

FINAL REPORT SUMMARY

WITMER ROAD BASIN IMPROVEMENTS

GROWING GREENER GRANT – DOCUMENT NUMBER C990002455

GRANT AMOUNT: \$150,000

Location

Latitude: 40.17632, Longitude: -75.15389

Address: Witmer Road, Horsham, PA 19044

Horsham Township, Montgomery County

Narrative

The Witmer Road Basin Improvements project began construction in April 2023 and concluded with landscape installation in June 2023. The basin has a total drainage area of 48.9 acres, and the capacity to store 397,750 cubic feet of runoff. Improvements to the basin include the construction of new rip rap aprons at the piped inflow points, two new forebays, a new underdrain system, installation of additional landscaping, and replacement of the existing outlet control structure and basin discharge pipe.

Water quality improvements in the Pennypack Creek Watershed are realized by the basin improvements in several ways. First, the construction of four new rip rap aprons at the piped inflow points will reduce scour and erosion that would ultimately end up in the basin or the Pennypack Creek. Second, the construction of two new forebays will capture coarse sediment from runoff so it doesn't continue into the basin and then to Pennypack Creek. They will also prevent excessive sediment accumulation in the remainder of the basin and Pennypack Creek and minimize erosion by inflow at the entry points to the basin. Third, the installation of a new underdrain system with amended soils, clean washed AASHTO #57 stone wrapped in geotextile fabric, and river jack stone will appropriately filter runoff prior to entry into the underdrain pipe and discharge towards Pennypack Creek. The amended soil specification meets the requirements of the current Managed Release Concept requirements. Fourth, the installation of wet-tolerant native trees, shrubs, and a bioretention area seed mix will filter out pollutants picked up by the "first flush" of runoff during a rain event. Fifth, the replacement of the existing outlet control structure and basin discharge pipe will reduce peak discharge rates from the basin and lessen the impact of bank erosion in the downstream waterway. Lastly, runoff volume will be removed by increased infiltration into the subsoil and evapotranspiration by the native plantings. Calculations using the PA DEP approved MapShed program can be found in the Township's approved Pollution Reduction Plan. The calculations estimate approximately 42,700 lbs. of sediment per year will be removed from the Pennypack Creek watershed because of the project.

Project Cost & Funding

Total Construction Cost: \$330,000.00

The remaining construction costs (\$180,000) were paid for by the Watershed Restoration Protection Grant Award (\$180,000) through Horsham Township to cover their match requirement.

