

Fulton County Public Works Quarterly Newsletter

Connections

Winter 2022



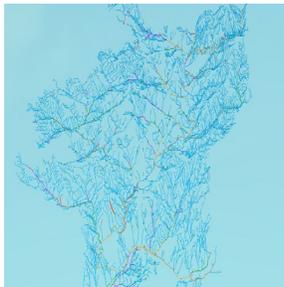
2022 Art Calendar Winners Announced

Public Works recognizes students at annual awards reception and Board of Commissioners Meeting

TRASH let the
WATER SPLASH



PEO Hosts Septic System Education Workshop



Big Creek Sewer Basin 3-D Modeling



Model Water Tower Competition Makes a Comeback



Big Creek WRF Expansion Project "The BIG Thing"



America Recycles Day



PEO Hosts Septic System Education Workshop

On Wednesday, February 16th the Public Education and Outreach team will be hosting our first Septic System Education Workshop of 2022. Hosted in partnership with the Fulton County Board of Health, this virtual workshop is open to all Fulton County residents and employees. Participants will learn the parts of a common household septic system, when to call a septic professional, and how basic home maintenance can extend the life of your system. To attend, please complete the short registration form provided here: <https://forms.gle/3gySu8tXoqkJbgvD7> . For security purposes, registered participants will be contacted via email with Zoom webinar credentials following registration.

For more information about this and other workshops, please contact Kelli Edwards at Kelli.Edwards@fultoncountyga.gov.

Welcome New Employees!	
Dexter Norris - Environmental Education Coordinator	
Josh Van Horn - Water Distribution Systems Manager	
Luther White - Maintenance Worker	
Promotions	
Derrick Wilson - Crew Supv. Sr. Water/Sewer	
Jimmy Johnson - Crew Supv. Sr. Water/Sewer	

Public Works By the Numbers October - December 2021		
Water Resources	24.77 MGD	Total Potable Water Distributed (average day)
	9.17%	Non-Revenue Water (annualized)
	47	Small Meters Replaced
	45.34 MGD	Total Wastewater Treated (average day)
	148 Acres	Sewer Easement Cleared
	10.20 MG	Reuse Water Provided (JCEC)
	14.3 MG	Reuse Water Provided (Little River)
	379	Water and Sewer Service Applications Processed
	1 YTD: 14	Sewer Overflows >10,000 gallons (major spill)
	14 YTD: 38	Sewer Overflows <10,000 gallons (minor spill)
Airport Services	1,250	People Reached by PEO Staff
	32%	Increase in aircraft operations from 2020
FID Transportation Operations	79,449	Aircraft Operations YTD
	7	Utility Permits Processed
	88	Facility Signs Fabricated
	12 Tons	Litter Picked Up
Development Permits	4	Traffic Signals Maintained
	22	Utility Plans Approved
	115	Utility Projects Under Construction
	7	Utility Projects Completed/Accepted



A Message from the Director

David E. Clark, P.E.

Well we made it to 2022. Probably a little more battered, bruised, and tired than we were hoping for when 2021 began, but the good news is that we made it.

At the January 19th Board of Commissioners meeting, the Board adopted the FY2022 annual budget and included a 7% cost-of-living adjustment (COLA) for employees. For anyone who has recently been to the grocery store, this adjustment will be welcomed and I appreciate that all of the Commissioners recognized the need and were committed to include the COLA in the budget. As I understand it, the COLA will be implemented retroactively to begin on January 5th (the start of the first pay period in 2022). It will take effect on the January 28th pay day for employees and adjustments will be retroactive to the January 5th approval of the COLA.

2022 will be filled with many challenges – some of them expected (like the start-up of the new dewatering facility at Big Creek), but many will be a complete surprise. Back in 1997, a Chicago Tribune columnist (Mary Schmich) wrote the kind of graduation speech that she would like to hear if she was graduating. That column contained the following advice that I have often come back to when thinking about the future: *“Don’t worry about the future. Or worry, but know that worrying is as effective as trying to solve an algebra equation by chewing bubble gum. The real troubles in your life are apt to be things that never crossed your worried mind, the kind that blindsides you at 4 p.m. on some idle Tuesday.”*

There are a ton of great lines of wisdom in that column (and it even became a moderately successful spoken word song). You can find the column here: <https://www.chicagotribune.com/columns/chi-schmich-sunscreen-column-column.html>.

Thank you all for a very successful job through a challenging 2021. Here’s to a great 2022, whatever it will bring.



The 2022 Art Calendar Contest saw some of the highest participation in this annual event. All students in Fulton County from grades K-12 are eligible to submit artwork for consideration. This year, the contest challenged students to create art that promoted the awareness of how precious and limited water is as a resource. Entries from 34 different schools came in response. The Public Education and Outreach team, along with assistance from the Fulton County Department of Arts and Culture, had their work cut out for them. Out of 242 fantastic entries, 22 were selected to feature in the calendar.

The cover winner for 2022 is Saanvi Bajaj, a 5th grade student at Woodland Elementary Charter School with her submission of "Remove the Trash Let the Water Splash". There were 12 other winners to be featured – 1 per month, along with 9 honorable mentions. All winners were invited to attend an award ceremony with their family at the Fulton County Government Center building. On the day of the event, they were awarded with cash prizes, a framed version of their artwork, breakfast, and an official proclamation from the Board of Commissioners.

The competition opens in August with a request sent to schools in Fulton County, with a submission deadline of late September. Make sure you mark your calendar if you are a young artist, or have one in your family!

We hope that you enjoy your calendar for organizing the upcoming year, looking forward to special days, being inspired by these young artists, and the motivation to conserve our most precious water.

You can find the downloadable pdf of the 2022 art calendar online at <https://www.fultoncountyga.gov/services/water-services/public-education-and-outreach/water-art-calendar-contest>.

2022 Art Calendar Winners

Cover Winner
Saanvi Bajaj

Monthly Winners

Pratyusha Soni
Sage Lima-Jeffries
Krithik Geddam
Imaan Rizvi
Deborah Zhang
Navarakshana Thirupathi Raja
Sarah Zia
Ruhika Veeramreddygar
Ethan Zhang
William Gillespie
Kaiden Cheely
Ameera Qureshi

Honorable Mentions

Maryam Fatemah Ali
Alex Eliashev
Mikael Abdulkareem
Jahseer Lima-Jeffries
Abby Allen
Nivi Magesh
Saniya Becton
Can Wang
Anvitha Suram

Big Creek Sewer Basin

3-D MODELING

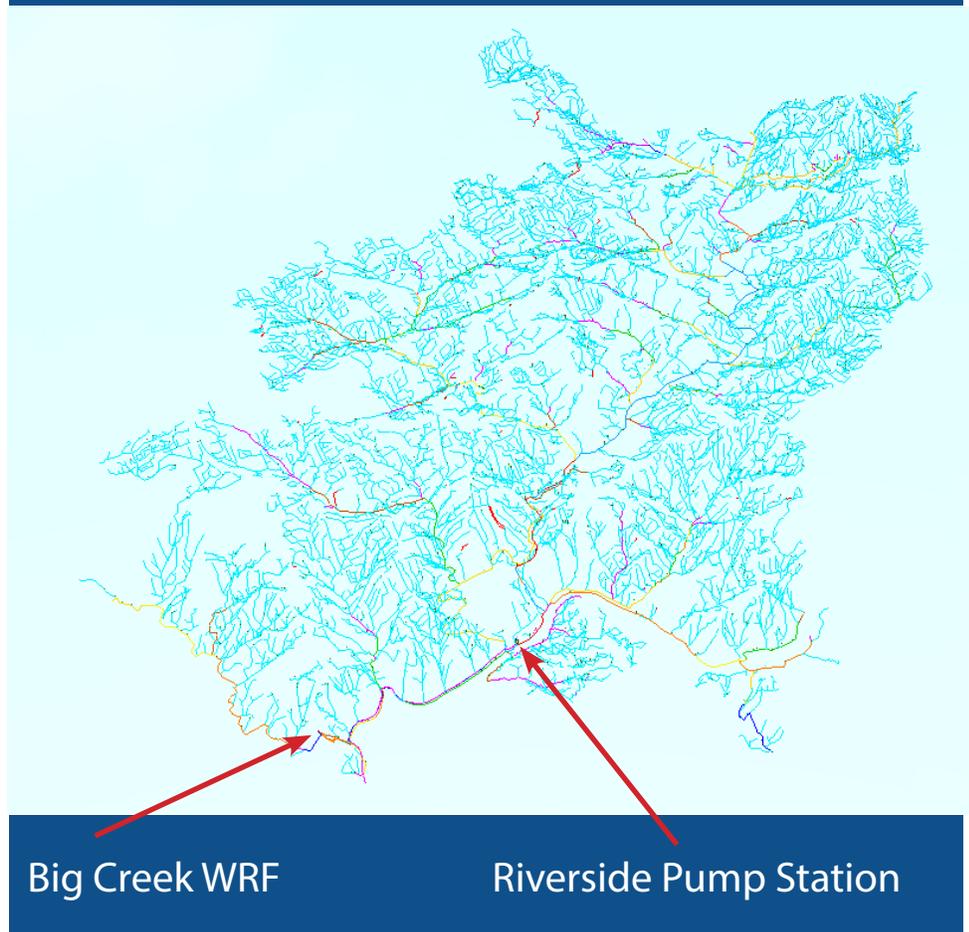
Simulations from 3-D model outputs are useful for planning purposes, to determine the system capacity bottlenecks and to develop Capital Improvement Projects (CIP) to remedy them. The Big Creek Basin is the biggest sanitary basin in the Fulton County sewer collection system and is comprised of 33% of the whole system by total linear feet of sewer pipes. Encompassing the City of Roswell, City of Alpharetta and a portion of the City of Sandy Springs, it contains approximately 22,800 manholes with 798 miles of sewer pipes of various sizes.

The system starts adjacent to the northwest County line and travels to the furthest node downstream at the Riverside Pump Station which is then pumped to the Big Creek Water Reclamation Facility (WRF). To perform a detailed analysis of the County sanitary collection system, it is essential to create a mathematical model that is capable of simulating the operating hydraulic characteristics of the system. The County utilizes Integrated Catchment Model (ICM) software made by InnoVyz[®] to build and calibrate a model of the sanitary sewer system. Figure 1 shows a typical hydraulic model built for the Big Creek Sewer Basin, which includes all sizes of pipes from 8 inch micro pipes up to 60 inches and is denoted by the different colors in the model.

The process to build the model begins by gathering all the pertinent data parameters and then calibrating them using the existing rain gauge and flow meter data. The software manages and maintains the database that stores the sewer information for input and output results. The building process starts by entering the manholes parameters (Rim Elevation and bottom elevation as well as the pipe information), diameters of pipes, lengths, elevations, pressure losses, and roughness coefficients for pipe materials, as well as land use classifications. This should also include the current projects that are being built. The sewer model includes all of the manholes, sewer pipes (excluding service laterals and private sewers), pump stations, and contributory area boundaries. In addition to the information gathered from the County sewer GIS files and as-built drawings, interviews with staff were essential to verify the model geometry and accuracy.

Once complete, the model will be checked for errors and for missing data in order for the model to run for simulation output results. At the completion of the model run, output data is created for viewing on the screen or for printing. Output data from manholes includes depth and spilling volumes. Data from pipes include average and peak flow rate, velocity, pipe capacity, depth, ratio of peak flow to average dry weather, and surcharge state (Depth to pipe diameter (d/D)) in response to a storm event.

Figure 1. Big Creek Sewer Basin Model



Getting to know:

Josh Van Horn

Water Distribution System
Manager



What is your previous work experience that brings you to our Public Works team?

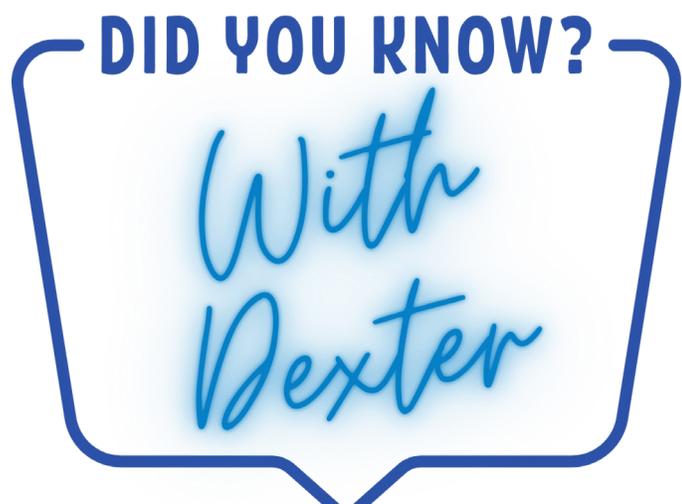
Early in my career, I worked in the petroleum industry at an oil refinery located in North Pole, Alaska. My background primarily consisted of operation and maintenance (both in technician and management roles). Approximately 10 years ago, I transitioned into the utility business where I worked primarily in management. The specific utility company that I worked for owned and operated a variety of utility systems including power generation/distribution, water treatment/distribution, and wastewater collections.

What are some of your goals for Fulton County's Water Distribution System?

Our primary objectives are centered around safe, efficient, and reliable operation of the Water Distribution System. As a result, our team is in the process of developing specific (measurable goals) to achieve these objectives.

What are some of your favorite hobbies or interests outside of work?

My favorite hobbies include anything involving the outdoors. In Alaska, we routinely enjoyed camping as a family. We're very excited to begin exploring Georgia. Additionally, I have two sons that really enjoy playing soccer. One plays college soccer in Seattle and the other attends a soccer academy in Minnesota. My wife and I look forward to cheering them on and watching them play.



Don't you love winter? The crisp morning chill, hot cocoa, and no mosquitos. It is, without a doubt, my favorite season.

However, precautions need to be taken during the winter. Dressing in layers, putting on lotion, and remembering where you last stashed your pair of gloves, to name of few. These are some of the many steps that we need to take in order to keep our bodies comfortable and safe when there is a chill in the air.

The same mindset and approach applies to our homes. Winterization keeps our homes comfortable, efficient, and reduces the potential for costly damage from frozen pipes. Layering insulation around exposed pipes, eliminating drafts, and knowing where your main water shut-off is located are simple measures that can help keep you (and your home) safe and warm this winter.

The Public Education and Outreach team offers virtual workshops for Fulton County residents, sharing tips on how they can winterize their home plumbing.

Fore more information on winterizing tips, contact Dexter Norris at dexter.norris@fultoncountyga.gov or 404-612-6379.



Splash Into Citizen Science

Join Fulton County Public Works staff for an introduction to the Georgia Adopt-A-Stream volunteer water quality monitoring program and 2022 training opportunities.

February 24,
2022
6:30 PM -
7:30 PM

Register for this event at <https://forms.gle/3YptDkcG2C4DQs7j8>

Model Water Tower Competition Makes a Comeback



On November 10th, 2021 Public Works was able to host an in-person Model Water Tower Competition for the first time in two years, and with a little help from nice weather and a lot of help from staff volunteers, the day was a great success. The Model Water Tower Competition challenges middle school students to design and build functional model water towers, which are judged against towers built by other Fulton County students. This year's competition included 37 students competing in 16 teams from Holcomb Bridge Middle School, Haynes Bridge Middle School, and Amana Academy.

Competing teams are evaluated on three criteria: structural efficiency, hydraulic efficiency, and a presentation given to our panel of judges. Structural efficiency judging compares the weight that a tower can support compared to the weight of the tower itself, while hydraulic efficiency measures how quickly the tower can fill and drain a set amount of water. The judges' interviews give the teams a chance to show what they learned during the design process about engineering concepts and water systems. Superlative awards are also given in additional categories, such as cost-effectiveness and artistic design.

From a field of impressive entries, this year's first place winning team, was Team "Mr. Pringles" from Holcomb Bridge Middle School. The King Kong-themed tower "Empire", also from Holcomb Bridge Middle, took home the Artistic Design award, while "Lufi's Boat" from Amana Academy received the Judges' Choice honors. Congratulations to all of the participating teams, and a sincere thanks to the teachers, staff, and volunteers that helped make this competition a success. You can see what some of the students had to say about the experience in this FGTV "Happening in Fulton" segment: https://youtu.be/e0s_mNObtCE





Big Creek WRF Expansion Project - "The Big Thing"

Dubbed as Public Works' single biggest project in terms of project cost (\$274,768,712.00), the Big Creek WRF Expansion – Phase 2B has made significant progress for the past sixteen months. The project broke ground in August 2020 and as of December 2021, it is about 37% complete. Barring any delays the project is anticipated to be completed on July 2024.

Currently the contractor has started work on all proposed structures and had placed approximately 36,000 cubic yards of concrete out the 46,500 cubic yards required (or 77%). To put it in perspective, we have placed concrete the size of a football field and about 16 feet high. The Dewatering Building, which is the first structure to be completed is scheduled to be operational the second quarter of this year. The contractor has completed 404,718 man-hours to date to accomplish this work with only one recordable incident so far. This means the work is being safely performed based on OSHA standards.

A project of this magnitude requires a concerted and collaborative effort amongst the project team taking into consideration stakeholders' interest. Balancing the competing project constraints, which includes, but are not limited to: scope, quality, schedule, budget, resources, and risks, is also a must.

The County is encouraged by how well the project is going so far and this may be attributed to the dedicated project team consisting of Public Works staff, the joint venture of Archer Western and Brown & Caldwell and their subcontractors and sub consultants, and the support of the County Manager's Office and the Fulton County Board of Commissioners. Monthly updates for this project can be found online at www.bigcreekexpansion.com



Anticipated Site Conditions at the Conclusion of Phase 2B



America Recycles Day is celebrated annually on November 15th and serves to raise awareness about recycling throughout the country. According to the United States Environmental Protection Agency (EPA), the recycling rate has increased from less than 7% in 1960 to 32% in 2018.

While we can be proud of the recycling rate increase, there is still so much more that can be done. Consider these simple tips when recycling your household waste:

- When shopping, consider purchasing products made from recycled materials or that have recyclable packaging.
- Although some plastics are not accepted in recycling programs, check with your local recycling center to determine which plastics are. In 2018, more than 35 million tons of plastic were generated in the United States, with only 8.7% being recycled.
- Glass can be recycled multiple times! According to the Georgia Recycling Coalition, 80% of all recycled glass in Georgia is used to create new glass materials! This is a huge accomplishment for reducing waste and providing employment for Georgia residents. In addition to recycling your glass waste, consider repurposing glass containers in your home before recycling them with your local waste provider.

Together, we can reduce household waste and increase the United States recycling rate! For more information about recycling in the state of Georgia, visit the Georgia Recycling Coalition at www.georgiarecycles.org or Earth911 at www.earth911.com. For information about the Department of Public Works' recycling events, please contact Kelli Edwards at Kelli.Edwards@fultoncountyga.gov.



Public Works Receives Unique Recognition

On December 15, 2021 a unique kind of recognition came to the Fulton County Department of Public Works via a proclamation presented by the Fulton County Board of Commissioners who made the following statement:

"The Board of Commissioners commends Public Works for their dedication and service and recognizes that the protection of the environment is vital to the health, safety, welfare & economic progress of Fulton County."

Fulton County Public Works is committed to managing the resources and wastewater infrastructure in Fulton County, in a sustainable and efficient manner. Recently, the Public Works team received awards from the Georgia Association of Water Professionals in recognition of the excellent service in managing our wastewater systems & laboratory services.

WEDNESDAY FEBRUARY 9TH
12:00PM-12:45PM

Lunch & Learn: Water Conservation

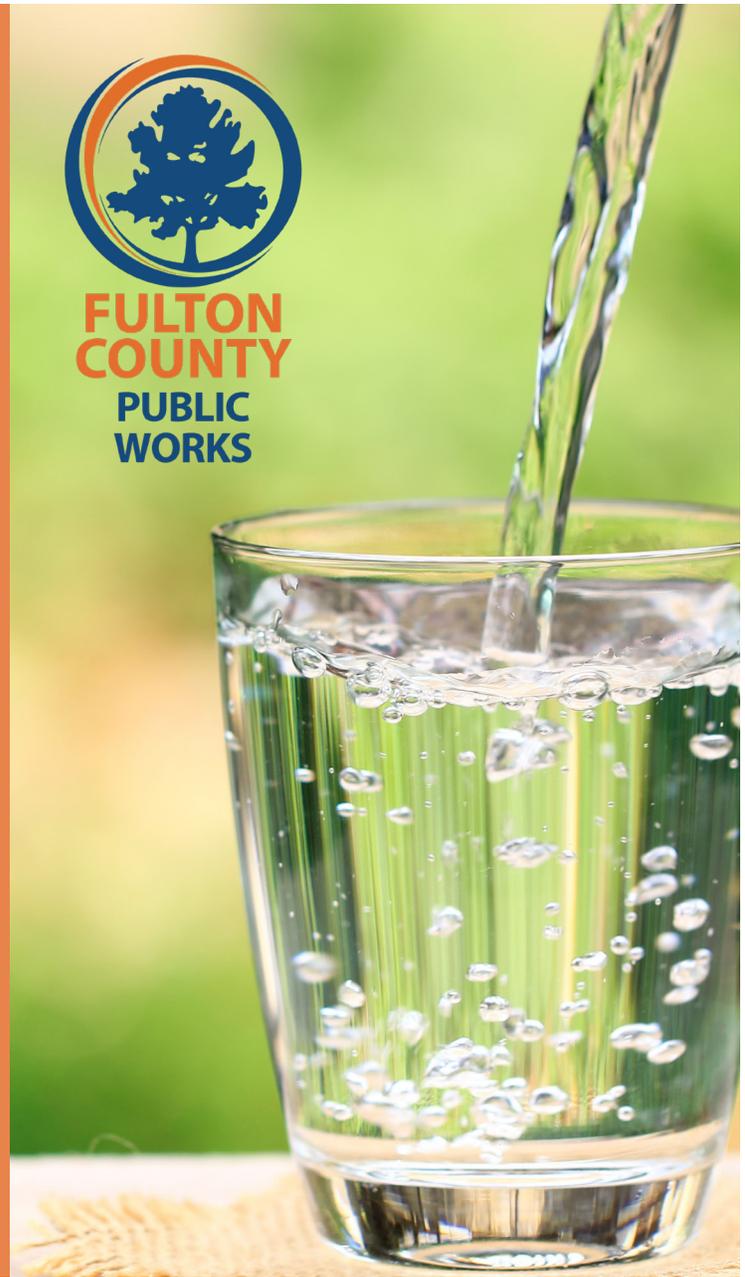
Join Public Works staff online during the lunch hour for a free Water Conservation 101 presentation and discover resources available to help you make simple changes that can lower your bills and protect your home. Presentation will last 30 minutes, with time afterwards for questions.

Zoom link will be sent to registered participants the day before the workshop.

Register by February 7th at:

<https://forms.gle/AByiFoKxctvdykYY7>

QUESTIONS?
CONTACT AMY WARNOCK AT
404.612.8006 OR
AMY.WARNOCK@FULTONCOUNTYGA.GOV



Fulton County Board of Commissioners

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Commissioner Liz Hausmann
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Commissioner Bob Ellis
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Commissioner Lee Morris
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Commissioner Marvin S. Arrington Jr.
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Commissioner Kadajah Abdur-Rahman
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