

# **FY 2025 WASTEWATER COLLECTION UTILITY FINANCIAL PLAN**

**FY 2025 TO FY 2029**

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SECTION 1: DEFINITIONS AND ABBREVIATIONS

CCF	The standard unit of measurement for water delivered to water customers, equal to one hundred cubic feet, or roughly 748 gallons. When water usage is used to assess wastewater charges for commercial customers, it is measured in CCF.
CIP	Capital Improvement Program
CPAU	City of Palo Alto Utilities Department
FOG	Fats, oils, and grease. When flushed into the sewer system, these materials accumulate in parts of the sewer system and create blockages.
O&M	Operations and Maintenance
RWQCP	Regional Water Quality Control Plant, the wastewater treatment plant owned and operated by the City of Palo Alto that serves Palo Alto and several surrounding communities.
UAC	Utilities Advisory Commission

SECTION 2: EXECUTIVE SUMMARY AND RECOMMENDATIONS

This document presents a Financial Plan for the City of Palo Alto’s Wastewater Collection Utility for the next five years. The Financial Plan describes how revenues will cover the costs of operating the utility safely over that time while adequately investing for the future. It also addresses the financial risks facing the utility over the short and long term and includes measures to mitigate and manage those risks.

SECTION 2A: OVERVIEW OF FINANCIAL POSITION

Overview

The Wastewater Collection Utility’s costs include the collection system costs to collect sewage within Palo Alto, maintain and replace sewer infrastructure, and provide customer service, billing and administration as well as Palo Alto’s share of the costs to treat sewage at Palo Alto’s Regional Water Quality Control Plant. This Financial Plan projects total Wastewater Collection Utility costs (including Palo Alto’s share of wastewater treatment costs) to increase by an average of 9.6% annually from fiscal year (FY) 2024 to FY 2029. The collection system’s operations and capital costs, not including Palo Alto’s share of wastewater treatment costs, are expected to grow at an average of 12.3% annually from FY 2024 to FY 2029, however, cost increases vary from year to year. These average change percentages are calculated using two-year averages for capital investment because the utility plans for one large main replacement every other year. Section 6B: Operations provides more detail about operations costs, and Section 6C: Capital Improvement Program (CIP) provides more detail about capital costs.

In 2023, the Council approved the first in a series of rate increases with the understanding that the City would accelerate the rate of main replacement from 1 mile to 2.5 miles per year by FY 2026. The sustainable rate of main replacement needed to replace all sewer mains in Palo Alto within, or as close as possible to, their 100-year life expectancy is 2.5 miles per year. Additionally, in FY 2023, the Wastewater Utility began the most expensive sewer main replacement project that it has undertaken, and it was accelerated by a year [\(Staff Report 2301-0808, May 8, 2023](#)

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[approving contract for Sanitary Sewer Replacement Project 31, WC-19001](#)). This project was double the cost of the utility's second largest main replacement project which occurred in 2021. It was important to coordinate the work with Caltrans to limit or avoid digging into newly-paved street on El Camino. Council approved transfers of all funds from the CIP Reserve (\$3.178 million) and from the Rate Stabilization Reserve (\$0.34 million) to the Operations Reserve to utilize all available funds for this project. Staff projected that this project would bring the Operations Reserve temporarily down to the minimum guideline range.

However, in FY 2023, costs were higher than forecasted, primarily due to CIP-related costs and transfers out to capital projects, and revenue was lower than forecasted (primarily capacity fee revenue). As a result, the operations reserve ended the year with a negative balance of \$0.7 million (discussed further in Section 5E: Risk Assessment and Reserves Adequacy). Additionally, in the current year, non-residential revenues (other than restaurants) are declining instead of increasing, attributed to wet weather conditions and reductions in winter water usage.

Staff recommends a 15% rate increase in FY 2025, or \$7.29 per month per residential customer, in order to bring revenue back in line with costs, and gradually recover the reserves to within guideline ranges. Staff is considering deferring the 5-mile main replacement planned for FY 2026 and instead proceeding with a reduced-size main replacement in FY 2026 due to the low reserve and revenue levels. The 15% increase would allow up to \$3 million capital budget for main replacement in FY 2025 - FY 2026. \$3 million is approximately 25% of the estimated budget for a 5-mile sewer main replacement. Assuming a linear relationship between cost and pipe length replaced, this would support 1.25 miles of main replacement. Based on this mileage, the estimated age of the last remaining sewer replaced would be 110 years.

The 5-mile sewer main replacement would resume every other year beginning with construction in FY 2028. As an alternative, staff is considering a 9% rate increase and deferring the 5-mile main replacement planned for FY 2026 due to the low reserves, low revenues and inflationary cost increases (Section 5F: Alternate Scenarios provides more details).

The Regional Water Quality Control Plant (RWQCP) provides wastewater treatment to Palo Alto and several surrounding communities. The RWQCP projects that wastewater treatment costs, a share of which are allocated to Palo Alto and passed on to wastewater collection customers, will increase by an average of [3.7% annually from FY 2024 to 2029 \(and by 7.2% annually from FY 2024 to 2029 excluding potential grant funding discussed in more detail in Section 6A\)](#). Debt service for treatment costs are increasing – the largest increase is for the Secondary Treatment Upgrades debt service, expected to begin in FY 2029 (See Section 6A: Wastewater Treatment Costs for more details). Rehabilitation and replacement of plant equipment at the RWQCP that has been in use for over 40 years is necessary for the City to continue to provide wastewater treatment safely and in compliance with regulatory requirements for the discharge of treated wastewater 24 hours a day. Palo Alto is in the process of applying to Valley Water's "Guiding Principle 5" grant program that awards funds to communities like Palo Alto where property taxpayers pay State Water Project property taxes but receive on average 85% of their water supply from sources other than Valley Water managed supplies. Guiding Principle 5 awards grants to each community for certain purposes including wastewater treatment environmental

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upgrades. Treatment costs shown in Table 1 are offset by these grant funds from FY 2026 – FY 2029. More details are in Section 6A: Wastewater Treatment Costs.

Table 1 shows actual expenses for FY 2023 and projected expenses for FY 2024 through FY 2029. In Table 1, “Treatment” reflects Palo Alto’s share of Regional Water Quality Control Plant O&M and CIP costs. “Operations” includes O&M costs for the collection system. “CIP” shown for FY 2023 includes capital costs of the collection system. Excluded from this table is the increase of \$4.922 in CIP commitments and reappropriations reserves at year end FY 2023, bringing total CIP Reappropriations and Commitment reserves to \$9.534 million. Currently the CIP Reserve is zero. However, beginning in FY 2027, the CIP line shown in Table 1 reflects capital program contributions of \$10.2 million ~~per year~~, increasing with inflation assumed at 5.4% annually, from the Operations Reserve to the CIP Reserve to fund capital costs and to gradually bring the CIP Reserve back to within guideline range. FY 2028 includes a larger one-time capital program contribution for the costs of the one-time pump station retrofit capital work.

**Table 1: Wastewater Collection Expenses for FY 2023 to FY 2029 (\$000)**

Expense	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
	Actual	Projected					
Treatment	10,784	12,432	13,185	11,139	12,349	12,839	14,943
Operations	7,823	8,006	8,663	11,627	8,819	9,140	9,490
CIP	6,446	2,691	4,128	5,202	10,200	11,659	11,139
<b>TOTAL</b>	<b>25,052</b>	<b>23,129</b>	<b>25,977</b>	<b>27,969</b>	<b>31,368</b>	<b>33,639</b>	<b>35,572</b>

### Rate Proposal

Table 2 compares the projected overall rate changes in the current Financial Plan with the projected rate changes in the FY 2023 and FY 2024 Financial Plans. The current plan recommends accelerating the rate of main replacement by FY 2028 by increasing rates necessary to cover rising costs and restore reserves. The Wastewater Collection Utility Reserves Management Practices state that if, at the end of any fiscal year, the minimum guideline is not met in the CIP or Operations Reserve, staff shall present a plan to the City Council to replenish the reserve.<sup>1</sup> This Financial Plan includes a plan to replenish the Operations Reserve to within the guideline range by the end of FY 2026 and gradually restore the CIP Reserve to within the guideline range by FY 2031.

<sup>1</sup> See Appendix C, Wastewater Collection Utility Reserves Management Practices Section 7(b) and 5(c).

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**Table 2: Proposed/Projected Wastewater Collection Rate Trajectory for FY 2025 to FY 2029**

Projection	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Current Plan (FY 2025) 15% in FY 2025	15%	9%	9%	8%	7%
FY 2024 Financial Plan	9%	9%	8%	5%	N/A
FY 2023 Financial Plan	5%	5%	5%	N/A	N/A

**Reserve Changes**

Table 3 shows the starting and ending balance in the Operations, CIP and Rate Stabilization Reserves and the projected reserve transfers and capital program contributions for FY 2024 through FY 2029.

**Table 3: Operations, Rate Stabilization and CIP Reserves Changes, Revenue and Guideline Levels for FY 2024 to FY 2029 (\$000) ^**

Fiscal Year	2024	2025	2026	2027	2028	2029
<b>Starting Balance</b>						
(1) Operations	(674)	2,875	3,281	4,345	4,839	5,571
(2) Rate Stabilization	0	0	0	0	0	0
(3) CIP	0	0	0	0	3,757	500
<b>Revenues</b>						
(4) Total Revenue	26,678	26,382	29,033	31,863	34,370	36,746
<b>Transfers</b>						
(5) Operations	0	0	0	0	0	0
(6) Rate Stabilization	0	0	0	0	0	0
(7) CIP	0	0	0	0	0	0
<b>Capital Program Contribution*</b>						
(8) Operations	0	0	0	(10,200)	(11,659)	(11,139)
(9) CIP	0	0	0	10,200	11,659	11,139
<b>Expenses</b>						
(10) Total Expenses (w/o CIP and Debt)	(20,308)	(21,848)	(22,766)	(21,168)	(21,980)	(24,433)
(11) Debt Service	(129)	0	0	0	0	0
(12) Planned CIP	(2,691)	(4,128)	(5,202)	(6,443)	(14,916)	(6,951)
<b>Ending Balance</b>						
(1)+(4)+(5)+(8)+(10)+(11)+(12) thru FY 2026						
(1)+(4)+(5)+(8)+(10)+(11) in FY 2027 on						
(2)+(6)						
(3)+(7)+(9)+(12) in FY 2027 on						
<b>Operations Reserve Guideline Levels</b>						
(13) Minimum Guideline Level	3,360	3,591	3,742	3,480	3,613	4,016
(14) Maximum Guideline Level	8,399	8,979	9,356	8,699	9,033	10,041
* Capital Program Contribution to resume in FY 2027						

^ Table 3 assumes a 15% rate increase for the Wastewater Collection Utility in FY 2025, a reduced-size main replacement in FY 2025 and FY 2026, and \$3 million short-term loan from the Fiber Optics Fund in FY 2024 that is repaid by the Wastewater Collection Utility during FY 2026.

\* Planned CIP (item 12) is reflected as an expense in the CIP Reserve in FY 2027 and on and does not include CIP funded through Reappropriations or Commitments reserves.

**SECTION 2B: SUMMARY OF PROPOSED ACTIONS**

Staff proposes the following actions for the Wastewater Collection Utility ~~in FY 2025~~:

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1. Approve the Fiscal Year (FY) 2025 Wastewater Collection Financial Plan, including approval of a short-term loan from the Fiber Optics Fund Reserve to the Wastewater Collection Fund Operations Reserve not to exceed \$3,000,000 for FY 2024; and
2. Amend the following rate schedules to reflect an increase of 15% in FY 2025 for all customer classes to bring revenue collection closer to expenses: Rate Schedules S-1 (Residential Wastewater Collection and Disposal), S-2 (Commercial Wastewater Collection and Disposal), S-6 (Restaurant Wastewater Collection and Disposal) and S-7 (Commercial Wastewater Collection and Disposal – Industrial Discharger). See Section 3B3B for more details.

~~Increase rates by 15% in FY 2025 for all customer classes to bring revenue collection closer to expenses. See Section 3B: Current and Proposed Rates for more details.~~

~~Approve up to a \$3 million enterprise transfer from the Fiber Fund to the Wastewater Collection Utility's Operations Reserve in FY 2024.~~

## SECTION 3: DETAIL OF RATE AND RESERVES PROPOSALS

## SECTION 3A: RATE DESIGN

The Wastewater Collection Utility's rates are evaluated and implemented in compliance with the cost of service requirements and procedural rules set forth in Article XIII D of the California Constitution (Proposition 218). Current rates are structured based on staff's annual assessment of the Wastewater Collection Utility's financial position (Staff Report 2302-0939<sup>2</sup>) and relied on the methodology from the [City of Palo Alto 2021 Wastewater COS Report](#),<sup>3</sup> prepared by Raftelis Financial Consultants, Inc.

## SECTION 3B: CURRENT AND PROPOSED RATES

The current rates were effective July 1, 2023, when the City increased sewer rates by 9%.

CPAU has three sewer rate schedules applicable to current customers: one for residential customers (S-1), one for non-residential customers (other than restaurants) (S-2), and one for restaurants (S-6). Restaurants have a special rate schedule because they discharge higher concentrations of grease, oil and organic components in their sewage and, therefore, discharge sewage that is relatively expensive to treat. Residential customers are billed a monthly service charge, while commercial customers other than restaurants are billed each month based on their winter month water usage (previous January through March). This closely approximates non-irrigation water consumption, which represents actual sewer use. This proxy for actual sewer use

<sup>2</sup> <https://cityofpaloalto.primegov.com/meeting/document/1684.pdf?name=Item%2028%20Staff%20Report>

<sup>3</sup> <https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/reports/city-manager-reports-cmr/attachments/08-09-2021-id-12378-att-f-2021-wastewater-cos-report.pdf>



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is needed because sewer customers do not generally have meters installed on their sewer connection whereas water connections are usually metered. CPAU also maintains a rate schedule for industrial dischargers (S-7), but there are currently no customers on this rate schedule.

To align revenues with costs, CPAU proposes to increase overall rates by 15% in FY 2025, by an additional 9% per year in FY 2026 and FY 2027, by 8% in FY 2028 and by 7% in FY 2029. Table 4 below summarizes the current and proposed rates for all customer classes. These rate increases will cover the increasing treatment costs resulting from improvements and upgrades to the RWQCP, as well as updated sewer mains replacement cycle for collection systems capital projects, and general operations costs.

Raftelis Financial Consultants, Inc. completed a cost of service (COS) study for the Wastewater Collection Utility in 2021. Staff calculated the revenue increases needed for the Wastewater Collection Utility based on projected revenue and expenses and applied the same increase percentage to the rates across customer classes. Table 4 shows the rate increases for each customer group.

Table 4: Current and Proposed Sewer Rates

		Current (as of 7/1/2023)	Proposed (effective 7/1/2024)	Change	
				\$	%
Monthly Service Charges (\$/Month)					
S-1 (Residential)	Service Charge	\$ 48.64	\$55.93	\$ 7.29	15%
Water Quantity Rates (\$/CCF)					
S-2 (Commercial)	Quantity Rates	9.08	10.44	1.36	15%
S-6 (Restaurant)	Quantity Rates	13.55	15.58	2.03	15%

The proposed rates for the S-7 (Industrial Discharger) rate schedule are:

- 1) Collection System Operation, Maintenance, and Infiltration Inflow: \$5.18 per 100 cubic feet of metered water use.
- 2) Advanced Waste Treatment Operations and Maintenance Charge: \$2.07 per 100 cubic feet of metered water use
- 3) \$253.49 per 1000 pounds (lbs) of COD (Chemical Oxygen Demand)
- 4) \$611.17 per 1000 lbs of SS (Suspended Solids)
- 5) \$4,223.09 per 1000 lbs of NH<sub>3</sub> (Ammonia)
- 6) \$18,528.29 per 1000 lbs of toxics (chromium, copper, cyanide, lead, nickel, silver, and zinc)

## SECTION 33C: BILL IMPACT OF PROPOSED CHANGES

Table 5 below shows the bill impact of the proposed FY 2025 rate changes (effective 7/1/2024) for typical customers:

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Table 5: Bill Impact of Proposed Sewer Rate Changes

	Current (as of 7/1/2023)	Proposed (effective 7/1/2024)	Change	
			\$/mo.	%
S-1 (Residential)	\$ 48.64	\$ 55.93	\$7.29	15%
S-2 (Commercial) - 14 CCF	127.12	146.16	19.04	15%
S-6 (Restaurant) - <del>3856</del> CCF	<del>758.80</del> 514.90	<del>872.48</del> 592.04	<del>113.68</del> 77.14	15%

In FY 2025, residential customers will experience a 15% increase in bills. Commercial and Restaurant customers bill impacts will vary due to each customer's utilization of the system.

SECTION ~~33~~C: PROPOSED SHORT-TERM LOAN RESERVE TRANSFERS

At the end of FY 2023 the Wastewater Collection Fund's operations reserve was negative \$0.7 million (see Figure 5: Operations Reserve Adequacy). The operations reserve not only reflects changes in revenues and expenses, but also reflects changes in capital investments in assets and liabilities. The negative operations reserve reflects certain accounting or "paper" entries for pension and other post-employment benefits liabilities as well as unrealized losses on investments (totaling \$8.2 million at year end FY 2023). Excluding the impacts of these accounting entries the wastewater collection utility's operations reserve would be positive (note: the utility continues to pay the required annual contributions to CalPERS and set aside Section 115 irrevocable trust for pension liabilities). Nevertheless, the operations reserve balance is below the guideline range and this financial plan outlines actions to bring the reserve back within the guideline range throughout the forecast period.

The wastewater collection utility is currently completing sewer replacement project 31 and plans to complete that project by May 2024 and has a need for cash to pay the contractor for this project. Given the low operations reserve, and the projected levels of revenue and expenses, there is a risk that this short-term need for cash will exceed available cash. For this reason, this Financial Plan recommends Council approve a transfer short-term loan up to \$3 million from the Fiber Optics Fund Reserve~~fund in~~ for FY 2024 to cover the potential shortfall of cash in the Wastewater Utility. The Wastewater Collection utility would repay any such loan in FY 2026 (or sooner) at a rate equal to the City's portfolio rate each quarter plus 0.25%. This Financial Plan models the interest rate as a total of 3% during FY 2025 and FY 2026, which equals \$90K each year in FY 2025 and FY 2026, conservatively assuming the Wastewater Collection Utility needs to borrow the full \$3 million.

If theAssuming Council approves this short-term loan proposal as proposed, at year-end FY 2024, staff will complete the loan transfer up to \$3 million and may transfer a smaller amount depending on the latest projected shortfall of cash in the Wastewater Collection Utility. After that time, if the Wastewater Collection Utility needs additional funds, staff will return to Council, provide updated information, and request additional funds. If Council does not approve this loan, the wastewater collection utility would look for other short-term financing options and return to Council with a new proposal.

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The Wastewater utility would repay any such loan in FY 2026 at a rate equal to the City's portfolio rate plus 0.25% (the portfolio rate is expected to be higher than the current rate of 2.47% and this financial plan assumes a rate of 3%). This will compensate the Fiber fund for the interest it would have earned plus an extra 0.25%. The need for this and future transfers will be re-evaluated once the year-end reserve balances for FY 2024 are known.

## SECTION 4: UTILITY OVERVIEW

This section provides an overview of the utility and its operations. It is intended as general background information and to help readers better understand the forecasts in later sections.

## SECTION 4A: WASTEWATER UTILITY HISTORY

The Wastewater Utility commenced operation in 1899 to serve Palo Alto and Stanford. In its first three decades the system grew to 60 miles of sewers. Raw sewage was discharged into Mayfield Slough at the edge of the Bay. In the 1930s, at the behest of the State Department of Health, Palo Alto built the South Bay's first wastewater treatment plant. At that time the sewer system served 20,500 Stanford and Palo Alto residents and a cannery. The plant was upgraded twice in the 1940s and 1950s to increase capacity.<sup>4</sup> At the same time, the postwar population and industrial boom in the 1950s required rapid expansion of the sewer system. In the first half of the 1960s Palo Alto's area doubled, as did wastewater flows, overwhelming the capacity of several of the utility's "trunk lines," which are the largest diameter main sewer lines carrying wastewater to the treatment plant. This prompted the City, in 1965, to perform the first of its sewer master plans to identify needed capacity improvements. At that point the Wastewater Utility's system comprised more than 150 miles of sewer mains.<sup>5</sup>

In 1968 the City signed agreements with the Cities of Mountain View and Los Altos to build a new regional treatment plant, the RWQCP, which is still in operation today. Since 1940 the City had been providing treatment services to the East Palo Alto Sanitary District through an existing agreement and was also serving Stanford University by transporting wastewater across the City's sewer system to the treatment plant. Both of these organizations became partners in the RWQCP as well. At the same time the Town of Los Altos Hills became the sixth partner as it signed an agreement with the City to connect the Town's sewer system to the City's sewer system to carry wastewater to the new RWQCP. The current agreements for the RWQCP extend through 2035.<sup>6</sup>

In the 1980s the City performed a series of studies of groundwater inflow and infiltration into the system. The studies found high rates of infiltration, estimating that as much as 40% of the water going to the RWQCP from Palo Alto's system was groundwater and stormwater rather than wastewater.<sup>7</sup> In some parts of Palo Alto the land surface had subsided due to groundwater pumping by the water utility, and though that practice had ceased many years earlier as the water utility switched to the Hetch Hetchy Regional Water System, parts of the city had already

<sup>4</sup> *Long Range Facilities Plan for the Regional Water Quality Control Plant*, August 2012, Carollo Engineers, pp 2-1 through 2-2

<sup>5</sup> *Wastewater Collection and Storm Drainage*, 1965, Brown and Caldwell Consulting Engineers, pp 4, 6-7, 143

<sup>6</sup> *Long Range Facilities Plan for the Regional Water Quality Control Plant*, August 2012, Carollo Engineers, pg 2-2

<sup>7</sup> *Wastewater Collection System Master Plan – Capacity Assessment*, January 2004, MWH Americas, Inc., pg ES-2

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subsided two to five feet. This subsidence had damaged several parts of the sewer collection system, leading to reduced slopes for sewer mains that caused reductions in capacity. In response to these studies the City commenced an accelerated sewer system rehabilitation program.<sup>8</sup> At that point the sewer system comprised over 190 miles of mains.<sup>9</sup>

A Master Plan study in 1988 recommended a variety of capacity expansions, and in the 1990s the City completed about half of them. However, a 2004 Master Plan update found that the accelerated sewer rehabilitation plan started in the early 1990s had substantially reduced infiltration, easing the capacity problems that had led the to the recommended capacity increases in the 1988 study. Several of the outstanding projects were canceled and replaced with a different set of projects.<sup>10</sup> At the same time the City updated its hydraulic model and developed greater capacity to do system planning in-house.

## SECTION 4B: CUSTOMER BASE

The City of Palo Alto's Wastewater Collection Utility provides sewer service to the residents and businesses of Palo Alto. It is distinct from the Wastewater Treatment Utility, which provides treatment services for surrounding communities in addition to Palo Alto. In effect, the Wastewater Collection Utility serves as a wholesale customer of the Wastewater Treatment Utility, and the rates charged by the Wastewater Collection Utility to its retail customers recover not only collection costs but also Palo Alto's share of Wastewater Treatment Utility Costs. Nearly 27,580 customers are connected to the sewer collection system, approximately 26,050 (94%) of which are residential and 1,530 (6%) of which are non-residential. Residential customers pay a flat fee per dwelling unit for service. Commercial customers are billed for sewer service based on their metered winter water usage while Restaurant customers are billed for sewer service based on their metered monthly water usage.

## SECTION 4C: COLLECTION SYSTEM

The Wastewater Collection Utility delivers all the wastewater it collects to the Regional Water Quality Control Plant (RWQCP) operated by the City of Palo Alto under a partnership agreement with several surrounding communities. Palo Alto is responsible for 32% to 35% of the wastewater sent to the RWQCP. This Financial Plan does not describe the cost of running the RWQCP in detail as this cost is contained in the Wastewater Treatment Utility; however since these costs are a major driver of CPAU's sewer rates, *Section 6A: Wastewater Treatment Costs* provides some discussion of future trends in treatment costs. Treatment costs make up more than a third of the Wastewater Collection Utility's expenses as shown in Table 1 above.

To collect wastewater from its customers and deliver it to the RWQCP, CPAU owns roughly 18,000 sewer laterals (which collect wastewater from customers' plumbing systems) and 217 miles of sewer mains (which transport the waste to the treatment plant). These laterals and mains, along with the associated manholes and cleanouts, represent the vast majority of infrastructure used

<sup>8</sup> CMR 183:90, *Infrastructure Review and Update*, March 1, 1990

<sup>9</sup> *Master Plan of the Wastewater Collection System*, December 1988, Camp Dresser & McKee, Inc., pg 1-2

<sup>10</sup> *Wastewater Collection System Master Plan – Capacity Assessment*, January 2004, MWH Americas, Inc., pg ES-3

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to collect wastewater in Palo Alto. CPAU conducts a sewer rehabilitation and replacement program to replace mains over time as they deteriorate or to increase capacity. For more discussion of this program, see *Section 6C: Capital Improvement Program (CIP)*. CIP expense accounts for less than a quarter of the utility's expenditures.

In addition to CIP, CPAU performs various maintenance activities on the sewer system. These include inspecting and repairing sewer laterals, responding to sewer overflows, regularly cleaning sections of the system heavily impacted by fats, oils, and grease (FOG), and building and replacing sewer laterals for new or redeveloped buildings. The utility also shares the costs of other operational activities (such as customer service, billing, equipment maintenance, and street restoration) with the City's other utilities. These maintenance and operations expenses, as well as associated administration, debt service, rent, and other costs, make up approximately another quarter of the utility's expenses.

## SECTION 4D: COST STRUCTURE AND REVENUE SOURCES

In FY 2023, approximately 43% of the Wastewater Collection Utility costs were for treatment (capital and operations), while about 31% were for the collection system's operations. The remaining 26% were for collection system capital improvements. Figure 1 illustrates these expenditures. The utility's main source of revenue in FY 2023, shown in Figure 2, was sewer charges (96%), with the rest from connection fees and other sources (4%).

Figure 1: Cost Structure (FY 2023)

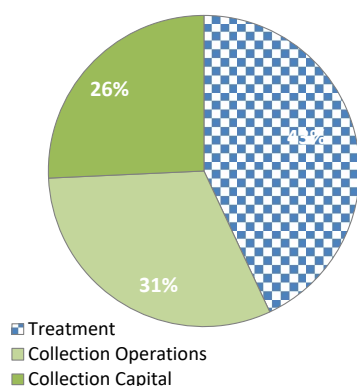
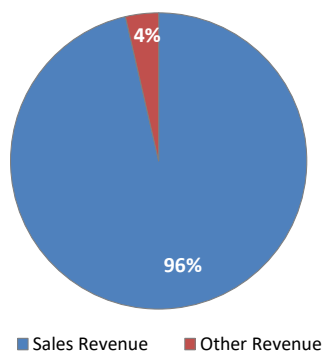


Figure 2: Revenue Structure (FY 2023)



## SECTION 4E: RESERVES STRUCTURE

CPAU maintains six reserves for its Wastewater Collection Utility to manage various types of contingencies. Below is a summary of these reserves and *Appendix C: Wastewater Collection Utility Reserves Management Practices* provides more detailed definitions and guidelines for reserve management:

## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

- **Reserve for Commitments:** A reserve equal to the utility's outstanding contract liabilities for the current fiscal year. Most City funds, including the General Fund, have a Commitments Reserve.
- **Reserve for Reappropriations:** A reserve for funds dedicated to projects reappropriated by the City Council, nearly all of which are capital projects. Most City funds, including the General Fund, have a Reappropriations Reserve.
- **Capital Improvement Program (CIP) Reserve:** The CIP reserve is used to accumulate funds for future expenditure on CIP projects and a reserve level is anticipated to be maintained in order to smooth major CIP expenditures every other year. It also acts as a contingency reserve for unexpected capital costs. This type of reserve is used in other utility funds (Electric, Gas, and Water) as well.
- **Rate Stabilization Reserve:** This reserve is intended to be empty unless one or more large rate increases are anticipated in the forecast period. In that case, funds can be accumulated to spread the impact of those future rate increases across multiple years. This type of reserve is used in other utility funds (Electric, Gas, and Water) as well.
- **Operations Reserve:** This is the primary contingency reserve for the Wastewater Collection Utility and is used to manage yearly variances from budget for operational costs. This type of reserve is used in other utility funds (Electric, Gas, and Water) as well.
- **Unassigned Reserve:** This reserve is for any funds not assigned to the other reserves.

## SECTION 4F: COMPETITIVENESS

Table 6 shows the monthly sewer bills for residential customers compared to what they would be in surrounding communities. The average monthly sewer bill for a Palo Alto single family residential customer is \$48.64 at current rates, which is lower than four of the six neighboring communities. These communities are the same six that Palo Alto compares itself to in the annual budget across Water, Wastewater, Gas, and Electric industries. In the following tables, "Menlo Park" refers to the West Bay Sanitary District.

**Table 6: Residential Monthly Equivalent Sewer Bill Comparison (\$) at Palo Alto Current and Proposed Rates Compared to Neighboring Communities at Current Rates**

Palo Alto (FY 24)	Palo Alto (Proposed FY 25)	Neighboring Community Average	Neighboring Communities					
			Menlo Park	Redwood City	Santa Clara	Mountain View	Los Altos	Hayward
48.64	55.93	65.38	108.83	89.28	48.28	53.10	51.47	41.29

**Residential Monthly Equivalent Sewer Bill Comparison (FY 2024 Rates) (\$)**

Palo Alto	Neighboring Community Average	Neighboring Communities					
		Menlo Park	Redwood City	Santa Clara	Mountain View	Los Altos	Hayward
48.64	65.38	108.83	89.28	48.28	53.10	51.47	41.29

Table 7 compares the sewer bills for two classes of non-residential customers to what they would be under surrounding communities' rate schedules. Note that other communities often have

## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

specific rates for industrial customers that discharge high intensity wastewater, such as food processors or chemical or electronics manufacturers, but Palo Alto does not currently have any customers that require these special rates. The estimate of Palo Alto commercial and restaurant monthly sewer bills are around the neighboring community average, assuming neighboring communities do not increase sewer rates. The monthly bill comparison assumes 14 CCF of water for general commercial customers and 3856 CCF of water for restaurants.

Table 7: **Non-Residential Monthly Equivalent Sewer Bill Comparison (\$) at Palo Alto Current and Proposed Rates Compared to Neighboring Communities at Current Rates**

	Palo Alto (FY 24)	Palo Alto (Proposed FY 25)	Neighboring Community Average	Neighboring Communities					
				Menlo Park	Redwood City	Santa Clara	Mountain View	Los Altos	Hayward
General Commercial	127.12	146.16	116.17	147.28	117.74	82.18	166.18	89.54	94.08
Restaurant	514.90	592.04	553.44	842.08	765.70	520.60	517.18	243.02	432.06

**Commercial-Monthly Sewer Bill Comparison (FY 2024 Rates) (\$)**

Customer Types	Palo Alto	Neighboring Community Average	Neighboring Communities					
			Menlo Park	Redwood City	Santa Clara	Mountain View	Los Altos	Hayward
General Commercial	127.12	115.33	147.28	117.74	82.18	166.18	84.55	94.08
Restaurant	758.80	812.27	1,240.96	1,128.40	767.20	762.16	338.18	636.72

## SECTION 5: UTILITY FINANCIAL PROJECTIONS

## SECTION 5A: FY 2019 TO FY 2023 COST AND REVENUE TRENDS

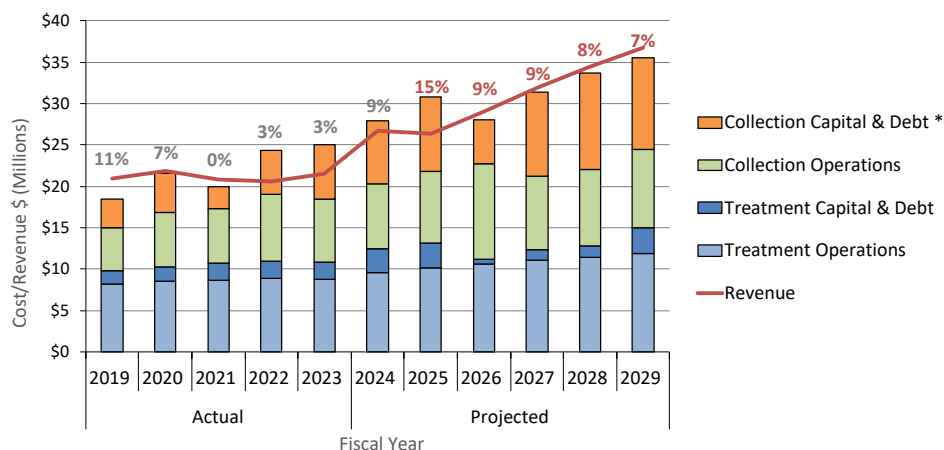
Figure 3 shows the Wastewater Collection Utility's actual expenses and revenues for the past five years and projections through FY 2029. Treatment plant expenses (including CIP and O&M) assigned to Palo Alto's Wastewater Collection Utility increased, on average, by 2.3% annually from FY 2019 to FY 2023.

Since wastewater revenue is relatively stable, historically, revenue changes closely followed rate changes. However, during the pandemic, non-residential wastewater revenue declined by about 9% in FY 2022 and then increased by 6% in FY 2023. In the current year, non-residential revenue is projected to decline by 2% in the first six months despite the 9% rate increase. This is likely due to low winter usage in January – March of 2023 during the historically wet winter. Revenue is forecasted to recover gradually over the next three years. However, this revenue reduction increases the upward pressure on rates in FY 2025 and in future years. Connection and capacity fees grew dramatically between FY 2010 and FY 2015 and then plateaued and then declined significantly in FY 2022. Capacity fees dropped to zero in FY 2023. This is likely due to more tenant

## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

improvements permits rather than new service connection permits where the improvements are inside the buildings and the utility infrastructure remains the same. These revenue reductions contribute to the need to increase rates.

**Figure 3: Wastewater Collection Utility Expenses, Revenues and Rate Changes**  
Actual Costs through FY 2023 and Projections through FY 2029<sup>^</sup>



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<sup>^</sup> Figure 3 assumes a 15% rate increase for the Wastewater Collection Utility in FY 2025, a reduced-size main replacement in FY 2025 and FY 2026, and \$3 million short-term loan from the Fiber Optics Fund in FY 2024 that is repaid by the Wastewater Collection Utility during FY 2026.

\*CIP in the projected years include changes due to commitments/reappropriations and funds transferred to the CIP Reserve

## SECTION 5B: FY 2023 RESULTS

The FY 2024 Financial Plan proposed to increase the rate of sewer main replacement from 1 mile per year to 2.5 miles per year beginning FY 2026, in order to replace the remaining 138 miles of sewer mains before they exceed their expected life. However, in FY 2023 revenues were lower than forecasted and costs were higher than forecasted; additionally, the utility proceeded a year early with a large sewer main replacement project to coordinate with Caltrans. These two factors led to low reserve levels at the end of FY 2023. The utility's revenues and reserves need time to recover and rates need to increase to support the 2.5 mile per year rate of main replacement.

Actual sewer service charge revenues for FY 2023 were similar to the forecasted level. However, capacity fee and connection fee revenue was \$0.23 million lower than forecasted in the FY 2024 Financial Plan (\$0.2 million actual vs. \$0.45 million forecasted). Additionally, uncollectibles were also higher than forecasted due to an upward trend in uncollectibles, possibly resulting from the economic impacts of COVID-19 policies. Total revenues were \$0.4 million lower than expected.

Treatment expenses were similar to the forecasted level (\$10.8 million). Collection system capital-related costs were approximately \$2.67 million higher than expected (\$16 million actual compared with \$13.3 million forecasted). The main factors contributed to this were CIP-related



## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

allocated costs, CIP salaries and benefits and the forecasted CIP budget, which anticipated underspending, however, the actual bid exceeded the estimated budget.

In FY 2022, unrealized gains/losses were separated out from the operations reserve into a separate reserve. There was a subsequent adjustment to the year-end FY 2022 operations reserve balance to also move unrealized gains/losses from prior years to the separate reserve. This reduced the operations reserve by \$0.135 million in FY 2023. Additionally, operating expenses were higher than expected primarily due to a transfer out to the capital projects fund. Table 8 below summarizes key reasons for the variances from forecast.

**Table 8: FY 2023 Actuals vs. FY 2024 Financial Plan Forecast for FY 2023 (\$000)**

	Net Cost/ (Benefit)	Type of Change
Lower connection and capacity fees, higher uncollectibles	\$ 392	Revenue decrease
Expenses higher than expected	\$ 535	Cost increase
Higher CIP-related charges including allocated charges and CIP reappropriations/commitments	\$ 2,641	Cost increase
Accounting adjustment to Operations Reserve	\$ 135	Cost increase
<b>Net Cost / (Benefit) of Variances</b>	<b>\$ 3,703</b>	

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## SECTION 5C: FY 2024 PROJECTIONS

Staff currently projects lower sales revenue compared to the FY 2024 Financial Plan (\$21.9 million vs \$22.7 million) due to lower sales revenue among non-residential customers, other than restaurants, as well as increased uncollectibles. Staff projects other revenue from connection and capacity fees and interest to be lower than expected and projects transfers in [\(including the short-term loan from the Fiber Optics Utility\)](#) to be higher than forecasted. In total, the current projection of other revenue is [\\$3.6159-6](#) million higher than the projection in the FY 24 Financial Plan; [this is due to the short-term loan from the Fiber Optics Utility as well as a true-up from the Water Utility for an ongoing GIS capital project shared across the Water, Gas and Wastewater Utilities.](#) —Treatment cost projections increased by \$0.14 million. The current estimate of collection system costs is higher than forecasted in the FY 2024 Financial Plan by \$0.36 million. This does not include CIP spending budgeted in prior years in the CIP Reappropriations and Commitments Reserves; that totals \$9.5 million and primarily reflects the ongoing main replacement for Sewer Replacement Project 31. Table 9 summarizes key variances from the prior forecast.

**Table 9: FY 2024 Projections vs. FY 2024 Financial Plan Forecast (\$000)**

	Net Cost/ (Benefit)	Type of Change
Sales revenues lower than forecast	\$ 833	Revenue decrease
Other revenue higher than forecast	\$ (3,615,615)	Revenue increase
Treatment cost increases	\$ 140	Cost increase
Collection system operations and capital	\$ 359	Cost increase
<b>Net Cost / (Benefit) of Variances</b>	<b>\$ 747(2,283)</b>	

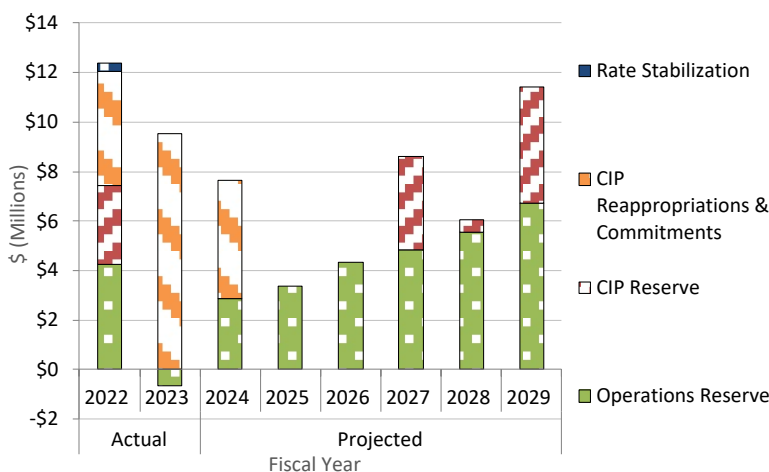
## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

## SECTION 5D: FY 2025 TO FY 2029 PROJECTIONS

As shown in Figure 3 above (and, in more detail, in *Appendix A: Wastewater Collection Financial Forecast Detail*), the Wastewater Collection Utility's total costs are projected to increase by approximately 10.1% per year on average for FY 2025 through FY 2029.

Capital costs for treatment are also increasing because the treatment plant is facing the need for major upgrades in coming years, due to aging equipment and changing environmental regulations. Rehabilitation and replacement of plant equipment that has been in use for over 40 years is necessary to ensure the city can provide wastewater treatment operation safely and in compliance with regulatory requirements for the discharge of treated wastewater 24 hours a day. The costs of the plant are shared among member agencies, with members expected to see average cost increases of around 6.5% per year over the forecast horizon. The biggest increase in Treatment costs is the addition of debt service for the Secondary Treatment Upgrades in FY 2029, which is a \$193 million capital project funded through a low-interest State Revolving Fund loan, which the Wastewater Utility has included into its cost projections (see Section 6A: Wastewater Treatment Costs). Figure 4 shows the actuals for FY 2023 and projected reserve levels through FY 2029. Figure 5 shows the movement of funds from the CIP Reserve, Operations Reserve and Rate Stabilization Reserve to the CIP Reappropriations and Commitments Reserves in FY 2023. The chart assumes that half of the CIP Reappropriations and Commitments are spent in FY 2024 and half are spent in FY 2025. The proposed rate increases will gradually bring the Operations Reserve back to within the guideline range by the end of FY 2026 and allow the CIP Reserve to also be replenished gradually by FY 2031. Additionally, in 2025, storm damage to a sewer pipe at Arastradero Creek needs to be repaired for an estimated \$0.3 million.

**Figure 4: Wastewater Collection Utility Year-End Reserves Levels, FY 2023 to FY 2029<sup>^</sup>**

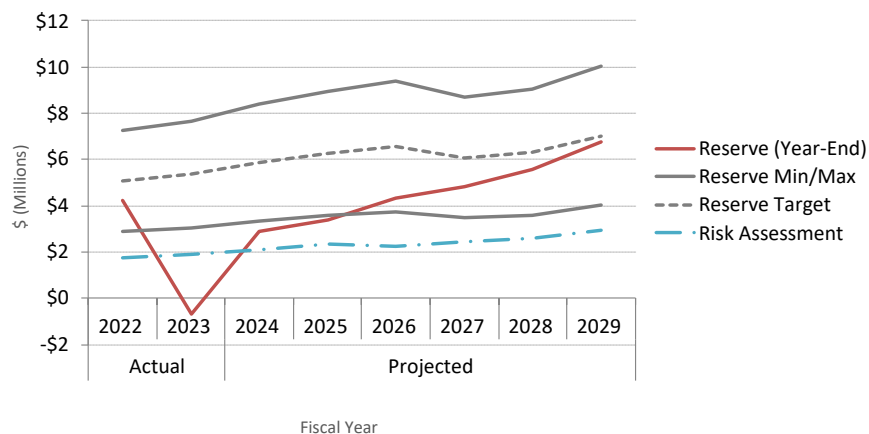


<sup>^</sup> Figure 4 assumes a 15% rate increase for the Wastewater Collection Utility in FY 2025 and \$3 million short-term loan from the Fiber Optics Fund in FY 2024 that is repaid by the Wastewater Collection Utility during FY 2026.

## SECTION 5E: RISK ASSESSMENT AND RESERVES ADEQUACY

The Operations Reserve, which is the Wastewater Collection Utility's primary contingency reserve, is expected to return to within the reserve guideline levels by the end of FY 2026 and remain within the guideline range for the rest of the forecast period, as shown in Figure 5 below. The proposed annual rate increases in this Financial Plan are intended to maintain a steady rate trajectory and keep the Operations Reserve within the guideline range in the long term.

Figure 5: Operations Reserve Adequacy



^ Figure 5 assumes a 15% rate increase for the Wastewater Collection Utility in FY 2025, a reduced-size main replacement in FY 2025 and FY 2026, and \$3 million short-term loan from the Fiber Optics Fund in FY 2024 that is repaid by the Wastewater Collection Utility during FY 2026.

Staff performs an annual assessment of risks for the Wastewater Collection Utility. Table 10 summarizes the risk assessment calculation for the Wastewater Collection Utility through FY 2029. The risk assessment includes the revenue shortfall that could accrue due to:

1. the maximum observed budget-to-actual variance in one year during the past five years; and
2. an increase of 10% in treatment costs.

Staff is proposing to allow the Wastewater Operations Reserve to be below the guideline range for three fiscal years (FY 2023 through FY 2025). This Financial Plan projects the Wastewater Utility's primary contingency reserve, the Operations Reserve, to be below guideline levels at the end of FY 2023 through FY 2025 and then return to within the guideline range by the end of FY 2026 and increase to approximately target levels by the end of the forecast period. Per the Reserves Management Practices (Appendix C) any rate plan that involves returning the

## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

Operations Reserve to within guideline levels in more than one year requires Council approval. Table 10 shows the Operations Reserve ending balances alongside the risk assessment values and Figure 5 shows the Operations Reserve ending balances alongside the minimum, maximum, and target guidelines. In case costs exceed available reserves during this time, staff is requesting Council approval to transfer for a short-term loan from the Fiber Optics Fund Reserve to the Wastewater Collection Operations Reserve not to exceed up to \$3 million from the Fiber fund to the Wastewater Utility. The Wastewater Utility could additionally explore other short-term financing options if necessary. Including the short-term loan described above, tThe Operations Reserve is projected to be adequate to manage these levels of risk from FY 2024<sup>46</sup> through FY 2029.

Table 10: Wastewater Collection Risk Assessment for FY 2024 to FY 2029

	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Total Revenue (\$000)	\$22,049	\$25,308	\$27,902	\$30,673	\$33,398	\$35,748
Max. Historical Budget-to-Actual variance	4%	4%	4%	4%	4%	4%
Budget-to-Actual Risk (\$000)	882	1,012	1,116	1,227	1,336	1,430
Treatment Budget (\$000)	12,432	13,185	11,139	12,349	12,839	14,943
Treatment Cost Contingency @10% (\$000)	1,243	1,319	1,114	1,235	1,284	1,494
Total Risk Assessment Value (\$000)	2,125	2,331	2,230	2,462	2,620	2,924
Projected Operations Reserve Level (\$000)	<u>2,875</u> 2,875	<u>3,281</u> 3,371	<u>4,345</u> 4,342	<u>4,839</u> 4,837	<u>5,571</u> 5,568	<u>6,745</u> 6,743

## SECTION 5F: ALTERNATE SCENARIOS

This Financial Plan includes an alternate rate trajectory scenario as shown in Table 11 below. Staff brought this item to the Finance Committee for discussion on February 20, 2024 (Staff Report 2312-2468)<sup>11</sup> and to the UAC on March 6, 2024 (Staff Report 2401-2477).<sup>12</sup> The Finance Committee members expressed support for and UAC voted unanimously to recommend the Council approve the 15% rate increase proposal. In order to provide an alternative for the Council's consideration, this section provides a 9% rate increase alternative. Both alternative rate options would still require the short-term loan from the Fiber fund, and UAC supports that approach. Staff will describe the Finance Committee's feedback to the UAC during the March UAC meeting.

Table 11 shows the rate projections of the alternative that would increase rates 9% in FY 2025 and defer the first of the 5-mile Sanitary Sewer Replacement (SSR) construction in FY 2026 and

<sup>11</sup>

<https://cityofpaloalto.primegov.com/api/compilemeetingattachmenthistory/historyattachment/?historyId=bfccaf4e-7ad7-49ab-9da2-5d728220f433>

<sup>12</sup> [https://www.cityofpaloalto.org/files/assets/public/v/6/agendas-minutes-reports/agendas-minutes/utilities-advisory-commission/archived-agenda-and-minutes/agendas-and-minutes-2024/03-mar-2024/packet\\_20240305182610968.pdf](https://www.cityofpaloalto.org/files/assets/public/v/6/agendas-minutes-reports/agendas-minutes/utilities-advisory-commission/archived-agenda-and-minutes/agendas-and-minutes-2024/03-mar-2024/packet_20240305182610968.pdf)

## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

[defer the pump station retrofit planned in FY 2028](#). This alternative includes a 5-mile sewer main replacement every two years beginning in FY 2028. [This alternative also assumes the Council approves the short-term loan from the Fiber Optics Fund Reserve to the Wastewater Collection Operations Reserve not to exceed \\$3 million.](#)

Table 12 to 14 shows the monthly bill impacts of the proposal and alternative scenario for residential, commercial and restaurant customers in FY 2025 to FY 2029.

**Table 11: Wastewater Rate Changes and Residential Monthly Bill Impacts**

	FY 2025 – FY 2026 Main Replacement <sup>a</sup>		FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Age of Last Remaining Sewer Main Replaced
	Budget	Length (miles)						
<b>Proposal: 15% in FY 2025</b>	\$3M	~1.25	15% \$7.29	9% \$5.03	9% \$5.48	8% \$5.31	7% \$5.02	110 years
<b>Alternate: 9% in FY 2025</b>	\$0	0	9% \$4.37	9% \$4.77	9% \$5.20	9% \$5.66	9% \$6.17	111 years

a) The estimated budget for a 5-mile sewer main replacement in FY 2025 – FY 2026 is \$11.6 million.

**Table 12: Residential Monthly Bill Impact, S-1  
(calculated from FY 2024 residential monthly bill of \$48.64/mo)**

Rate Scenarios	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
15% in FY 2025	\$7.29	\$5.03	\$5.48	\$5.31	\$5.02
9% in FY 2025	4.37	4.77	5.20	5.66	6.17

**Table 13: Commercial Monthly Bill Impact, S-2, 14 CCF (calculated from FY 2024 commercial monthly bill of \$127.12/mo)**

Rate Scenarios	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
15% in FY 2025	\$19.04	\$13.02	\$14.28	\$13.86	\$13.02
9% in FY 2025	11.34	12.46	13.58	14.70	16.10

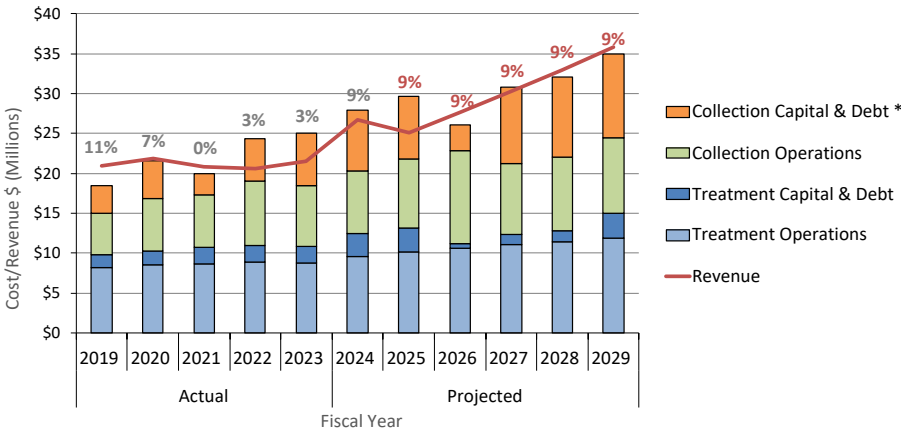
**Table 14: Restaurant Monthly Bill Impact, S-6, 3856 CCF (calculated from FY 2024 restaurant monthly bill of \$758.80514.90/mo)**

Rate Scenarios	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
15% in FY 2025	\$77.14	\$53.20	\$57.76	\$56.24	\$52.82
	\$113.68	\$78.40	\$85.12	\$82.88	\$77.84
9% in FY 2025	45.98	50.16	54.72	59.66	64.98
	67.76	73.92	80.64	87.92	95.76

The following figures show the expenses, revenues and rate changes chart as well as operations reserve and CIP Reserve Year-end Balances for the alternative of a 9% increase in FY 2025.

WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

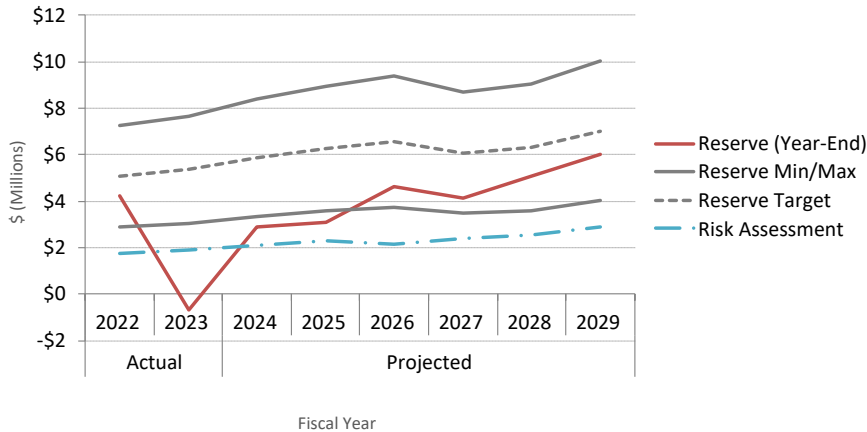
Figure 6: Wastewater Collection Utility Expenses, Revenues and Rate Changes – 9% increase in FY 2025<sup>^</sup>



<sup>^</sup> Figure 6 assumes a 9% rate increase for the Wastewater Collection Utility in FY 2025, deferral of the sewer main replacement in FY 2025 and FY 2026, and \$3 million short-term loan from the Fiber Optics Fund in FY 2024 that is repaid by the Wastewater Collection Utility during FY 2026.

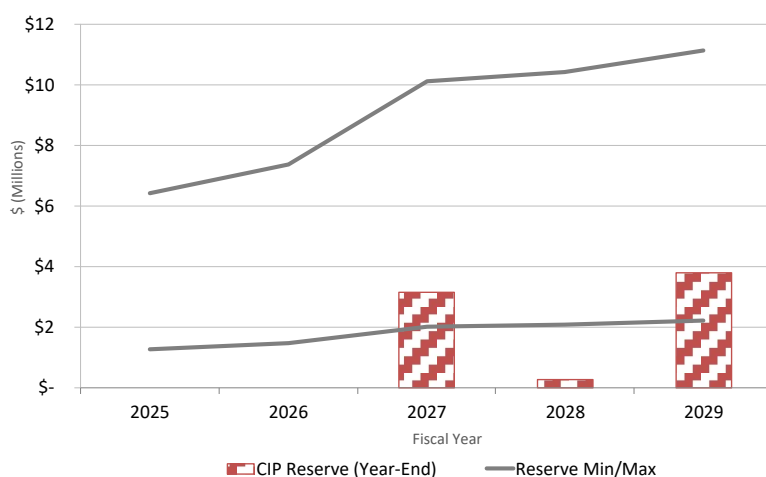
\*CIP in the projected years include changes due to commitments/reappropriations and funds transferred to the CIP Reserve

Figure 7: Wastewater Collection Operations Reserve Year End Balances – 9% increase in FY 2025



<sup>^</sup> Figure 7 assumes a 9% rate increase for the Wastewater Collection Utility in FY 2025, deferral of the sewer main replacement in FY 2025 and FY 2026, and \$3 million short-term loan from the Fiber Optics Fund in FY 2024 that is repaid by the Wastewater Collection Utility during FY 2026.

## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

**Figure 8: Wastewater Collection CIP Reserve Year End Balances – 9% increase in FY 2025<sup>^</sup>**

<sup>^</sup>Figure 8 assumes a 9% rate increase for the Wastewater Collection Utility in FY 2025 and \$3 million short-term loan from the Fiber Optics Fund in FY 2024 that is repaid by the Wastewater Collection Utility during FY 2026. Additionally, it assumes deferral of the planned Sewer Replacement planned in FY 2025 and FY 2026 and pump station retrofit planned for FY 2028.

**SECTION 5G: LONG-TERM OUTLOOK**

In the longer term (5 to 35 years), there are several factors that could potentially increase costs for the Wastewater Collection Utility. Section 2A: Overview of Financial Position discusses the acceleration of main replacement, with alternative main replacement schedules shown in Section 5F: Alternate Scenarios. Another factor is major upgrades at the RWQCP, which the Wastewater Utility will pay its share of as part of treatment costs. More details are in Section 6A: Wastewater Treatment Costs.

## SECTION 6: DETAILS AND ASSUMPTIONS

### SECTION 6A: WASTEWATER TREATMENT COSTS

Treatment expenses represent the Wastewater Collection Utility's share of the costs of operating the RWQCP. According to the agreements between Palo Alto and its partner agencies, these charges are calculated using a formula that considers the amount of wastewater, the organic material and ammonia levels, and the total suspended solids it contains. The Wastewater Collection Utility's assessed share of the RWQCP's revenue requirement is projected to be 32% for FY 2025. Mountain View is the other large agency served by the RWQCP (42% of the revenue requirement estimated for FY 2025) with the smaller agencies (Stanford, Los Altos, East Palo Alto, and Los Altos Hills) making up the remaining share of the total treatment costs.

Based on detailed project cost projections provided by RWQCP staff, overall treatment costs are estimated to increase by an average of [3.7% per year from FY 2024 through FY 2029 \(or 7.2% per year from FY 2024 through FY 2029, not including grant funding\)](#). Wastewater Treatment Fund costs are increasing due to major plant rehabilitation and rising salary and benefit costs as well as increased staffing needed to support capital programs. Additional expense increases include sludge hauling services costs, maintenance materials costs and rent. Commodity and utility rates to operate the facility are also anticipated to increase in FY 2025 for electric, water, and natural gas rates.

The largest increase in the treatment costs is the repayment of the Secondary Treatment Upgrades through a low-interest Clean Water State Revolving Fund Loan. Loan payments are expected to begin in FY 2029. Slow reimbursement for the Secondary Treatment Upgrades capital project during construction has created a cashflow issue for the RWQCP. This will increase treatment costs in the short-term beyond the projected levels shown below as the Wastewater Treatment fund will owe other City funds for the loss on shared return on investment on cash.

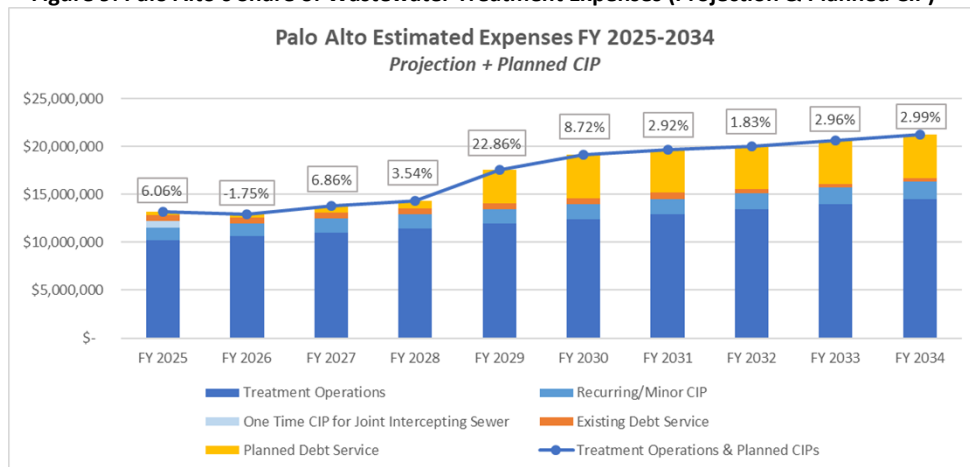
The RWQCP completed a Long-Range Facilities Plan in 2012 which has guided the CIP needs of the Treatment Plant. Currently, the RWQCP is beginning an update to the Long-Range Facilities Plan and plans to begin this work in 2024 and complete the plan in 2026. The results of this work will direct future CIP work at the Treatment Plant. Additionally, the plan will re-evaluate the cost of service for annual operating shares and re-evaluate the fixed allocation capacity shares for each partner.

Palo Alto's share of treatment operations and maintenance costs is projected to increase by an average of 4.6% per year from FY 2024 through FY 2029. [Palo Alto's share of treatment c](#)Capital projects and debt [isare](#) increasing at an average of 15% per year from FY 2024 through FY 2029. Increases to capital expenses begin in FY 2024 with the Joint Intercepting Sewer Rehabilitation construction, funded on a pay-as-you-go basis. The Wastewater [Collection](#) Utility begins to pay for debt service for major projects beginning with the Primary sedimentation Tank in FY 2025, Outfall Line Construction in FY 2027, Secondary Treatment Upgrades in FY 2029 and Headworks in FY 2030. Figure 9 below shows the estimated costs of treatment expenses for Palo Alto.



## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

Figure 9: Palo Alto's Share of Wastewater Treatment Expenses (Projection &amp; Planned CIP)

**Grant Funding**

Santa Clara Valley Water District (Valley Water) is the groundwater manager for Santa Clara County. Valley Water developed the "GP5 Program" grant program for communities and/or organizations, like the City of Palo Alto, where property taxpayers pay State Water Project property taxes but receive on average 85% of their water supply from sources other than Valley Water managed supplies. GP5 refers to Guiding Principle 5, a principle of the Valley Water Board that awards grants to each community at a dollar amount up to the State Water Project property taxes paid by property owners in their respective service areas. The grants must fund conservation programs, potable recycled water, non-potable recycled water (including salinity reductions), options to purchase wastewater, purified water, wastewater treatment plant environmental upgrades, Advanced Meter Infrastructure (AMI) updates, or dedicated environmental focused activities.

The RWQCP is currently in the process of applying for this grant funding for Palo Alto's portion of certain qualifying Wastewater Treatment capital projects. These are estimated to include:

- Joint Intercepting Sewer Rehabilitation
- Outfall Line Construction
- 12kV Loop Electrical Improvements and
- Headworks

The estimated funding available to Palo Alto through this grant program is \$11.2 million through FY 2033. This Financial Plan assumes those funds begin to be received as an offset to Palo Alto's treatment costs in FY 2026, which allows for a year of delays in the process of being awarded the grant funding. In total, this Financial Plan assumes \$7.4 million of the funds are received during the 5-year planning period as shown in the following table.

## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

**Table 15: GP5 Grant Funding Assumed to Offset Palo Alto's Treatment Costs**

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
GP5 Grants (\$'000)	-	1,815	1,494	1,494	2,667

**SECTION 6B: OPERATIONS**

Operations costs include the Customer Service, Distribution Operations, Engineering, and Allocated Charges categories in *Appendix A: Wastewater Collection Financial Forecast Detail*. Debt service, rent, and transfers are also included in this category. Customer Service costs are primarily related to the call center and collections on delinquent accounts. The Distribution Operations category includes preventative and corrective maintenance on sewer mains and laterals, investigation of sewer overflows, regular cleaning of heavily impacted sections of the sewer system, and services shared with other utilities (such as street restoration and equipment maintenance). Allocated Charges include the costs of accounting, purchasing, legal, and other administrative functions provided by the City's General Fund staff, as well as shared communications services and Utilities Department administrative overhead and billing system maintenance costs. A portion of these costs are allocated to operations costs and a portion to capital costs.

This Financial Plan projects operations costs to increase by approximately 3.5% annually from FY 2024 to FY 2029 based on preliminary assumptions for non-salary and benefit cost categories from Palo Alto's Office of Management and Budget. This includes an assumption of 7.5% increase to salaries and benefits costs in FY 2024 and 3-4% annually in subsequent years.

**SECTION 6C: CAPITAL IMPROVEMENT PROGRAM (CIP)**

The Wastewater Collection Utility's CIP consists of the following programs:

- The Sanitary Sewer Replacement/Rehabilitation (SSR) Program, under which the Wastewater Collection Utility replaces aging sewer mains.
- Customer Connections, which covers the cost when the Wastewater Collection Utility installs new laterals or upgrades existing laterals at a customer's request in response to development or redevelopment. CPAU charges a fee to these customers to cover the cost of these projects.
- Ongoing Projects, which covers the cost of replacing deteriorated manholes and sewer laterals, addressing unplanned replacement needs, performing hydraulic analysis, replacing antiquated software, as well as the cost of capitalized tools and equipment.

The Sanitary Sewer Replacement and Rehabilitation Program funds the replacement of deteriorating sewer mains to increase capacity or improve pipe condition in various parts of the sewer system. The sewer system consists of 216 miles of mains, and CPAU uses a variety of tools to establish which sections need to be replaced. The 2004 Master Plan study identified wastewater mains with capacity deficiency, and they have been corrected in past CIP projects. A

*WASTEWATER COLLECTION UTILITY FINANCIAL PLAN*

new master plan study is underway and will update the existing wastewater model, given the many development projects which have introduced additional flow in the collection system since 2004. The master plan project was approved at the November 27, 2023 Council Meeting and the consultant is currently under contract. The new study includes flow-monitoring data to reflect current condition and re-assessment of the system capacity. For condition assessment, maintenance statistics (such as records of the location and number of sewer overflows on the system) and video recording of sewer mains during routine cleaning and inspection can reveal areas with deteriorating pipe. CPAU uses a structural rating system to grade the pipe defects. The video-inspection data and maintenance records are used to plan and prioritize sewer main replacement and rehabilitation.

Utilities also coordinates with the Public Works street maintenance program to avoid cutting into newly repaved streets. A major goal of the replacement program is to minimize sewer overflow and reduce groundwater and rainwater infiltration. As clay pipe deteriorates, roots start intruding into the cracks or pipe joints to create blockages, permitting groundwater or rainwater to infiltrate the system, and potentially cause structural damage such as broken or collapsed pipe. Some level of infiltration is expected on any sewer system, but if there is too much, the combined flow of wastewater and groundwater/rainwater can overwhelm the capacity of various parts of the sewer system. Reducing infiltration can reduce the need to expand the system to accommodate increased flow, as well as reducing unnecessary amounts of water to be treated at the treatment plant. To achieve this goal, deteriorating mains are either replaced with new HDPE pipe or rehabilitated with a plastic lining when replacement is not feasible. Staff has been replacing/rehabilitating the mains as needed according to their condition. In addition, Wastewater Operations' routine maintenance continues to stay on schedule to minimize sewer overflows.

Utilities Engineering has been consistently replacing aging sewer mains since the early 90's. The proactive replacement program keeps the collection system in good condition. Between 1990 and 2022, 80 miles or 37% of the collection system has been replaced or rehabilitated (the darker green-colored lines shown in the attached map in *Appendix D: Map (CPA Wastewater Collection System - Sewer Mains Replaced or Rehabilitated since 1990)*).

A routine replacement program is recommended to keep the system reliable. Each SSR project in recent years has had approximately a \$4 to \$5 million budget to cover design and construction. This project scope and frequency allow staff to continue replacing 1 mile per year of wastewater mains that are in poor condition that potentially would collapse to create sewer overflow or street sink hole and to reduce groundwater and rainwater infiltration through cracks or leaking joints.

SSR 31 includes sewer main replacement on El Camino Real in Caltrans Right of Way and Page Mill Road in Santa Clara County Right of Way. Construction began the end of July 2023 with completion anticipated in May 2024. SSR 31's schedule was accelerated to complete sewer replacement prior to Caltrans' street improvement project on El Camino Real, to avoid digging into the newly-paved street. SSR 31's accelerated schedule and work in El Camino Real resulted in higher than anticipated construction cost.

*WASTEWATER COLLECTION UTILITY FINANCIAL PLAN*

In April 2022, staff provided a report on Wastewater Utility Asset Management and a presentation to the UAC on Wastewater Infrastructure ([Staff Report #13879](#)). The presentation provides details on two categories of pipe condition defects (please see the [video of the presentation](#)). Staff continues to re-evaluate and re-prioritize the scope of future projects based on the structural rating system, Wastewater Operations' feedback, and available budget. Industry experience suggests that clay pipe can last around 100 years in Palo Alto's underground condition. Since most of the remaining original clay pipes were installed between 1950 and 1970 a replacement rate of approximately 2.5 miles per year is needed to replace the pipe prior to the end of its useful life.

As part of the FY 2024 financial plan, staff recommended an accelerated CIP program to increase the replacement rate from 1 mile to 2.5 miles per year (or from 2 miles to 5 miles per project constructed every other year) to fulfil the goal of replacing pipes near their life expectancy. Staff's proposal attempted to minimize rate impacts while also prudently managing the City's infrastructure and maintaining an acceptable level of risk. The FY 2024 financial plan proposed to begin the accelerated main replacement starting in FY 2026, however due to unforeseen reductions in revenue and increases in operating expenses this financial plan proposes to begin the accelerated CIP replacement rate in FY 2028. The delayed schedule further increases the duration these assets are operated past their estimated useful life by an additional three years.

With the completion of SSR 31 there will be 136 miles of sewer main remaining to be replaced before the end of its useful life. Deferring the 5-mile project planned for FY 2026 and adding one additional project to the end of the ~60 year replacement cycle will mean the last main is approximately 111 years old before it is replaced.

This Financial Plan includes two alternative rate trajectories described in detail in Section 5F: Staff recommends a higher rate increase in FY 2025 to raise revenues to pay for a reduced-size main replacement of 1 mile (instead of 5 miles) with construction in FY 2026. With the inclusion of this project in FY 2026, the last remaining main would be approximately 110 years old when it is replaced.

Over the last few years, main replacement costs have been increasing for utilities due to economic activity in the Bay Area causing construction cost inflation. Utilities has bid one sewer project since the pandemic began. There are no indications of a dip in construction costs in the near future. Therefore, future CIP spending assumes an inflation rate of about 5.4% annually, which will significantly increase CIP costs over the forecast period.

The costs for Customer Connections and on-going projects are projected to remain steady through the end of the forecast period. Actual expenses for these projects fluctuate annually depending on how many defective laterals and manholes are discovered during routine maintenance, as well as how much development and redevelopment is going on that prompts the replacement or upgrade of sewer laterals. Property owners pay a fee for sewer lateral replacement or expansion during redevelopment, so when the number of projects increases, so does fee revenue.

Table 16 displays projected CIP spending for the 5-year financial forecast period, assuming the accelerated replacement rate of CIP projects will start in FY 2028.

## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

Table 16: Projected CIP Spending, FY 2024 to FY 2029 (\$,000)

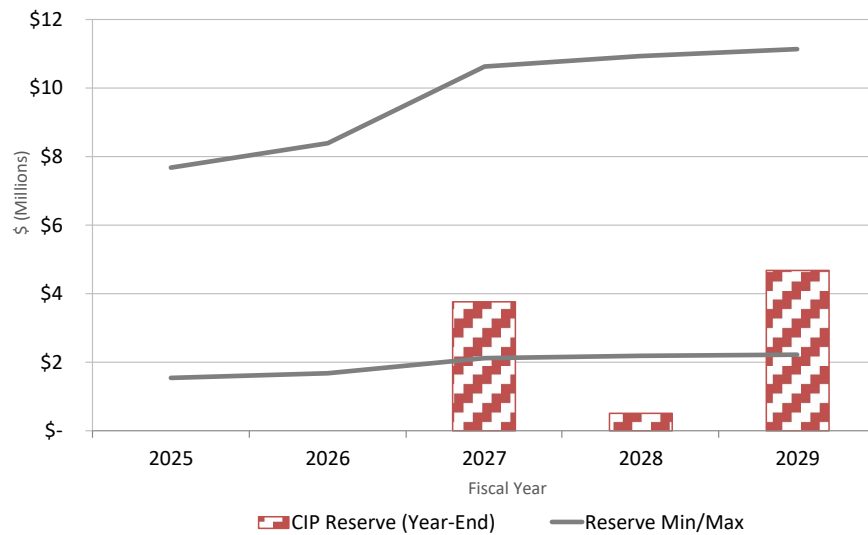
Project Category	FY 2024 Budget*	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Sewer Rehab/Augmentation	8,965	1,314	2,314	3,476	11,868	3,827
One-Time Projects	-	-	-	-	2,000	-
Ongoing Projects	1,719	1,126	1,150	1,177	1,205	1,225
Customer Connections	350	450	450	450	450	450
Allocated Overhead	1,191	1,239	1,288	1,340	1,394	1,449
<b>TOTAL</b>	<b>12,225</b>	<b>4,128</b>	<b>5,202</b>	<b>6,443</b>	<b>16,916</b>	<b>6,951</b>

Aside from Customer Connections, the CIP plan for FY 2024 to FY 2029 is funded by sewer rates and capacity fees. *Appendix B: Wastewater Collection Utility Capital Improvement Program (CIP) Detail* shows the details of the plan.

Figure 10 below shows the projected CIP Reserve balances from FY 2025 through FY 2029. Figure 11 below shows the projected CIP expenditures fluctuating from year to year with the staggered main replacement schedule. The utility will resume capital program contributions as soon as possible and this is projected to be in FY 2027. This will gradually re-establish the CIP Reserve within the guideline range by FY 2031. Until FY 2027 the CIP Reserve is projected to remain empty. *Appendix A: Wastewater Collection Financial Forecast Detail* shows the amount of the rate-funded CIP Reserve contributions under “Expenses” for FY 2024 through FY 2029.

WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

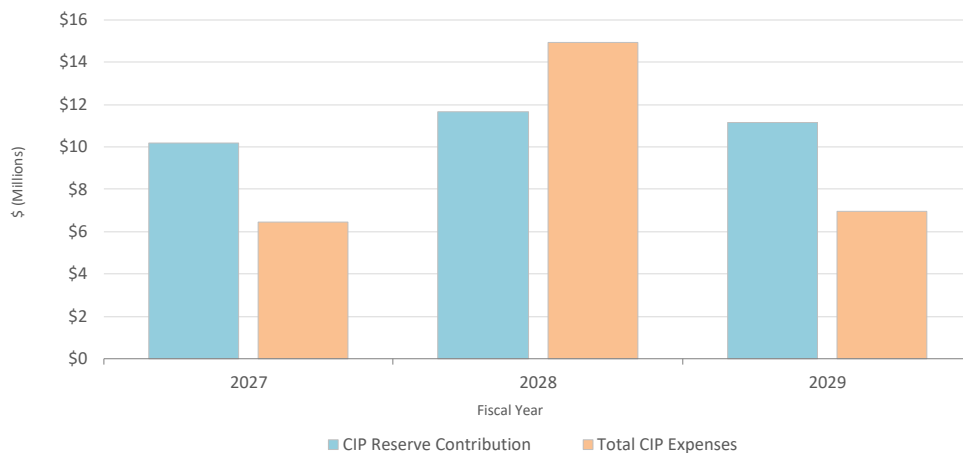
Figure 10: Projected CIP Reserve Balances, FY 2025 to FY 2029 (\$,000)



<sup>^</sup>Figure 10 assumes a 15% rate increase for the Wastewater Collection Utility in FY 2025 and \$3 million short-term loan from the Fiber Optics Fund in FY 2024 that is repaid by the Wastewater Collection Utility during FY 2026. Additionally, it assumes a reduced-size Sewer Replacement in FY 2025 and FY 2026.

Figure 11: Projected CIP Expenditure, and Projected Capital Program Contribution, FY 2027 to FY 2029 (\$000)

## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN



## SECTION 6D: DEBT SERVICE

The Wastewater Collection Utility currently pays its share of one bond issuance, the 1999 Utility Revenue Bonds, Series A, which is due to be retired in FY 2024. This \$17.7 million issuance refinanced various earlier Storm Drain, Wastewater Treatment, and Wastewater Collection Utility bond issuances. The Wastewater Collection Utility's share of the issuance was roughly \$1.9 million. This amount represented the second refinancing of the remaining principal of a 1990 bond issuance, which itself was a refinancing of a 1985 issuance that financed a variety of improvements to the sewer system. The cost of debt service for the Wastewater Collection Utility's share of this bond issuance for the financial forecast period is roughly \$129,000 per year. The 1999 Utility Revenue Bonds include two covenants stating that 1) the Wastewater Collection Utility will maintain a debt coverage ratio of 125% of debt service, and 2) that the City will maintain "Available Reserves"<sup>13</sup> equal to five times the annual debt service. The current Financial Plan maintains compliance with both covenants throughout the forecast period. Table 17, below, shows compliance with the first covenant.

<sup>13</sup> Available Reserves as defined in the 1999 Utility Revenue Bonds included reserves for the Water, Wastewater Treatment, Wastewater Collection, Refuse, Storm Drain, Electric, and Gas Utilities

## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

**Table 17: Debt Service Coverage Ratio (\$000)**

	<b>FY 2024</b>
Revenues	21,915
Expenses (excl. CIP and Debt Service)	20,308
Net Revenues	1,606
Debt Service	129
Coverage Ratio	1243%

Table 18, below, shows the available reserves in relation to the debt service for the Wastewater Collection utility in FY 2024.

**Table 18: Debt Service Minimum Reserves (\$000)**

	<b>FY 2024</b>
Wastewater Collection and Water Utilities <sup>a</sup>	20,313
Debt Service <sup>b</sup>	129
Reserves Ratio <sup>c</sup>	157x
a) CIP, Rate Stabilization, Operations and Unassigned Reserves b) Wastewater Collection and Water Utility's share of the debt service on the 1999 Utility Revenue Bonds c) Calculated using combined Wastewater Collection and Water Utility reserves. The actual reserves ratio for the 1999 Utility Revenue Bonds is calculated based on the combined Water, Wastewater Treatment, Wastewater Collection, Refuse, Storm Drain, Electric, and Gas Utilities reserves and total debt service and is higher than shown here.	

The Wastewater Collection Utility's reserves (but not its net revenues) are also considered security for the Storm Drain and Wastewater Treatment Utilities' shares of the debt service on the 1999 bonds. Throughout the term of the bonds there remains a small risk that the Wastewater Collection Utility's reserves could be called upon to make a debt service payment on behalf of one of those utilities if it cannot meet its debt service obligations. Staff does not foresee this occurring based on the current financial condition of those utilities. If the Wastewater Collection Utility's reserves were used this way, any amounts advanced would have to be repaid by the borrowing utility.

[Staff is also recommending Council approve a short-term loan from the Fiber Optics Fund Reserve to the Wastewater Collection Fund Operations Reserve not to exceed \\$3,000,000 for FY 2024. See Section 3D for additional information.](#)

**SECTION 6E: OTHER REVENUES**

Other revenues are from capacity and connection fees and income from interest and transfers in. These revenues fluctuate from year to year. This plan forecasts other revenues using a three-year average of actual capacity and connection fee revenue from FY 2021 – FY 2023 and assuming no inflation throughout the forecast period.



## SECTION 7: COMMUNICATIONS PLAN

In FY 2025, the communications strategy for the wastewater collection utility will address the following primary areas: cost drivers, cost containment measures, infrastructure upgrades, increasing wastewater treatment costs, maintenance and operations related to safety, and how these necessary activities impact the rates this year. Communication about wastewater rate adjustments will highlight the important infrastructure upgrades that are occurring at the Regional Water Quality Control Plant (RWQCP) as well as increased capital improvement projects (CIP) to improve our wastewater collection utility services. These infrastructure upgrades are necessary to replace aging wastewater collection mains and sanitary sewer treatment equipment at the RWQCP. Financial reserves are also below minimum guidelines due to higher capital improvement program costs, lower revenue than forecasted, and higher transfers out to capital projects. Some projects will be deferred as the fund increases revenues to a sustainable level.

Staff update the utilities webpages with information on the progress of wastewater projects to keep customers apprised of the status and accomplishments of capital improvement projects. Customers can find project schedules, maps, overview of the work being done, and project manager contact information at [the Utilities Projects webpage](https://www.cityofpaloalto.org/Departments/Utilities/Utilities-Services-Safety/Utilities-Projects).<sup>14</sup> [cityofpaloalto.org/utilityprojects](https://www.cityofpaloalto.org/utilityprojects)—Promotional activities about wastewater infrastructure upgrades and environmental service improvements, operations, safety, CPAU and customer responsibilities for wastewater system maintenance, include the use of bill inserts, ads in local print publications, email newsletters and social media.

An important communications topic for the wastewater utility is avoiding sewer back-ups due to FOG (fats, oil and grease), trash and other hazardous materials being dumped down drains and toilets. These items can clog sewer lines, cause sewer overflows, and pollute San Francisco Bay, and create a health and safety risk to humans. Safety topics are emphasized year-round. Staff continue to educate customers about the utility's gas-sewer line cross-bore inspection program, including the importance of calling 811 before digging and contacting CPAU prior to clearing sewer lines in the event of a sewer back-up.

While print materials and webpages feature prominently, CPAU is increasing the outreach emphasis on more direct communication with customers, including through use of social media, email newsletters, digital ads and videos. Staff attend community outreach events, safety and emergency preparedness fairs, business and neighborhood meetings. CPAU continually seeks out new opportunities to engage with the public to spread awareness about important safety topics and inform the community about project improvements such as at the RWQCP.

<sup>14</sup> <https://www.cityofpaloalto.org/Departments/Utilities/Utilities-Services-Safety/Utilities-Projects>

## APPENDICES

Appendix A: Wastewater Collection Financial Forecast Detail


Appendix B: Wastewater Collection Utility Capital Improvement Program (CIP) Detail

Appendix C: Wastewater Collection Utility Reserves Management Practices

Appendix E: Map (CPA Wastewater Collection System - Sewer Mains Replaced or Rehabilitated since 1990)

Appendix E: Sample of Wastewater Collection Outreach Materials

APPENDIX A: WASTEWATER COLLECTION FINANCIAL FORECAST DETAIL

		Wastewater Collection Financial Details										
		(\$'000)										
Fiscal Year		Actual					Projected					
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1	% Change in Retail Rate	11%	7%	0%	3%	3%	9%	15%	9%	9%	8%	7%
2												
3	Retail Sales Revenue	19,342	20,335	19,817	19,778	20,694	21,915	25,447	28,074	30,880	33,363	35,712
4	Connection & Capacity Fees	594	686	502	203	219	308	308	308	308	308	308
5	Other Revenues & Transfers In	545	394	404	486	387	4,294	460	477	494	512	530
6	Interest	446	406	43	141	168	161	167	174	181	188	195
7	REVENUES	20,928	21,820	20,765	20,608	21,467	26,678	26,382	29,033	31,863	34,370	36,746
8												
9	Treatment	9,843	10,234	10,542	9,479	10,784	12,432	13,185	11,139	12,349	12,839	14,943
10	Allocated Charges (Operating)	1,038	1,640	1,865	3,251	2,158	2,275	2,370	2,467	2,556	2,651	2,755
11	Customer Service	306	366	430	407	414	486	507	527	546	566	589
12	Distribution Operations	2,855	3,461	3,413	3,697	4,054	4,278	4,500	4,656	4,806	4,985	5,181
13	Engineering (Operating)	329	339	351	261	273	292	304	316	327	339	352
14	Debt Service	128	128	127	128	129	129	-	-	-	-	-
15	Rent	320	332	252	257	268	275	283	290	298	306	314
16	Other/ Transfers Out	364	467	342	229	526	270	699	3,370	286	293	299
17	Capital *	3,307	4,582	2,526	5,225	6,446	2,691	4,128	5,202	10,200	11,659	11,139
18	EXPENSES	18,489	21,550	19,848	22,933	25,052	23,129	25,977	27,969	31,368	33,639	35,572
19												
20	INTO / (OUT OF) RESERVES	2,439	271	917	(2,325)	(3,585)	3,549	406	1,064	495	732	1,174
21												
22	Ending Operations Reserve ^	5,390	5,661	6,578	4,252	(674)	2,875	3,281	4,345	4,839	5,571	6,745
23	Ending Commitments & Reappropriations	5,732	4,775	830	4,612	9,534	4,767	-	-	-	-	-
24	Ending CIP Reserve	978	978	3,178	3,178	-	-	-	-	3,757	500	4,687
25	Ending Rate Stabilization Reserve	342	342	342	342	-	-	-	-	-	-	-
26	Unassigned Reserves	-	-	-	-	-	-	-	-	-	-	-
27												
28	Operations Reserve Guidelines											
29	Max (150 Days Treatment/O&M Exp)	7,426	8,673	7,977	7,277	7,646	8,399	8,979	9,356	8,699	9,033	10,041
30	Target (105 Days Treatment/O&M Exp)	5,198	6,071	5,584	5,094	5,353	5,879	6,285	6,549	6,089	6,323	7,029
31	Min (60 Days Treatment/O&M Exp)	2,971	3,469	3,191	2,911	3,059	3,360	3,591	3,742	3,480	3,613	4,016
32	Short Term Risk Assessment Value	2,047	2,251	1,853	1,740	1,911	2,125	2,331	2,230	2,462	2,620	2,924
33												
* Capital for FY 2021 - FY 2022 and FY 2027 - FY 2029 represents CIP funding from the Operations Reserve to the CIP Reserve												
34	^ FY 2023 Operations Reserve Accounting Adjustment of (\$135,000)											

## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

## APPENDIX B: WASTEWATER COLLECTION UTILITY CAPITAL IMPROVEMENT PROGRAM (CIP) DETAIL

Fiscal Year		2024			2025	2026	2027	2028	2029
Project #	Project Name	Carryover From FY23 (A)	Current Year Estimate (B)	Current Year Funding (B-A)					
WC-17001	SSR/A - Project 30	240,022	542,363	302,341	-	-	-	-	-
WC-19001	SSR/A - Project 31	8,436,225	8,108,426	(327,799)	-	-	-	-	-
WC-20000	SSR/A - Project 32	-	-	-	-	-	-	-	-
WC-20001	SSR/A - Project 33	-	-	-	1,000,000	2,000,000	3,162,000	9,553,878	-
WC-22001	SSR/A - Project 34	-	-	-	-	-	-	-	3,512,716
WC-22002	SSR/A - Project 35	-	-	-	-	-	-	-	-
WC-22003	SSR/A - Project 36	-	-	-	-	-	-	-	-
WC-22004	SSR/A - Project 37	-	-	-	-	-	-	-	-
WC-22005	SSR/A - Project 38	-	-	-	-	-	-	-	-
WC-22006	SSR/A - Project 39	-	-	-	-	-	-	-	-
Wastewater Pump Station Retrofit		-	-	-	-	-	-	2,000,000	-
<b>Subtotal Sewer Rehab/Augmentation</b>		<b>8,676,247</b>	<b>8,650,789</b>	<b>(25,458)</b>	<b>1,000,000</b>	<b>2,000,000</b>	<b>3,162,000</b>	<b>11,553,878</b>	<b>3,512,716</b>
WC-13002	Fusion & Gen Equip/Tools	68,481	50,157	(18,324)	50,000	50,000	50,000	50,000	50,000
WC-15002	WW System Improvements	604,002	700,000	95,998	200,000	200,000	200,000	200,000	200,000
WC-99013	Sewer/Manhole Rehab	168,829	968,829	800,000	875,500	900,000	927,000	955,000	975,000
<b>Subtotal Ongoing Projects</b>		<b>841,312</b>	<b>1,718,986</b>	<b>877,674</b>	<b>1,125,500</b>	<b>1,150,000</b>	<b>1,177,000</b>	<b>1,205,000</b>	<b>1,225,000</b>
<b>Unallocated Salaries and Benefits</b>		-	314,000	314,000	314,000	314,000	314,000	314,000	314,000
<b>Total Project Expenses</b>		<b>9,517,559</b>	<b>10,683,775</b>	<b>1,166,216</b>	<b>2,439,500</b>	<b>3,464,000</b>	<b>4,653,000</b>	<b>13,072,878</b>	<b>5,051,716</b>
WC-80020	Sewer System Extensions	16,143	350,000	333,857	450,000	450,000	450,000	450,000	450,000
<b>Total Customer Connections</b>		<b>16,143</b>	<b>350,000</b>	<b>333,857</b>	<b>450,000</b>	<b>450,000</b>	<b>450,000</b>	<b>450,000</b>	<b>450,000</b>
<b>Total CIP Allocated Charges</b>		-	<b>1,191,237</b>	<b>1,191,237</b>	<b>1,238,886</b>	<b>1,288,442</b>	<b>1,339,980</b>	<b>1,393,579</b>	<b>1,449,322</b>
<b>Total CIP Expenses</b>		<b>9,533,701</b>	<b>12,225,012</b>	<b>2,691,311</b>	<b>4,128,386</b>	<b>5,202,442</b>	<b>6,442,980</b>	<b>14,916,457</b>	<b>6,951,038</b>
Connection Fees				217,989	217,989	217,989	217,989	217,989	217,989
Capacity Fees				90,118	90,118	90,118	90,118	90,118	90,118
<b>Total CIP Funding</b>				<b>308,107</b>	<b>308,107</b>	<b>308,107</b>	<b>308,107</b>	<b>308,107</b>	<b>308,107</b>
<b>Net CIP Costs</b>				<b>2,383,204</b>	<b>3,820,280</b>	<b>4,894,335</b>	<b>6,134,873</b>	<b>14,608,350</b>	<b>6,642,931</b>
CIP Reserve Beginning Balance				-	-	-	-	3,757,020	499,564
CIP Reserve Contribution				-	-	-	10,200,000	11,659,000	11,138,655
CIP Reserve (Year-End)				-	-	-	3,757,020	499,564	4,687,181
Reserve Minimum				923,256	1,534,513	1,675,646	2,125,539	2,185,625	2,224,618
Reserve Maximum				4,616,280	7,672,566	8,378,229	10,627,694	10,928,125	11,123,092

## APPENDIX C: WASTEWATER COLLECTION UTILITY RESERVES MANAGEMENT PRACTICES

The following reserves management practices shall be used when developing the Wastewater Collection Utility Financial Plan:

### Section 1. Definitions

- a) “Financial Planning Period” – The Financial Planning Period is the range of future fiscal years covered by the Financial Plan. For example, if the Financial Plan delivered in conjunction with the FY 2015 budget includes projections for FY 2015 to FY 2019, FY 2015 to FY 2019 would be the Financial Planning Period.
- b) “Fund Balance” – As used in these Reserves Management Practices, Fund Balance refers to the Utility’s Unrestricted Net Assets.
- c) “Net Assets” - The Government Accounting Standards Board defines a Utility’s Net Assets as the difference between its assets and liabilities.
- d) “Unrestricted Net Assets” - The portion of the Utility’s Net Assets not invested in capital assets (net of related debt) or restricted for debt service or other restricted purposes.

### Section 2. Reserves

The Wastewater Collection Utility’s Fund Balance is reserved for the following purposes:

- a) For existing contracts, as described in Section 3 (Reserve for Commitments)
- b) For operating and capital budgets re-appropriated from previous years, as described in Section 4 (Reserve for Re-appropriations)
- c) For cash flow management and contingencies related to the Wastewater Collection Utility’s Capital Improvement Program (CIP), as described in Section 5 (CIP Reserve)
- d) For rate stabilization, as described in Section 6 (Rate Stabilization Reserve)
- e) For operating contingencies, as described in Section 7 (Operations Reserve)
- f) Any funds not included in the other reserves will be considered Unassigned Reserves and shall be returned to ratepayers or assigned a specific purpose as described in Section 8 (Unassigned Reserves).

### Section 3. Reserve for Commitments

At the end of each fiscal year the Reserve for Commitments will be set to an amount equal to the total remaining spending authority for all contracts in force for the Wastewater Collection Utility at that time.

### Section 4. Reserve for Re-appropriations

At the end of each fiscal year the Reserve for Re-appropriations will be set to an amount equal to the amount of all remaining capital and non-capital budgets, if any, that will be re-appropriated to the following fiscal year in accordance with Palo Alto Municipal Code Section 2.28.090.

## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

## Section 5. CIP Reserve

The CIP Reserve is used to manage cash flow for capital projects and acts as a reserve for capital contingencies. Staff will manage the CIP Reserve according to the following practices:

- a) The following guideline levels are set forth for the CIP Reserve. These guideline levels are calculated for each fiscal year of the Financial Planning Period and approved by Council Resolution.

Minimum Level	20% of the maximum CIP Reserve guideline level
Maximum Level	Average annual (12 month) <sup>15</sup> CIP budget, for 48 months of budgeted CIP expenses <sup>16</sup>

- b) Changes in Reserves: Staff is authorized to transfer funds between the CIP Reserve and the Reserve for Commitments when funds are added or removed from that reserve as a result of a change in contractual commitments related to CIP projects. Any other additions to or withdrawals from the CIP reserve require Council action.
- c) Minimum Level:
- i) If, at the end of any fiscal year, the minimum guideline is not met, staff shall present a plan to the City Council to replenish the reserve. The plan shall be delivered by the end of the following fiscal year, and shall, at a minimum, result in the reserve reaching its minimum level by the end of the next fiscal year. For example, if the CIP Reserve is below its minimum level at the end of FY 2017, staff must present a plan by June 30, 2018 to return the reserve to its minimum level by June 30, 2019. In addition, staff may present, and the Council may adopt, an alternative plan that takes longer than one year to replenish the reserve, or that does so in a shorter period of time.
- d) Maximum Level: If there are funds in this reserve in excess of the maximum level staff must propose in the next Financial Plan to transfer these funds to another reserve, return the funds to ratepayers, or designate a specific use of the funds for CIP investments that will be made by the end of the next Financial Planning Period. Staff may also seek City Council to approve holding funds in this reserve in excess of the maximum level if they are held for a specific future purpose related to the CIP.

## Section 6. Rate Stabilization Reserve

Funds may be added to the Rate Stabilization Reserve by action of the City Council and held to manage the trajectory of future year rate increases. Withdrawal of funds from the Rate Stabilization Reserve requires Council action. If there are funds in the Rate Stabilization Reserve at the end of any fiscal year, any subsequent Wastewater Collection Utility Financial Plan must result in the withdrawal of all funds from this Reserve by the end of the Financial Planning Period.

<sup>15</sup> Each month is calculated based upon 1/12 of the annual budget.

<sup>16</sup> For example, in the Financial Plan for FY 2022, the 48 month period to use to derive the annual average is FY 2022 through FY 2025. In the FY 2023 Financial Plan, the 48 month period to use to derive the annual average would be FY 2023 through FY 2026 etc.

*WASTEWATER COLLECTION UTILITY FINANCIAL PLAN***Section 7. Operations Reserve**

The Operations Reserve is used to manage normal variations in costs and as a reserve for contingencies. Any portion of the Wastewater Collection Utility's Fund Balance not included in the reserves described in Section 3-Section 6 above will be included in the Operations Reserve unless this reserve has reached its maximum level as set forth in Section 7(d) below. Staff will manage the Operations Reserve according to the following practices:

- a) The following guideline levels are set forth for the Operations Reserve. These guideline levels are calculated for each fiscal year of the Financial Planning Period based on the levels of Operations and Maintenance (O&M) and commodity expense forecasted for that year in the Financial Plan.

Minimum Level	60 days of O&M and commodity expense
Target Level	105 days of O&M and commodity expense
Maximum Level	150 days of O&M and commodity expense

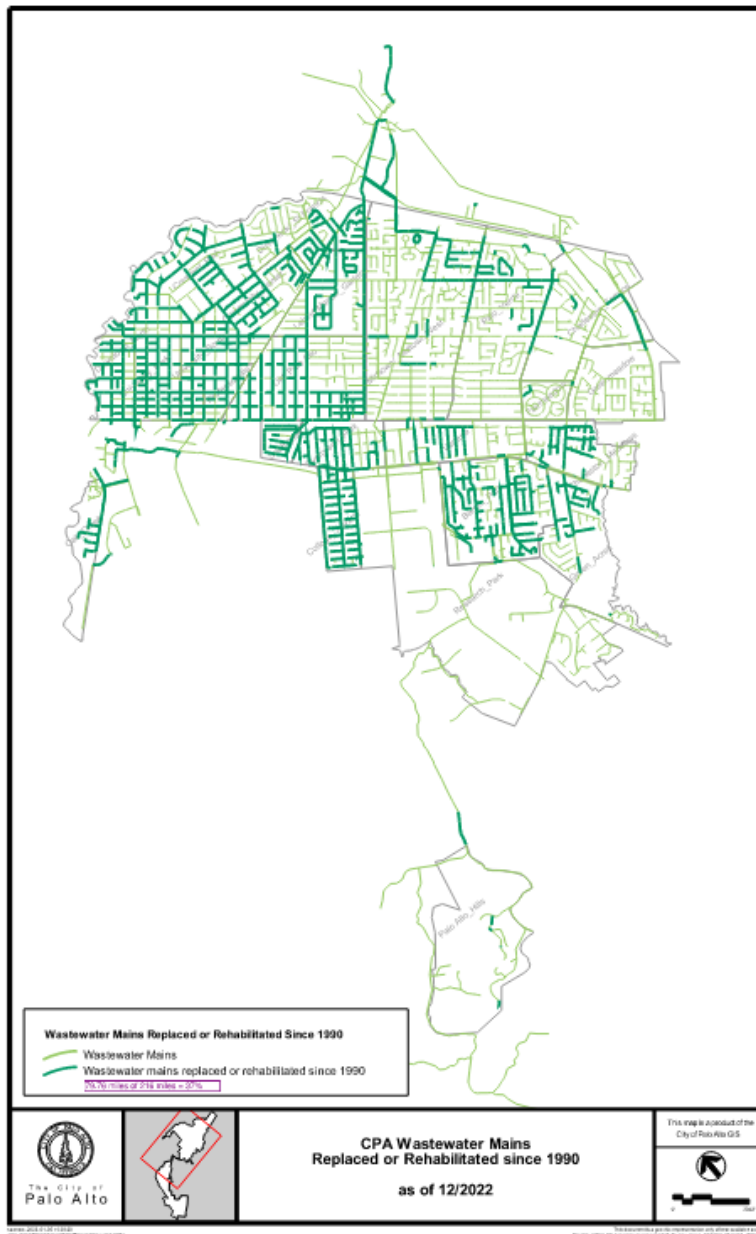
- b) Minimum Level: If, at the end of any fiscal year, the funds remaining in the Operations Reserve are lower than the minimum level set forth above, staff shall present a plan to the City Council to replenish the reserve. The plan shall be delivered within six months of the end of the fiscal year, and shall, at a minimum, result in the reserve reaching its minimum level by the end of the following fiscal year. For example, if the Operations Reserve is below its minimum level at the end of FY 2014, staff must present a plan by December 31, 2014 to return the reserve to its minimum level by June 30, 2015. In addition, staff may present, and the Council may adopt, an alternative plan that takes longer than one year to replenish the reserve.
- c) Target Level: If, at the end of any fiscal year, the Operations Reserve is higher or lower than the target level, any Financial Plan created for the Wastewater Collection Utility shall be designed to return the Operations Reserve to its target level within four years.
- d) Maximum Level: If, at any time, the Operations Reserve reaches its maximum level, no funds may be added to this reserve. Any further increase in the Wastewater Collection Utility's Fund Balance shall be automatically included in the Unassigned Reserve described in Section 8, below.

**Section 8. Unassigned Reserve**

If the Operations Reserve reaches its maximum level, any further additions to the Wastewater Collection Utility's Fund Balance will be held in the Unassigned Reserve. If there are any funds in the Unassigned Reserve at the end of any fiscal year, the next Financial Plan presented to the City Council must include a plan to assign them to a specific purpose or return them to the Wastewater Collection Utility ratepayers by the end of the first fiscal year of the next Financial Planning Period. For example, if there were funds in the Unassigned Reserves at the end of FY 2015, and the next Financial Planning Period is FY 2016 through FY 2020, the Financial Plan shall include a plan to return or assign any funds in the Unassigned Reserve by the end of FY 2016. Staff may present an alternative plan that retains these funds or returns them over a longer period of time.

WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

APPENDIX D: MAP (CPA WASTEWATER COLLECTION SYSTEM - SEWER MAINS REPLACED OR REHABILITATED SINCE 1990)





## WASTEWATER COLLECTION UTILITY FINANCIAL PLAN

## APPENDIX E: SAMPLE OF WASTEWATER COLLECTION OUTREACH MATERIALS

**THE CITY OF PALO ALTO REGIONAL WATER QUALITY CONTROL PLANT CLEANS 20 MILLION GALLONS OF WASTEWATER EVERY DAY TO PROTECT SAN FRANCISCO BAY.**

**WHAT HAPPENS AFTER IT'S FLUSHED?**

Without modern wastewater treatment, the Bay's fish, birds, mammals and plant life could not survive and the Bay would be unsafe for people to enjoy. Here's how wastewater treatment works:

**STEP 1. DRAINING**  
Wastewater drains from bathrooms, kitchens, and industrial facilities to the RWQCP in underground pipes via gravity.

**STEP 2. SCREENING**  
Wastewater is screened to remove larger items like tampons, condoms, and single-use wipes that should not be flushed.

**STEP 3. SETTLING**  
Smaller waste particles settle out from wastewater in large sedimentation tanks.

**STEP 4. MICROORGANISMS MUNCH**  
Bacteria and other microorganisms eat the organic matter.

**STEP 5. FILTRATION**  
Wastewater moves through coal and sand filters that remove particles as fine as one micron.

**STEP 6. ULTRAVIOLET DISINFECTION**  
UV light kills pathogens.

**CLEAR WATER TREATMENT**

**Don't Rush to Flush!**

**Sanitary Pads** **Tampons & Applicators** **Wipes of Any Kind**

...hair, contact lenses, cotton pads or swabs, diapers, medication, cat litter, toilet roll tubes, floss, cigarettes, cleaning chemicals, paints & pesticides; fats, oils, grease (FOG), razors, or anything else. Flushing items other than human waste and toilet paper can cause sewer backups into homes and streets, and pollution into creeks and the San Francisco Bay.

**ONLY toilet paper and human waste should be flushed down the toilet.**

**HOW TO PROPERLY DISPOSE OF FATS, OILS AND GREASE**

**PLUMBERS ARE NOT THE GUESTS YOU WANT TO INVITE OVER FOR THE HOLIDAYS.**

Fats, Oils, and Grease (FOG) poured down your sink may cost you money, time and hassle—and they're also an environmental and public health issue. FOG builds up in sewer lines and clogs pipes causing backups in your home, and can spill raw sewage into streets, storm drains, and creeks. Repairing clogged pipes can cost hundreds of dollars to fix and thousands of dollars if the clog causes wastewater to spill out and damage bathrooms and floors.

**TO PREVENT SEWER BACKUPS:**

- Never pour grease down sink drains or into the toilet.
- Try removing grease from plates and bowls and for wiping oily dishes with a paper towel and for wiping oily dishes with a paper towel and for wiping oily dishes with a paper towel.
- For small amounts of oil and grease, coagulate them into a solid compostable container such as a milk carton and place in your green compost cart—<http://www.cityofpaloalto.org/fofguide>
- Do not pour grease or cooking oil down garbage disposals. Put them in the trash or use a grease trap.
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**WHAT TO DO WITH FOOD SCRAPS:**

- Try composting produce scraps at home to reduce waste, make healthy soil and improve your garden.
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**HAVE A CLOGGED SEWER LINE? ALWAYS CALL US BEFORE CALLING A PLUMBER!**

The City will need to check the line to make sure no other utility services will be damaged by clearing it. For more information on avoiding sewer backups and safety information, call us at (650) 329-2579 or visit [www.cityofpaloalto.org/safeutility](http://www.cityofpaloalto.org/safeutility)

[www.cityofpaloalto.org/safeutility](http://www.cityofpaloalto.org/safeutility) • (650) 329-2579

**Know What to Do During a Storm**

**STAY INFORMED**  
The City uses an emergency alert system. Only one-third of residents are signed up. Sign up for emergency alerts at [AlertSCC.com](http://AlertSCC.com). The City also shares emergency information through social media, connect with us at [www.cityofpaloalto.org/connect](http://www.cityofpaloalto.org/connect).

**GAIN STORM UPDATES + EVACUATION STAGES**  
Keep track of storm updates, access resources, and find details on the City's Flooding Evacuation Stages at [www.cityofpaloalto.org/StormUpdate](http://www.cityofpaloalto.org/StormUpdate)

**CLEAR STORM DRAINS IF THEY'RE BACKED UP**  
If you have a storm drain inlet near your home in the street, consider using a rake and clearing any debris (leaves, tree branches, etc.) that may have accumulated over the grate.

**TRACK CREEK WATER LEVELS**  
Monitor creek water levels for San Francisco Creek & W. Bayshore Road, plus the City recently added a creek monitor camera at the Pope Chaucer Bridge. View both at [www.cityofpaloalto.org/CreekMonitor](http://www.cityofpaloalto.org/CreekMonitor)

Only Call 9-1-1 in an Emergency.  
Report community impacts at the phone numbers below.

**IMPORTANT PHONE NUMBERS**

For blocked storm drains, sink clogs, landslides, levee damage, and fallen trees, call Palo Alto Public Works at (650) 496-6974 on weekdays from 7 a.m. – 4 p.m. and (650) 329-2413 after hours.	For gas leaks and sewer spills, call Palo Alto Utilities Water, Gas, Wastewater Operations at (650) 329-2579.	For power outages and electrical problems, call Palo Alto Utilities Electric Operations at (650) 496-6914.
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