

Clay County Utility Authority

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CCUA Cuts Ribbon on Advanced Reclaimed Water Demonstration Facility

Project Quench demonstrates a future of sustainable water for a growing population

MIDDLEBURG, Fla., February 18, 2025 – Clay County Utility Authority (CCUA) recently celebrated the opening of [Project Quench](#), an innovative demonstration facility showcasing how reclaimed water is safely transformed into drinking water using advanced purification technology. The facility is one of several alternative water supply solutions being evaluated by CCUA as part of the utility's ongoing planning processes for future water needs, with the treated reclaimed water currently being used for testing and demonstration purposes only. The project represents a collaborative effort between CCUA, the [St. Johns River Water Management District](#), the Florida Department of Environmental Protection, and [Carollo Engineers](#).

CCUA serves more than 55,000 water, sewer, and reclaimed water customers in the unincorporated areas of Clay County. The utility operates seven water reclamation facilities, five producing public access reclaimed water, and 22 water treatment plants. CCUA has been an early adopter of reclaimed water technology, already operating with 70% of reclaimed water providing beneficial supplies for irrigation purposes. Alternative water supply projects typically require long-term planning endeavors. CCUA believes the earliest this would be used is in the mid 2030's, as their served population grows.

"Project Quench demonstrates CCUA's commitment to maintaining a sustainable water supply for our rapidly growing community," said CCUA Executive Director Jeremy Johnston. "This facility allows us to evaluate potable reuse as one potential alternative water supply while educating the public about the safety and reliability of these proven treatment processes."

Designed by Carollo Engineers, with Wharton-Smith, Inc. as their contracting partners, the demonstration facility uses a multi-barrier approach encompassing six advanced treatment processes to protect water quality. The process begins with ozonation, where water is treated with ozone to break down organic matter and eliminate bacteria. Next, biofiltration passes the water through specialized carbon filters where beneficial microorganisms remove impurities. The water then undergoes ultrafiltration through membranes with pores 100 times smaller than a human hair,

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capturing microscopic particles and contaminants.

Following ultrafiltration, water flows through granular activated carbon, which acts like a powerful filter to remove any remaining trace elements and organic compounds. UV disinfection then uses high-energy ultraviolet light to inactivate any remaining microorganisms. Finally, chlorination provides lasting protection as the water moves through treatment. Each of these barriers is continuously monitored through advanced control systems to maintain consistent water quality.

"Potable reclaimed water represents the next generation of sustainable water solutions, and Project Quench demonstrates Clay County Utility Authority's visionary approach to early, thoughtful planning to meet future water needs," said Carollo Project Manager Pranjali Kumar. "Through tried-and-true advanced treatment technologies and high-tech monitoring systems, this facility showcases a new, reliable source of drinking water that is safe and protective of public health. This project signals an innovative approach to water sustainability in Northeast Florida."

Beyond testing the treatment system, Project Quench provides an important platform for CCUA to train operations staff on the latest technology. "The transformation of technology in the treatment of water, wastewater, and reclaimed water has been incredible," said Johnston.

"CCUA remains committed to training our professional licensed operators on the technology we look to implement in the future. Not only is CCUA aiming to safeguard available water supplies, but we are also looking to sustain a highly trained professional workforce."

The permanent facility features a welcoming space for presentations and an open floor plan allowing guests to observe the treatment processes firsthand. As both a training center and educational platform, the facility advances CCUA's comprehensive strategy to develop sustainable water supply solutions while building upon its successful reclaimed water program. Public tours are now available upon request to demonstrate CCUA's commitment to providing safe, reliable, and sustainable water supplies for future generations.

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About Clay County Utility Authority (CCUA)

Clay County Utility Authority provides water, sewer, and reclaimed water services to over 55,000 customers in the unincorporated areas of Clay County, Florida. CCUA is committed to ensuring reliable and sustainable water supplies through innovation and environmental stewardship. CCUA has over 200 employees. For more information, visit www.clayutility.org.

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About Carollo Engineers

For over 90 years, Carollo Engineers has provided a full range of innovative planning, design, and construction management services to address the water needs of municipalities, public agencies, private developers, and industrial clients. Carollo develops robust water management strategies that leverage collaboration, provide multi-benefit solutions, and achieve sustainability and resilience. Carollo has over 1,500 employees located across North America. For more information, visit www.carollo.com.