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WSSC Commissioners' Engineering Scholarship Program

April 5, 2023

An essential item in the life of all things on this earth...water. Nothing on this earth would live, breathe, and thrive without it. As a nation, the government, private entities, and the community should be willing and invested in ensuring the proper amount of resources are allotted to care for our water. Luckily for the agencies such as the Environmental Protection Agency, The Bipartisan Infrastructure Law is responsible for over \$50 million in funding that goes toward taking care of wastewater, stormwater infrastructure, and drinking water. If someone like myself were to apply for funding on behalf of the WSSC, I would focus on the role that farms and agricultural land play in water pollution. Agricultural lands are one of the single largest contributors to waste in our freshwater systems. Whether it be runoff containing pesticides or water mixed with manure, it is imperative that both agencies and the farmers work together to reduce the number of contaminants in the water. While many of the projects are not directly related to water treatment, carrying out these tasks would dramatically reduce the amount of waste WSSC facilities would have to process. One such project the WSSC could carry out in conjunction with landowners is designing and creating more efficient irrigation systems for crops. Measuring and researching the needs of specific crops would allow farmers to create a personalized "plan" for the WSSC. From that point, wastewater engineers could come up with an irrigation system that wouldn't supply too much water to the crops, reducing runoff and erosion. Projects such as these would require work from the farmers, but with federal funding, most if not all of the projects could be paid for via the EPA. In addition to targeting farmland and reducing the amount of pollution before it reaches our waterways, allocated funding could be put towards the replacement of water main pipes and wastewater pipes. If the WSSC thinks about preventative measures to ensure that no large-scale disaster happens in the future, replacing outdated wastewater pipes should be close to the top of that list. If a wastewater pipe bursts on the way to one of the WSSC processing facilities, all of the pollutants can escape into the ground, causing widespread pollution. If these pollutants go below the water table, they can pollute areas such as aquifers, resulting in new areas of polluted water. Given the funding from the Environmental Protection Agency, the WSSC would be able to fund the new pipe material as well as the labor costs that go into installing miles of wastewater return lines. While it would take a long while to attend to all of the main wastewater pipes, a gradual phasing out of the outdated lines would be a feasible option. The WSSC already does quality work and over the past 100 years, they have found ways to innovate and make water treatment more effective than ever before. If federal funding was approved for these projects, the WSSC could shift its area of thinking to large-scale prevention, so that ultimately, the waste entering their facility is lower than ever seen before. Working closely with leading agricultural companies and private farms will result in not just smarter and more effective use of water, but the number of pollutants that accompany it. In addition, updating infrastructure to fit the needs of the modern world will keep the transport of sewage effective as well as safe. Projects such as those

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previously mentioned would allow for the WSSC to not only shift focus to many areas of water processing, but continue to help their efforts in "delivering the essential".