

Valley Crossing Stormwater Basin and Swale Retrofit
Growing Greener Watershed Protection Grant #C990002507
Grantee: Valley Township, PA

Project Description - The Valley Crossing Stormwater Basin and Swale contributes severe erosion, channelization, and flooding to downstream properties and a PennDOT road prior to entering an Unnamed Tributary of Sucker Run. The project was for the design and construction of a basin and swale retrofit. Project Timeframe: 6/15/2021 to 9/30/24.

Project Goals - Eliminate the existing stormwater bypass that eventually discharges onto a downstream PennDOT road and into the Unnamed Tributary of Sucker Run, increase the existing stormwater basin's detention time and additional volume control to reduce the peak outflows from the basin, and provide water quality benefits to help Valley Township achieve short-term five-year permit reductions for their TMDL Plan.

Project Results - The project achieved the following pollutant load reductions and peak outflow reductions from the Basin:

	Original Stormwater Basin & Swale			Retrofit Stormwater Basin & Swale		
	Sediment	Nitrogen	Phosphorus	Sediment	Nitrogen	Phosphorus
Load (lbs)	5,542.37	241.67	45.53	5,542.37	241.67	45.53
Efficiency (%)				60%	20%	20%
Reduction (lbs)	0	0	0	3,325	48	9

Design Storm	Original Basin Peak Flow (cfs)	Retrofit Basin Peak Flow (cfs)	% Reduction Basin Peak Flow
1	7.0	1.7	75%
2	11.8	5.0	57%
10	27.50	22.5	18%
50	62.9	50.4	20%
100	91.7	74.6	17%

Before Retrofit



After Retrofit



Project Costs – \$134,625 Growing Greener Watershed Protection Grant

Lessons Learned – The project experienced issues with the HOA's landscaper cutting the grass to short during restoration. For future projects, a post construction meeting between the Landowner and Municipality should occur to eliminate any confusion regarding the O&M plan.

Partners – Valley Township; Pennoni Associates; Delaware Environmental Construction Services was the contractor.

Contact Information – Valley Township, Janis Rambo at jrambo@valleytownship.com