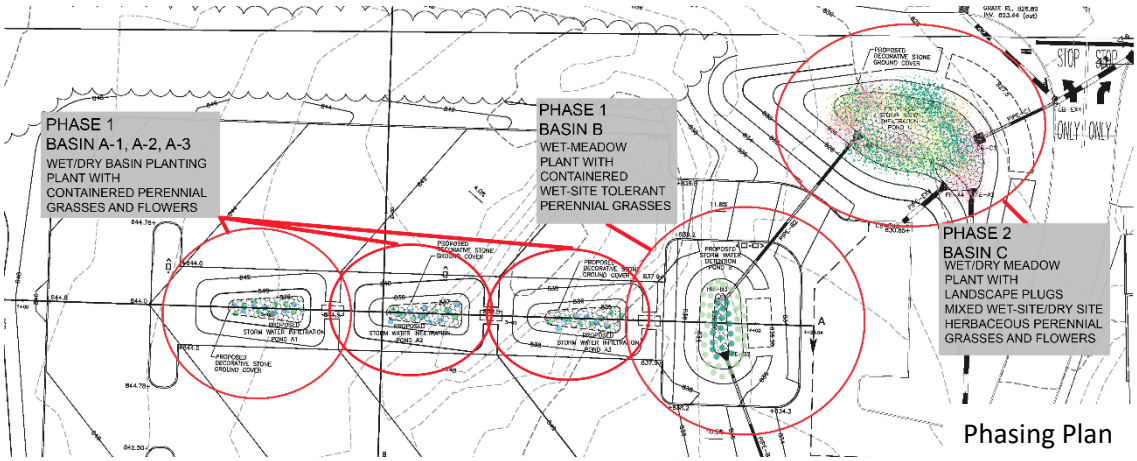
Pope John HS Basin Naturalization Newsletter Article:

What PJHS Green Team Can Teach You About Rocky Bottom Basins

The Rutgers Cooperative Extension (RCE) Water Resources Program (WRP), with support from the NFWF Highlands Grant, implemented a 2 phase basin naturalization project at Pope John XXIII Regional High School (PJHS), located in Sparta, New Jersey.

The goal for this project was to naturalize the five existing stormwater detention basins (3,000 square feet total) located within the southwest parking lot next to the turf field recently installed over the summer of 2022.

The project was phased out through 2 separate installations where the PJHS Green Team helped assist WRP. The PJHS Green Team, consisting of 20 students dedicated to environemntal issues, volunteered their time to plant within the basins. Phase 1 was completed in the beginning of June 2022 right before the school ended for summer break. Phase 2 was completed in late October 2022 as the weather was still favorable for planting.



Phasing Plan

Naturalizing basins involves placing native species into existing basin bottom and the surrounding sloped edges. This Best Management Practice (BMP) helps improve water quality, enhance groundwater recharge, and reduce stormwater volumes that discharge to Fox Hollow lake and other local waterways. Students were setting the riverstone rocks aside, planting into the soil, and crowned each plant with topsoil. This secured the plants with nutrients and the chance for better root growth.

By using tall grasses and native perennial plants, the basin can better manage stormwater runoff, clean water impurities, enhance wildlife habitat, and support native pollinators.

Phase 1 was quite the challenge for the students needing to move aside about 12 inches of riverstone rock to plant large #3 container shrubs within the 3 smaller basins. Phase 2 consisted of installing roughly 650 plugs into Basin C (the largest detention basin on-site). The retrofitted stormwater detention basins with native vegetation convert to systems similar to bio retention. The stormwater managed is roughly 5,260,000 gallons with a drainage area of 208,350 S.F. (4.7 acres). The total suspended solids removed is 846 lbs. per year. Total phosphorus loads include 9.87 lbs. per year. Total nitrogen loads include 103.4 lbs. per year. The PJHS Green Team will see their hard work flourish as the basins transform from the rocky bottoms to native, vegetated, wildlife naturalized stormwater basins.

PJHS 2022 Green Team