

Advanced Wetland Stormwater Filter

Farrell Park, South Burlington, Vermont

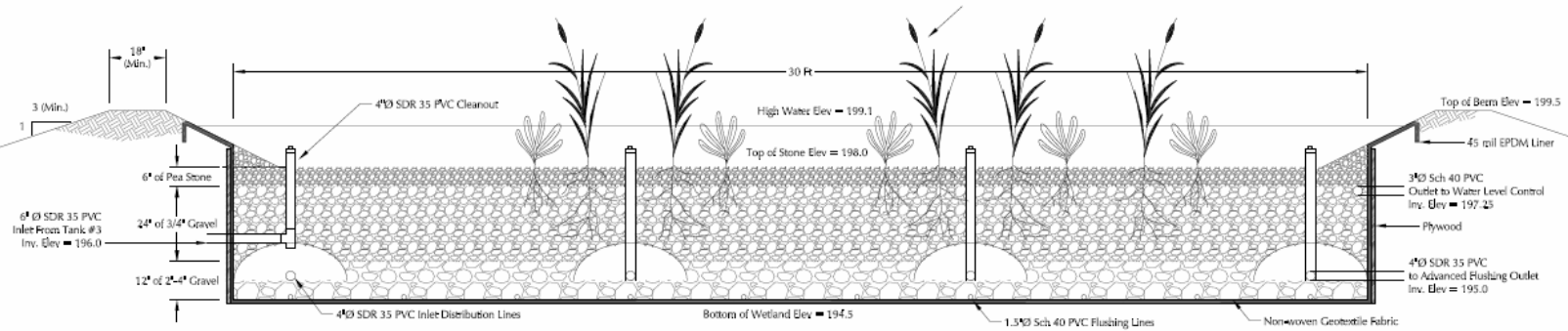


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Advanced Wetland Stormwater Filter (AWSF) - Section View

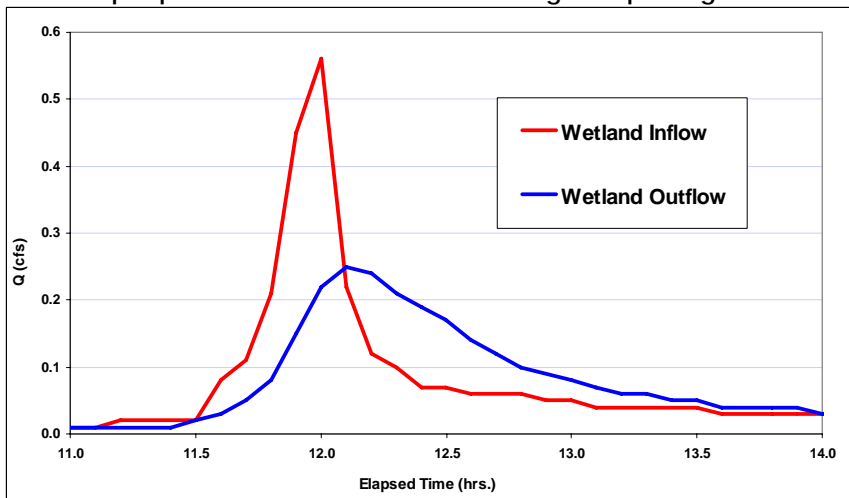
Not To Scale

The Advanced Wetland Stormwater Filter (AWSF) is a subsurface flow gravel wetland that is intended to be used for water quality treatment of stormwater. The AWSF is comprised of four distinct components, which include: 1) an inlet distribution system; 2) an outlet collection system and water level control; 3) a filter media; and 4) the Advanced Flushing System. Flow through the wetland is horizontal. Influent stormwater is introduced at one end, on the bottom of the wetland and collected at the top on the opposite end. A series of manifolded infiltration chambers are installed at even intervals perpendicular to the flow on the bottom of the wetland to minimize short circuiting. Three different layers of stone are arranged within the wetland cell, with the largest on the bottom, and graded to pea stone on the top. The permanent water level is maintained just below the surface of the pea stone with an adjustable stand-pipe system. The AWSF has a unique flushing system that provides the opportunity to rejuvenate the wetland cell by allowing accumulated sediment to be safely flushed from the stone media. The flushing system enhances treatment and extends the useful life of the system.

Support for this project was provided by the Winooski Natural Resource Conservation District through an EPA Section 319 Grant. The City of South Burlington generously provided labor and machinery during construction.



Runoff Hydrograph for the Water Quality Storm Event (0.9")
Upslope watershed includes 1/2 acre of gravel parking lot



Superior Pollutant Removal Efficiency of Gravel Wetlands Observed at the UNH Stormwater Center
www.unh.edu/erg/cstev/

