



May 2021

## WATER PAGES eNEWSLETTER

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### Four Rain Gardens Completed at Colonia High School



What started as an idea for the Colonia High School (CHS) Ecology Club project grew into a collaborative effort to install four rain gardens at CHS this spring, the last of which was planted by students on April 20, 2021. Rain gardens totaling 1,350 square feet, including 18 native plant species, will manage stormwater runoff from a drainage area of 5,380 square feet and have the

capacity to manage up to 117,000 gallons of stormwater annually. Rain gardens are a type of green stormwater infrastructure, designed to intercept runoff and allow stormwater to slowly infiltrate into the ground, recharging groundwater, enhancing water quality, and managing runoff. Rain gardens are planted with a diverse selection of native species that add value to the CHS landscape and will attract and support pollinators.

A diverse set of resources were utilized to reach this goal and included the efforts of CHS, Woodbridge Township Department of Public Works (DPW), Rutgers Cooperative Extension (RCE) Water Resources Program, and an Eagle Scout candidate from Troop 523. Michael Atzbi, Colonia High School Science and Social Studies Department Head, received a \$10,000 Sustainable Jersey for Schools grant to build a rain garden at Colonia High School. Additional funds were raised for plant material as a part of the Eagle Scout project. The RCE Water Resources Program provided the rain garden design plans and technical oversight of installation through an ongoing partnership with Woodbridge Township.

As spring emerged in March and April, the CHS rain gardens were installed one by one by the Woodbridge Township Department of Public Works, showcasing their skills honed over eight previous rain garden installations in Woodbridge. On a Saturday in March, over 30 volunteers were led by the Troop 523 Eagle Scout candidate for the project through the final stages of construction of three rain gardens. Mr. Atzbi and CHS science teacher, Chantal Greffer, led their students and the CHS Ecology Club in the final planting of the remaining two rain gardens at an event that included Woodbridge Mayor McCormac and



*Colonia High School rain garden planting, April 2021*

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## **Wheaton Arts Rain Garden and Pollinator Garden Installation Projects**

The last week of April 2021 achieved the impossible. Located down south in Millville, New Jersey, Wheaton Arts is a museum that focuses on American style glass making. Their mission is to **“engage artists and audiences in an evolving exploration of creativity.”**



What probably should have taken ten days was completed in five days right before the planting installation on May 1<sup>st</sup> for the Wheaton Arts rain gardens and upland pollinator gardens display. Rutgers Cooperative Extension Water Resources Program and the Citizens United to Protect the Maurice River and Its Tributaries, Inc. (CU Maurice River) collaborated with the staff at Wheaton Arts to provide an interactive stormwater management project using green infrastructure. The goal of the project is to capture the stormwater runoff into the four bioretention systems (5,215 square feet total) to allow for on-site treatment and infiltration into the ground. Using green infrastructure such as native plants and biomaterials help store and clean the water before flowing back into the Maurice River.



Three backhoe loaders, determined volunteers, and construction oversight managers persevered over the roughly 30,000 square foot project.



The project consisted of constructing four rain gardens and four upland pollinator gardens formed from the excavated soil. Each garden has a variety of plant species native to New Jersey that establish a better ecosystem for insects and pollinators.



Without the machinery, equipment, and time being donated, the project could not have been accomplished. Pushing through unforeseen challenges, the Water Resources Program engineers made sure that the rain garden cells would function properly to create an entire green infrastructure stormwater system. Each rain garden is connected through rock swales, underground piping, atriums, and even parts of the pre-existing stormwater gray infrastructure system.



The Wheaton Arts project is designed to educate all visitors on how important native landscapes are to New Jersey. The Water Resources Program and CU Maurice River hope that you take the chance to visit the display and understand how using green infrastructure helps the environment for all kinds of life.



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## 50 Rain Gardens for the 50th Anniversary of Earth Day - Featured Rain Gardens for April 2021

The Water Resources Program worked with our partners to install over 50 rain gardens in 2020, while following social distancing guidelines, as part of our *50 Rain Gardens for the 50th Anniversary of Earth Day Initiative*. This month we highlight rain gardens #10, #11, #39 - #42, and #43.

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### #10

#### **Pittsgrove Municipal Building 989 Centerton Rd, Elmer Borough, NJ**

The Water Resources Program completed an impervious cover assessment and reduction action plan of Pittsgrove Township with funding from a grant awarded by the William Penn Foundation. This demonstration project was the first rain garden to be installed in Pittsgrove and was completed on June 27, 2020 at the Municipal Building. The construction of the rain garden was made possible by the combined work efforts of South Jersey Land and Water Trust, the Water Resources Program staff, and volunteers. The managed drainage area for the rain garden is 1,340 square feet. The rain garden is 290

square feet and will serve as a perfect example for residents that want to install rain gardens at their homes. The rain garden will capture, treat, and infiltrate approximately 22,740 gallons of stormwater runoff per year.



*Rain garden construction complete and ready for planting, June 25, 2020*

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## **#11**

### **Thomas Jefferson Middle School 450 Division Street, Edison, NJ**

The Water Resources Program was awarded a 319(h) grant from the New Jersey Department of Environmental Protection to design and implement green infrastructure projects in the Raritan River watershed. One of the rain gardens made possible through the 319(h) funding was the Thomas Jefferson Middle School rain garden project completed in July 2020. The Water Resources Program designed the rain garden, and Wogisch Landscape Contractors, Inc. excavated the rain garden, added bioretention media, spread the mulch, and installed the plants. The managed drainage area for the rain garden is 4,100 square feet. The rain garden is 1,025 square feet in size; it will serve as a demonstration project to residents and an educational tool for teachers. The rain garden will capture, treat, and infiltrate approximately 66,210 gallons of stormwater runoff per year.



*Thomas Jefferson Middle School rain garden, July 2020*

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**#39-#42**

**Veterans Park**

**2206 Kuser Road, Hamilton Township, NJ**

The Water Resources Program teamed up with Hamilton Township (Mercer County) to naturalize detention basins to enhance habitat and water quality at Veterans Park in the Township. The project is being funded by the National Fish and Wildlife Foundation (NFWF). Four rain garden demonstration projects are part of the design. Hamilton Township Department of Public Works, the Water Resources Program, and the New Jersey Tree Foundation worked together to complete the installations on September 8, 2020 by excavating the rain garden areas, adding bioretention media, spreading mulch, and installing plants. The managed drainage area for the rain gardens is 103,825 square feet. The rain gardens sizes are 2,675, 1,000, 800, and 700 square feet and will serve as a perfect example for residents that want to install rain gardens at their homes. The rain gardens will capture, treat, and infiltrate approximately 2,127,460 gallons of stormwater runoff per year.



*Veterans Park rain garden, September 2020*

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**#43**

**Monmouth Beach**

**12 Meadow Avenue, Monmouth Beach, NJ**

The Water Resources Program partnered with Monmouth Beach Environmental Commission to identify locations where green infrastructure could be incorporated in the Borough. The first demonstration project was a rain garden completed on October 1, 2020 at the corner of Meadow Road with funding from New Jersey Sea Grant Consortium and in-kind services and materials provided by Monmouth Beach. The Borough Department of Public Works (DPW) excavated the rain garden. The Water Resources Program staff worked with the DPW and Monmouth Beach Environmental Commission volunteers to install the plants. The managed drainage area for the rain garden is 2,445 square feet. The rain garden is 670 square feet in size, six inches deep, and will serve as a perfect example for residents that want to install rain gardens at their homes. The rain garden will capture, treat, and infiltrate approximately 38,120 gallons of stormwater runoff per year.



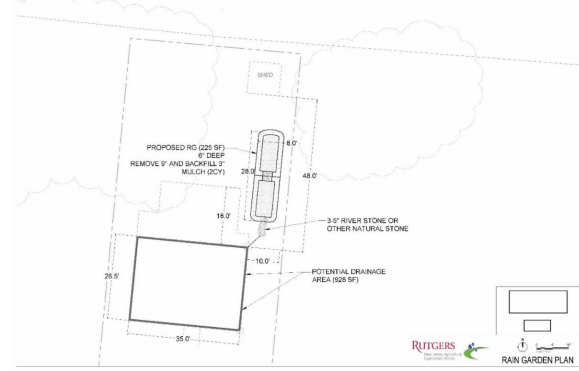
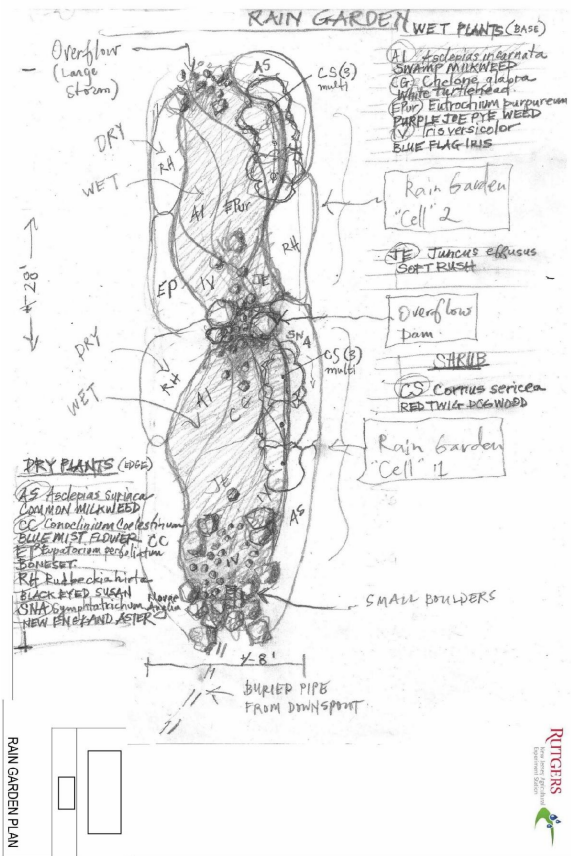
*Monmouth Beach rain garden following planting, October 2020*

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## **Homeowner Rain Garden Rebate Program - Spring 2021**

In the spring of 2021, the Rutgers Cooperative Extension (RCE) Water Resources Program spit in the eye of the COVID-19 pandemic and plowed forward with our rain garden education and outreach program. The Water Resources Program partnered with groups all over New Jersey over the past few months to provide a Rain Garden Rebate Program for residents. Our partners for these sessions were Lake Hopatcong Commission, North Jersey RC&D, Great Swamp Watershed Association, Hamilton Township, Pinelands Preservation Alliance, Association of Environmental Commissions, South Jersey Land and Water Trust, American Littoral Society, and Partnership for the Delaware Estuary with funding provided from Hamilton Township, National Fish and Wildlife Foundation (NFWF), New Jersey Department of Environmental Protection (NJDEP), and the New Jersey Agricultural Experiment Station. The Rain Garden Rebate Program is a program designed to provide incentives for homeowners to install rain gardens on their property to help reduce flooding and improve water quality. Due to the COVID-19 pandemic, everything has been virtual and we were able to reach a lot more people than ever before with this program. We have held 11 one-hour rain garden educational zoom talks with 467 attendees. After the educational talk, we provided an opportunity for the homeowners to have a consultation with an engineer and landscape architect from our staff. We had nine days of technical sessions, where we held 94 individual zoom calls with homeowners to discuss their property and determine the best location for a rain garden. The Water Resources Program staff designed 99 rain gardens to capture stormwater runoff from a total drainage area of 95,067 square feet. If all the rain gardens are installed that were designed they will capture 2.53 million gallons of stormwater per year. We are excited to see what the homeowners are able to create over the next few months! Stay tuned!





*Sample concept design, engineering design, and implemented homeowner rain garden from the Lake Hopatcong Rain Garden Rebate Program*



**Check out our calendar of events to see what we're up to!**

**Don't miss out on all the fun!**

<http://water.rutgers.edu/UpcomingEvents.html>

## Municipal Action Team Green Infrastructure Initiative Updates

### Camden Collaborative Initiative Water

The Camden Collaborative Initiative Water group met on May 11th via Zoom as part of an all working groups meeting for the Camden Collaborative Initiative. This meeting provided an opportunity for the different working

Municipal action teams have been formed to foster collaboration and collective action that helps the municipality speak with a

groups to learn what each other was working on. The Waste Management group talked about the handling of illegal dumping through the Camden Reports tool, and the upcoming NJ single use plastic ban was discussed. The Air Quality group discussed a citizen's science project study to look at the correlation of black carbon along trucking routes. The Open Space & Brownfield group focused on the recently completed **Cramer Hill Waterfront Park** which was a former landfill that was safety converted into park space. The Water group highlighted the Long Term Control Plan to manage the combined sewer system in Camden which includes a reduction of 10% of directly connected impervious cover with green infrastructure. The next regular meeting will be on June 9th at 2PM via Zoom. Please go to the following to get added to the email list (<http://www.camdencollaborative.com/meetings.html>).

### **Gloucester City Green Team**

Gloucester City Green Team met on May 12th via Zoom. In the brief meeting, recent tree plantings in the city were discussed. The success of the recent maintenance and repairs at the Gloucester City Water Department rain garden were also highlighted, and the rain garden seems to be doing much better now. Signage for the recently installed rain gardens was also talked about discussing design elements and other things to include. The next regular meeting will be on June 9th at 1:30 PM via Zoom.

### **Jersey City START**

Jersey City START held a virtual meeting via Zoom on May 20th. START members discussed the Jersey City Master Plan, and members will be meeting to collaborate on comments regarding the green infrastructure aspects of the plan. The next meeting will be on June 17th at 2PM. Contact [lsigmund@jcnj.org](mailto:lsigmund@jcnj.org) to be added to the email list.

### **Newark DIG**

Newark DIG (Doing Infrastructure Green) held a virtual meeting at 11:00 AM on April 27 and May 25, 2021. Newark DIG partners discussed the status and development of several projects on the Newark DIG green infrastructure project priority list. The Newark Office of Sustainability shared information on several ongoing programs including the Rain Barrel Program and the launch of the online Environmental Resource Inventory for Newark, now available online. There will be a launch event including a discussion about Newark's Environmental Justice & Cumulative Impacts Ordinance and a screening of the documentary 'The Sacrifice Zone' on Facebook Live at 6 PM on May 26, at the Office of Sustainability's Facebook page (<https://www.facebook.com/SustainableNwk/>). The

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 currently funded in part by the Rutgers New Jersey Agricultural Experiment Station (NJAES) and the Passaic Valley Sewerage Commission with support from the New Jersey Department of Environmental Protection (NJDEP) and our local partners.

Camden SMART / Camden Collaborative Initiative Water

Gloucester City Green Team

Jersey City START

Newark DIG

Paterson Green Team

Perth Amboy SWIM

Trenton Green Infrastructure Partners

NJDEP Resilient NJ program is seeking community input on flood risk and resiliency planning in Newark and surrounding communities and will hold a public meeting by phone on June 23 (for more info visit: <https://www.resilient-nj.com/>). New Jersey Tree Foundation reported that there was a large turnout of volunteers for several tree plantings throughout Newark in April and May. Urban League of Essex County will hold a ribbon cutting in June for the completion of several Fairmount Avenue green infrastructure and streetscape beautification projects. Newark DIG meetings are held at 11AM on the fourth Tuesday of the month. Please contact [newarkdig@gmail.com](mailto:newarkdig@gmail.com) to attend future meetings.

### **Paterson Green Team**

Green team members held a zoom meeting on Friday May 14th to plan for the next community presentation which will be held on Wednesday June 16th from 7-8PM. The presentation will focus on the successes of the adopt-a-catch-basin program thus far and will also include a presentation from the city engineer on the CSO Long Term Control Plan. A spring-themed basket will also be raffled off to new catch-basin adoptees in June! To join the green team mailing list please contact [marthaaren333@yahoo.com](mailto:marthaaren333@yahoo.com).

### **Perth Amboy SWIM**

SWIM members met for the Earth Day Clean Up event on April 22nd at the American Legion where they weeded, mulched, and replanted the rain garden at the post's parking lot. **SWIM will meet virtually again at 6pm on May 25th** to discuss the DEP's comments on the city's Long Term CSO Control Plan. Please contact [epyshnik@envsci.rutgers.edu](mailto:epyshnik@envsci.rutgers.edu) to be added to the email list.

### **Trenton Green Team**

Members met via Zoom on Tuesday May 18th and continued the discussions on community engagement and green infrastructure projects. In the interest of reaching out to the community more, the members will be participating in a Juneteenth event and also holding evening meetings in the future. Members of the group will also be reaching out to other community groups in Trenton to present what the green team has been working on and to find opportunities to collaborate in the future. The Hetzel Pool Rain Garden project is underway and will be finished in time for the pool's opening on June 1st. To join a community planting event contact [epyshnik@envsci.rutgers.edu](mailto:epyshnik@envsci.rutgers.edu) for more information. Please contact [atabas@njfuture.org](mailto:atabas@njfuture.org) to be added to the mailing list for the group.



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