify these expenditures would require a focused effort to use the on-board scales to maximize payloads that could result in a reduction in number of trucks and personnel needed to provide collection service. In consideration of these factors, SVM does not recommend the installation of on-board scales to the City’s solid waste operation fleet.

However, the City could equip one or two trucks with on-board scales and use them to test routes. Also, scales can be mounted on a scout truck for checking the weight of containers at specific accounts. This would allow supervision to better assess the load factors of each route and to identify customers with excessive weight needs.

4.4 UPGRADED FIELD COMMUNICATIONS

The ability to communicate with field staff such as route supervisors and drivers is indispensable to providing quality and timely solid waste service. Traditionally, solid waste operations have used two-way radios for communications with a dispatcher functioning as the central base. The technology has been generally reliable and practical. There are some limitations. Perhaps the most important is signal perimeter range or coverage. When the signal perimeter is exceeded communication will be out-of-range. Another problem with two-way radio communication is “black spots” or “dead zones”. These are areas where the two-way radio service is blocked due to obstacles impeding radio transmission including the topographical features of the terrain. This is similar to the lack of signal on a cellular telephone.

With changes in the communication field, solid waste operations have adapted by continuing the use of radio service when available, and by migrating to push-to-talk systems or to the use of cellular phones. One of the challenges with the use of cellular phones is managing phone usage and associated costs. Besides legitimate usage there is also the potential for abuse by using the phone for personal communication. Increases in usage can result in significant additional costs for the service. This is often

mitigated by limiting the functionality of the phone service. For example, the phones may be “locked-out” of texting pictures. However, this also locks out legitimate uses that can enhance service quality such as when a driver can use the cellular phone to take and transmit a picture of an over-filled container.

4.4.1 CURRENT FIELD COMMUNICATIONS

Porterville operation uses a two-way radio system with a base in the office as the primary means of communication with the drivers. When out of range, drivers use their personal cell phones as a secondary means of communication to call the office landline. Also, reception tends to be spotty and at times unreliable. Due to the practicality of mobile phones, field personnel and office staff have relied on using personal mobile phones. Mobile phones allow for texting, taking and transmitting pictures, and private conversations, which allow for faster resolution of problems. While the supervisor is provided a work cell phone, drivers depend on their personal cell phones.

4.4.2 PRACTICAL CONSIDERATIONS

With the rapid changes in the communication field, solid waste operations have adapted by continuing the use of radio service when available, and by migrating to push-to-talk systems or to the use of cellular phones. One of the challenges with the use of cellular phones is managing the phone usage and associated costs. Besides legitimate usage there is also the potential for abuse by using the phone for personal communication. Increases in usage can result in significant additional costs for the service. This is often mitigated by limiting the functionality of the phone service. For example, the phones may be “locked-out” of texting pictures. However, this also locks out legitimate uses that can enhance service quality such as when a driver can use the cellular phone to take and transmit a picture of an over-filled containers.

One notable trend is the reduction in oral communication by use of on-board devices which communicate with the customer service system in real time. Many of the routine messages are programmed into the on-board device so that the driver only has to touch a selection and the message is uploaded into the central CRM system making the message instantly available and visible to other personnel, such as customer service representatives or route supervisors. This advancement is not viable without a dedicated CRM system.

4.5 INTEGRATED CRM SYSTEM

The customer service center is the central point of communication. In a solid waste operation, the activities performed to deliver service are practically invisible to the customer. Their relationship with the solid waste provider is the receipt of their bill, their interaction with customer service, and occasionally, interaction with drivers or field supervisors. Therefore, it is important to have a well-designed and functional system that ensures that customer service information is current and accessible on-demand, in order to render quality customer service.

The development of Integrated Customer Relationship Management Systems (CRM) is perhaps the single most important technology development to benefit the solid waste industry. The original billing systems used in this industry were considered to serve this function, but with advances in technology, it evolved into a customer service platform. These advancements allowed solid waste operations to use a single central database to maintain customer account information for billing and logging customer inquiries and complaints. This customer service platform contained vital information for the delivery of services including customer subscription levels, service days, service frequency, billing and account status information, accounts receivables, routing, container location and tracking, and other pertinent customer specific metrics and information.

Today's CRM systems function as a hub or nexus whereby staff in various roles within solid waste operations communicate and manage workflow. Several products have been designed to address the unique functions and needs of a typical collection services operation. Many vendors for these products are embracing and incorporating the latest developments in technology to bring the benefits of the digital conversion to the solid waste industry. In fact, most technological enhancements in solid waste have been developed to integrate and interact with the CRM.

Until very recently, most CRM vendors were teaming with vendors of other technologies such as on-board tablets, RFID tags, etc. to be able to offer a complete solution to the customer. Now most CRM vendors have partnered, acquired, or merged with providers of other technologies allowing them to provide a complete solution. Other vendors have designed interfaces with generically available android or windows tablets or iOS i-Pads to serve as mobile devices.

4.5.1 CURRENT

The Porterville operation does not currently use an industry specific solid waste CRM system. Billing is provided through the Incode Utility Billing System. Specific service charges information is maintained in a legacy system developed in-house by a previous employee. To perform routine administrative functions and workflow management, the City's solid waste operation relies on a combination of disconnected tools, service requests, emails, excel worksheets and printouts.

The lack of a CRM system that can serve as a central hub to manage workflow communications is therefore a significant limitation for the City's solid waste operation. In addition, the best technological enhancements available to the solid waste industry have been designed to integrate with a CRM system. Without an industry-specific CRM, the alternatives for technology enhancements to improve workflow efficiencies are significantly limited and the City's solid waste operation's goal to have "everything work together" will be more challenging.

4.5.2 PRACTICAL CONSIDERATIONS

With the introduction of a CRM, there are several issues that must be addressed and decided. The most important is regarding the billing function. After these functional issues are thoroughly vetted and

priorities established, the system conversion process will require extensive planning and coordination (which is typical to implement any software conversion).

4.5.2.1 BILLING FUNCTION

The functionality of customer billing is the first and perhaps most important issue in consideration of adopting a CRM. Since all of the CRM products are integrated, they include a complete billing function. Therefore, any of the new industry-specific CRM products available could replace entirely the billing function provided by the Incode Utility Billing System. The challenge is the City's use of Incode for both solid waste operations and water, since Incode is used for water bills and solid waste operations customer's accounts producing a combined water and solid waste billing statement.

With the implementation of a new CRM, the solid waste operation must decide how it wants to bill its customers. A new CRM will accommodate the solid waste operation generating bills solely for solid waste collection service, and Incode can continue to separately bill for water service. If the City decides to continue producing a single invoice for both services, the solution is to continue using Incode for billing and to use the CRM for operations management. Several of the CRM vendors have extensive experience creating interfaces to integrate their systems with a separate municipal billing system.

It is SVM's experience that this integration is feasible and Incode could continue to be used for billing. However, the CRM products reviewed are capable of generating stand-alone customer bills which offer several attributes to the City's solid waste operation, including:

- Consolidating all of the solid waste operation's functions in-house and providing autonomy as an enterprise operation;
- Providing customers with a stand-alone solid waste collection services centric bill that is not associated with water service;
- Obtaining complete control over the frequency and types of inserts included with bills;
- Allowing the flexibility to include extensive messaging in bills and begin to use bills as a key customer service tool to educate customers about the necessity to recycle and reduce waste (e.g., include information on new and existing services, program participation guidelines, or a diversion graph or chart similar to the water usage history chart included currently). and,
- Providing the opportunity to significantly expand the billing line items listed and include explanations as desired.

4.5.2.2 CONVERSION PLANNING & COORDINATION

Introducing a new CRM will require advance planning and on-going coordination. The process includes selecting the product that best meets the City's needs and procuring assistance from Incode to provide the technical analysis and technical support to ensure a seamless system interface between Incode and the new CRM. Additional steps include defining the requirements for conversion, creating the CRM database, and training staff.

Although CRM vendors provide many of these services, the City's role cannot be understated. It is important to note that technology alone cannot resolve problems. Projects of this magnitude will fail without an internal champion to provide leadership. The process must be led internally by a capable and committed supporter of the new CRM. One benefit to managing the introduction of a new system is that it can become a catalyst for change. The process affords management an opportunity to review, assess, and challenge the status quo and redefine the entire workflow of the operation to improve efficiencies and quality of service.

4.6 ON-BOARD DEVICES

On-board devices are essentially extensions of the CRM system. In effect, it is a device mounted inside the collection vehicle networked to communicate remotely with the CRM system. The availability of on-board devices emerged with the advent and proliferation of portable computers. This technology application developed somewhat independently from the more established CRM system. Because it was costly and its effectiveness was limited by the reliability of communication technology, solid waste operations were slow to adopt on-board devices. Presently, due to customer expectations and because of the rapid enhancements in digital and wireless communication technology, there has been an increasing interest to integrate on-board devices with CRM systems such that they function interactively and seamlessly.

In addition, with the proliferation of smaller devices such as laptops, workbooks, tablets and even telephones, the functionality of device access has expanded the opportunities for efficiency gains and service quality improvements. While using these devices mounted in a collection vehicle may at times be too expensive or ambitious, the more practical uses for this technology are in route supervision, container pick-up and delivery, bulky item collection, and route and billing auditing. If the solid waste operation chooses to implement a CRM system, the use of mobile devices such as tablets for these functions would complement other efforts to reduce inefficiency and increase cost-effectiveness and customer value.

4.6.1 CURRENT

The City does not currently use on-board devices due to a lack of an integrated CRM.

4.6.2 PRACTICAL CONSIDERATIONS

The effectiveness of on-board devices continues to depend on the reliability of the communication link with the server where the CRM system is housed. When communication is lost, the on-board device cannot retrieve and display updated information for the driver to act upon. And information captured in the field cannot be transmitted to the CRM system for updating. When this occurs too frequently or for extended periods of time, drivers often choose to abandon using the on-board device and run their routes the old-fashion way, by memory. Therefore, it is important to choose a system that has designed a work-around for this eventuality and will continue to function reliably.

5. TECHNOLOGY PRODUCT EXAMPLES

5.2.1 CRM SYSTEMS

Several specialized CRMs have been developed to provide for the unique functions of a solid waste operation. These CRMs integrate customer service functions with collection operations, container management, billing, and route management.

The following products provide the functionality to significantly improve Porterville's solid waste operation's workflow process.

- **AMCS by AMCS**
 Website: <https://www.amcsgroup.com>
 Link: [Solid Waste & Recycling Software, Route Planning Solutions | AMCS Group](#)
- **Encore by Core Computing Solutions**
 Website: www.ccscorp.com/coreHome.html
 Link: [Home CORE | Routeware Inc. | Complete waste management software suite \(ccscorp.com\)](#)
- **Soft-Pak by Soft-Pak Software Solutions**
 Website: <https://soft-pak.com/soft-pak>
 Link: [Waste Hauler Software For Solid Waste Trash Haulers - Soft-Pak \(soft-pak.com\)](#)
- **FleetMind Solutions Inc**
 Website: <https://www.fleetmind.com>
 Link: [FleetMind delivers the best fleet management solution for solid waste](#)
- **RouteWare**
 Website: <https://routeware.com/product-features>
 Link: [PRODUCT FEATURES | Fleet Management & Automation | Routeware](#)

All of these CRM systems offer excellent and reliable service, support, and training. They are available to run on servers housed on-site or on a cloud-based host application. They are well-designed systems that integrate the customer service functions with field operations, container management, billing, and route management. They provide for functions such as processing service requests; keeping a history of service; complaint logging and follow-up; work order processing; on-call service dispatching; accurate billing of permanent and temporary services; on-going interactive communication with field operations; data gathering for management by metrics, and safety; report generation; and various other essential and ancillary functions.

Both AMCS and Soft-Pak are capable of serving very large operations and have extensive experience with municipal operations. EnCore is capable of serving small and medium sized operations. Furthermore, EnCore has been recently acquired by RouteWare, Inc. giving it more functionality and potentially placing it at the same level as AMCS and Soft-Pak.

Except for FleetMind, the other vendors all offer a CRM/Billing system as their core product. FleetMind offers on-board devices with comprehensive capabilities and the ability to interface with most CRM/Billing systems on the market. Until recently, most CRM/Billing systems did not offer their own on-board device solution. They partnered with vendors, such as FleetMind, who specialize specifically with the on-board device technology. The CRM/Billing vendors prefer to use their own on-board technology. However, AMCS and Soft-Pak specifically note their system's integration with FleetMind. EnCore provides the software and functionality to interface with Android based devices such as a Samsung tablet, but they do not sell the devices. However, with its acquisition by RouteWare, EnCore now offers expanded functions comparable to those provided by FleetMind.

The main capabilities of these systems are summarized in **Table 1 – CRM/Billing System Comparison.**

TABLE 1 – CRM/BILLING SYSTEM COMPARISON

Features	ACMS	EnCore	Soft-Pak
Customer Service System	Yes	Yes	Yes
Billing	Yes	Yes	Yes
Customer Web Portal	Yes	Yes	Yes
On-Board Device	Ruggedized portable tablet, or i-Pads. Cust. Responsible for data plan.	Android tablets. Provides software and functionality, Cust. responsible for all hardware & data plan.	Android tablets. Provides software and functionality, Cust. responsible for all hardware & data plan.
Service Verification	RFID	Lifting Cycle Detection	RFID
Camera Integration	Yes	Uses tablet camera	Yes
Cloud Based "Hosted" Option	Yes	Yes	Yes
Client Server	Micro Soft Windows; City to purchase and install server.	Micro Soft Windows; City to purchase and install server.	IBM iSeries. City to purchase and install. Best for fleets >200 Vehicles.
FleetMind Integration	Yes	Yes	Yes
RouteWare Integration	Yes	Yes	YES

Any one of these products would provide a complete solution to the City's solid waste operation's current CRM requirements. Where they differ most, is in the technological enhancements, such as on-board devices, RFID tags, etc. For this reason, the evaluation of one company specializing with on-board

devices was also reviewed. This will afford the solid waste operation an opportunity to select one vendor for their CRM and a separate vendor for on-devices computers, should it be determined to be a better solution.

Should the solid waste operation opt to procure a customer service system, it will incur both an initial capital expenditure for the acquisition of the hardware and software required by the system, and recurring operating costs related to the maintenance of the system and operation of the customer service and billing functions.

The costs associated with the purchase, installation and operation of a system are summarized in **Table 2 – CRM System Costs Estimates**. The specific costs will vary depending on several considerations such as whether the system will be purchased, operated using in-house servers or cloud-based based, who will plan and manage the transitional costs and other such specific factors.

These cost estimates in low and high ranges for planning and budgetary purposes. Based on this research, the City can purchase a CRM system that is designed specifically for a solid waste operation for a one-time cost of between \$80,000 to \$100,000 and recurring annual fees of between \$30,000 and \$60,000. These estimates are based on 10 users.

The costs for on-board devices range from \$25,000 to \$200,000 and are based on equipping 23 vehicles with on-board devices. The price range is primarily explainable on whether the vendor proposes the use of readily available tablets such as Samsung or i-Pads or a specialized ruggedized computer with monitor as the main unit.

TABLE 2 – CRM SYSTEM COSTS ESTIMATES

	COST – LOW		COST – HIGH	
	One Time Cost	Recurring Cost	One Time Cost	Recurring Cost
CRM/Billing System*	\$80,000	\$30,000	\$100,000	60,000
On-Board Tablets**	\$25,000	\$6,000	\$200,000	50,000
GRAND TOTAL	\$114,000	\$36,000	\$300,000	\$110,000

Note: Cost estimates are based on 10 users and 23 vehicles.

* Includes project management, software installation, office support, and training.

** The price variation is due to choice of device; Samsung tablets versus specialized, ruggedized computer with monitor.

If the solid waste operation opts to use a vendor such as FleetMind for on-board devices, it would cost approximately \$200,000 for the on-board devices alone. Although the price is comparatively higher than the other options presented, their system is credibly better designed for the solid waste environment than Samsung tablets or i-Pads. If the solid waste operation selects a vendor for the CRM software that offers Samsung tablets or i-Pads, the solid waste operation has the option to select a FleetMind on-

board device instead. Or the solid waste operation may choose a combination with the Samsung tablets and/or i-Pads assigned to roll-off trucks drivers, supervisors, and container delivery personnel.

5.2.2 RFID TAGS

To implement RFID tag technology will require 1) all containers to be equipped with an embedded RFID tag, and 2) a system of hardware and software with which to scan the tags and record them into a database. The container tagging was addressed in section 3.1.

The primary application for reading container tags is provided through on-board devices that integrate scanning, GPS, and customer database to identify the location of any container that is being serviced and to record that a specific customer has been provided service.

Because the City's solid waste operation does not currently have an industry specific CRM, the available options for using RFID tags is limited. Considering that procuring a CRM system and associated on-board devices will run into several hundred thousand dollars, procuring a CRM solely for container management and tracking would likely be economically impractical.

An alternative product is aGenda, a cloud-based software product with GPS tracking features. It was designed specifically for the container management industry. aGenda functions as an iOS or Android phone or tablet application. The software is intuitive and easy for the operator to use. It is designed to track any task-oriented process.

This product is offered by FleetGenius, LLC, a container management company that provides various container management services to solid waste operations. aGenda is used to track driver route activity for all customers including residential and commercial service requests, bulky item pickups, special events and route audits.

On a daily basis, an excel file can be uploaded to the route optimization feature (optional) with all transactions (service requests) for the day. The service requests are routed and sorted by driver so that each driver has a balanced workload. The completed routed files are then uploaded into aGenda.

All service requests are dispatched to the driver's device. The service requests are displayed on the driver's tasks list in real time through the Agenda web portal. The service request details include the customer account number, address, service codes, service notes, driver notes, GPS coordinates, and any photos the driver took before or after the transaction was completed.

If the transaction was not completed for some reason, that information will be displayed on the task list and on the task report. Solid waste operation staff will have access to this information at any time through the aGenda web portal.

aGenda is offered on a subscription basis at a monthly of approximately \$100 per driver and a \$2,500 start-up cost. The devices are not included.

Contact information for aGenda is provided below.

Name: FleetGenius LLC
 Contact: Jim Philipps, Chief Commercial Officer
 Cell Phone: 619-726-2140
 Email: jim@fleetgenius.com
 Website: www.fleetgenius.com
 Link: [Home](#) | [FleetGenius](#) | [United States](#)

6. CONCLUSIONS AND RECOMMENDATIONS

The solid waste operation expressed an interest in understanding the potential benefits of introducing certain technology enhancements to the existing solid waste operation. After review of the solid waste operation's current operational practices and use of existing systems and technologies, the following are conclusions and recommendations have been reached.

6.2 INTEGRATED CUSTOMER RELATIONSHIP MANAGER

The use of an industry-specific CRM in solid waste operations has become essential. The City's solid waste operation current systems do not provide the functionality to manage the workflow in a streamlined and efficient manner. The most serious deficiency is the inability to manage workorders, and customer inquiries and complaints, electronically.

Today's CRMs provide the functionality to manage workorders electronically from cradle to grave. The lack of a CRM system that can serve as a central hub to manage workflow communications is therefore a significant limitation for the solid waste operation. With a new CRM, the City may choose to bill separately for water service and solid waste services using Incode to produce the water service statement and the new CRM to bill for solid waste services.

6.2.1 CRM OBSERVATIONS

- The CRM products reviewed are capable of generating stand-alone customer bills.
- Introducing a new CRM will require advance planning and on-going coordination, including selecting the best system, meeting the requirements for conversion, creating the CRM database, and training staff.
- It is important to note that technology alone cannot resolve problems. Projects of this magnitude will fail without an internal champion to provide leadership. The process must be led internally by a capable and committed supporter of the new CRM.
- An additional benefit to managing the introduction of a new system is that it can become a catalyst for change. The process affords management an opportunity to review, assess, and challenge the status quo and redefine the entire workflow to improve efficiencies and quality of service.

6.2.2 RECOMMENDATIONS

- SVM recommends the City develop and put out an RFP for an integrated customer relationship manager/billing system to include on-board device technology and functionality.
- Proposers must include the main customer service/billing platform and on-board devices separately for the City's consideration.
- The RFP should invite providers of on-board technology such as FleetMind and RouteWare.
- Proposers with customer service/billings systems must include the option to integrate with at minimum FleetMind and RouteWare.

6.3 RFID TAGS

RFID technology offers the potential to improve container management and service verification. The solid waste operation's container management staff do not currently use RFID tags to manage their container inventory. All service requests are tracked manually. To take full advantage of RFID Tags, most systems have been developed around on-board devices that have been integrated with a CRM system.

6.3.1 CONSIDERATIONS

- Using RFID tags for container inventory and tracking will require all containers to be equipped with an RFID tags.
- Any option that does not equip every container, or at least the majority of them, with an RFID tag would result in a less effective system.
- The cost to tag existing carts with RFID's can range from \$10.00 to \$15.00 per cart.
- Using RFID tags is service verification will require an on-board device.
- In actual application, RFID tags have been found to be most reliable when used with residential carts. Even so, the consensus of vendors and users is that truck-mounted scanners can fail to read RFID tags and deteriorate over time.
- There is virtually no application of RFID tags with commercial bins.
- The solid waste operation does not currently use RFID tags and it is unlikely that their application would result in any notable benefit for collection operations due to insufficient support systems.
- Should the solid waste operation introduce a new CRM, use of RFID tags for container management such as inventory management, container delivery and pick up, will not only be feasible, but could be of great benefit.
- Using RFID for service verification would also require on-board tablets on the collection vehicles.

6.3.2 RECOMMENDATIONS

- A more practical solution is to consider the service of FleetGenius by using their aGenda software. It can be implemented as a stand-alone program with smartphones and/or tablets. Although the program can be used for any type of delivery and pickup, it has been customized to address the needs of the solid waste container management environment. Since it is based

on a monthly subscription, it is easy to implement and does not require a large up-front investment. In addition to container management, the program can be used for scheduling bulky item pickups, temporary container, including and roll-off boxes.

September 20, 2021

Mr. Michael Knight
Public Works Director
City of Porterville
555 N. Prospect Street
Porterville, CA 93257

Subject: Analysis of Outsourcing the City's Municipal Solid Waste Operations

Dear Mr. Knight:

R3 Consulting Group, Inc. (R3) was engaged by the City of Porterville (City) to evaluate the potential for outsourcing the Field Services Division's (Division) municipal solid waste collection operations to the private sector. This Letter Report provides the results of our analysis.

Project Objectives

1. Project the costs related to recommended improvements to the Division's current municipal collection system to bring operations in line with industry standards, and to comply with SB 1383 (Short-Lived Climate Pollutants; Organic Waste Reductions), and the associated impact on the City's current solid waste rates;
2. Project current costs in the Division's solid waste budget that would **not** go away if the City were to outsource the Division's solid waste operations to the private sector, and the associated franchise fee that would be required to cover those costs;
3. Assess the potential rate impact associated with outsourcing of the Division's solid waste operations;
4. Assess the regional market and the potential interest in an exclusive City residential and commercial solid waste collection franchise if the City were to decide to outsource the Division's operations;
5. Compare the advantages and disadvantages associated with municipal and outsourced operations; and
6. Provide recommendations for contractor requirements related to displaced City employees, should Division operations be outsourced.

Summary Findings

The City is at a point where it is reasonable to consider if it wants to continue to provide municipal collection services or outsource those operations. If it wishes to maintain municipal operations there needs to be investment of both staff and other resources. A rate increase on the order of **50%-60%**¹ is projected to be required to support Division operations that are consistent with industry standards, and provide the resources needed to comply with SB 1383. If the City decides to outsource operations it is projected that it would need to receive annual contractor payments of **\$1.1 million** to cover existing Division budgeted expenses covered through the solid waste rates that would not go away.

¹ A 60% projected rate increase assumes a single one-time rate increase over the 5-year planning period, effective January 1, 2022, while a 50% rate increase assumes additional 3% annual rate adjustments over the 5-year planning period starting in FY 23-24.

A **50%** rate increase would bring the City's residential rate up to **\$26.78 per month**. If this rate is used as the benchmark for assessing the financial impact of outsourcing, and with consideration for current private hauler rates within the region, it is certainly possible, but not guaranteed that outsourcing could result in a net financial benefit to the City and its ratepayers.

The analysis presented in this report is intended to help support the City's decision as to whether or not to outsource the Division's operations. As part of that consideration, the City may wish to informally explore interest in a potential exclusive franchise with private sector haulers in the region, which may help to inform the City's decision.

Findings

Findings are presented below with respect to both maintaining municipal operations and outsourcing those operations.

Maintain Municipal Operations

1. Advantage of Municipal Operations

Perhaps the greatest advantage of the City maintaining municipal collection operations is the direct control the City has over its solid waste management system, including customer service. With that total control however also comes total responsibility for the safety, and operational, financial, and regulatory compliance aspects of those services. Additionally, with municipal operations the City does not have to manage a contract with a private sector operator.

2. Assessment of Current Operations

As discussed in our Solid Waste Operational Review report, the Division is doing a good job with available resources; however, those resources are not adequate to support an operation that is in line with industry standards for safety, customer service, and operational performance. If the Division is to operate to industry standards not only is a significant investment needed, but there needs to be a revamping of how the Division's operations and services are structured, operated, and managed. City management, and current and future City Councils need to fully support that effort by providing the necessary operational and financial resources. In addition to the additional resources needed to support industry standard operations, the City also needs to comply with SB 1383. That will require, among other things, expanded residential and commercial organics collection services. The costs associated with resources to support industry standard operations and to comply with SB 1383 are discussed below under items 3 and 4.

3. Resources to Support Industry Standard Operations

The Rate Modeling that was conducted as part of this engagement accounted for **\$425,000** in one-time costs and **\$538,000** in annual costs related to operational improvements, including one (1) additional supervisor and one (1) additional route, including truck and driver, a data analyst, and \$100,000 for operational consulting / support services. **Table 1** provides an accounting of those costs.

Table 1
High-Level Cost Estimates - Operational Improvements

Required Resource	Cost	
	One-Time	Ongoing
One (1) Supervisor		\$80,000
One (1) Route (Truck-Driver-O&M)		\$150,000
Overtime Savings		-\$42,000
One (1) Data Analyst		\$90,000
Develop/Implement Safety Program	\$50,000	\$50,000
CRM Billing System	\$100,000	\$60,000
On-Board Tablets	\$200,000	\$50,000
Route Realignment/Rebalance	\$75,000	\$0
Operational Consulting Services		\$100,000
Totals	\$425,000	\$538,000

4. Resources Needed to Comply with SB 1383

SB 1383 represents the most sweeping solid waste management legislation in 30 years. The City will need to enhance its residential and commercial collection systems to provide for the collection of organic material, including food waste from all residential accounts, and the collection of organic material and recyclable materials from all commercial accounts by January 1, 2022.² The City will also need to meet other SB 1383 requirements, including public education and outreach, additional reporting requirements, regulatory monitoring and enforcement, providing for edible food waste recovery capacity, and procurement of recovered organic waste products. An additional **\$1.2 million** in annual expenses is projected to be necessary to comply with SB 1383. Those costs include two (2) additional commercial routes (one for organics and one for recyclable materials), an SB 1383 Program Coordinator, and an SB 1383 dedicated Code Enforcement Officer. **Table 2** provides an accounting of estimated City costs to comply with SB 1383.

² Commercial businesses may be granted a waiver to comply with some or all of the organic waste collection service requirements if the commercial business generates minimal amounts of organic materials or lacks adequate space for organic waste containers.

Table 2
High-Level Costs Estimates - SB 1383 Compliance

Required Resource	Cost		
	Municipal Operations		Outsourced Operations
	One-Time	Ongoing	Ongoing
Residential			
Organics Processing		\$520,000	
Procurement Requirements	\$25,000	\$56,000	\$56,000
SB 1383 Program Coordinator		\$95,000	
One (1) Code Enforcement Officer		\$83,000	\$83,000
Commercial			
One (1) Organics Route (truck-driver-O&M)		\$150,000	
One (1) Recycling Route (truck-driver-O&M)		\$150,000	
Organics Processing		\$52,000	
Edible Food Waste Recovery	\$20,000	\$100,000	\$100,000
One (1) Code Enforcement Officer		covered above	covered above
Totals	\$45,000	\$1,206,000	\$239,000

5. Required Rate Increases

The City has not increased solid waste rates since 2006 and its residential rate is among the lowest, if not the lowest in the region for the services provided. To effectively fund the operational improvements necessary to support industry standard operations, SB 1383 compliance costs, and other Division costs over the next five years, a rate increase on the order of **50-60%**³ is projected to be required on January 1, 2022.

A **50%** rate increase would increase the current residential rate from **\$17.85** per month to **\$26.78** per month; a monthly increase of **\$8.93**. The resulting 90-gallon residential rate of **\$26.78** falls with the range of comparative rates in the region and we suggest that it represents an appropriate benchmark against which to assess the financial impact of outsourcing. To the extent, if any, that the private sector could provide industry standard services at residential and commercial rates below those resulting from a **50%** rate increase, after accounting for the **\$1.1 million** in budgeted Division costs that would not go away if those services were outsourced,⁴ and the estimated **\$239,000** in SB 1383 compliance costs that would remain, there could be a net financial benefit to the City and its ratepayers from outsourcing.

6. Comparison of City Rates to Regional Rates

The City has not increased residential rates since July 1, 2006. **Table 3** below provides a comparison of the City's residential rates to the surveyed jurisdictions. As shown, the City's current residential rates are the

³ A 60% projected rate increase assumes a single one-time rate increase over the 5-year planning period, while a 50% rate increase assumes additional 3% annual rate adjustments over the 5-year planning period starting in FY 23-24.

⁴ See Item #2 Costs that Do Not Go Away, under Outsource Municipal Operations below.

lowest of the jurisdictions surveyed. A **50%** rate increase would result in a residential rate that is still more than \$1.00 (4%) lower than the average rate of the jurisdictions surveyed. Note that it is expected that some of the rates for the other jurisdictions shown in **Table 3** will need to be increased for inflation and to provide funding for SB 1383 requirements, which would make the City's rate more favorable in comparison.

Table 3
Residential Rate Survey

Jurisdiction	County	Population	Hauler	Effective Date	Curbside Recycling	Green Waste	Monthly Rate (1)
Porterville	Tulare	59,655	Municipal	7/1/2006	Weekly	Weekly	\$ 17.85
Exeter	Tulare	11,030	Mid-Valley	1/1/2020	Weekly	Weekly	\$ 21.26
Farmersville	Tulare	11,399	Mid-Valley	2020	Weekly	Weekly	\$ 22.63
Madera	Madera	65,415	Mid Valley	7/1/2013	Weekly	Weekly	\$ 23.22
Visalia	Tulare	138,649	Municipal	7/2/2013	Weekly	Weekly	\$ 23.85
Woodlake	Tulare	7,773	Mid-Valley	1/1/2019	Weekly	Weekly	\$ 24.45
Hanford	Kings	59,349	Municipal	7/1/2018	Weekly	Weekly	\$ 25.20
Tulare	Tulare	67,834	Municipal	7/1/2020	Bi-Weekly	Bi-Weekly	\$ 25.30
Fresno	Fresno	545,769	Municipal	7/1/2021	Weekly	Weekly	\$ 25.35
Bakersfield	Kern	392,756	Municipal	7/1/2016	Weekly	Weekly	\$ 25.49
Lindsay	Tulare	13,154	Mid-Valley	7/1/2020	Weekly	Weekly	\$ 25.79
Chowchilla	Madera	18,196	Mid Valley	7/1/2020	Weekly	Weekly	\$ 26.63
Sanger	Fresno	27,185	Mid Valley	2011-2012	Weekly	Weekly	\$ 27.57
Coalinga	Fresno	17,199	Mid Valley	7/1/2019	Weekly	Weekly	\$ 28.01
Selma	Fresno	24,436	WMI	2013-2014	Weekly	Weekly	\$ 28.60
Dinuba	Tulare	25,994	Pena	7/1/2018	Weekly	Weekly	\$ 29.53
Clovis	Fresno	119,175	Allied	7/1/2020	Weekly	Weekly	\$ 35.17
Reedley	Fresno	25,917	Municipal	4/1/2020	Weekly	Weekly	\$ 37.89
Merced	Merced	88,120	Municipal	7/1/2020	Weekly	Weekly	\$ 44.49

(1) The City's month rate includes street sweeping. Some of the comparative rates include and others do not include street sweeping.

Average	\$ 27.80
Porterville Rate	\$ 17.85
Porterville Rate vs. Average	(9.95)
	-56%

Porterville SB 1383 Rate @	50.0%	\$ 26.78
Porterville SB 1383 Rate vs. Average Rate		(1.03)
		-4%

Outsource Municipal Operations

1. Municipal Versus Outsourced Operations in California

Of the more than 500 incorporated cities and counties in California, the vast majority contract with the private sector for some or all solid waste management services through exclusive and/or non-exclusive franchise systems. There are currently less than 50 municipal operated solid waste management collection systems in California, many in the central valley. With outsourced operations the City would have reduced regulatory compliance, and staff management responsibilities, and any future pension liability would be eliminated, but it would need to manage a private sector contractor and would not have direct control over customer service and other aspects of the collection operations.

2. Costs That Do Not Go Away

If the City were to outsource the Division's operations to the private sector many but not all of the Division's budgeted expenses would go away. Working with City staff, a review was conducted to determine which of the Division's budgeted costs would be eliminated if the Division's operations were outsourced, and which would remain. That analysis is provided in **Attachment 1**.

As shown, it is projected that approximately **\$783,000** of annual budgeted expenses would not go away if the Division's operations were outsourced, plus an additional **\$337,000** in "Franchise Fee" expenses that are used to fund street maintenance costs; offsetting the cost impact that the Division's vehicles have on the City's streets.⁵ Those costs total **\$1.1 million** in annual Division expenses that would not go away if those services were outsourced to the private sector. It is expected that if the City were to outsource operations it would need receive an associated annual net payment from the private sector contractor to offset those costs. As currently projected, this would require a net franchise fee on the order of **14%**. The City's projected cost of **\$239,000** for SB 1383 compliance costs that would remain with the City would also need to be funded through the rates to make the City whole.

The analysis presented in **Attachment 1** assumes that the following costs would remain if the Division's collection services were outsourced.

- All City management staff positions that have portions of their costs allocated to the Division;
- The Division's Field Services Superintendent and Clerical Assistant II and Clerical Assistant III positions;⁶
- Street sweeping expenses;
- Graffiti removal expenses; and
- All budgeted vehicle maintenance expenses related to Fleet Services overhead costs and mechanic staffing costs, with the exception of approximately \$93,000. While this cost would remain with the City, Fleet Services reported that it is currently understaffed with respect to mechanics and that it is appropriate to continue to internally fund this cost, versus offsetting with a solid waste franchise fee. For purposes of our analysis we have not assume any fleet maintenance costs as part of the total budgeted Division costs that would remain with outsourcing.

⁵ It is common to receive this type of funding from a franchised hauler in the form of a "refuse vehicle street maintenance impact fee".

⁶ It is assumed these positions would remain and have responsibility for managing the private sector operator franchise agreement and required services, among other things.

In addition to the above expenses, any existing Division pension liability would not go away if the Division's operations were outsourced.

Assuming a **50%** rate increase; the extent to which the private sector could provide SB 1383 compliance operations in line with industry standard operations at rates below the City's adjusted rates, after accounting for City budgeted costs that would not go away, and that portion of SB 1383 compliance costs that would remain with the City (e.g., enforcement, and procurement costs), there would be an economic benefit to the City and its rate payers.

3. Competitiveness of Regional Market Place

Waste Management, Mid Valley Disposal, Pena's Disposal, Miramonte Sanitation,⁷ South Tulare-Richgrove,⁸ and Tule Trash are all licensed to provide services in the unincorporated Tulare County. The City's collection franchise is a valuable commodity, and while there are no guarantees, if the City decided to outsource its residential collection system it could receive multiple proposals. We suggest the City contact Waste Management, Mid Valley Disposal and Pena's Disposal, and potentially other haulers (e.g., Republic Services) to understand their potential interest in submitting a proposal for the Division's operations if the City were to issue a request for proposal for those services.

Benefits of outsourcing municipal operations include the ability to place many of the responsibilities for complying with AB 341, AB 1826 and SB 1383 requirements on the contracted hauler. In addition, outsourcing removes any future pension liability the City might otherwise incur.

The "value" of the City's franchise to the private sector depends in part on the length of the contract term (e.g. 10, 15 or 20 years) will longer contract terms potentially providing the opportunities for better deals. Including exclusive roll-off services would also increase the value of a City franchise to the private sector.⁹

Table 4 below provides the projected value of the City's municipal collection system over a 10 and 20-year period based on the Division's 2021 budget revenues, escalated by three percent (3%) annually. As shown, over a 10-year term, starting in 2022, the residential system is projected to generate \$119 million in revenues. Over a 20-year term total revenues are projected at \$279 million.

4. Potential Financial Benefits and Impact on Rates

If the City were to outsource the Division's operations, at a minimum, it would need to receive fees (franchise fee and potentially other fees) from the contractor sufficient to cover the cost of the Division's budgeted expenses that would not go away, and it's SB 1383 compliance costs. To the extent those costs can be covered, and the City can obtain additional financial payments/benefits without having to increase the rates above the benchmark rates after the projected **50%** required rate increase, there would be a net financial benefit to the ratepayers. Alternatively, if the private sector could provide the required franchise fee revenues necessary to offset those expenses that would not go away and the City's SB 1383 compliance costs, and the rates could be decreased, there would be a net financial benefit to the

⁷ Serves Reedley, Sanger, Orange Cove and mountain areas.

⁸ Serves Northern Kern County and Southern Tulare County, including the communities of Delano, Richgrove, Earlimart and certain surrounding cities in Kern and Tulare County.

⁹ If space were available at the City's corporation yard for the franchised hauler's operations that would also potentially increase the attractiveness and competitiveness of a procurement process, as entities would not have to have or find a local site from which to operate.

ratepayers. What if any financial benefit might result from outsourcing of solid waste collection services cannot be known without issuing a request for proposals.

Table 4
Projected Gross Value of City Operations

Fiscal Year	Annual Revenue	Number of Years	Cumulative Value
22-23	\$ 10,384,970	1	\$ 10,384,970
23-24	\$ 10,696,519	2	\$ 21,081,489
24-25	\$ 11,017,415	3	\$ 32,098,904
25-26	\$ 11,347,937	4	\$ 43,446,841
26-27	\$ 11,688,375	5	\$ 55,135,216
27-28	\$ 12,039,026	6	\$ 67,174,243
29-30	\$ 12,400,197	7	\$ 79,574,440
30-31	\$ 12,772,203	8	\$ 92,346,643
31-32	\$ 13,155,369	9	\$ 105,502,012
32-33	\$ 13,550,030	10	\$ 119,052,043
33-34	\$ 13,956,531	11	\$ 133,008,574
34-35	\$ 14,375,227	12	\$ 147,383,801
35-36	\$ 14,806,484	13	\$ 162,190,285
36-37	\$ 15,250,679	14	\$ 177,440,964
37-38	\$ 15,708,199	15	\$ 193,149,163
38-39	\$ 16,179,445	16	\$ 209,328,608
39-40	\$ 16,664,828	17	\$ 225,993,436
40-41	\$ 17,164,773	18	\$ 243,158,209
41-42	\$ 17,679,716	19	\$ 260,837,925
42-43	\$ 18,210,108	20	\$ 279,048,033

5. Displaced Employees

Any consideration of outsourcing needs to consider the impact on Division staff whose positions would be eliminated. If the City were to outsource the Division's operations, we recommend it require the selected contract to offer employment to all qualified displaced City employees, provide medical and dental coverage and a matching 401K retirement program, maintain the former City employees' seniority levels, and honor all existing prescheduled vacation time. The City of San Bernardino's transition from municipal to private operations included an average contractor payment of \$6,900 to transitioning employees. The City of Hemet's outsourcing process provided a \$1,000 retention bonus paid by the selected contractor to all displaced employees that met a minimum term of employment with the selected contractor.

* * * * *

Mr. Michael Knight
September 20, 2021
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We appreciate the opportunity to be of service to the City. Should you have any questions regarding our proposal or need any additional information, please contact me by phone at (916) 782-7821 or by email at wschoen@r3cgi.com.

Sincerely,

R3 CONSULTING GROUP

A handwritten signature in blue ink, appearing to read "William H. Schoen".

William Schoen | Project Director

Attachment

- 1 Costs That Do Not Go Away

R:\+Projects\Porterville - Operations Review and Rate Model - 120035\Task 6 - Outsourcing\Letter Report Porterville - Collection System Outsourcing Analysis 092021.docx

	B	D	E	F	G	H
1	CITY OF PORTERVILLE					
2	SOLID WASTE RATE MODEL					
3						
4	REFUSE COLLECTION AND DISPOSAL	FY 20-21	Outsourced Operations			
5	Expense Line Item	Proposed Budget	Costs Eliminated	Costs Remaining	Franchise Fees	
6	Salaries, Regular	\$ 864,796	\$ 864,796	\$ 424,819		
7	Salaries, Part-time	\$ 5,000	\$ 5,000			
8	Salaries - Overtime	\$ 80,000	\$ 80,000			
9	Car Allowance	\$ 4,800	\$ 4,800			
10	Benefits	\$ 539,344	\$ 539,344			
11	Vehicle Maintenance	\$ 825,000	\$ 825,000			
12	Building/Grounds Maint	\$ 6,570	\$ 6,570			
13	Computer Equipment Maint	\$ 5,000	\$ 5,000			
14	Other Equipment Maint	\$ 196,740	\$ 196,740			
15	Printing/Copying	\$ 12,000	\$ 12,000			
16	Professional/Temp Service	\$ 1,368,000	\$ 1,368,000			
17	Rent of Property & Equipment	\$ 2,400	\$ 2,400			
18	Administrative Expense	\$ 556,400	\$ 556,400			
19	Office/Computer Supplies	\$ 4,000	\$ 4,000			
20	Maint and Repair Materials	\$ 25,000	\$ 25,000			
21	Tools/Equipment (under \$1,000)	\$ 1,000	\$ 1,000			
22	Meeting Expense	\$ 200	\$ 200			
23	Utilities	\$ 21,241	\$ 21,241			
24	Uniform Allowance	\$ 11,821	\$ 11,821			
25	Training Expense	\$ 2,000	\$ 2,000			
26	Publication and Dues	\$ 2,000	\$ 2,000			
27	Postage	\$ 31,500	\$ 31,500			
28	Insurance, Liability	\$ 42,000	\$ 42,000			
29	Other Expense	\$ 30,000	\$ 30,000			
30	Franchise Fee	\$ 249,545	\$ 249,545		\$ 249,545	
31	Other Mach/Equipment	\$ -	\$ -			
34	TOTAL EXPENSE	\$ 4,886,357	\$ 4,886,357	\$ 424,819	\$ 249,545	
35						
36	GREEN WASTE	FY 20-21	Outsourced Operations			
37	Expense Line Item	Proposed Budget	Costs Eliminated	Costs Remaining	Franchise Fees	
38	Salaries, Regular	\$ 136,141	\$ 136,141			
39	Salaries, Overtime	\$ 1,000	\$ 1,000			
40	Benefits	\$ 72,498	\$ 72,498			
41	Vehicle Maintenance	\$ 326,400	\$ 326,400			
42	Other Equipment Maint	\$ 96,000	\$ 96,000			
43	Professional/Temp Services	\$ 321,000	\$ 321,000			
44	Maint and Repair Materials	\$ 1,000	\$ 1,000			
45	Uniform Allowance	\$ 2,000	\$ 2,000			
46	Insurance, Liability	\$ 13,800	\$ 13,800			
47	Other Expense	\$ 1,000	\$ 1,000			
48	Franchise Fee	\$ 83,181	\$ 83,181		\$ 83,181	
51	TOTAL EXPENSE	\$ 1,054,020	\$ 1,054,020	\$ -	\$ 83,181	
52						
53	STREET SWEEPING	FY 20-21	Outsourced Operations			
54	Expense Line Item	Proposed Budget	Costs Eliminated	Costs Remaining	Franchise Fees	
55	Salaries, Regular	\$ 64,799		\$ 64,799		
56	Salaries, Overtime	\$ 1,000		\$ 1,000		
57	Benefits	\$ 38,228		\$ 38,228		
58	Vehicle Maintenance	\$ 142,500		\$ 142,500		
59	Other Equipment Maint	\$ 200		\$ 200		
60	Professional/Temp Services	\$ 1,000		\$ 1,000		
61	Maint and Repair Materials	\$ 1,000		\$ 1,000		
62	Uniform Allowance	\$ 1,000		\$ 1,000		
63	Insurance, Liability	\$ 500		\$ 500		
64	Other Expense	\$ 100		\$ 100		
65	Franchise Fee	\$ 1,000			\$ 1,000	
68	TOTAL EXPENSE	\$ 251,327	\$ -	\$ 250,327	\$ 1,000	
69						

	B	D	E	F	G	H
70	CURBSIDE RECYCLABLES COLLECTION	FY 20-21	Outsourced Operations			
71	Expense Line Item	Proposed Budget	Costs Eliminated	Costs Remaining	Franchise Fees	
72	Salaries, Regular	\$ 89,690	\$ 89,690			
73	Salaries, Overtime	\$ 1,000	\$ 1,000			
74	Benefits	\$ 46,366	\$ 46,366			
75	Vehicle Maintenance	\$ 163,965	\$ 163,965			
76	Other Equipment Maint	\$ 60,000	\$ 60,000			
77	Professional/Temp Services	\$ 156,300	\$ 156,300			
78	Administrative Expense	\$ 3,123	\$ 3,123			
79	Uniform Allowance	\$ 350	\$ 350			
80	Other Expense	\$ -	\$ -			
81	Franchise Fee	\$ 2,957	\$ 2,957		\$ 2,957	
84	TOTAL EXPENSE	\$ 523,751	\$ 523,751	\$ -	\$ 2,957	
85						
86	RECYCLABLE WASTE	FY 20-21	Outsourced Operations			
87	Expense Line Item	Proposed Budget	Costs Eliminated	Costs Remaining	Franchise Fees	
88	Salaries, Regular	\$ 132,891	\$ 132,891			
89	Salaries, Overtime	\$ 2,000	\$ 2,000			
90	Benefits	\$ 71,094	\$ 71,094			
91	Vehicle Maintenance	\$ 125,141	\$ 125,141			
92	Other Equipment Maint	\$ 200	\$ 200			
93	Printing/Copying	\$ 300	\$ 300			
94	Professional/Temp Services	\$ 80,000	\$ 80,000			
95	Office/Computer Supplies	\$ 400	\$ 400			
96	Maint and Repair Materials	\$ 500	\$ 500			
97	Postage	\$ 100	\$ 100			
98	Other Expense	\$ 1,200	\$ 1,200			
101	TOTAL EXPENSE	\$ 413,826	\$ 413,826	\$ -	\$ -	
102						
103	GRAFFITI REMOVAL	FY 20-21	Outsourced Operations			
104	Expense Line Item	Proposed Budget	Costs Eliminated	Costs Remaining	Franchise Fees	
105	Salaries, Regular	\$ 21,780		\$ 21,780		
106	Benefits	\$ 12,785		\$ 12,785		
107	Vehicle Maintenance	\$ 2,000		\$ 2,000		
108	Building/Grounds Maint	\$ -		\$ -		
109	Other Equipment Maint	\$ 250		\$ 250		
110	Professional/Temp Services	\$ 68,000		\$ 68,000		
111	Office and Computer Supplies	\$ -		\$ -		
112	Maint and Repair Materials	\$ 2,000		\$ 2,000		
113	Insurance, Liability	\$ 900		\$ 900		
114	Other Expense	\$ 200		\$ 200		
117	TOTAL EXPENSE	\$ 107,915	\$ -	\$ 107,915	\$ -	
118						
119		Budgeted Costs	Costs Eliminated	Costs Remaining	Franchise Fees	Total Remaining
121	FY 20-21 Budget	\$ 7,237,196	\$ 6,454,135	\$ 783,061	\$ 336,683	\$ 1,119,744