KCWA

Kent County Water Authority

October 31, 2024

Ms. Stephanie De La Rosa
Commission Clerk
Public Utilities Commission
89 Jefferson Boulevard
Warwick, Rhode Island 02888

Re: Capital Improvement Program

Dear Ms. De La Rosa:

In accordance with Kent County Water Authority rate order Docket #5012, we are required to file a Capital Improvements Report semi-annually. The attached reports on Capital Improvements are through June 30, 2024.

If you have any questions or members of your staff would like further information, please feel free to call at any time.

Very truly yours,
Kent County Water Authority

David L. Simmons, P.E.
Executive Director/Chief Engineer

cc: Board Members

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K[illegible]T COUNTY WATER AUTHORIT[illegible]
Report of Progress of CIP Project
As of June 30, 2024

Description	Estimated	Expended	Estimated Funds to Complete
New Office Facility (298)	$26,849,858	$25,954,019	$895,839
East Greenwich Well (299)	$664,554	$436,125	$228,429
TOTAL	$27,514,413	$26,390,144	$1,124,268

Capital Improvement Projects (CIP)

This portion of the report contains information on the programs under the restricted funding approved by the Rhode Island Public Utilities Commission. The Kent County Water Authority (KCWA, or the Authority) receives Capital Improvement Project funding available to advance approved projects on a cash-based pay as you go basis. The restricted CIP account is funded at $3.6 million annually without debt service.

CIP Bonding/Debt Service

The CIP 2012 Series A bond was defeased as approved under the abbreviated rate filing Docket 5012. Also approved under Docket 5012 was the use of a portion of this restricted account to fund debt service on project(s) that require bonding. KCWA filed for and received authorization in February 2022 to borrow $20 million dollars for the construction of a new central operations facility under Docket D-22-03. The debt service funding for this bond will be applied through approved restricted CIP collections. The amount of debt service carved out of the CIP funding is approximately 32%, or $1.15 million dollars, annually. The annual accrual to the CIP restricted account after meeting the debt service obligation is approximately 68% or $2.45 million dollars.

New Office and Maintenance Facility

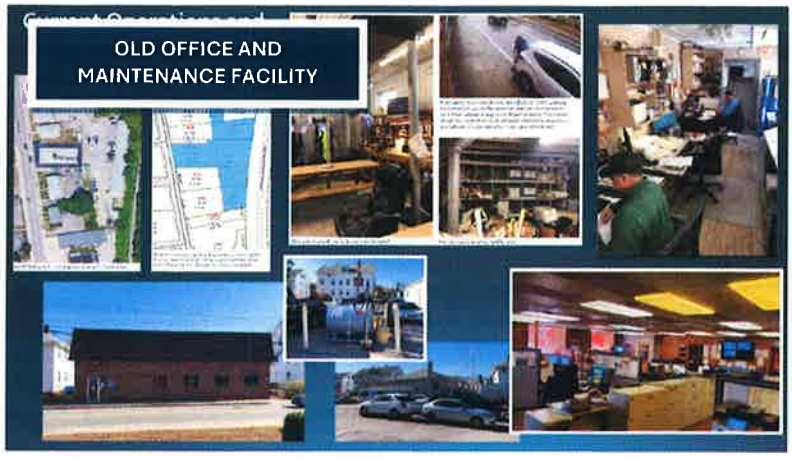
The Authority will be hosting an official ribbon cutting ceremony on Friday December 6th, 2024, to commemorate this major milestone

After almost three decades of thought, discussion, and planning, the Board moved forward with final research, design, and construction of a much-needed office and maintenance facility. Construction has now been completed at our new operations and maintenance facility and the Authority has officially moved from its office and maintenance facilities located at 1072 Main Street, West Warwick, Rhode Island to its new location at 35 Technology Way, West Greenwich Rhode Island 02817.

Why the move was necessary:

The original facility was built at the turn of the century with modifications and new garages in the 1970's. Several additional renovations had been accomplished over the years to support increased operations, and accommodate capital equipment acquisitions, spare parts warehousing and workforce needs. The old facility had no usable area for additional expansion and the Authority believes they can no longer support the Authority's daily operations. Furthermore, there was inadequate public parking to properly service KCWA customers. Customers had to park on the street in the lane of traffic in front of the building and exit their vehicle into oncoming traffic to conduct business at the Authority.

The need for a new facility was first seriously entertained 25 years ago when Camp Dresser & McKee conducted a feasibility study for a new KCWA facility to start planning. It was then in 2016, when C&E Engineering Partners prepared a Water Supply System Five-Year Capital Improvement Program Update for 2017-2022 for the KCWA and the Public Utilities Commission (PUC). The updated Capital Improvement Project (CIP) plan recommended a new facility supporting the 1999 findings, deeming the project as essential to provide the expected level of service goals required by State Regulatory Requirements and the Authority's Strategic Plan.



It was decided by the Board of Directors that a new updated feasibility study was necessary to support and supplement future Capital Plan implementation, Commission rate filings, and bond issues because the original study was over 20 years old. The Authority requested proposals from qualified professional architects and engineers to perform the update to the facilities analysis and evaluation study (2020 Study). The Authority publicly engaged the professional services of Vision 3 Architects (V3A) partnered with Pare Engineering to complete the study.

As a part of due diligence, the 2020 Study re-evaluated the potential modification and retrofitting the existing facility and concluded that the buildings have far exceeded their useful lives and are no longer adequate to support the future increase in capital equipment acquisitions, warehousing and administrative responsibilities of the KCWA. The study also calculated that a minimum net five acres would be required to meet the needs of the Authority. The Authority's current complex occupies in its entirety approximately one acre on 1072 Main Street. Exploring the viability of remaining at its current location by means of renovating the existing facility and /or constructing additional buildings would involve acquiring multiple separate sites, either adjacent to or in very close proximity to 1072 Main Street. Thus, it was reaffirmed that KCWA's current location was not an option. The efforts were then focused on spatial programming needs, potential site locations, and schematics.

The 2020 study submitted to the Authority detailed a comprehensive spatial programming analysis, conceptual building schematic options, and eleven available site locations. Based on spatial and programming needs, the study further recommended three sites that could best fit the Authority's facility requirements. Included in the study were pricing valuations, construction/site

cost estimates, and energy efficient design components such as, rooftop solar and electric vehicle charging stations.

In addition to the 2020 Study, the Board performed additional due diligence in searching for potential other property locations by issuing a public RFP, which was added to the study. After reviewing the thirteen properties in detail, the Board settled on pursuing 35 Technology Way in West Greenwich, which was deemed the best fit for the next phase. A subcommittee was formed to order a formal appraisal and negotiate and provide detailed information regarding the site and its ability to satisfy the Authority's future facility needs to the full Board. The Authority entered into a purchase and sales agreement contingent upon the satisfactory full site due diligence evaluation inclusive of geotechnical, Phase 1 environmental, wetlands delineation and verification, pre-application planning review, and a full ALTA survey.

The site was purchased in September of 2021 and the Board signed a resolution authorizing the engagement of financing for the design and construction of a new central operations facility. The Authority put out an RFP in December 2021 to complete the final design and prepare construction bid documents. The contract was awarded to the V3A and Pare Corporation team. KCWA filed for and received debt service authorization in February 2022 to borrow $20 million dollars for the construction of a new central operations facility under Docket D-22-03. On April 29, 2022, after completing all of the clearing house procedures, the Authority closed on two bonds with the Rhode Island Infrastructure Bank. The Safe Drinking Water bond ($18,173,087) and the Efficient Buildings Fund bond ($1,826,913). These bonds, plus the use of KCWA CIP restricted conserved funds, were used to construct and furnish the new office and maintenance facility in West Greenwich. The final design and bid documents were completed for construction and the project was advertised for bid on September 9, 2022. The work of this project includes the construction of a new 16,000 square foot administrative building and the attached 30,000 square foot prefabricated metal garage. The project includes construction of the proposed building and a covered storage area, a fueling area, an asphalt parking area, site improvements, and utilities. The construction project was awarded to Bentley Builders in January of 2023 for $21,469,460 and construction commenced immediately thereafter. Substantial completion was achieved in June of 2024.

Updated East Greenwich Well Treatment Facility

This project consists of the design and construction of a new treatment plant at the existing East Greenwich Well facilities site at 5870 Post Road, Warwick, Rhode Island 02818, in the general vicinity of the intersection of Post Road and Franklin Street, along the East Greenwich and Warwick city line within the Hunt River Aquifer. The East Greenwich well is a critical water source in the overall hydraulic supply capacity of the Kent County Water Authority (KCWA) district. The existing well supply facility is designed to meet minimum water quality standards for pH, disinfection, sequestering of manganese and to provide sufficient hydraulic capacity to meet the needs of the KCWA system now and into the future. This source in combination with KCWA's Mishnock treatment facility is capable of providing emergency supply redundancy in sufficient capacity to continue essential public water service to its critical customers and emergency interconnections.

The East Greenwich Well has a full production yield capability of approximately 2,000 gallons per minute (gpm). The well facility, updated in 2018, consists of one (1), 1,200 gpm submersible pump, emergency power, SCADA control and monitoring, disinfection and pH adjustment but did not include filtration. To this end, KCWA requested proposals from qualified professional engineering firms to conduct an inspection, evaluation, and review of the newly constructed well facilities and prepare final design and contract documents for the construction of a new water treatment facility with filtration at the existing site under its Capital Improvement (CIP) initiatives. Pare Engineering, in partnership with Stantec, was chosen and awarded the contract to design the updated facility in December of 2019. A preliminary design report (PDR) and plans were generated and submitted to the Rhode Island Department of Health (RIDOH) and Department of Environmental Management (RIDEM) for review and comment in 2021.
The updated facility was being designed with two filtration trains. The new design was intended to provide an average daily output capacity of 1.44 MGD (1,000 gpm) to the distribution system with one treatment unit offline. The trains could be rotated, or alternated, in and out of service to meet an average daily demand of 1,000 GPM or they could be combined to provide a maximum daily output capacity of 3 MGD (approx. 2,000 gpm) with both treatment units online. The output capacity was being designed at a maximum of 3 MGD to ensure resiliency and redundancy of individual unit processes, treatment trains, and discharge pumping. The design would also allow the ability to treat additional well(s) if acquired in the future. The proposed variable frequency drive well pump that will feed the station will be restricted to pump to a maximum of 2.5 MGD.

This design and subsequent responsible operation will not adversely affect the Hunt River, today or in the future, as it reflects significantly less volumes than historic withdrawals from this basin. The goal of this first iteration of the treatment facility design was to comply with more stringent EPA and RIDOH water quality requirements with the focus mainly reducing the secondary contaminant levels to below the applicable standards, provide enhanced disinfection treatment (4-log inactivation of viruses), corrosion control, pH adjustment and radon removal to facilitate improving water quality to the public from this source of supply. However, this original design only provided a space to house potential future PFAS treatment equipment and did not include the necessary pipework and treatment trains for PFAS removal. KCWA had to pivot on this planning approach when the narrative around PFAS and its potential impacts on public health shifted at the national level.

PFAS are an emerging contaminant of concern in groundwater throughout the United States. PFAS are man-made chemicals used to fight fires and in a variety of products and applications that are resistant to water, grease or stains, including non-stick cookware, carpets, upholstered furniture, clothing and food packaging. These chemicals are highly recalcitrant to degradation in the environment and can mobilize into surface and groundwater from areas throughout the country that may have been contaminated for various reasons.

Adjusting to the Regulatory Landscape Around Per-and Polyfluoroalkyl Substances (PFAS)

During final design and permitting of the new treatment facility, the Biden-Harris Administration proposed the first ever national standard for per- and polyfluoroalkyl substances (PFAS). This signaled to States across the country that regulation is imminent and that affected water utilities should start preparing. With new Federal regulations coming, the Rhode Island Legislature, working with the Rhode Island Department of Health, wanted to get ahead of what was already

Source: *Biden-Harris Administration Proposes First-Ever National Standard to Protect Communities from PFAS in Drinking Water* *https://www.epa.gov/newsreleases/biden-harris-administration-proposes-first-ever-national-standard-protect-communities*

> *"The proposal, if finalized, would regulate PFOA and PFOS as individual contaminants, and will regulat r other PFAS – PFNA, PFHxS, PFBS, and GenX Che ls – as a mixture.*
>
> - *PFOA and PFOS: EPA is proposing to regulate PFOA and PFOS at a level they can be reliably measured at 4 parts per trillion.*
> - *PFNA, PFHxS, PFBS, and GenX Chemicals: EPA is also proposing a regulation to limit any mixture containing one or more of PFNA, PFHxS, PFBS, and/or GenX Chemicals. For these PFAS, water systems would use an established approach called a hazard index calculation, defined in the proposed rule, to determine if the **combined** levels of these PFAS pose a potential risk."*

forthcoming on the national level and passed a law in June of 2022 to set an interim concentration standard for PFAS of 20 parts per trillion (ppt). This new law also required public water systems to conduct additional sampling by July 1, 2023. Systems that cannot provide water less than 20 ppt are required to find alternative sources. Considering new regulatory guidelines at the State level, KCWA is now including a series of Granulated Activated Carbon (GAC) treatment trains for PFAS removal in the design.

Soon after the State legislation was introduced, the Biden-Harris Administration proposed the first ever national standard to protect communities from PFAS in drinking water. Because the potential MCL is being set at the Federal level, the State requirement would have to shift to the EPA standard. Therefore, the EPA Press Release (summarized to the right) dictated KCWA's design of PFAS treatment at the new treatment facility. In the release, the EPA signaled that it would be setting a legally enforceable maximum contaminant level (MCL) for PFAS under the Safe Drinking Water Act (SDWA) in the coming months.

> *"EPA finalized a National Primary Drinking Water Regulation (NPDWR) establishing legally enforceable levels, called Maximum Contaminant Levels (MCLs), for six PFAS in drinking water. PFOA, PFOS, PFHxS, PFNA, and HFPO-DA as contaminants with individual MCLs, and PFAS mixtures containing at least two or more of PFHxS, PFNA, HFPO-DA, and PFBS using a Hazard Index MCL to account for the combined and co-occurring levels of these PFAS in drinking water. EPA also finalized health-based, non-enforceable Maximum Contaminant Level Goals (MCLGs) for these PFAS.*

Compound	Final MCLG	Final MCL (enforceable levels)
PFOA	0	4.0 ppt (also expressed as ng/L)
PFOS	0	4.0 ppt
PFHxS	10 ppt	10 ppt
PFNA	10 ppt	10 ppt
HFPO-DA (commonly known as GenX chemicals)	10 ppt	10 ppt
Mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS	1 (unitless) Hazard Index	1 (unitless) Hazard Index"

Source: *Final PFAS National Primary Drinking Water Regulation* https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas

One year after the press release, on April 10, 2024, the EPA officially announced the final National Primary Drinking Water Regulation (NPDWR) for 6 PFAS substances. Because the NPDWR MCLs for PFAS are more stringent than the State requirement of 20 ppt, the final design of the new East Greenwich Well treatment facility has fully shifted to the new EPA standard.

PFAS Levels at East Greenwich Well

An evaluation of PFAS substances for all KCWA wells was performed in June of 2023 and 2024. During the most recent testing, PFOA was detected at 6.02 ppt at the East Greenwich Well. Although PFOA was detected below the State requirement of 20 ppt, the EPA MCL is 4 ppt. KCWA will be performing another round of PFAS testing in the Summer of 2025 to conform to the RI State law on PFAS and to confirm

	Date Analyzed 6/25/24	East Greenwich Well Results
RI PFAS 6	PFOS	2.05 ppt
	PFOA	6.02ppt
	PFNA	< 1.00 ppt (ND)
	PFHxS	1.88 ppt
	PFHpA	2.19ppt
	PFDA	< 1.00 ppt (ND)
	PFAS 6 Sum	12.1 ppt

the design parameters of the new East Greenwich Well treatment facility.

New Design Objective and Cost

The proposed treatment facility and major unit processes at the East Greenwich Well facility was reevaluated based on achieving the primary objective of protecting public health by providing a regulatory compliant, reliable source of potable water that meets or exceeds current drinking water regulations.

The updated project and treatment processes includes iron and manganese removal utilizing a pressurized filtration system, followed by PFAS removal utilizing pressurized granular activated carbon (GAC) adsorption vessels in a lead-lag configuration. PFAS treatment media will be determined by the results of pilot testing. Chemical injections are anticipated to include potassium hydroxide for pH adjustment and sodium hypochlorite for disinfection, as well as a dichlorination step prior to PFAS treatment. A new submersible well pump sized to maintain pressure throughout the proposed treatment system will be installed in the existing well.

The project will consist of the demolition of the existing treatment plant building and the construction of a new treatment plant within the existing building's footprint. Conceptual layouts for the Site and treatment plant building have been prepared to depict the proposed Site layout and interior plant layout. The proposed 8,300 square feet (SF) treatment plant building will feature an increased plant capacity to allow for future expansion, PFAS, and manganese removal using pressurized treatment vessels, a below-grade clearwell, and mechanical, electrical, office, and laboratory spaces. Additionally, a backwash holding tank and sewer force main will be required to manage the residual waste resulting from the treatment processes. The Site will be improved with paved access surrounding the new building, an upgraded transformer, emergency generator, and stormwater detention areas.

The updated design, inclusive of updated PFAS treatment, should be completed by the end of 2024. KCWA obtained an opinion of probable construction estimate of $23 million to construct the new treatment facility at full scale up to 4 million gallons per day. KCWA does not anticipate building it out to full scale unless QDC and/or the Town of North Kingstown decide to come on board. The design is modular where additional filters can be installed if additional capacity becomes available from the neighboring wells. KCWA has applied for principal forgiveness loans and subsidized loans under SRF to help facilitate construction of the facility without the need for a rate increase. With the passage of the Bipartisan Infrastructure Law (BIL), the Drinking Water State Revolving Fund (DWSRF) is receiving approximately $292 million of additional funding for projects, including $179 million for lead service line replacements and addressing emerging contaminants

"The litigation will help to ensure that the cost of removing PFAS contaminants are borne by the manufacturers and sellers of these products, not the ratepayers."

The costs to remove these toxic 'forever chemicals' has created a financial burden for the Kent County Water Authority and initiation of this litigation and the terms of the proposed settlement will allow KCWA to hold the PFAS manufacturers financially accountable for the costs, expenses, and impacts caused by this contamination. The KCWA has and continues to spend countless efforts and resources testing and working to remediate PFAS from the drinking water to remain in compliance with State and Federal water quality guidelines.

The Executive Director of the Kent County Water Authority, David L. Simmons, PE, said "This lawsuit represents the collective interests of all residents within the Kent County Water Authority's service area and aims to safeguard the preservation of clean drinking water. Joining this litigation demonstrates our continuing efforts to prioritize the protection of our water supply and will help guarantee a sustained supply of clean water for future generations." The Director added, "The litigation will help to ensure that the cost of removing PFAS contaminants are borne by the manufacturers and sellers of these products, not the ratepayers."

businesswire

Source:https://www.businesswire.com/news/home/20230803434638/en/Kent-County-Water-Authority-Joins-PFAS-*all*-*09*-*98Forever-Chemicals*all*-*09*-99-Lawsuit-Against-Manufacturers-3M-DuPont-and-Others-For-PFAS-Drinking-Water-Contamination

over the coming few years, including PFAS. In addition to funding research and development, KCWA has also entered into a class action lawsuit to help defray capital costs.