

estled between the Atlanta metro area and the Appalachian Mountains, Gwinnett County Georgia is the second most populous county in the state and home to a uniquely diverse population

with international flare. We're known as a

community with a "small-town heart and a big-city soul," and that description extends to our clean water needs in many ways. At nearly one million residents, our sheer size and projected growth estimates prompted our leadership to



The 60,000-square foot WIC will be built on a 700 acre site that currently includes an environmental center.

act boldly to ensure that the water needs of our community and the surrounding area will be sustainable long into the future.

To promote this water resiliency, Gwinnett approved a Water Innovation Campus (WIC) to meet the needs of this vibrant region through

> innovation and outreach. Approved in 2018, the year we celebrated Gwinnett's bicentennial, this \$60-million facility will be a globally known research and development center in the world of water resources, but it's also so much more.

Faced with Multiple "Big" Challenges, Gwinnett County's New Water Innovation Campus Responds with Boldness and Foresight

By Melissa Meeker

Gwinnett County has been a leader in the water resources industry for years thanks to the community's focus on technology, and today, we recognize the need for a comprehensive water resources strategy: one that integrates applied research, emerging technologies, collaboration with academia and industry, job training, and outreach to ensure that stakeholders are educated. This specialized outreach begins in primary school and continues into adulthood, incorporating a wide variety of public and private groups.

If this sounds unlike any other mission within the water resources industry, that's because it is.

SPACE THAT DEMANDS COLLABORATION

Since the construction of the Buford dam and the filling of Lake Lanier in 1956, for the Atlanta



metropolitan area, this reservoir has been the lifeblood of what has become the tenth-largest economy in the US. It also provides water for surrounding natural resources as well as to Florida and Alabama as part of an interstate water pact.

To serve future water supply needs, Gwinnett's advanced purified wastewater is returned to Lake Lanier, in many ways cleaner than



background lake water. Stormwater is managed via a watershed approach, as are other potential impacts to water quality. Treatment processesincluding our patented process for a membrane filter cleaning-are continually scrutinized to ensure maximum efficacy and efficiency by professionals with numerous awards, but our needs are growing. The need for greater efficiency and less environmental impact, for example, or the need to meet growing demand amid the uncertainty wrought by climate change are increasing. There are needs that, frankly, all of us in the water industry share. The conclusion upon assessment: The need for collaboration is perhaps the biggest need of all.

Our response to these challenges is the Global Water Innovation Campus at Gwinnett (GWIC), which broke ground in 2018 and is scheduled to open in 2021. The campus will include the



Water Innovation Center, a 63,000-sq. ft. LEEDcertified building that contains a three-story demonstration bay and direct connections to multiple water quality flows from the F. Wayne Hill Water Resources Center (WRC) and adjacent source waters; wet and dry lab space; a microbiology lab; classrooms and boardroom space; an atrium with public exhibits; and a 250seat auditorium.

To make this visionary facility happen, we are developing partnerships with many groups, including research and trade organizations, universities, equipment manufacturers, and service providers for design and programming needs. Our staff and distinguished partners will perform targeted research, develop and test new

IT IS NOT ENOUGH TO USE THE SAME OLD SCRIPT TO TEACH WATER AWARENESS & CONSERVATION.

technologies, train new workforces, and educate thousands through public outreach. Additionally, we will fully integrate these services so that they build upon and enhance one another.

UNIQUE SPACE FOR APPLIED RESEARCH AND TECH DEVELOPMENT

More than likely, we have all participated in an applied research project, partnering with a university or participating in a Water Research Foundation project. You may have even been lucky enough to test a new sensor or pump somewhere in your system. It can be challenging, however, to participate in these initiatives while completing our core responsibilities of protecting the public and environment. 43

Our goal is to conduct more applied research and develop and test new technologies but to do so in a controlled way through dedicated facilities where we can isolate these activities while still using and controlling our commodity flows. Universities and equipment manufacturers rarely have access to real flows, and frankly, utilities have their own ideas about what is needed to further our shared industry. The campus allows us to focus on critical areas: treatment, monitoring, and operations across the spectrum of water, wastewater, reuse, and stormwater. Simply put, GWIC will give us the space to partner and succeed together. and professional career paths. This program will be executed in collaboration with our partners–other utilities, equipment manufacturers, and service providers–to enhance placement opportunities and provide a direct pathway to careers.

Additionally, we formed an early partnership with the Georgia Association of Water Professionals for technical and career training in our specialized classroom and field-training center. Most of our certification and training programs are conducted in a classroom, and getting staff out into the field to apply classroom studies will help generate a more sophisticated and confident staff.

OUR GOAL IS TO USE A MULTI-FACETED APPROACH TO WORKFORCE DEVELOPMENT THAT WILL HELP US REDUCE TURNOVER AND FIND DEDICATED WORKERS.

CLEAN WATER ADVOCATE Winter 2019

.

INNOVATIVE SPACE TO ATTRACT AND TRAIN WORKFORCE

Everyone in the water industry understands the daunting challenges we face in finding and retaining staff. Our goal is to use a multi-faceted approach to workforce development that will help us reduce turnover and find dedicated workers.

In both of the last two years, we have seen 20% turnover in our operators–a scary trend. Historically, training for these positions was entirely "on the job" or certification-based, neither of which effectively prepared staff to handle our advanced systems, which require extensive training and expertise to operate. To address this issue, GWIC will have a formal internship program, strengthened by partnerships with local trade and professional schools from high school through college, that will prepare students for a variety of industry-focused jobs both in trade The field-training center will include a mock neighborhood with associated piping and meters, a CDL training course, and a stormwater construction demonstration section so that contractors can better learn construction methodologies. We are also planning to include a two-mile pipe farm to be used for testing and training purposes.

An important part of the GWIC's training components will be blending our applied research and technology development components, which will be achieved by cross-training personnel and giving them access to research projects, especially advanced technologies, so that they can operate this equipment if adopted. Imagine a 700-acre campus where researchers and water industry staff have the ability to jointly test construction techniques, sensors, valves, coatings, acoustics for leak detection, and much more!



INTERACTIVE SPACE FOR PUBLIC OUTREACH

Finally, our targeted outreach programs will be topical and interactive. We know that it is not enough to use the same old script and methods to teach water awareness and conservation, so we will enlist the help of education experts to create entirely new formulas that embrace our audio-visual technologies.

Trails and walking paths throughout the campus will display valuable information and provide real examples of water treatment and conservation methods for visitors, and the adjacent Gwinnett Environmental and Heritage Center will also provide examples of how water conservation and technologies are helping us protect the natural environment.

Right from the beginning, students and citizens will help shape our outreach messaging and will be invited to attend a variety of exhibits, workshops, and symposia that illustrate the value of water, our water supply challenges, what is being done to address them, and how we can collectively secure water resiliency to preserve a higher quality of life.

DECLARATIVE SPACE FOR VISIONARIES

Gwinnett County was named in honor of a signatory of the Declaration of Independence, a document that officially launched a bold vision in the presence of many witnesses. Our vision for advancing water resources has begun similarly: We broke ground at this amazing facility in October 2018 and were joined at the event by over a hundred partners–all just as excited as we were to get started. We hope you will join us in this vision and this journey not just to build the GWIC but also to push our industry to be better and smarter in how we manage our water resources for future generations.

Melissa Meeker is the Director of Development for the Gwinnett County Department of Water Resources Water Innovation Center. Melissa was previously the Co-CEO of The Water Research Foundation.