

RUTGERS

New Jersey Agricultural
Experiment Station



November 2019

WATER PAGES eNEWSLETTER

The RCE Water Resources Program Goes to Taipei, Taiwan



Over the years, the Rutgers Cooperative Extension (RCE) Water Resources Program has been sharing our work on the international stage through presentations to foreign delegations that have visited the United States. These presentations have resulted in Dr. Obropta being invited to Taipei, Taiwan to share the Water Resources Program's efforts with designing and implementing community-based green infrastructure. Dr. Obropta and Zack Chen, an Engineering Technician for the Water Resources Program, spent seven-days as the guests of the Taiwan Environmental Protection Agency (EPA). They toured Taipei in the surrounding areas to see the green infrastructure that has already been installed in Taiwan along with other environmental efforts put forth by the Taiwan government. The main green infrastructure demonstration project in Taipei was installed at its largest wastewater treatment plant and included porous asphalt, a rain garden, a rainwater harvesting system, and grass pavers. After the two-day tour, Dr. Obropta gave a presentation to the Deputy Directors and Senior Administrators of the Taiwan

EPA. Taiwan has begun to adopt a “Sponge City” concept to address stormwater problems in the City. This work is very similar to the efforts of the Water Resources Program to incorporate green infrastructure in the cities of New Jersey. While Taiwan is trying to install large green infrastructure projects as part of its “Sponge City” concept, they were very intrigued by our community-based efforts of installing many small projects to provide a cumulative positive effect at reducing the impacts from stormwater runoff. While in Taipei, Dr. Obropta also presented at the two-day 2019 Water Environmental Symposium hosted by the National Taipei University of Technology. University faculty from China and Japan also presented at the symposium. The “Sponge City” concept originated in Beijing, China. The interesting component of the “Sponge City” concept is its ability to combine gray and green infrastructure, not only to manage the smaller storm events, but to also reduce flooding impacts from typhoons that can dump several feet of rain over the course of a single day. This model can prove to be very useful in the United States to help manage runoff from hurricanes, nor’easters, and the 100-year storms that have become more frequent due to climate change. The RCE Water Resources Program’s hope is to work with our colleagues in Taiwan to better understand the “Sponge City” concept and possibly adapt components of this model to help the United States become more climate resilient. Taipei is a beautiful city with very friendly people and unbelievable food. We can’t wait to return there very soon.



Green Infrastructure in Schools – Not Just a Unique Idea to New Jersey

Throughout New Jersey, the RCE Water Resources Program has been working closely with schools to implement green infrastructure practices. We have worked with elementary, middle, and high schools, both public schools and private schools, and

charter schools. Every project we install is not only fully functional at managing stormwater runoff, but also provides a great educational opportunity for the students, their parents, and their teachers. In New Jersey, these projects are mostly rain gardens due to the low-cost of installation and their ability to engage the students in helping with the rain garden design and planting. In some places, bioswales, rainwater harvesting systems, and porous asphalt are also the green infrastructure practices that have been installed. At the 2019 Water Environment Symposium in Taipei, we learned that we are not the only ones working to improve school campuses with green infrastructure! Dr. Chen, a Professor at the National Taipei University of Technology, has implemented a demonstration project in Taipei at the Beitou Elementary School that includes permeable pavements, a rainwater harvesting system, and several rain gardens. This project even includes a monitoring system that allows the students to see how much water these green infrastructure practices manage. Wouldn't it be exciting if we could link the students from green schools in New Jersey with green schools in Taiwan? The students could share their experiences and learn from each other. The world could become a much smaller place.



*Green infrastructure at the Beitou Elementary School in Taipei, Taiwan
(Photo courtesy of Dr. Chen)*

The Ocean Township Community Pool has a New Rain Garden!

On September 4, 2019, staff from the Ocean Township Department of Public Works attended a Department of Public Works Rain Garden Training session, delivered by the Rutgers Cooperative Extension (RCE) Water Resources Program at the Long Branch Public Library. The session prepared them to install a rain garden designed by the Water Resources Program for the Ocean Township Community Pool with grant funding from the **New Jersey Sea Grant Consortium**. On October 15th, a crew from the Ocean Township Department of Public Works arrived at the Ocean Township Community Pool with a backhoe, dump truck, soil amendments, river stone, mulch, and an eagerness to try something new by installing their first rain garden! The excavation and installation preparation for planting was complete by the end of the day, with construction oversight provided by the Water Resources Program. On October 16th, native plants purchased by the Ocean Township Environmental Commission arrived. The rain garden was then planted by volunteers from the **Whale Pond Brook Watershed Association** and Water Resources Program staff. We are grateful for the combined efforts of all our partners!







Municipal Action Teams' Green Infrastructure Initiative Updates

NOVEMBER 2019

Camden SMART (Stormwater Management and Resource Training) met on November 13th. The meeting began with a discussion about Camden's Environmental Summit on Thursday, November 21st from 9AM-2:30PM. Reports of localized flooding at 33rd and Westfield and Morgan Boulevards were brought up. Notably, Morgan Boulevard was tested to confirm it is only stormwater, and the flooding appears to be due to catch basins that need to be cleaned. News about an executive order that creates a climate change task force at the New Jersey Department of Environmental Protection (NJDEP) was discussed with hope that it will aid in climate change mitigation plans since Camden is particularly vulnerable to impacts of climate change. The Water Resources Program brought up its plans to implement the projects at Higher Ground and Camden Tool in the spring. Harrison Avenue and North 36th Street were brought up as potential places for a green street design that the Water Resources Program is looking to create conceptual designs for. The next monthly meeting is planned for Wednesday, December 13th at 2PM at Camden County Municipal Utilities Authority.

Gloucester City Green Team met on November 13th. The group discussed the recently installed projects at the Water Department which included the rain garden that was planted with high school students and the redesigned enhanced stormwater management tree pits installed at the First Baptist Church by New Jersey Tree Foundation. The planned construction at the Gloucester City High School is moving forward with a contractor providing estimates for a spring installation. The next monthly meeting is scheduled for Wednesday, December 13th at 1PM at the Gloucester City Municipal Building.

Harrison TIDE (Transforming, Infrastructure and Defending our Environment) met on November 14th. The group discussed the success of the Washington Middle School rain garden project that was installed and funded by Passaic Valley Sewerage Commission (PVSC) and planted with students. A cistern was also installed to use for watering the existing vegetable garden. The combined sewer overflow (CSO) long term control plan continues to move forward as the consultants are working on a revised report to address NJDEP's comments on the Development and Evaluation of Alternatives Report. The next monthly meeting is tentatively scheduled for Thursday, December 12th at 2PM at Harrison Town Hall.

Jersey City START (Stormwater Treatment and Resiliency Team) members met on November 14th at the JCMUA. The group discussed the four community outreach meetings hosted by the JCMUA and START and plans for meeting times and

Municipal action teams have been formed to foster collaboration and collective action that helps the municipality speak with a common voice and achieve a common goal while advocating for green infrastructure. Updates on the various municipal action teams across the state are listed in this newsletter.

Technical assistance provided to these municipal action teams by the RCE Water Resources Program is funded in part by the Surdna Foundation, the Passaic Valley Sewerage Commission with support from the New Jersey Department of Environmental Protection (NJDEP), and our local partners.

Camden SMART

Gloucester City Green Team

Harrison TIDE

Jersey City START

Newark DIG

Paterson SMART

Perth Amboy SWIM

Trenton Green Infrastructure Partners

procedures in the spring. The city's planning board approved the flood overlay zone proposed by the Division of City Planning, which will hold developers accountable for stormwater management in new developments in the flood zone. The next START meeting will be December 12th at the JCMUA at 10AM.

Paterson SMART (Stormwater Management and Resource Training) did not hold a meeting during the month of November due to the usual meeting time coinciding with the League of Municipalities conference. The next meeting time will be December 11th at 10AM in City Hall in the Business Administration office. The Long Term Control Plan and plans for the group in 2020 will be discussed.

Perth Amboy SWIM (Stormwater Infrastructure Management) members met Thursday, November 21st at the Perth Amboy YMCA in the Faith Room on the main floor. Members continued discussions on when and how to proceed with the Long Term Control Plan outreach over the next year before the final plan is submitted. The Community Forestry Management is a priority for group members as well, and engaging city officials in completing and submitting the document will be a priority for early next year. The final CSO Supplemental Team meeting will be held in early December and announced via email to the SWIM listerv. The next meeting will be in January and announced via email.

Trenton Green Infrastructure Partners (GIP) met in conjunction with the Trenton Green Team on November 19th at the Isles Youth Build Institute at 3 PM. Members discussed plans for signage designs for new green infrastructure projects throughout the city and identifying priority green infrastructure projects for 2020. The next meeting will be in January.

OCTOBER 2019

Newark DIG (Doing Infrastructure Green) met in Newark City Hall at 11AM on October 22, 2019. Public meetings were scheduled and planned to discuss the opportunities for green infrastructure in the Development and Evaluation of Alternatives Report for the CSO (combined sewer overflow) Long Term Control Plan (LTCP) with city officials and the general public. The Newark Office of Sustainability discussed a green jobs training program in partnership with the Newark Workforce Development Board and Ironbound Community Corporation, licensed by the NGICP (National Green Infrastructure Certification Program). Rutgers Cooperative Extension Water Resources Program is helping to install green stormwater infrastructure as a part of a "Model Block" street greening program on Fairmount Avenue, led by the Urban League of Essex County. For additional information and upcoming public meetings about the LTCP and CSO issues, visit the webpages of **Newark Stormwater Solutions** and **Newark DIG**. Newark DIG meetings are held at 11AM on

the fourth Tuesday of every month in Newark City Hall.

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