

City of Arts & Innovation

City Council Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL **DATE: OCTOBER 28, 2025**

FROM: PUBLIC UTILITIES DEPARTMENT **WARDS: ALL**

SUBJECT: WATER TREATMENT APPROACH TO MEET PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) REGULATIONS

ISSUE:

Receive the cost of service and rate design study results and recommendations for water treatment facilities to meet Per- and Polyfluoroalkyl Substances (PFAS) regulations. Establishment of a Water Treatment Designated Reserve in the Water Utility Fund to set aside proceeds received from PFAS settlements to fund capital costs for water treatment plants including the capital costs associated with Treatment Facility no. 1. Receive an update on RFP No. 2415 for Design and Construction Management services for the first PFAS treatment plant, Treatment Facility No. 1.

RECOMMENDATIONS:

That the City Council:

1. Receive the cost of service and rate design study results and recommendations for water treatment facilities to meet Per- and Polyfluoroalkyl Substances (PFAS) regulations;
2. Approve establishing a Water Treatment Designated Reserve in the Water Utility Fund to set aside proceeds received from PFAS settlements to fund capital costs for water treatment plants;

Treatment Facility no. 1, Ion Exchange (IX) WTP

3. Recommend staff offset the capital cost of the water Treatment Facility no. 1, utilizing an Ion Exchange (IX) WTP, to meet PFAS regulations with PFAS settlement proceeds;
4. Receive an update on RFP No. 2415 for Design and Construction Management services for the first PFAS treatment plant, Treatment Facility No. 1, using an Ion Exchange (IX) WTP, and recommend staff return with an update on project design and timeline; and

Treatment Facilities nos. 2 and 3

5. Recommend staff return to the Board of Public Utilities for review of a Water Treatment Surcharge within one year for water treatment facilities, not covered by PFAS settlement proceeds, to meet Per- and Polyfluoroalkyl Substances (PFAS) regulations.

MOBILITY & INFRASTRUCTURE COMMITTEE RECOMMENDATION:

On June 12, 2025, the Mobility & Infrastructure Committee voted unanimously to receive and file a report on Per- and Polyfluoroalkyl Substances (PFAS) regulations and water treatment approaches, recommend a report on PFAS regulations and water treatment approaches be presented to the Board of Public Utilities and to the City Council, and directed staff to bring to the Board of Public Utilities a proposal to conduct a cost of service and rate design study to address the funding requirements to comply with the PFAS regulations.

BOARD RECOMMENDATION:

On September 8, 2025, the Board of Public Utilities unanimously approved to recommend that the City Council:

1. Receive the cost of service and rate design study results and recommendations for water treatment facilities to meet Per- and Polyfluoroalkyl Substances (PFAS) regulations;
2. Approve establishing a Water Treatment Designated Reserve in the Water Utility Fund to set aside proceeds received from PFAS settlements to fund capital costs for water treatment plants;

Treatment Facility no. 1, Ion Exchange (IX) WTP

3. Recommend staff offset the capital cost of the water Treatment Facility no. 1, utilizing an Ion Exchange (IX) WTP, to meet PFAS regulations with PFAS settlement proceeds;
4. Receive an update on RFP No. 2415 for Design and Construction Management services for the first PFAS treatment plant, Treatment Facility No. 1, using an Ion Exchange (IX) WTP, and recommend staff return with an update on project design and timeline; and

Treatment Facilities nos. 2 and 3

5. Recommend staff return to the Board of Public Utilities for review of a Water Treatment Surcharge within one year for water treatment facilities, not covered by PFAS settlement proceeds, to meet Per- and Polyfluoroalkyl Substances (PFAS) regulations.

BACKGROUND:

Per- and Polyfluoroalkyl Substances (PFAS), a collective term for a large group of synthetic organic chemicals, are comprised of more than 12,000 substances of emerging contaminants of concern. They are human-made chemical compounds designed to repel oil and water. They have a wide range of applications, from use in firefighting foam to consumer products designed to be waterproof, stain-resistant, and nonstick. Due to their persistence in the environment, PFAS are

known as “forever chemicals”. They bioaccumulate in living organisms, which has the potential to cause adverse human and ecological health effects. Some known health effects include thyroid disease, liver damage, hormone disruption, reproductive and developmental complications, and kidney and testicular cancer.

The United States Environmental Protection Agency (EPA) has delegated authority to individual states as a primacy agency to implement and enforce the safe drinking water act. Primacy agencies (State) must adopt regulations equal to or more stringent than the Federal (EPA) regulations. The State of California (CA) has delegated primacy to the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) to issue new regulations requiring public water agencies to test and monitor for PFAS. Health and Safety Code section 116455 authorizes SWRCB to issue notification and response levels for contaminants in drinking water delivered for human consumption in the absence of an established maximum contaminant level (MCL).

Adopting Federal drinking water regulations will require compliance with MCL for PFAS compounds by 2031 while concurrently meeting the current State PFAS notification levels, response levels, and health advisories. The items below show the progression of these regulations and RPU's actions in preparation.

- In May 2016, the EPA issued a lifetime health advisory for perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) for drinking water, advising municipalities that they should notify their customers of the presence of levels over 70 parts per trillion (ppt) in community water supplies. The EPA recommended that customer notifications include information on the increased risk to health, especially for susceptible populations.
- In July 2018, DDW established an interim notification level of 14 ppt for PFOA and 13 ppt for PFOS and a single response level of 70 ppt for the combined concentrations of PFOA and PFOS.
- In August 2019, DDW revised the notification levels to 6.5 ppt for PFOS and 5.1 ppt for PFOA. The single health advisory level (for the combined values of PFOS and PFOA) remained at 70 ppt.
- On October 28, 2019, RPU's Board approved a PFAS study to evaluate PFAS as an emerging contaminant.
- On February 6, 2020, DDW issued updated drinking water response levels of 10 ppt for PFOA and 40 ppt for PFOS based on a running four-quarter average.
- On March 5, 2021, DDW issued a drinking water notification level and response level of 0.5 parts per billion (ppb) and 5 ppb, respectively for perfluorobutane sulfonic acid (PFBS).
- On May 23, 2022, the Board of Public Utilities received and filed an update on the per- and polyfluoroalkyl substances.
- On October 31, 2022, DDW issued a drinking water notification level and response level of 3 parts per trillion (ppt) and 20 ppt, respectively for perfluorohexane sulfonic acid (PFHxS).
- On November 4, 2022, HDR completed the study evaluating a long-term approach to the treatment of PFAS in the City's water supply.

- On November 14, 2022, staff updated the Board on the results of the Granular Activated Carbon (GAC) demonstration PFAS removal study at the Palmyrita water treatment plant (WTP)
- On March 14, 2023, EPA announced its proposed National Primary Drinking Water Regulation (NPDWR) that suggests proposed MCL's for six (6) compounds:

Chemical	Maximum Contaminant Level Goal (MCLG)	Maximum Contaminant Level (MCL)
PFOA	0 ppt	4.0 ppt
PFOS	0 ppt	4.0 ppt
PFHxS	10 ppt	10 ppt
HFPO-DA (Gen X)	10 ppt	10 ppt
PFNA	10 ppt	10 ppt
Mixture of two or more: PFHxS, Gen X and PFBS*	Hazard Index of 1 (unitless)	Hazard Index of 1 (unitless)

Compliance is based on a Running Annual Average at the sampling point starting in 2031.

*The Hazard Index is made up of a sum of fractions. Each fraction compares the level of each PFAS measured in the water to the highest level determined not to have risk of health effects. These highest levels are PFHxS 10 ppt, Perfluorononanoic acid (PFNA) 10 ppt, PFBS 2000 ppt, Gen X 10 ppt.

- On April 28, 2025, the Board of Public Utilities recommended that the City Council approve RFP No. 2415 for Design and Construction Management services for the first PFAS treatment plant, Palmyrita Ion Exchange (IX) WTP.
- On May 14, 2025, the EPA announced its intent to extend compliance deadlines for PFOA and PFOS from 2029 to 2031. This change would give RPU more time to implement necessary treatment and monitoring solutions. The rule promulgation process can take well over 1-year to complete and, in some instances, rules are not implemented at the end of the process.
- On May 15, 2025, Mayor Patricia Lock Dawson, Councilman Steve Robillard, and City Manager Mike Futrell met with the EPA to discuss PFAS regulations and compliance timelines.
- On May 20, 2025, the City Council approved RFP No. 2415 for Design and Construction Management services for the first PFAS treatment plant, Palmyrita IX WTP.
- On July 28, 2025, the Board of Public Utilities received a report on Per- and Polyfluoroalkyl Substances (PFAS) regulations and water treatment approaches, recommend a report on Per- and Polyfluoroalkyl Substances (PFAS) regulations and water treatment approaches be presented to the City Council, and recommend staff conduct a cost of service and rate design study to address the funding requirements to comply with the Per- and Polyfluoroalkyl Substances (PFAS) regulations.
- On August 6, 2025, DDW discussed reducing the notification levels for PFOA and PFOS to 4 ppt, response level for PFHxS to 10 ppt and creating a PFHxA notification level at 1 ppb and response level of 10 ppb at the State Water Board meeting. These changes are anticipated to be implemented by September 2025.

- California DDW MCLs anticipated to be announced in late 2025.

DISCUSSION:

Riverside Public Utilities (RPU) draws groundwater from 45 wells across the Riverside, Rialto-Colton, and Bunker Hill groundwater basins to fully meet the City's potable and irrigation water demands. In 2008, with the completion of the John W. North (JWN) Groundwater Treatment Plant, RPU eliminated the City's reliance on costly imported water supplies from the State Water Project and the Colorado River Aqueduct.

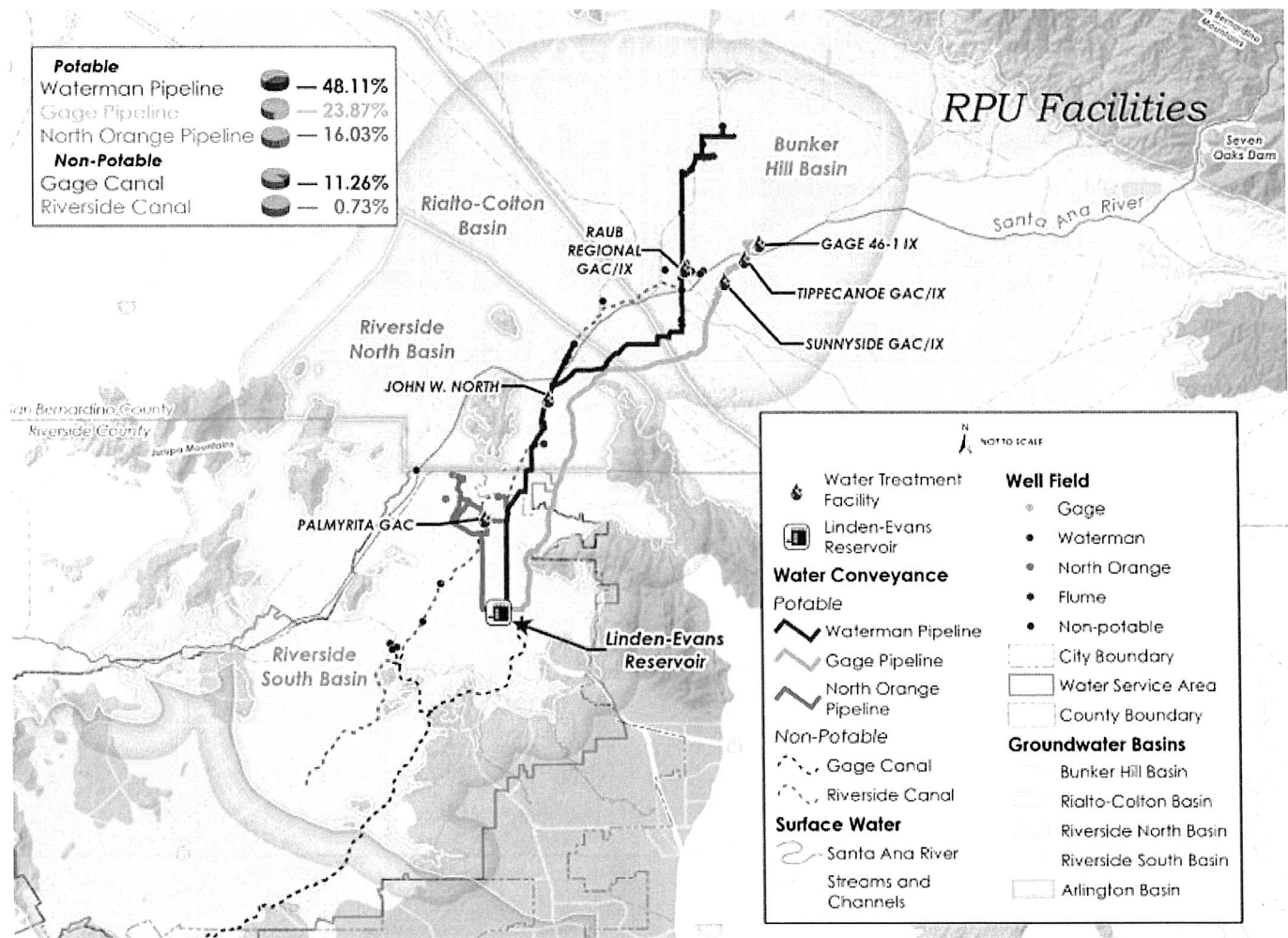
To ensure high-quality drinking water, RPU employs a variety of advanced treatment technologies, including granular activated carbon (GAC) adsorption, ion exchange (IX) resin, membrane filtration, blending, and disinfection. These processes reduce microbiological contaminants as well as naturally occurring and human-made pollutants such as dibromochloropropane (DBCP), perchlorate, and trichloroethene (TCE).

Once treated, all of the City's drinking water is conveyed to the central Linden/Evans Reservoir Complex, which has a capacity of 32 million gallons. The system is supplied through three major transmission mains (TM)—Gage, Waterman, and North Orange—that form the backbone of the City's distribution network. Figure 1 from RPU's 2024 Groundwater Atlas provides an overview of this system.

Water quality monitoring indicates that samples from more than 30 City wells contain per- and polyfluoroalkyl substances (PFAS) above the State's notification levels at the source, prior to treatment. Through the City's existing treatment systems and blending operations, PFAS concentrations in delivered drinking water are currently reduced below the State's notification levels. However, proposed new Federal and State regulations will set significantly lower allowable limits for PFAS. Meeting these new standards will require additional advanced water treatment. Compliance will be especially challenging during the summer months, when water demands are highest. Without new treatment facilities, PFAS concentrations could exceed the proposed Federal limits, leaving RPU with two difficult options: shutting down wells with elevated PFAS levels or supplementing local supplies with more costly imported water.

If wells are shut down during peak summer demand, the City's groundwater supply will be reduced. In that scenario, RPU may need to purchase supplemental imported water from the Metropolitan Water District of Southern California, delivered through Western Municipal Water District (WMWD), at a much higher cost.

Figure 1. 2024 Groundwater Atlas



In anticipation of more stringent regulations on the horizon, RPU staff have attended EPA and State webinars, participated in Association of California Water Agencies (ACWA) and American Water Works Association (AWWA) PFAS Workgroups and closely monitor regulatory changes.

RPU also studied the long-term approaches to treat the PFAS in its drinking water supply. RPU hired a consultant HDR Engineering, Inc. (HDR) to prepare a study to identify a long-term, cost-effective strategy for the treatment and reduction of the concentration of PFOA and PFOS (two regulated PFAS compounds at that time) below the current CA notification levels at RPU's point of compliance.

The HDR study identified three (3) alternatives with two (2) commercially and readily available PFAS treatment technologies. Granular activated carbon (GAC) and ion exchange (IX) were identified as the best technologies to reduce the concentrations to about half the notification levels for PFOA and PFOS at RPU's compliance point. The alternatives include one regional treatment site at the former Riverside Golf Course and a combination of two local treatment sites among three locations: North Orange (inactive Garner B water treatment plant (WTP)), inactive Palm Meadows WTP, and J.W. North WTP. Among these alternatives, the combination of North Orange and Palm Meadows with IX technology showed the most optimal and cost-effective alternative for a net present value (2022) estimated capital cost of \$24M.

The table below summarizes the design capacity, capital cost, operation and maintenance (O&M), total present value (PV), and the annual cost of treatment per 1,000 gallons (\$/kgal) for each alternative. This table shows that the GAC 20-Year Life Cycle cost estimate is higher than the IX:

GAC vs IX 20-Year Life Cycle Cost Estimate

Parameter	Granular Activated Carbon			Ion Exchange		
	Alt 1 – Regional	Alt 2 – North Orange & Palm Meadows	Alt 3 – North Orange & JWN	Alt 1 – Regional	Alt 2 – North Orange & Palm Meadows	Alt 3 – North Orange & JWN
Design Capacity (gpm)	23,458	10,850	12,454	23,458	10,850	12,454
Capital Cost	\$84 M	\$35 M	\$38 M	\$63 M	\$24 M	\$27 M
NPV Total O&M	\$238 M	\$107 M	\$117 M	\$248 M	\$108 M	\$124 M
Total Present Value	\$322 M	\$142 M	\$156 M	\$311 M	\$132 M	\$151 M
Annual \$/kgal Treated	\$1.30	\$1.24	\$1.19	\$1.26	\$1.16	\$1.15

With the new State regulations after October 2022 setting notification level and response level for a new compound (PFHxS) and the March 14, 2023, US EPA proposed MCL's for six (6) PFAS compounds, RPU staff started conducting new analysis regarding RPU's status to the new regulations and a variation to the alternatives previously recommended by the consultant HDR. The Table below summarizes the status of the PFAS concentrations at the compliance point; it shows that RPU's immediate concerns relate to PFOA, PFOS, and PFHxS.

Status of PFAS Concentrations at RPU Compliance Point

Units in parts per trillion (ppt)	PFOA	PFOS	GenX	PFBS	PFNA	PFHxS	HI (<100%)
CA Notification Level	5.1	6.5		500		3	
Compliance Point (7th & Chicago) *	ND - 4.7	ND - 6.4	ND	ND - 4	ND	ND -5.5	
Health-Based Value and EPA MCL	4	4	10	2000	10	10	
Hazard Index (HI) in %			0%	0-0.002%	0%	0-61%	0-61%

*Data ranges 2019-current. SWRCB-DDW proposed MCLs are anticipated this year.

Staff ran current condition scenarios using the maximum concentrations collected at each groundwater well for three PFAS compounds to evaluate what will be needed to meet the new 2031 EPA MCLs. The analysis revealed that an additional local treatment plant will be necessary to treat the Waterman supply, in addition to the optimum alternative proposed by the consultant HDR. RPU staff also modified the Alternate 2 proposal to expand the current Palmyrita WTP, which will provide PFAS treatment on the North Orange TM. The Palmyrita IX WTP alternative provides an additional co-benefit treatment to perchlorate, another regulated constituent, if IX technology is used to meet the PFAS regulations. This option enables expedited construction and additional treatment capacity, as the space is currently available, and further reduces effluent PFAS concentrations from the Palmyrita GAC WTP, along with the treatment of four additional wells. Staff is currently working on the planning report and request for proposals for design and

construction management services for the Palm Meadows WTP, which will treat groundwater wells on the Gage TM. JWN WTP will be the last PFAS WTP, and planning and obtaining design services will be initiated after the Palm Meadows WTP. The JWN WTP will provide PFAS reduction on Waterman TM. This phased approach will allow capital construction costs to be spread over a longer time frame and incorporate operational and maintenance costs as each plant is completed.

Staff conducted a comprehensive evaluation of the potential use of imported water to address upcoming treatment challenges. The key finding of our analysis is that while imported water could be a valuable resource, it alone would not fully meet the City's needs, especially considering the new stringent Federal Maximum Contaminant Levels (MCLs) for PFAS. During peak summer demand, the City would need a minimum of 21,000 gallons per minute (gpm) of imported water to blend PFAS concentrations below the 2031 Federal standards adequately. However, the City's existing connection to the WMWD to receive water from the Metropolitan Water District has a maximum capacity of 13,500 gpm—leaving a shortfall of approximately 7,500 gpm. It's important to note that the City's highest level of imported water use occurred in 1989, when roughly 6,000 acre-feet were delivered by WMWD. Severe ground vibrations were observed during this period at 7,000 gpm, raising concerns about the connection's ability to provide water above this amount for an extended period. The City ultimately discontinued the use of imported water in 2008.

Financial and operational considerations also limit this option. The construction of a new four-mile pipeline to the Linden Evans Reservoir is estimated to cost \$40 million. Additionally, securing imported water for summer blending would incur an ongoing annual cost of approximately \$9 million. Beyond cost, imported water supplies present other challenges, including the need for additional disinfection treatment, potential reductions in availability during drought periods, and continual rate increases from the Metropolitan Water District to support statewide water conveyance and infrastructure. These factors collectively make the use of imported water a complex and costly endeavor.

The table below shows the blending results utilizing RPU's Groundwater, by the percent reduction from the required CA notification level and the 2031 EPA MCLs when treatment is applied.

Reduction required to meet regulations

Units in parts per trillion (ppt)	PFOS	PFOA	PFHxS
CA Notification Level (NL)	6.5	5.1	3
Percent Reduction to NL	38%	24%	70%
Proposed EPA MCL	4	4	10*
Percent Reduction to MCL	62%	31%	21%

*PFHxS MCL is part of the Hazard Index (HI)

On February 22, 2022, the City Council adopted nine water quality policy principles (Attachment 1). These policy principles are designed to ensure that the water served to RPU's customers consistently meets the highest quality standards and complies with all applicable state and federal water quality regulations. They guide RPU in its compliance with Drinking Water Standards, as well as its coordination with Federal and State Policies and agreements with responsible parties. RPU is collaborating with regulatory agencies, participating in water agency workgroups and has been proactively evaluating and developing treatment options to reduce PFAS levels and meet regulatory requirements.

A 2023 AWWA report by the consulting firm Black and Veatch estimated that the cost for water systems to install treatment systems to remove PFOA and PFOS to levels required by the proposed EPA regulation would exceed \$3.8 billion annually. The scale of this financial burden is significant, with the approximate costs estimated to impact the City's drinking water customers at \$145-\$160 per household per year as reported in the AWWA report.

The City's success in mitigating higher treatment costs by successfully holding polluters responsible for groundwater contamination has significantly contributed to RPU's low water rates. Over the last 30 years, this effort has provided funding for five of the six water treatment plants to reduce contamination from DBCP, perchlorate, and TCE in our groundwater. Currently, RPU expects to receive \$39.6M in PFAS settlement proceeds from responsible polluters over the next 8 years. A small portion of this settlement is still pending Court approval and may be adjusted when finalized. Staff recommends establishing a Water Treatment Designated Reserve in the Water Utility to set aside the settlement proceeds to fund water treatment operating and capital costs. The annual estimated settlement proceeds are in the table below:

Fiscal Year	Estimated Settlement Proceeds
FY 2025/26	\$23,325,332
FY 2026/27	\$8,127,588
FY 2027/28	\$2,760,321
FY 2028/29	\$1,521,195
FY 2029/30	\$1,034,412
FY 2030/31	\$1,034,412
FY 2031/32	\$912,717
FY 2032/33	\$851,869
Total	\$39,567,846*

*A portion of this total is pending Court approval and will be adjusted when finalized.

Compliance with the Federal PFAS MCLs is estimated to cost Riverside the following:

Treatment Plant	Year in Service	Capital Costs	O&M/Personnel Costs *
Plant #1	FY 2028/29	\$27,000,000	\$4,431,000
Plant #2	FY 2029/30	\$15,000,000	\$2,727,000
Plant #3	FY 2030/31	\$55,200,000	\$11,914,000
Total		\$97,200,000	\$19,072,000
*Estimated cost in FY 2030/31 when all 3 plants are online.			

Financing costs of the treatment plants vary based on either funding the plants with 100% bond financing or funding the plants with a combination of settlement proceeds and bond financing the remaining balance. Utilizing settlement proceeds for treatment plant capital funding results in \$32.5M less financing costs over 30 years.

Treatment Plant Capital Funding	Estimated Financing Costs Over 30 Years
100% Bond Financing (\$97.2 million)	\$91,000,000
Combination of \$35.7 million settlement proceeds and \$61.5 million bond financing	\$58,500,000

Staff will continue to pursue additional revenue sources to fund the treatment plants required to meet PFAS regulations and MCL's. In addition to the \$39.6M in settlement proceeds from the manufactures of PFAS and \$959,752 US Environmental Protection Agency's and Tribal Assistance Grant Program award of \$959,752, staff will consider other funding sources including but not limited to additional settlement proceeds from responsible parties, other Federal and State grant opportunities, and other revenue sources such as proceeds from surplus property sales.

Next Steps:

Action	Date
Mobility & Infrastructure Committee Update	June 12, 2025
Board of Public Utilities Update	July 28, 2025
Board of Public Utilities Cost of Service and Rate Results	September 8, 2025
City Council Cost of Service and Rate Results	October 28, 2025
Board of Public Utilities Update	June 22, 2026
City Council Conceptual Update	July 28, 2026
Community Outreach	To Be Determined
Board of Public Utilities Public Hearing and Consideration	To Be Determined
City Council Public Hearing and Consideration	To Be Determined
Proposed Effective Date	July 1, 2027

Establishment of Rates and Applicable Law:

The water utility is a self-supporting enterprise fund that provides services for a fee. Charges for service through rates are the primary source of funding for operations and also fund a significant portion of the capital improvement program which includes the debt service (principal and interest) for bonds issued to fund these projects. Developer fees are the other funding source for capital projects.

The Board of Public Utilities has the authority to establish rate changes, and the City Council has the authority to approve rate changes, per City of Riverside Charter Section 1202(e), when necessary to ensure the continued recovery of costs for services and to secure reinvestment into the system infrastructure for long-term sustainability.

Proposition 218 (Prop 218), approved in 1996, adds Article XII C (Voter Approval for Local Tax Levies) to the California Constitution. All property-related fees, such as water charges, must meet Prop 218's requirements. The City is required to provide notice of the proposed changes to the water charges to all affected water ratepayers and record receipt of all written protests during a

public hearing. Prop 218 prohibits increases to water fees and charges if a majority of the affected water ratepayers submit written opposition to the proposed increases.

Public Hearing:

Public hearing notices for the proposed Water Treatment Surcharge will be posted on the City and RPU websites for the public hearings held at the Board of Public Utilities and City Council meetings. Public hearing notices will also be mailed to water utility customers in advance of the public hearing held at City Council in accordance with California Prop 218.

Community Engagement and Outreach through Social Media and Webpage:

To engage with the community on the proposed Water Treatment Surcharge rate increases, several community group meetings will be attended, and City-sponsored community outreach events will occur in August and September 2026. The events will include presentations to community groups and residents and provide opportunities for Q&A and conversation during each event.

Event/Community Group Examples
Greater Riverside Chamber of Commerce (GRCC)
Building Industry Association (BIA)
Residents for Responsible Representation (RRR)
Downtown Area Neighborhood Alliance (DANA)
Mission Grove Neighborhood Association
Neighbors of the Wood Streets (NOWS)
Neighbors Better Together (NBT)
City Sponsored Events at Community Centers such as Orange Terrace Cener Ballroom, La Sierra Senior Center Ballroom, and Bobby Bonds/Cesar Chavez Community Cener Auditorium

Community outreach for the Water Treatment Surcharge will include social media and the City website. Social media content for the proposed Water Treatment Surcharge will be shared in August and September 2026. The proposed Water Treatment Surcharge will be available on the City website along with staff reports, presentations, calendar/timeline of events, water treatment surcharge documents and other related resources.

FISCAL IMPACT:

There is no fiscal impact associated with this informational report. PFAS regulations and water treatment approaches will continue to be evaluated.

Prepared by:	Brian Seinturier, Assistant General Manager/Finance and Administration, and Robin Glenney, Assistant General Manager/ Water
Approved by:	David A. Garcia, Utilities General Manager
Certified as to availability of funds:	Kristie Thomas, Finance Director/Assistant Chief Financial Officer
Approved by:	Rafael Guzman, Assistant City Manager

Approved as to form: Rebecca McKee-Reimbold, Interim City Attorney

Concurs with;

A handwritten signature in dark ink, appearing to read "Chuck Conder", is written over a horizontal line.

Chuck Conder, Chair
Mobility and Infrastructure Committee

Attachments:

1. Water Quality Policy
2. Definitions
3. Water Treatment Surcharge Cost of Service Analysis Rate Study Report
4. Presentation