

STORMWATER BMP SITES IN PAXTON CREEK WATERSHED

BMP Types: PA State Police Retrofitted Bioretention Garden & Vegetated Swale



State Police Bioretention Garden

Name and Location: Retrofitted bioretention garden and vegetated swale at PA State Police headquarters, 1800 Elmerton Avenue, Susquehanna Township.

Project Site Number and BMP Type Code: 7 B,J

GPS Coordinates: Lat N40.29486 degrees, Long W76.85915 degrees;

Site Features: Stormwater overland runoff atop grasses is common, particularly during heavy storms. Grasses tend to grow densely, and have relatively short roots: both characteristics that can exacerbate stormwater flows that pick up nonpoint source pollutants, and lead to erosion, sedimentation, and other miseries. Runoff also from large impervious areas such as roofs, parking lots, and roads cause similar effects.

A large grassy slope, 14 acres of parking area, and driveway at the PA State Police headquarters have lead to erosion and related problems. Additional drainage off Elmerton Avenue into a shoulder ditch has worsened the situation, including gully erosion across the road. The Best Management Practices combination at this site -- a swale and rain garden -- constitute a retrofit project of a Targeted Watershed Grant for stormwater projects, administered by Susquehanna River Basin Commission in partnering with Pennsylvania State Police, Department of General Services, PennDOT (PA Department of Transportation), PCWEA, and others to develop innovative and cooperative stormwater management approaches for PA communities (www.srbc.net for project overview). The swale (linear, vegetated landscape depression for temporarily storing and infiltrating stormwater) located by the west parking lot, and a 4,000 sq ft bioretention garden on the front lawn will absorb runoff, and partially remove pollutants through actions of soils, vegetation, mulch, and other materials. Expected pollutant removals in fully functioning bioretention gardens are approximately: total suspended solids (mainly dirt) and total phosphorus, 85% each; nitrate, 30%. The swale: total suspended solids and total phosphorus, 50% each; nitrate, 20%. Pollutant removal efficiencies vary by season (greater removal in spring and summer), and by facility condition. Another project goal is the development of guidelines for streamlining the

planning process of stormwater retrofits for public facilities. Coordinated efforts by PennDOT on roadside swales along Elmerton Avenue in the project vicinity (porous soils, vegetation, runoff energy dissipation) will accompany the efforts on State Police grounds, but the swale narrowness and gradients (slopes) will limit potential for infiltration and pollutants removal. A facts sheet about the project site is available at www.srbc.net. The Commission states, "The project will (also) educate state officials about the importance of stormwater management, and the changes needed in the process of retrofitting state facilities."

Site Directions: The project site is located 0.9 mi along Elmerton Avenue westward from the junction of Elmerton Avenue with N. Progress. Elmerton Avenue runs E-W between N. Cameron Street in Harrisburg, and Colonial Road in Lower Paxton Township.