

MOUNT ARLINGTON STUDENTS WORK TO PROTECT LAKE HOPATCONG: RAIN GARDEN BENEFITS & MAINTENANCE 101



Kyle Richter of the Musconetcong Watershed Association meets with Grade 7 students Michael Stockstill (center) and Sebastian Rodriguez (right) to evaluate the conditions of the existing rain garden at Mount Arlington Public School

Students at Mount Arlington Public School have worked with scientists from the Rutgers Cooperative Extension Office and the Musconetcong Watershed Association to revamp their school rain garden and to create educational resources to promote rain garden management as a means to protect water quality for Lake Hopatcong. Using funds from the New Jersey Sustainable Schools program and sponsored by PSEG, students engaged in classroom instruction and then applied their knowledge to redesign the rain garden on the school's property.

The existing rain garden was originally installed as part of a joint project with the Highlands Commission, the Borough Green Team, and the school. After 5 years, the garden needed some maintenance and upgrading to provide a model for residents and businesses in the area to consider for installation on their properties. The original rain garden is highlighted as part of New Jersey Sustainable Hero's

Program where former Mayor Arthur Ondish is recognized: <http://www.sustainablejersey.com/media-communications/sustainable-jersey-heroes/2015-sustainability-heroes/>

Students along the way have learned the steps necessary to carry on project management. After reviewing the old design records, meeting with scientists, and inspecting the garden, the students designed a garden full of native species. The original rain garden needed to have some existing grasses split and some acorns had taken root this spring. They needed to do field measurements and create design drawings. They also had to make sure an utility mark-out was completed before digging to remove older mulch and before replanting.



Grade 6 students Madalyn Pflug (front), Ashley Zheng (center) and Jolie Parisi (rear) review design diagrams and research botanical information to create records and a design diagram for the new rain garden at the school.



Using basic notes left by the field scientist from the Musconetcong Watershed Association, Madalyn Pflug(left) and Jolie Parisi (right) use their own research records to redesign the rain garden for Mount Arlington School.

Students also learned about team work and divided up some of the tasks such as engineering calculations, design diagrams, and botanical research. 7th grader Michael Stockstill undertook the engineering runoff calculations. Stockstill used GoogleEarth to get a snip of the school's parking lots and did some field measurements of the parking lot dimensions. Using his scaled drawings and precipitation data, he then calculated how much runoff drains from the parking lots towards the garden. 6th graders Madalyn Pflug and Ashley Zheng research recommended native species and created a plant matrix to identify plant heights, bloom time, color, and water requirements. 6th grade Jolie Parisi used in-house software to create a project map.

Currently as the site work begins, students are also engaged in creating a video documenting the original installation as well as their newer extended upgrades. Upon completion the video will be made available to share with community members. The students are also creating an educational website on rain garden design.