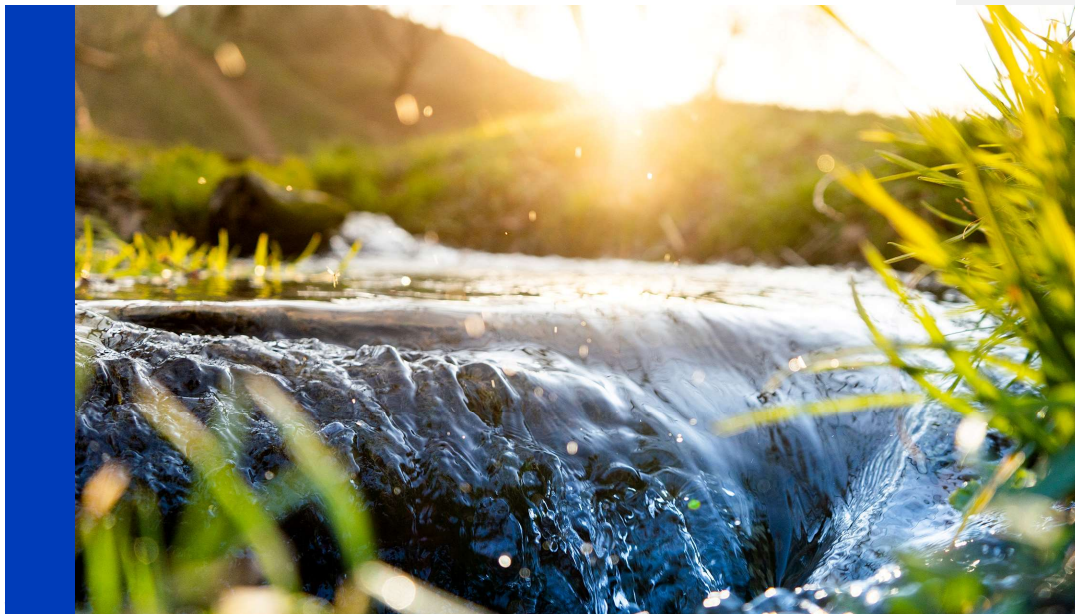


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CITY OF RIVERSIDE  
PUBLIC UTILITIES

PFAS Surcharge Water Treatment Surcharge Rate Study



# Water Treatment Cost-of-Service Analysis Rate Study Report

August 2025 / ~~FINAL~~DRAFT DRAFT



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- APPENDIX B DETAILED CALCULATIONS FOR ALTERNATIVE RATES

**Commented [DM1]:** Cant directly highlight but above on this page Table 16, instead of "FAS" it should say "PFAS"?

**Commented [CJ2]:** Need to review all of the footer headings; first one on pg 2 says EPUBLIC, then from pg 3 on it says TREATMENT

## Abbreviations

AF	acre-foot
Carollo	Carollo Engineers
CCF	hundred cubic feet
CIP	Capital Improvements Program
City	City of Riverside
COSA	Cost of Service Analysis
EPA	Environmental Protection Agency
FTE	full-time employee
FYE	fiscal year ending
IX	ion exchange
JW North WTP	John W. North Water Treatment Plant
mgd	million gallons per day
mg/L	milligrams per liter
O&M	operations and maintenance
PFAS	per- and polyfluoroalkyl substances
RO	reverse osmosis
RPU	Riverside Public Utility
SAWPA	Santa Ana Watershed Project Authority
SCADA	Supervisory Control and Data Acquisition
WTP	water treatment plant

## SECTION 1 INTRODUCTION

The City of Riverside (City) Public Utilities Department (RPU) provides safe and reliable water to approximately 67,000 service connections in an environmentally and financially responsible manner. In the face of significant challenges for the water utility industry, including aging infrastructure, climate change, and regulations aimed at curbing its impact, RPU has developed a comprehensive financial plan including a capital infrastructure improvement plan (CIP). Based on those plans, RPU completed a comprehensive cost of service analysis (COSA) in 2023 and adopted rates for fiscal year ending (FYE) 2024 through 2028.

Since the adoption of the rates developed in the 2023 COSA, RPU has identified additional water treatment projects that are necessary to address the per- and polyfluoroalkyl substances (PFAS) present in its groundwater sources.

PFAS are a group of manufactured substances that contaminate soil and drinking water sources after products containing them are applied or spilled onto the ground. Several basins in the RPU service area have PFAS contaminations due to their proximity to contamination sources including air force bases and manufacturing plants. The City has participated in lawsuits against manufacturers and other contaminators regarding the concerning detection level of PFAS in the water systems. For example, RPU is one of the public water systems considered as Phase One class members in the 3M settlement. Others include Dupont, Tyco, and BASF, totaling approximately \$39.6 million in settlement reimbursements (after legal fees).

Both the state of California and the federal Environmental Protection Agency (EPA) have set various maximum contaminant levels, notification levels, and response levels for different PFAS compounds. To meet these criteria and mitigate the public health risks, RPU hired a third-party consultant to estimate costs for adding ion exchange (IX) to two water treatment plants (WTP), Palmyrita and Palm Meadows, and the addition of reverse osmosis (RO) to the John W. North (JW North) WTP. RPU contracted Carollo Engineers, Inc. (Carollo) to conduct a [PFAS Surcharge Water Treatment Surcharge](#) Rate Study to determine a surcharge assessed to all potable water customers to recover the capital costs of the projects and the operating and maintenance (O&M) costs of the new treatment facilities once they are operational.

Capital and O&M costs associated with PFAS treatment will be integrated into RPU's water enterprise funds and will add to the revenue requirements to be supported by the overall rate base. [The proposed cost recovery is](#) All RPU potable water customers receive water via the Linden-Evans reservoir which is used to blend water produced from RPU's various groundwater sources. The planned PFAS treatment system would treat water produced from specific groundwater basins and the treated product water would be blended with the rest of the wells not subject to treatment at the Linden-Evans reservoir, prior to distribution. This arrangement dictates that all potable water customers will benefit equally from PFAS treatment and thus, it is appropriate to recover the costs proportionally from all users as an incremental rate applied to all potable water usage.

This report outlines the method and calculations behind Carollo's surcharge recommendation for [FYE 2027](#) through 2032.

Commented [LJ3]: There is no space between SECTION 1 AND INTRUCTION.

Commented [CJ4]: Should we remove fiscal since FYE already implies Fiscal?

Commented [DM5R4]: I agree

Commented [GT6]: The surcharge recommendation first effective date is July 1, 2026 or FYE 2027

## SECTION 2 INPUTS AND ASSUMPTIONS

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### 2.1 Settlement Revenues

As discussed in the previous section, RPU will receive settlement revenue as a participant in class action against PFAS manufacturers. In total, RPU will receive \$39.6 million in net settlement revenues (after legal fees) over the period from FYE 2026 through FYE 2033.

Table 1 Settlement Proceeds

Year	Net Settlement Proceeds
FYE 2026	\$23.3
FYE 2027	\$8.1
FYE 2028	\$2.8
FYE 2029	\$1.5
FYE 2030	\$1.0
FYE 2031	\$1.0
FYE 2032	\$0.9
FYE 2033	\$0.9
<b>Total</b>	<b>\$39.6</b>

### 2.2 Capital Improvement Projects

Due to the concerning traces of PFAS RPU has found in several groundwater basins, RPU has developed three treatment projects as part of a strategic plan targeting PFAS remediation. Two of the projects are IX upgrades at the Palmyrita and Palm Meadows WTPs. This approach was selected based on the following criteria: ability to adapt to future conditions, real estate, constructability, ease of operation, community impacts, and Capital and annual O&M expenses. It further reduces effluent PFAS concentrations from the Palmyrita WTP and, as an additional benefit, IX technology treats another regulated constituent, perchlorate. The two IX projects are planned to come online first, Palmyrita in FYE 2029 and Palm Meadows in FYE 2030. The third project is an RO upgrade at JW North WTP, anticipated to come online FYE 2031. This project is more capital- and energy-intensive but removes a broader spectrum of PFAS and co-contaminants, which is more suitable to the PFAS presence shown in the Waterman transmission main which this plant treats at this plant and has the ability to adapt to future conditions and MCL reductions.

Commented [CJ8]: we note above that Ion Exchange is IX, if we want to abbreviate here, we also abbreviate RO later in the paragraph so it seems like we should make that change.

Commented [CJ9]: abbreviate to IX?

The PFAS Surcharge Water Treatment Surcharge is designed to recover the capital costs for these three projects:

Commented [AB10]: @ RPU Is this language accurate for how the treatment methods were selected for each site?

Commented [DM11]: Should say "WTP"

Commented [SL12R11]: Same Finding from Jill

Commented [AB13]: @RPU we couldn't find this number but can include it if it is available.

Commented [MN14R13]: Should be 12 vessels for Palmyrita

Commented [KN15R13]: Projects says 22 Palmyrita, no mention of Palm Meadows. Is that 22 a combo of 12 and 10? <https://www.riversideca.gov/utilities/projects>

- Palmyrita WTP: Modifying the site to include 22 IX vessels, pre-filters, booster pumps, piping, and electrical equipment. This \$27.0 million project is anticipated to come online in FYE 2029.
- Palm Meadows WTP: Modifying the site to include 12 IX vessels, pre-filters, booster pumps, piping, and electrical equipment. This \$15.0 million project is anticipated to come online in FYE 2030.
- JW North WTP: Adding RO treatment capabilities. This \$55.2 million project is anticipated to come online in FYE 2031.

Table 2 summarizes the capital expenditures, capacity, and timing for the treatment projects.

Table 2 PFAS Capital Expenditures

Facility	Capital Expenditure (\$ millions)	Million Gallons per Day	Anticipated Online
Palmyrita WTP	\$27.0	11.2	FYE 2029
Palm Meadows WTP	\$15.0	19.2	FYE 2030
John W. North WTP	\$55.2	10.8	FYE 2031
<b>Total</b>	<b>\$97.2</b>	<b>41.2</b>	

Notes:

(1) Totals may not tie due to rounding.

Commented [LJ16]: Recommend placing the \$ symbol on the 2nd row, so that "\$ million" appears together on the same line as the 2nd column header in Table 1

Commented [DM17]: Summary ; B3:C7, ties no issues.

Commented [CJ18R17]: We may need to confirm and double check the expected MGD water flow for each treatment plant.

Commented [DM19R17]: You're right, I couldn't find this in the Excel file though

### 2.3 Capital Funding

The analysis for the proposed surcharges is based on a scenario that assumes a majority of the settlement revenues, approximately \$35.75 million, are used to offset capital costs and the remaining costs are covered through using debt proceeds. RPU plans to issue two bonds, described below:

- Palmyrita and Palm Meadows Bond Issuance: \$8.0 million principal with payments beginning FYE 2028. Without offsetting settlement proceeds, this bond issuance would be \$42.0 million and begin repayment in FYE 2027.
- JW North Bond Issuance: \$53.5 million principal with payments beginning FYE 2029. Without offsetting settlement proceeds, this bond issuance would be \$55.2 million and maintain the repayment schedule beginning in FYE 2029.

The estimated debt amortization schedule for both bonds assume a 5.00% interest rate and repayment over 30 years. The first year of payments for each bond will consist of a half-year interest payment in the fiscal year issued followed by full payments in the following year. Once both bonds are issued and full in repayment, debt service for PFAS projects will total just under \$4.0 million per year, the debt payment schedule for the duration of the Study period is shown in [Table 3](#).

Table 3 Debt Service Schedule (FYE 2027-2032) (\$ millions)

	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Principal	-	-	\$0.120	\$0.931	\$0.977	\$1.026
Interest	-	\$0.200	\$1.736	\$3.066	\$3.020	\$2.971
<b>Total</b>	-	<b>\$0.200</b>	<b>\$1.857</b>	<b>\$3.997</b>	<b>\$3.997</b>	<b>\$3.997</b>

Notes:

(1) Totals may not tie due to rounding.

### 2.4 Operations and Maintenance

In addition to the capital costs of these projects, each facility's upgrade would incur annual operations and maintenance (O&M) costs to run the treatment processes on a day-to-day basis. The estimated O&M budget is organized by cost centers and includes labor, electricity, chemicals, supplies, incineration

disposal for ion exchange processes, and brine disposal via Santa Ana Watershed Project Authority (SAWPA) for RO processes.

Commented [SL20]: "Include" should say "includes"

### 2.4.1 Escalation Factors

RPU provided O&M costs in FYE 2025 dollars, Carollo used the following escalation factors shown in Table 4 to adjust O&M costs from 2025 dollars to the escalated dollar value at the time of the project operation beginning for each plant FYE 2029 and to project costs for subsequent years.

- Labor escalation factors are based on expected salary increases.
- Electricity escalation factors are based on expected rate increases for the service providers supplying electricity to the plants.
- Chemicals, Supplies, Incineration Disposal, and SAWPA Disposal are escalated at 3% per year to reflect general inflation.
- Capital costs are escalated at 3.2% per year based on the long-term average of the Engineering News Record Construction Cost Index (ENR CCI).

Table 4 Cost Escalation (FYE 2027-2032)

Expenditure	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Labor	4.0%	4.0%	4.8%	3.0%	3.0%	3.0%	3.0%
Electricity	7.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Chemicals	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Supplies	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Capital	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
Incineration Disposal	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
SAWPA Disposal	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

Commented [CJ21]: Report Tables : B2:H10, ties no issues.

Commented [DM22R21]: Report Tables : B2:H10, ties no issues.

### 2.4.2 Additional Staff and Resources

RPU identified eight (8) additional full-time employees (FTE) required to operate the new facilities including 5 additional employees and an allocated portion of time for 3 current employees:

- Senior Utility Resource Analyst: 100% allocation to PFAS Treatment
- Utility Water System Operator: 100% allocation to PFAS Treatment
- Utility Water Control System Technician: 100% allocation to PFAS Treatment
- Utility Water Maintenance Electrician: 100% allocation to PFAS Treatment
- Utility Water Maintenance Mechanic: 100% allocation to PFAS Treatment
- Utility Water Superintendent: 25% allocation to PFAS Treatment
- Principal Water Resource Analyst: 10% allocation to PFAS Treatment
- Utility Water Systems Operations Manager: 5% allocation to PFAS Treatment

Commented [GT23]: Only a portion of the salary and benefits for the Water Superintendent, Principal Water Resource Analyst and Water System Operations Manager will be allocated to the three WTPs.

Commented [KN24]: Brian S. requested to include % of allocation



At RPU's direction, Carollo modeled all eight staff onboarding at the same time so the full team will be ready when these components come online. In total, the FYE 2025 fully burdened costs for these positions is \$1.4 million. After escalating to FYE 2029, the labor cost is \$1.7 million. The labor rates were allocated to each of the three projects based on factors determined by RPU's consultant. The labor costs for each facility, projected through the Study period ending in FYE 2032, are shown in Table 5.

Table 5 Labor Costs (FYE 2027-2032) (\$ millions)

Expenditure	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Palmyrita WTP	-	\$0.188	\$0.194	\$0.199	\$0.205
Palm Meadows WTP	-	\$0.109	\$0.112	\$0.115	\$0.119
John W. North WTP	-	\$1.384	\$1.426	\$1.468	\$1.512
<b>Total</b>	-	<b>\$1.680</b>	<b>\$1.731</b>	<b>\$1.783</b>	<b>\$1.836</b>

Notes:

(1) Totals may not tie due to rounding.

RPU also estimated five (5) new vehicles for these FTEs, totaling \$873,000 in FYE 2025 dollars, or \$990,000 in FYE 2029 dollars when the vehicles will be purchased. The vehicle costs are allocated to each plant in proportion to the allocated labor costs.

### 2.4.3 Plant O&M Costs

#### 2.4.3.1 Ion Exchange

In addition to the new staff that will be working on the ion exchange, these plants require other O&M costs detailed below in Table 6 and Table 7. The two most significant expenditures for plants with ion exchange are the cost of media resin (chemical expenditure category) and resin incineration disposal cost (disposal expenditure category). Operating costs are assumed to begin in full when each plant comes online. For example, all of Palmyrita's O&M expenditures begin in FYE 2029 whereas Palm Meadow's begin in FYE 2030 (with the exception of labor and vehicles which all start in FYE 2029).

Table 6 Palmyrita WTP O&M Costs (FYE 2027-2032) (\$ millions)

Expenditure	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Labor	-	\$0.188	\$0.194	\$0.199	\$0.205
Power	-	\$0.001	\$0.001	\$0.001	\$0.001
Chemical/Changeouts	-	\$3.072	\$3.164	\$3.259	\$3.356
Filters	-	\$0.003	\$0.003	\$0.004	\$0.004
Disposal	-	\$0.894	\$0.920	\$0.948	\$0.977
Vehicle Purchases		\$0.134			
Vehicle Maintenance and Fuel Costs	-	\$0.019	\$0.020	\$0.021	\$0.021
<b>Total</b>	-	<b>\$4.311</b>	<b>\$4.302</b>	<b>\$4.431</b>	<b>\$4.564</b>

Notes:

(1) Totals may not tie due to rounding.

Commented [LJ25]: Suggest adding a blank line after the bullet list.

Commented [CJ26]: Report Tables : J13:O17, ties no issues.

Commented [DM27R26]: Report Tables : J13:O17, ties no issues.

Commented [LJ28R26]: Same findings from Jill

Commented [AB29]: @ RPU - WE are assuming that his is included in the debt, is that an okay assumption?

Commented [BS30R29]: Alex- Not sure what you mean here. Aren't the vehicles cash funded rather than funded with bond proceeds?

Commented [AB31R29]: added as cash expense in 2029

Commented [CJ32]: below in section 2.3.3.2 this is noted as Fleet and Labor

Commented [DM33R32]: Do you think they need to elaborate or connect it better to section 2.3.3.2? Or leave as is

Commented [CJ34R32]: We should either call if Labor and Vehicles or Fleet and Labor in both sections.

Commented [CJ35]: Report Tables : J21:O30, ties no issues.

Commented [DM36R35]: Report Tables : J21:O30, ties no issues.

Commented [LJ37R35]: Same findings from Jill

Commented [AB38]: Included three decimal places in these tables so that power and filters costs would still show up.

Table 7 Palm Meadows WTP O&M Costs (FYE 2027-2032) (\$ millions)

Expenditure	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Labor	-	\$0.109	\$0.112	\$0.115	\$0.119
Power	-	-	\$0.164	\$0.171	\$0.177
Chemical/Changeouts	-	-	\$1.825	\$1.879	\$1.936
Filters	-	-	\$0.003	\$0.004	\$0.004
Disposal	-	-	\$0.531	\$0.547	\$0.563
Vehicle Purchases		\$0.078			
Vehicle Maintenance and Fuel Costs	-	\$0.011	\$0.012	\$0.012	\$0.012
<b>Total</b>	-	<b>\$0.197</b>	<b>\$2.646</b>	<b>\$2.727</b>	<b>\$2.811</b>

Notes:

(1) Totals may not tie due to rounding.

### 2.4.3.2 Reverse Osmosis at JW North WTP

The RO operations for the JW North WTP are anticipated to come online in FYE 2031, after the labor and vehicles onboarding in FYE 2029.

The most expensive components of RPU's RO operation are energy costs (including feed water and booster pumps and natural gas condensing furnace) and equipment replacement costs, followed by brine disposal via the Santa Ana Watershed Project Authority (SAWPA) brine line. For power, chemicals, filters, and other incidental costs, RPU determined the O&M cost to operate these components based on the EPA's allocation factor guidelines, then scaled to the plant production required. In addition to the separate calculations for labor and vehicle maintenance, RPU identified the SAWPA-specific cost, based on the purchase of treatment and disposal capacity for 1.5 million gallons per day (MGD).

JW North's expenditures also include an "Other" category which captures line-item costs such as membrane materials, replacement, and disposal and cartridge filter replacement and disposal.

Table 8 JW North WTP O&M Costs (FYE 2027-2032) (\$ millions)

Expenditure	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Labor	-	\$1.384	\$1.426	\$1.468	\$1.512
Power	-	-	-	\$4.166	\$4.332
Chemical/Changeouts	-	-	-	\$1.653	\$1.702
Filters	-	-	-	\$0.160	\$0.165
Disposal (SAWPA)	-	-	-	\$1.831	\$1.886
Vehicle Purchases		\$0.778			
Vehicle Maintenance and Fuel Costs	-	\$0.138	\$0.142	\$0.147	\$0.151
Other <sup>1</sup>	-	-	-	\$2.490	\$2.569
<b>Total</b>	-	<b>\$2.300</b>	<b>\$1.568</b>	<b>\$11.914</b>	<b>\$12.318</b>

Notes:

(1) Other, including Equipment Replacement Allowance

Commented [CJ40]: Report Tables : J33:O42, ties no issues.

Commented [DM41R40]: Report Tables : J33:O42, ties no issues.

Commented [LJ42R40]: Same findings from Jill

Commented [CJ43]: above in section 2.3.3.1 this is noted as labor and vehicles

Commented [SL44]: Table 7 below doesn't include "equipment replacement costs" although these costs are mentioned her. This paragraph doesn't align with Table 7, compared to the above two plants.

Commented [DM45R44]: I think they explain why its not included in section 2.3.3.3, but might be a good thing to bring up.

Commented [SL46R44]: I think if we add an additional footnote for "Other" under Table 7: (2) Other, including Equipment Replacement Allowance, it could help clarify the issue.

Commented [BF47]: I think for RO (nano-filtration) they use membranes, and in microfiltration (as of now in JWN) we use cartridges [REDACTED] can you confirm?

Commented [BS48R47]: [REDACTED] can you confirm?

Commented [RG49R47]: Cartridge filters in the other category are for the sand separator/20 micron cartridge filter that is put ahead of the RO units...

Commented [CJ50]: Report Tables : J45:O54, Vehicle Maintenance and Fuel Costs is missing the FYE 2029 - 2030 amount.

(2) Totals may not tie due to rounding.

### 2.4.3.3 Equipment Replacement Allowance

Carollo calculated an equipment replacement allowance for RPU’s long-term financial plan in order to insulate future rate increases for anticipated replacement and repair (R&R) such as valve replacements and Supervisory Control and Data Acquisition (SCADA) replacements. Carollo modeled this as 1.0% of capital costs, beginning in Year 10 of plant operation. As evaluated, equipment replacement costs would not begin until year 9 of each plant’s operation and therefore fall outside of this surcharge rate evaluation. The first year in which this expenditure is accounted for RPU’s cash flow is FYE 2038.

## 2.5 Water Demand

The recommended ~~PFAS Surcharge~~ Water Treatment Surcharge will be assessed to all potable customers based on a per hundred cubic feet (CCF) basis. One CCF is equivalent to 748 gallons. RPU provided Carollo with user consumption ~~and~~ an annual growth value of 1.0%.

The projected demands that are eligible for the surcharge exclude Gage Canal (Greenbelt Irrigation) and recycled water customers. The Gage Canal and recycled water systems are distinct from the potable water distribution system are not subject to the drinking water standards necessitating the surcharge. All of the water delivered via those systems is used for non-potable purposes. Therefore, these customers are not subject to the ~~PFAS surcharge~~ Water Treatment Surcharge and their demands are excluded from the surcharge calculation. ~~Table 9~~ Table-9 shows the resulting demand forecast subject to the surcharge.

Table 9 Surcharge-Eligible Consumption Forecast (FYE 2027-2032) (CCF)

	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Total RPU Demand	24,090,893	24,327,172	24,570,444	24,816,148	25,064,309
Less: Greenbelt Irrigation	(136,204)	(136,204)	(136,204)	(136,204)	(136,204)
Less: Recycled Water	(73,258)	(73,258)	(73,258)	(73,258)	(73,258)
<b>Total Surcharge-Eligible Demand</b>	<b>23,881,431</b>	<b>24,117,710</b>	<b>24,360,982</b>	<b>24,606,686</b>	<b>24,854,847</b>

**Commented [SL51]:** The correct sentence should be: One CCF is equivalent to 748 gallons.

**Commented [RS52]:** Seems obvious, but it probably isn't obvious for every reader, it might be worth a mention here that the non-potable water is not subject to the drinking water standards necessitating the surcharge which is why those customer classes are not going to be subject to the surcharge.

**Commented [KN53R52]:** Alex, see language edit.

**Commented [AB54R52]:** Reworded this section to provide more context.

**Commented [CJ55]:** Report Tables: B78:H83, no issues found.

**Commented [DM56R55]:** Report Tables: B78:H83, the last fiscal year in Table 8 should be FYE2031, not FYE3031

**Commented [SL57R55]:** The last fiscal year in Table 8 should be FYE2031 not FYE3031

## SECTION 3 REVENUE REQUIREMENTS

The revenue requirement forecast is derived from RPU’s expenditures summarized in Section 2 and determines how much revenue needs to be recovered from customers via the surcharge rates. As shown in Table 10, surcharge revenue requirements will ramp up over the study period as debt service payments, labor costs, and treatment facility O&M costs come online. Once all three plants are operational in FYE 2031, annual PFAS revenue requirements, net of settlement revenues, will total \$22.04 million.

Table 10 PFAS Surcharge~~Water Treatment Surcharge~~-Eligible Revenue Requirements Forecast (FYE 2027-2032) (\$ millions)

Expenditure	Cost Type	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Labor	Fixed	-	\$1.68	\$1.73	\$1.78	\$1.84
Power	Variable	-	\$0.00	\$0.17	\$4.34	\$4.51
Chemical/Changeouts	Variable	-	\$3.07	\$4.99	\$6.79	\$6.99
Filters	Variable	-	\$0.00	\$0.01	\$0.17	\$0.17
Disposal	Variable	-	\$0.89	\$1.45	\$3.33	\$3.43
Vehicle Purchases	Fixed	-	\$0.99	-	-	-
Vehicle Maintenance and Fuel Costs	Fixed	-	\$0.17	\$0.17	\$0.18	\$0.18
Other <sup>1</sup>		-	-	-	\$2.49	\$2.57
Debt Service	Fixed	\$0.20	\$1.86	\$4.00	\$4.00	\$4.00
Less: Ongoing Settlement Payments	Fixed <sup>2</sup>	-	-	\$(1.03)	\$(1.03)	\$(0.91)
<b>Total Surcharge Revenue Requirements</b>		<b>\$0.20</b>	<b>\$8.66</b>	<b>\$11.48</b>	<b>\$22.04</b>	<b>\$22.78</b>
<i>Total Fixed Revenue Requirements</i>		<i>\$0.20</i>	<i>\$4.69</i>	<i>\$4.87</i>	<i>\$4.92</i>	<i>\$5.11</i>
<i>Total Variable Revenue Requirements</i>		<i>-</i>	<i>\$3.97</i>	<i>\$6.61</i>	<i>\$17.11</i>	<i>\$17.67</i>

Notes:

- (1) Other, including Equipment Replacement Allowance.
- (1)(2) Settlement payments offset fixed debt service.
- (2)(3) Totals may not tie due to rounding.

### 3.1 Phased-In Revenue Requirements

Due to the staggered incurrence of costs as debt service payments, labor costs, and each of the facilities’ O&M costs come online, rate payer bills would be volatile over the Study period if the surcharge aimed to recover only that year’s direct cost revenue requirement. To evaluate this rate volatility, Carollo identified RPU’s projected rate revenue without a PFAS surcharge~~Water Treatment Surcharge~~, using RPU’s Pro Forma which is based on the adopted rate structure of an annual 6.5% rate increase from FYE 2026 through FYE 2028, then assumed 3.0% annual rate increase thereafter. After adding the direct PFAS revenue requirement, Table 11~~Table 14~~ shows the resulting total rate revenue increase with a direct recovery of PFAS costs.

Commented [LJ58]: There is no space between SECTION 3 AND REVENUE REQUIREMENTS.

Commented [SL59]: 1.The last fiscal year in Table 9 should be FYE2031 not FYE3031

Commented [CJ60]: Report Tables: J57:O70, no issues found

Commented [DM61R60]: Report Tables: J57:O70, no issues found

Commented [SL62]: Please suggest if we can add an additional footnote for "Other" in the above table: (2) Other, including Equipment Replacement Allowance?

Commented [LJ63]: The size of 3.1 is not consistent with other places. Too big.

Commented [DM64]: Typo, use "staggered" here instead.

Table 11 Direct Cost Rate Revenues (FYE 2027-2032) (\$ millions)

	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Rate Revenues <i>without</i> PFAS Surcharge Water Treatment Surcharge <sup>11</sup>	\$91.20	\$97.66	\$101.17	\$104.80	\$108.57	\$112.48
PFAS Surcharge Water Treatment Surcharge — Rate Revenue	-	\$0.20	\$8.66	\$11.48	\$22.04	\$22.78
<b>Total Direct Cost Rate Revenues</b>	<b>\$91.20</b>	<b>\$97.86</b>	<b>\$109.83</b>	<b>\$116.28</b>	<b>\$130.61</b>	<b>\$135.25</b>
Total Rate Revenue Increase		7.3%	12.2%	5.9%	12.3%	3.6%
Increase due to PFAS surcharge Water Treatment Surcharge	0.0%	0.2%	8.6%	2.6%	9.1%	0.6%

Notes:

- (1) Rate Revenue is net of WA-8 Greenbelt Irrigation and WA-10 Recycled Water revenues.
- (2) Totals may not tie due to rounding.

To insulate RPU customers from this volatility, Carollo analyzed RPU's expected user revenues and developed a smoothed phased-in PFAS revenue requirement projection, based on how total rate revenues will impact the customer. Table 12 shows the resulting phased-in PFAS revenue requirement.

Table 12 Phased-In Revenue Requirement (FYE 2027-2032) (\$ millions)

	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Rate Revenues <i>without</i> PFAS Surcharge Water Treatment Surcharge <sup>1</sup>	\$91.20	\$97.66	\$101.17	\$104.80	\$108.57	\$112.48
Phased-In PFAS Surcharge Water Treatment Surcharge	-	\$3.42	\$7.73	\$12.52	\$18.44	\$23.05
Rate Revenue						
<b>Total Phased-In Rate Revenues</b>	<b>\$91.20</b>	<b>\$101.08</b>	<b>\$108.90</b>	<b>\$117.32</b>	<b>\$127.01</b>	<b>\$135.53</b>
Total Rate Revenue Increase		10.8%	7.7%	7.7%	8.3%	6.7%
Increase due to PFAS surcharge Water Treatment Surcharge	0.0%	3.5%	4.0%	4.0%	4.5%	3.0%

Notes:

- (1) Rate Revenue is net of WA-8 Greenbelt Irrigation and WA-10 Recycled Water revenues.
- (2) Totals may not tie due to rounding.

While the discrepancy between actual revenues recovered from the PFAS surcharge Water Treatment Surcharge rates and the costs incurred may vary for any given year, the revenues approximately

Commented [CJ65]: Report Tables: J87:O92, no issues found.

Commented [SL66R65]: The last fiscal year in Table 10 should be FYE2031 not FYE3031

Commented [DM67R65]: Report Tables: J87:O92, The last fiscal year in Table 10 should be FYE2031 not FYE3031

Commented [GT68]: Rate revenues for Retail Potable Water Sales (Excludes Recycled Water and Greenbelt)

Commented [MN69]: Alex, can we add a footnote that explains that the Rate Revenue is net of WA-10 Recycled Water and WA-8 Greenbelt Irrigation revenues?

Commented [CJ70]: Report Tables: J95:O100, no issues found.

Commented [SL71R70]: The last fiscal year in Table 11 should be FYE2031 not FYE3031

Commented [DM72R70]: Report Tables: J95:O100, same finding as Jill

Commented [GT73]: Rate revenues for Retail Potable Water Sales (Excludes Recycled Water and Greenbelt)

Commented [KN74]: KN calculated on tab 'Report Tables' row 98/99

breakeven over the Study period (shown in line “Cumulative Surplus (Deficit)” of [Table 13](#)). In years with a [PFAS surcharge](#) deficit, costs would be supported by RPU’s operational reserves, those reserves would then be replenished in years with [PFAS surcharge](#) surplus.

Table 13 [Phased-In Breakeven Cash Flow \(FYE 2027-2032\) \(\\$ millions\)](#)

	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Phased-In <a href="#">PFAS Surcharge</a> Revenue	\$3.42	\$7.73	\$12.52	\$18.44	\$23.05
Less: PFAS Costs	\$0.20	\$8.66	\$11.48	\$22.04	\$22.78
<b>Annual Surplus (Deficit)</b>	<b>\$3.22</b>	<b>\$(0.94)</b>	<b>\$1.04</b>	<b>\$(3.60)</b>	<b>\$0.27</b>
Cumulative Surplus (Deficit) <sup>1</sup>	\$3.22	\$2.28	\$3.32	\$(0.27)	\$(0.00)

Notes:

- (1) Calculated by adding that year’s Annual Cash Flow to the Cumulative Cash Flow of the prior year.
- (2) Totals may not tie due to rounding.

**Commented [CJ75]:** Report Tables: J103:O107, no issues found.

**Commented [SL76R75]:** The last fiscal year in Table 12 should be FYE2031 not FYE3031

**Commented [DM77R75]:** Report Tables: J103:O107, The last fiscal year in Table 12 should be FYE2031 not FYE3031

## SECTION 4 PFAS SURCHARGE CALCULATION

The surcharge calculation step calculates the unit cost, which adequately recovers the phased-in required revenue identified in [Table 13](#) ~~Table 12~~.

Carollo allocated the revenue requirements to fixed and variable rate components to consider multiple cost recovery scenarios. For example, debt service, labor, equipment R&R, and vehicle maintenance costs could be recovered through a fixed component as those costs do not vary with the amount of water treated. Carollo calculated fixed and variable surcharges based on those allocations and reviewed the resulting rates and associated single family bill impacts with RPU.

Carollo modeled three scenarios for unit surcharge rates:

- All costs recovered through a variable rate;
- Debt service payments recovered through a fixed charge and all O&M costs recovered through a variable rate;
- Debt service payments, labor, and vehicle costs recovered through a fixed charge and all other O&M costs recovered through a variable rate.

Ultimately, Carollo and RPU determined that a fully volumetric (variable) surcharge per CCF would be the preferred option. The inclusion of a fixed component could help decrease surcharge revenue volatility. However, a fixed surcharge component would lead to higher rate impacts for low demand water users and increase the complexity of surcharge billing and future updates.

[Table 14](#) ~~Table 14~~ shows the calculation of the recommended surcharge. The variable **PFAS surcharge** ~~Water Treatment Surcharge~~ is calculated by dividing the smoothed revenue requirements in [Table 12](#) by the potable water sales subject to a **PFAS surcharge** ~~Water Treatment Surcharge~~ in [Table 9](#) ~~Table 9~~.

Table 14 Recommended PFAS Surcharge ~~Water Treatment Surcharge~~ Rate (FYE 2027-2032)

	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Variable Costs Recovered by Rates <sup>1</sup> (\$ millions)	\$3.42	\$7.73	\$12.52	\$18.44	\$23.05
PFAS-Eligible Demand	24,117,710	24,360,982	24,606,686	24,854,847	25,105,490
<b>Unit PFAS Surcharge</b> <del>Water Treatment Surcharge</del> per CCF	<b>\$0.14</b>	<b>\$0.32</b>	<b>\$0.51</b>	<b>\$0.74</b>	<b>\$0.92</b>

Notes:

- (1) Phased-In **PFAS Surcharge** ~~Water Treatment Surcharge~~ Revenue Requirement
- (2) Totals may not tie due to rounding.

Carollo notes that all revenue recovering all costs through a variable rate is subject to risk based on weather conditions, conservation efforts, and other extenuating circumstances that could impact water demands. Therefore, Carollo recommends RPU closely monitor customer demands and update the model accordingly if sustained periods of demand reductions from the levels in [Table 9](#) ~~Table 9~~ are realized or expected.

**Commented [LJ78]:** There is no space between Section 4 and PFAS SURCHARGE CALCULATION.

**Commented [DM79]:** Typo

**Commented [CJ80R79]:** Agree, we should remove 'the'

**Commented [AB81]:** RPU - Are we comfortable making this recommendation in this draft.

**Commented [KN82R81]:** Brian S.: Yes. We are comfortable with the recommendation of an all variable charge as stated.

**Commented [LJ83]:** Recommend adding a blank line after the last paragraph.

**Commented [GT84]:** potable water sales?

**Commented [CJ85]:** Report Tables: J110:O113, no issues found.

**Commented [SL86R85]:** The last fiscal year in Table 13 should be FYE2031 not FYE3031

**Commented [DM87R85]:** Report Tables: J110:O113, The last fiscal year in Table 13 should be FYE2031 not FYE3031

**Commented [DM88]:** Should say, "Therefore, Carollo recommends RPU closely monitor customer demands and update the model accordingly if sustained periods of demand reductions FROM the levels in Table 8 are realized or expected."

## SECTION 5 SINGLE FAMILY BILL IMPACTS

The following figures and tables show the estimated monthly bill impacts for low demand (25<sup>th</sup> percentile) single family residential (SFR) users averaging 10 CCF per month as well as for a typical user averaging 20 CCF per month. Both bill calculations assume that users have a ¾" water meter. The "Normal Rates (Non-PFAS)" portion of the bill is based on the adopted rates for FYE 2026 through FYE 2028 and assumed 3-percent per year increases thereafter.

### 5.1 Estimated Impact to Low Demand (10 CCF) User

Figure 1 shows the estimated monthly bills for a low demand SFR user for FYE 2027 through FYE 2032. This user averages approximately 10 CCF per month, 8 CCF per month in winter and 12 CCF per month in summer. Based on the adopted and assumed increases to the normal rates and the recommended PFAS surcharge Water Treatment Surcharge shown in Table 14, the average monthly bill would increase from \$49.24 in FYE 2027 to \$68.04 in FYE 2032. By FYE 2032, the average PFAS surcharge Water Treatment Surcharge for a user at this level of demand would be \$8.89 per month, or \$7.36 in the winter and \$11.04 in the summer.

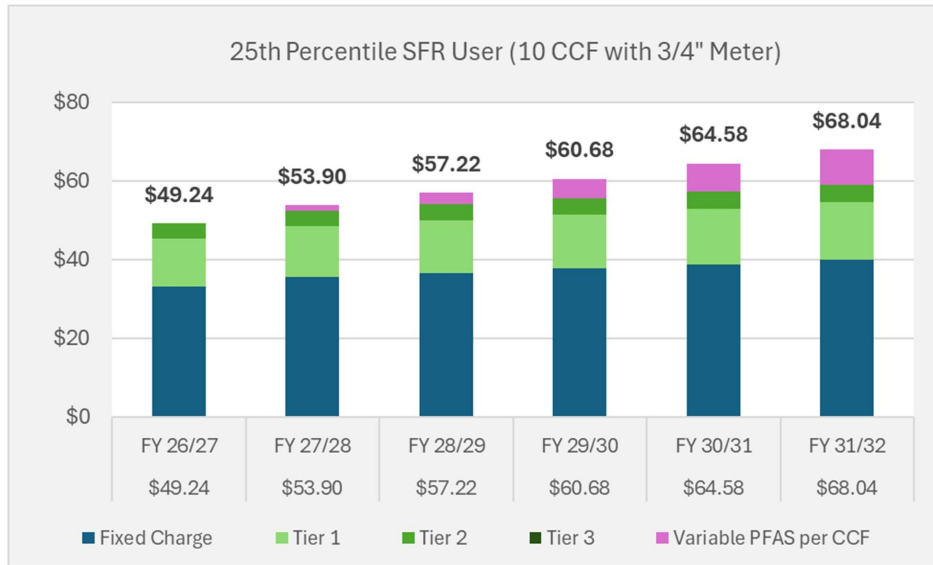


Figure 1 Estimated Low Demand SFR User Average Monthly Bill

Table 15 shows the estimated monthly bill and bill impacts for the low demand user. As shown, the cumulative increase in this customer's bill driven by the PFAS surcharge Water Treatment Surcharge would be 17.618.6-percent over the study period, an annualized increase of 3.3-percent over per year over five years.

Commented [LJ89]: There is no space between SECTION 5 AND SINGLE FAMILY BILL IMPACTS.

Commented [DM90]: This should be \$66.51.

Commented [RS91]: Maybe note the time period over which this increase occurs in this sentence. This might not be obvious to every reader.

Commented [CJ92]: Should this be \$9.40 - check to see if this is average between summer/winter

Commented [DM93R92]: Avg SFR Bills: K50, it says \$9.09.

Commented [SL94]: Working File: Tab-Report Tables (Z87:AI101). No issues.

Commented [CJ95]: Report Tables: Z87:AI101, no issues found.

Commented [DM96R95]: Report Tables: Z87:AI101, no issues found.

Commented [SL97]: The cumulative increase percentage should be 18.5-percent, not 18.6-percent. (See Table 14)

Commented [SL98]: The annualized increase percentage is 3.4-percent, not 3.5-percent.



Table 15 Estimated Low Demand SFR User Bill Impacts – 10 CCF per month, 3/4" water meter

	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Normal Rates (Non-PFAS)	\$49.24	\$52.55	\$54.13	\$55.75	\$57.42	\$59.15
PFAS Surcharge Water Treatment Surcharge	\$0.00	\$1.35	\$3.09	\$4.93	\$7.15	\$8.89
<b>Total Customer Bill</b>	<b>\$49.24</b>	<b>\$53.90</b>	<b>\$57.22</b>	<b>\$60.68</b>	<b>\$64.58</b>	<b>\$68.04</b>
<b>Total Bill Increase</b>	<b>\$3.11</b>	<b>\$4.67</b>	<b>\$3.32</b>	<b>\$3.46</b>	<b>\$3.90</b>	<b>\$3.46</b>
Total Bill Increase %	6.8%	9.5%	6.2%	6.0%	6.4%	5.4%
<b>Normal Rates Increase</b>	<b>\$3.11</b>	<b>\$3.31</b>	<b>\$1.58</b>	<b>\$1.62</b>	<b>\$1.67</b>	<b>\$1.72</b>
Normal Rates Increase %	6.8%	6.7%	3.0%	3.0%	3.0%	3.0%
<b>PFAS Increase</b>	<b>\$0.00</b>	<b>\$1.35</b>	<b>\$1.74</b>	<b>\$1.84</b>	<b>\$2.22</b>	<b>\$1.74</b>
PFAS Increase %	0.0%	2.7%	3.3%	3.4%	4.0%	3.0%
PFAS Increase Cumulative %	0.0%	2.7%	6.2%	9.8%	14.1%	17.6%
<b>Annualized PFAS increase (FYE 2027 through FYE 2032)</b>						<b>3.3%</b>

Commented [SL99]: Working File: Tab-Report Tables (R88:X99). No issues.

Commented [DM100R99]: Report Tables: R88:X99, No issues found

## 5.2 Estimated Impact to Typical Demand (20 CCF) User

Figure 2 shows the estimated monthly bills for a typical demand SFR user for FYE 2027 through FYE 2032. This user averages approximately 20 CCF per month, 16 CCF per month in winter and 25 CCF per month in summer. Based on the adopted and assumed increases to the normal rates and the recommended PFAS surcharge Water Treatment Surcharge shown in Table 14, the average monthly bill would increase from \$71.01 in FYE 2027 to \$103.37 in FYE 2032. By FYE 2032, the average PFAS surcharge Water Treatment Surcharge for a user at this level of demand would be \$18.17 per month, or \$14.72 in the winter and \$23.00 in the summer.

Commented [RS101]: Same comments are for the low demand user.

Commented [CJ102]: This is correct average PFAS surcharge, can review on 'Avg SFR Bills' tab B259:M269, cell K266

Commented [SL103]: Working File: Tab-Report Tables (Z104:A1119). No issues.

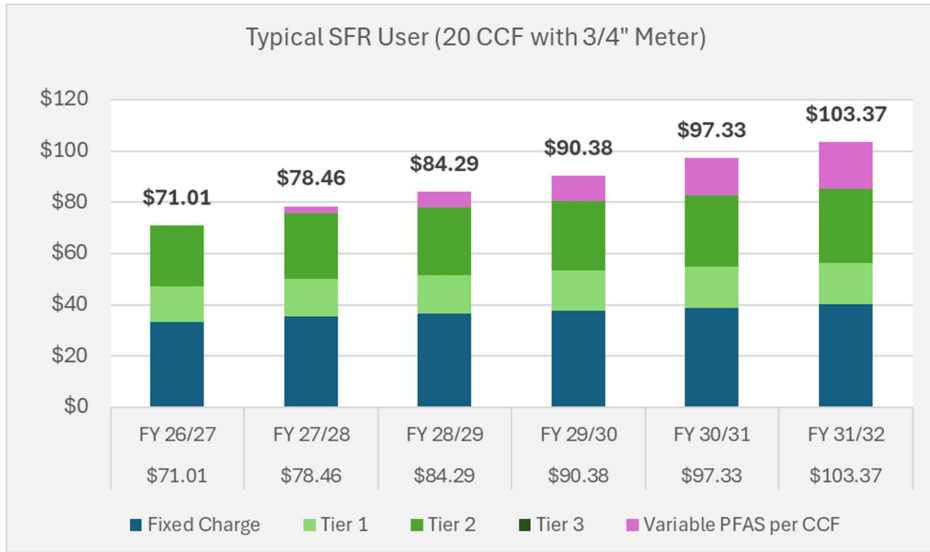


Figure 2 Estimated Typical Demand SFR User Average Monthly Bill

Table 16 shows the estimated monthly bill and bill impacts for the typical demand user. As shown, the cumulative increase in this customer’s bill driven by the PFAS surcharge Water Treatment Surcharge would be 25.6-percent over the study period, an annualized increase of 4.7-percent over per year over five years. Compared to the low demand user, this typical user would see a higher percentage increase due to the PFAS surcharge Water Treatment Surcharge. This is due to the amount of usage and therefore variable PFAS surcharge Water Treatment Surcharge being higher for this customer but the fixed charging remaining the same as the low demand user since both assume a ¾" water meter.

Table 16 Estimated Typical Demand SFR User Bill Impacts – 20 CCF per month, ¾" water meter

	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Normal Rates (Non-PFAS)	\$71.01	\$75.70	\$77.97	\$80.31	\$82.72	\$85.20
PFAS Surcharge Water Treatment Surcharge	\$0.00	\$2.77	\$6.32	\$10.07	\$14.62	\$18.17
<b>Total Customer Bill</b>	<b>\$71.01</b>	<b>\$78.46</b>	<b>\$84.29</b>	<b>\$90.38</b>	<b>\$97.33</b>	<b>\$103.37</b>
<b>Total Bill Increase</b>	<b>\$4.48</b>	<b>\$7.45</b>	<b>\$5.83</b>	<b>\$6.09</b>	<b>\$6.95</b>	<b>\$6.04</b>
Total Bill Increase %	6.7%	10.5%	7.4%	7.2%	7.7%	6.2%
<b>Normal Rates Increase</b>	<b>\$4.48</b>	<b>\$4.69</b>	<b>\$2.27</b>	<b>\$2.34</b>	<b>\$2.41</b>	<b>\$2.48</b>
Normal Rates Increase %	6.7%	6.6%	3.0%	3.0%	3.0%	3.0%
<b>PFAS Increase</b>	<b>\$0.00</b>	<b>\$2.77</b>	<b>\$3.56</b>	<b>\$3.75</b>	<b>\$4.54</b>	<b>\$3.56</b>
PFAS Increase %	0.0%	3.9%	4.7%	4.8%	5.7%	4.3%

Commented [CJ104]: believe this should say Typical demand user

Commented [SL105]: Working File: Tab-Report Tables (R103:X144). No issues.

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<i>PFAS Increase Cumulative %</i>	0.0%	3.9%	8.8%	14.0%	20.5%	25.6%
<b><i>Annualized PFAS increase (FYE 2027 through FYE 2032)</i></b>						<b>4.7%</b>

## SECTION 6 ALTERNATIVE ANALYSIS

The recommendation discussed thus far in the report is calculated under the assumption that RPU uses some of the PFAS settlement proceeds to offset the capital costs. Carollo additionally determined the direct cost and phased-in revenue requirements, and resulting unit cost surcharge rate, under a scenario where the settlement proceeds do not reduce the initial debt issuance required for Palmyrita and Palm Meadows from \$42.0 million to \$10.0 million, nor would further settlement proceeds through FYE 2033 would be used to offset debt service payments.

### 6.1 Alternative Analysis Revenue Requirements

Table 17 shows the PFAS Surcharge Water Treatment Surcharge revenue requirements for the alternative analysis. As compared to the previously discussed revenue requirements, debt service costs would begin one year earlier (in FYE 2027) and total debt service once both bonds have been issued would be higher at \$6.32 million per year. Further, ongoing settlement payments would no longer be applied as an offsetting revenue starting in FYE 2030, which increases the revenue required by approximately \$1 million per year.

Table 17 Alternative PFAS Surcharge Water Treatment Surcharge-Eligible Revenue Requirements Forecast (FYE 2027-2032) (\$ millions)

Labor	Fixed	-	-	\$1.68	\$1.73	\$1.78	\$1.84
Power	Variable	-	-	-	\$0.17	\$4.34	\$4.51
Chemical/Changeouts	Variable	-	-	\$3.07	\$4.99	\$6.79	\$6.99
Filters	Variable	-	-	-	\$0.01	\$0.17	\$0.17
Disposal	Variable	-	-	\$0.89	\$1.45	\$3.33	\$3.43
Vehicle Purchases	Fixed	-	-	\$0.99	-	-	-
Vehicle Maintenance and Fuel Costs	Fixed	-	-	\$0.17	\$0.17	\$0.18	\$0.18
Other <sup>1</sup>		-	-	-	-	\$2.49	\$2.57
Debt Service	Fixed	\$1.05	\$2.73	\$4.11	\$6.32	\$6.32	\$6.32
<b>Total Surcharge Revenue Requirements</b>		<b>\$1.05</b>	<b>\$2.73</b>	<b>\$10.92</b>	<b>\$14.84</b>	<b>\$25.40</b>	<b>\$26.02</b>
<i>Total Fixed Revenue Requirements</i>		<i>\$1.05</i>	<i>\$2.73</i>	<i>\$5.96</i>	<i>\$8.23</i>	<i>\$8.28</i>	<i>\$8.34</i>
<i>Total Variable Revenue Requirements</i>		<i>-</i>	<i>-</i>	<i>\$3.97</i>	<i>\$6.95</i>	<i>\$17.11</i>	<i>\$17.67</i>

Notes:

- (1) Other, including Equipment Replacement Allowance.
- (2) Totals may not tie due to rounding.

Table 18 Table 18 presents the rate revenue collected to annually cover direct PFAS costs and the resulting total rate increase impact to customers for the alternative analysis.

Commented [LJ107]: There is no space between SECTION 6 AND ALTERNATIVE ANALYSIS.

Commented [CJ108]: typo - Palm Meadows

Commented [CJ109]: should this say FYE 2031?

Commented [DM110R109]: In tab "Overall Impact S" cell K63, it says "Settlement revenues run out after FYE 2033." Maybe we can still verify.

Commented [CJ111R109]: I agree, the support does state settlement payments run out after FY2033, suggest no change.

Commented [LJ112]: Based on Table 16, the ongoing settlement should start being applied in FYE2030, not FYE2029.

Commented [DM113R112]: I agree

Commented [SL114]: Working File: Tab-Report Tables (B146:O159)

- 1. "FAS" in the table name should be "PFASS".
- 2. The last fiscal year in the table should be FYE 2023, not 3031.

Commented [DM115]: Report Tables B145:H159, No issues found.

Commented [SL116]: Please suggest adding an additional footnote for "Other" under Table 16: (2) Other, including Equipment Replacement Allowance.

Table 18 Alternative Direct Cost Rate Revenues (FYE 2027-2032) (\$ millions)

	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Rate Revenues <i>without</i> PFAS Surcharge Water Treatment Surcharge	\$91.20	\$97.66	\$101.17	\$104.80	\$108.57	\$112.48
PFAS Surcharge Water Treatment Surcharge Rate Revenue	\$1.05	\$2.73	\$10.92	\$14.84	\$25.40	\$26.02
<b>Total Direct Cost Rate Revenues</b>	<b>\$92.25</b>	<b>\$100.39</b>	<b>\$112.09</b>	<b>\$119.64</b>	<b>\$133.97</b>	<b>\$138.49</b>
Total Rate Revenue Increase		8.8%	11.7%	6.7%	12.0%	3.4%
Increase due to PFAS surcharge Water Treatment Surcharge	1.2%	1.8%	8.2%	3.5%	8.8%	0.5%

Notes:

(1) Totals may not tie due to rounding.

Carollo applied the same approach to phase-in revenue requirements for the alternative analysis. As shown in Table 19, RPU's rate revenues without the PFAS surcharge Water Treatment Surcharge remain the same, but a smoothed PFAS surcharge Water Treatment Surcharge rate increase is applied, which minimizes the total rate increase volatility.

Table 19 Alternative Phased-In Revenue Requirement (FYE 2027-2032) (\$ millions)

	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Rate Revenues <i>without</i> PFAS Surcharge Water Treatment Surcharge	\$91.20	\$97.66	\$101.17	\$104.80	\$108.57	\$112.48
Phased-In PFAS Surcharge Water Treatment Surcharge Rate Revenue	-	\$4.39	\$9.84	\$15.94	\$22.77	\$26.99
<b>Total Phased-In Rate Revenues</b>	<b>\$91.20</b>	<b>\$102.06</b>	<b>\$111.01</b>	<b>\$120.75</b>	<b>\$131.34</b>	<b>\$139.47</b>
Total Rate Revenue Increase		11.9%	8.8%	8.8%	8.8%	6.2%
Increase due to PFAS surcharge Water Treatment Surcharge	0.0%	4.5%	5.0%	5.0%	5.0%	2.5%

Notes:

(1) Totals may not tie due to rounding.

Under the phased-in PFAS revenue requirement, the study period the Cumulative Surplus (Deficit) approximately breaks even ~~over the study period, despite varying surpluses and deficits each year between the phased-in surcharge revenue and direct costs incurred, as shown in Table 20~~ Table 20.

**Commented [SL117]:** Working File: Tab-Report Tables (J117:O122)  
1.The last fiscal year in Table 17 is FYE 2031, not 3031.

**Commented [SL118]:** Working File: Tab-Report Tables (J125:O130)  
1.The last fiscal year in Table 18 is FYE 2031, not 3031.

**Commented [CJ119]:** this paragraph sounds odd, suggest changing this portion to say: the Cumulative Surplus (Deficit) approximately breaks even over the study period



Table 20 Alternative Phased-In Breakeven Cash Flow (FYE 2027-2032) (\$ millions)

	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Phased-In PFAS Surcharge/Water Treatment Surcharge Revenue	-	\$4.39	\$9.84	\$15.94	\$22.77	\$26.99
Less: PFAS Costs	\$1.05	\$2.73	\$10.92	\$14.84	\$25.40	\$26.02
<b>Annual Surplus (Deficit)</b>	<b>\$(1.05)</b>	<b>\$1.66</b>	<b>\$(1.08)</b>	<b>\$1.10</b>	<b>\$(2.63)</b>	<b>\$0.97</b>
Cumulative Surplus (Deficit) <sup>1</sup>	\$(1.05)	\$0.61	\$(0.47)	\$0.63	\$(1.99)	\$(1.02)

Notes:

- (1) Calculated by adding that year's Annual Cash Flow to the Cumulative Cash Flow of the prior year.
- (2) Totals may not tie due to rounding.

**Commented [SL120]:** Working File: Tab-Report Tables (J133:O137)  
 1.The last fiscal year in Table 19 is FYE 3031, not 3031.

## 6.2 Alternative Analysis Surcharge Calculation

Lastly, Carollo calculated the PFAS surcharge/Water Treatment Surcharge unit cost under the alternative scenario using the same formula which divides the phased-in variable revenue requirements by the demand subject to a PFAS surcharge/Water Treatment Surcharge, as shown in Table 21/24.

Table 21 Alternative PFAS Surcharge/Water Treatment Surcharge Rate (FYE 2027-2032)

	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Variable Costs Recovered by Rates <sup>1</sup> (\$ millions)	\$4.39	\$9.84	\$15.94	\$22.77	\$26.99
PFAS-Eligible Demand	24,117,710	24,360,982	24,606,686	24,854,847	25,105,490
<b>Unit PFAS Surcharge/Water Treatment Surcharge per CCF</b>	<b>\$0.18</b>	<b>\$0.40</b>	<b>\$0.65</b>	<b>\$0.92</b>	<b>\$1.08</b>

Notes:

- (1) Phased-In PFAS Surcharge/Water Treatment Surcharge Revenue Requirement
- (2) Totals may not tie due to rounding.

## 6.3 Single Family Bill Impacts for Alternative Analysis

The following figures and tables show the estimated monthly bill impacts for low demand (25<sup>th</sup> percentile) single family residential (SFR) users averaging 10 CCF per month as well as for a typical user averaging 20 CCF per month. Both bill calculations assume that users have a ¾" water meter. The "Normal Rates (Non-PFAS)" portion of the bill is based on the adopted rates for FYE 2026 through FYE 2028 and assumed 3-percent per year increases thereafter.

### 6.3.1 Estimated Impact to Low Demand (10 CCF) User

Figure 3 shows the estimated monthly bills for a low demand SFR user for FYE 2027 through FYE 2032. This user averages approximately 10 CCF per month, 8 CCF per month in winter and 12 CCF per month in summer. Based on the adopted and assumed increases to the normal rates and the

recommended PFAS surcharge Water Treatment Surcharge shown in Table 21 Table 21, the average monthly bill would increase from \$49.24 in FYE 2027 to \$69.59 in FYE 2032. By FYE 2032, the average PFAS surcharge Water Treatment Surcharge for a user at this level of demand would be \$10.44 per month, or \$8.64 in the winter and \$12.96 in the summer.

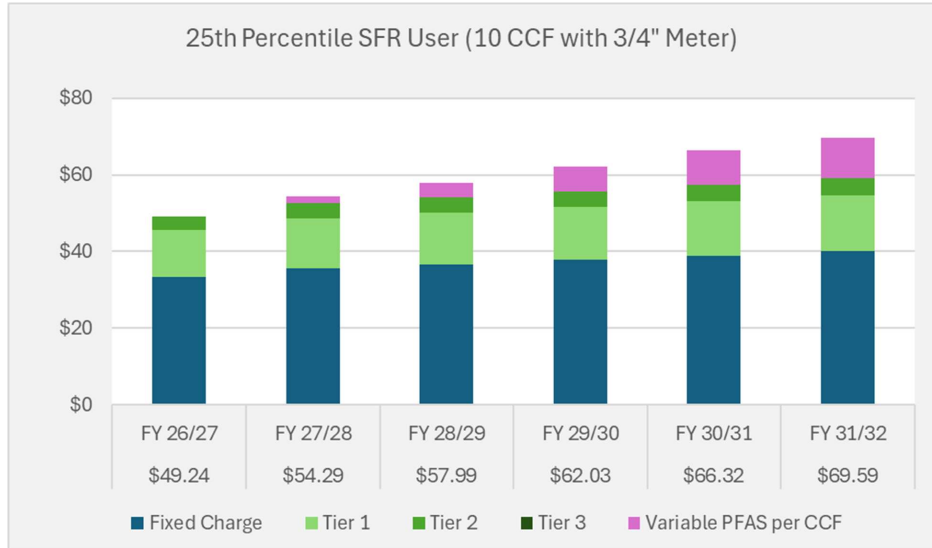


Figure 3 Estimated Low Demand SFR User Average Monthly Bill

Table 22 Table 22 shows the estimated monthly bill and bill impacts for the low demand user. As shown, the cumulative increase in this customer’s bill driven by the PFAS surcharge Water Treatment Surcharge would be 21.018.6-percent over the study period, an annualized increase of 3.9-percent over per year over five years.

Table 22 Estimated Low Demand SFR User Bill Impacts – 10 CCF per month, 3/4" water meter

	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Normal Rates (Non-PFAS)	\$49.24	\$52.55	\$54.13	\$55.75	\$57.42	\$59.15
<u>PFAS Surcharge</u> <u>Water Treatment Surcharge</u>	\$0.00	\$1.74	\$3.87	\$6.28	\$8.89	\$10.44
<b>Total Customer Bill</b>	<b>\$49.24</b>	<b>\$54.29</b>	<b>\$57.99</b>	<b>\$62.03</b>	<b>\$66.32</b>	<b>\$69.59</b>
<b>Total Bill Increase</b>	<b>\$3.11</b>	<b>\$5.05</b>	<b>\$3.70</b>	<b>\$4.04</b>	<b>\$4.28</b>	<b>\$3.27</b>
Total Bill Increase %	6.8%	10.3%	6.8%	7.0%	6.9%	4.9%
<b>Normal Rates Increase</b>	<b>\$3.11</b>	<b>\$3.31</b>	<b>\$1.58</b>	<b>\$1.62</b>	<b>\$1.67</b>	<b>\$1.72</b>
Normal Rates Increase %	6.8%	6.7%	3.0%	3.0%	3.0%	3.0%
<b>PFAS Increase</b>	<b>\$0.00</b>	<b>\$1.74</b>	<b>\$2.13</b>	<b>\$2.42</b>	<b>\$2.61</b>	<b>\$1.55</b>
PFAS Increase %	0.0%	3.5%	4.0%	4.5%	4.7%	2.7%



PFAS Increase Cumulative %	0.0%	3.5%	7.7%	12.5%	17.8%	21.0%
<b>Annualized PFAS increase (FYE 2027 through FYE 2032)</b>						<b>3.9%</b>

### 6.3.2 Estimated Impact to Typical Demand (20 CCF) User

Figure 4 shows the estimated monthly bills for a typical demand SFR user for FYE 2027 through FYE 2032. This user averages approximately 20 CCF per month, 16 CCF per month in winter and 25 CCF per month in summer. Based on the adopted and assumed increases to the normal rates and the recommended PFAS surcharge Water Treatment Surcharge shown in Table 21, the average monthly bill would increase from \$71.01 in FYE 2027 to \$106.53 in FYE 2032. By FYE 2032, the average PFAS surcharge Water Treatment Surcharge for a user at this level of demand would be \$21.33 per month, or \$17.28 in the winter and \$27.00 in the summer.

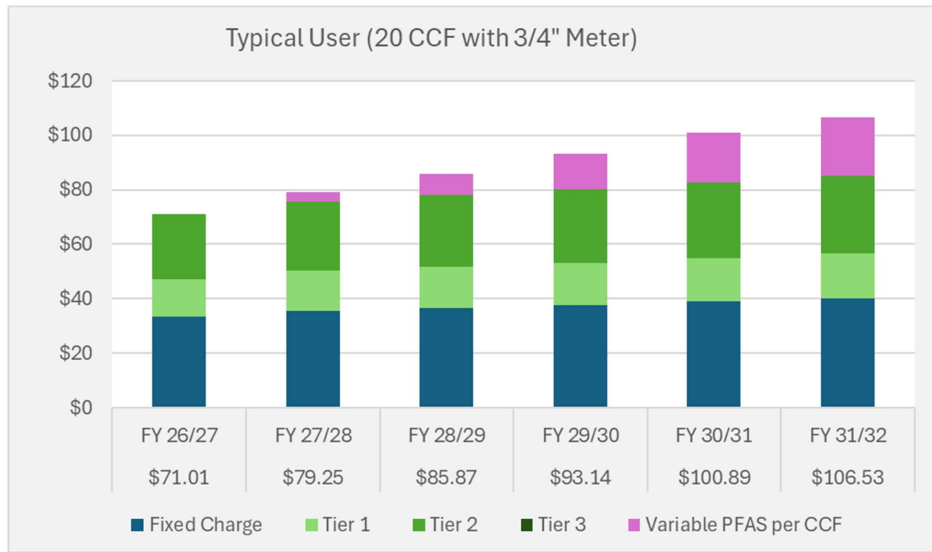


Figure 4 Estimated Typical Demand SFR User Average Monthly Bill

Table 23 shows the estimated monthly bill and bill impacts for the typical demand user. As shown, the cumulative increase in this customer’s bill driven by the PFAS surcharge Water Treatment Surcharge would be 30.7-percent over the study period, an annualized increase of 5.5-percent over per year over five years. Compared to the low demand user, this typical user would see a higher percentage increase due to the PFAS surcharge Water Treatment Surcharge. This is due to the amount of usage and therefore variable PFAS surcharge Water Treatment Surcharge being higher for this customer but the fixed charging remaining the same as the low demand user since both assume a 3/4" water meter.

Table 23 Estimated Typical Demand SFR User Bill Impacts – 20 CCF per month, 3/4" water meter

	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Normal Rates (Non-PFAS)	\$71.01	\$75.70	\$77.97	\$80.31	\$82.72	\$85.20
<del>PFAS Surcharge</del> Water Treatment Surcharge	\$0.00	\$3.56	\$7.90	\$12.84	\$18.17	\$21.33
<b>Total Customer Bill</b>	<b>\$71.01</b>	<b>\$79.25</b>	<b>\$85.87</b>	<b>\$93.14</b>	<b>\$100.89</b>	<b>\$106.53</b>
<b>Total Bill Increase</b>	<b>\$4.48</b>	<b>\$8.24</b>	<b>\$6.62</b>	<b>\$7.28</b>	<b>\$7.74</b>	<b>\$5.64</b>
Total Bill Increase %	6.7%	11.6%	8.3%	8.5%	8.3%	5.6%
<b>Normal Rates Increase</b>	<b>\$4.48</b>	<b>\$4.69</b>	<b>\$2.27</b>	<b>\$2.34</b>	<b>\$2.41</b>	<b>\$2.48</b>
Normal Rates Increase %	6.7%	6.6%	3.0%	3.0%	3.0%	3.0%
<b>PFAS Increase</b>	<b>\$0.00</b>	<b>\$3.56</b>	<b>\$4.35</b>	<b>\$4.94</b>	<b>\$5.33</b>	<b>\$3.16</b>
PFAS Increase %	0.0%	5.0%	5.7%	6.3%	6.6%	3.8%
PFAS Increase Cumulative %	0.0%	5.0%	11.0%	18.1%	25.9%	30.7%
<b>Annualized PFAS increase (FYE 2027 through FYE 2032)</b>						<b>5.5%</b>

## SECTION 7 LEGAL REQUIREMENTS

Carollo's analysis provides the record illustrating how RPU develops rates in conformance with cost of service principles. The discussion below sets forth the legal framework under which Carollo evaluated RPU's rates.

RPU's water rates and rate setting process must adhere to California constitutional and statutory requirements. Procedural requirements apply to the rate-setting process. The principal substantive requirements governing the rates are that revenues recovered through the rates do not exceed costs, and that the costs recovered from users do not exceed the cost for such service. The cost of service principles used for this analysis include these substantive requirements.

### Article XIII D

In November 1996, California voters approved Proposition 218, which amended the California Constitution by adding Article XIII C and Article XIII D. Article XIII D placed substantive limitations on the use of the revenue collected from property-related fees and on the amount of the fee that may be imposed on each parcel. The substantive requirements, contained in Article XIII D, Section 6, include that the amount of a fee "shall not exceed the proportional cost of the service attributable to the parcel," and that revenues from the rates "shall not exceed the funds required to provide the service" and "shall not be used for any purpose other than that for which the fee was imposed." Additionally, Proposition 218 established procedural requirements for imposing new, or increasing existing, property-related fees.

Cost and revenue projections are necessarily based on the best available information, and demand and consumption will be affected by weather and other factors that cannot be predicted. See San Juan decision, fn 11 (acknowledging projections of Metropolitan Water District rates as included in rate-setting process). Projections such as this may result in operating surplus and carryover, maintaining cost of service standards on a year over year basis through the inclusion of these amounts in subsequent years' budget processes.

### Article XIII C

The application of Proposition 26 in the structuring of water rates is presently undetermined.

The voters in the State approved Proposition 26 on November 2, 2010. Proposition 26 amended Article XIII C of the State Constitution to expand the definition of "tax" to include "any levy, charge, or exaction of any kind imposed by a local government" with listed exceptions. By means of these exceptions, Article XIII C classifies several types of charges, in addition to property-related charges, that are not taxes, such as charges for specific services or benefits, regulatory charges and penalties.

Article XIII C's definition of "tax" lists the following exceptions: (1) a charge imposed for a specific benefit conferred or privilege granted directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege; (2) a charge imposed for a specific government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product; (3) a charge imposed for the reasonable regulatory costs

to a local government for issuing licenses and permits, performing investigations, inspections, and audits, enforcing agricultural marketing orders, and the administrative enforcement and adjudication thereof; (4) a charge imposed for entrance to or use of local government property, or the purchase, rental, or lease of local government property; (5) a fine, penalty, or other monetary charge imposed by the judicial branch of government or a local government, as a result of a violation of law; (6) a charge imposed as a condition of property development; and (7) assessments and property-related fees imposed in accordance with the provisions of Article XIII D.

Proposition 26 also provides that the local government bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor's burdens on, or benefits received from, the governmental activity. Like the proportionality requirements of Article XIII D, assessment of rates under these requirements, if applicable, would be supported by the cost of service approach.

APPENDIX A

## DETAILED CALCULATIONS FOR RECOMMENDED RATES

APPENDIX B

## DETAILED CALCULATIONS FOR ALTERNATIVE RATES

WATER TREATMENT COSA  
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