Finding ways to properly dispose of human waste and other unwanted liquids has been a prominent issue throughout history. From using buckets to complex sanitary systems that used sewer-like tunnels with flowing water to carry waste, it became clear this issue will always be at the forefront of evolution. Here in Mebane, the city has been receiving, treating, and returning clean water to North Carolina's surrounding bodies of water since 1915. The city realized the vast importance of protecting our environment and preventing water pollution, so in 1921, the first wastewater treatment facilities were constructed.

Throughout the years, the Mebane wastewater facility has been referred to by various names such as Sewer Treatment Plant, Wastewater Treatment Plant, to its current name, Water Resource Recovery Facility (WRRF). The WRRF functions as a facility where multi-stage processes occur to recover clean water by removing or reducing organic matter, solids, nutrients, disease-causing organisms, and other pollutants from the wastewater or sewage that residents, businesses, and industries discharge in our community. The recovered, clean water is then discharged into Moadams Creek. Many refer to the WRRF as a Wastewater Treatment Plant, but it does more than remove pollutants and pathogens from sewage. It also recovers elements of wastewater and uses them for beneficial purposes, which is why the name of the plant is now the Wastewater Resource Recovery Facility.

The City of Mebane has continuously upgraded the WRRF to meet the most current and rigorous discharge limitations. Since the creation of the wastewater facility in 1921, there have been five upgrades, the first being in 1960 and the latest wrapping up completion by year's end. The current upgrade or renovation project is part of the City's plan to replace aging equipment and improve unit process operation. Improving unit process operation will ensure the proposed upgrade conforms with the upcoming expansion plans to increase permitted treated wastewater capacity from 2.5 to 4.0 million gallons per day. The renovation project will include six key elements: a headworks expansion, aerobic stabilization, solids thickening, a polymer upgrade, secondary clarifier improvements, and electrical upgrades.

The first aspect of the renovation project, a headworks expansion, will allow Mebane to more efficiently remove solid material that can adversely affect the biological operation of the treatment process. It will do so by adding an additional single, parallel channel with a capacity of 8 million gallons per day to function as the primary flowing channel. This channel will include a mechanical screen and vortex grit removal. The next element of the renovation project is to replace the aging mixer/aerators with course bubble diffused aeration and mixers. Three outdoor geared centrifugal blowers will then provide the air. The centrifugal blowers operate at a lower cost than our current aeration system and with greater efficiency. Another project for the renovation aspect is installing a second rotary drum thickener parallel to the existing unit. The second, 200 gallonsper-minute rotary drum thickener, will ensure continued treatment if there is a primary equipment failure. The same goes for the addition of a second polymer feed system. The renovation project will install a new unit parallel to the existing unit in case of primary equipment failure. The last critical elements of the renovation include upgrading our clarifiers, so they contain ener-

gy-dissipating inlets, flocculating feed wells, and density current baffles, as well as upgrading our electrical system. The upgrades to the secondary clarifiers will increase the facility operation's efficiency and minimize any effects due to high wastewater flows caused by ever-increasing extreme storm events. The electrical upgrades include a new electrical building able to support the new wastewater treatment equipment. We have not had a major electrical system upgrade since the current electrical system installation that occurred during the last facility upgrade in 1993. Dennis Hodge, Water Resources Director, says, "The current renovation ensures that the facility's equipment will provide effective and reliable operations for the current facility as well as providing reliable operations well into the future for the planned facility expansion."

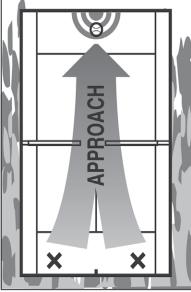
Due to the size and magnitude of this project, funding is being provided through revenue bonds. Revenue bonds are a bond for which a specific revenue stream supports payment. These bonds for the City are supported by revenue generated in the utility fund, and the utility fund invests in



The WRRF renovation project was combined with another utility pump station and force main relocation project where refinancing took place on former completed utility projects for a lower interest rate.

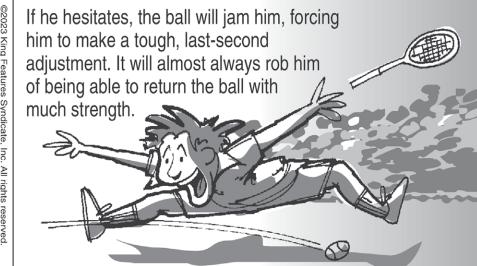
> companies providing utility services. The WRRF renovation project was combined with another utility pump station and force main relocation project where refinancing took place on former completed utility projects for a lower interest rate. City Finance Director, Daphna Schwartz, states that "Revenue bonds allow for income-generating, large, costly projects to get done while not leveraging the physical assets of the City." In total, \$8,951,942.00 was obtained for the WRRF renovation project to fund construction and reimburse the City for preliminary engineering and design work. The city has been planning and undertaking this infrastructure improvement for over the past decade. Such improvements are part of the operational and budgetary planning performed on a regular basis. "The renovation and expansion of the WRRF is vital to maintaining effective operations of the facility, compliance with the Jordan Lake Rules, and providing economic growth opportunities for the city," Franz Holt, City Engineer. The WRRF renovation project is scheduled to be completed by December 2023.

STAN SMITH'S TENNIS CLASS



HIT AT THEM!

If you are going to the net, you need to make it hard for him to return the ball as you are coming to the net. One way to make it hard on your opponent is to hit your approach shot deep and down the center. It will take away his angles for the passing shots.



It's Time To Stock Your Pond!

DELIVERY WILL BE: TUESDAY, MAY 2 ROXBORO 1:15-2:00 @ SOUTHERN STATES YANCEYVILLE 2:45-3:30 @ ACE HOME & BUILDING CENTER **WEDNESDAY, MAY 3** GRAHAM 11:30-12:15 @ GRAHAM FEED & SEED MEBANE 12:45-1:30 @ SOUTHERN STATES HILLSBOROUGH 2:00-2:45 @ FARM & GARDEN CENTER

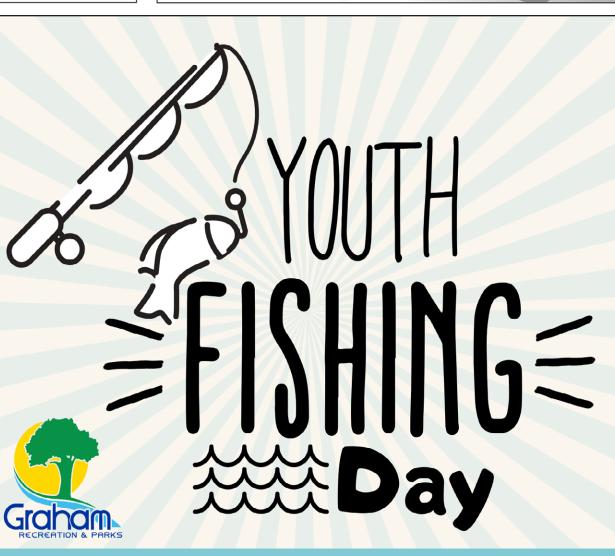
CHAPEL HILL 3:15-4:00 @ PIEDMONT FEED & GARDEN CENTER Facebook

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May 13, 2023 - 9:00AM - 11:00AM Cost: FREE, online registration is required **Graham-Mebane Lake**

> Children ages 4 to 15 are invited to participate in a FREE, non-competitive Youth Fishing Day! Enjoy fishing, raffles, SnoBalls, and games.

Online registration is required. Space is limited. For more information and to register, visit www.GrahamRecreationAndParks.com.

