

## Project Narrative for Accotink Creek Watershed Residence: "Wild at Heart" by Adele Kuo, Deco Footprint LLC

Inheriting a home often means inheriting lots of interior and exterior home design challenges. Our homeowners, living in a suburban neighborhood in the Accotink Creek Watershed less than a mile from the Beltway around Washington, DC., faced some unique challenges related to increasingly outsized rain events and the landscape surrounding their house. The family live in a charming split-level home that sits six to eight feet lower than their curbsless residential street. With huge rainfall events becoming more common, the homeowners summed it up this way: "When it rains, the water pools and creates a large wet area in the front yard that stays soggy for days. You can see all the stormwater from uphill of [our road] stop at our neighbor's timber retaining wall and continue to flow downhill toward our driveway entrance, then reaches the top of our driveway and runs down our driveway toward our carport. It's a whole lot of stormwater ...streaming down our driveway and down our sloped front yard lawn towards our house!!!"

Four years ago, another landscape contractor partially addressed some of the ponding and drainage issues in the front yard and close to the house foundation -- three catch basins, French drain, river rock swale, and a 2" channel drain across their driveway rout the water in a series of buried pipes around the house to the backyard -- yet the homeowners were still facing substantial impervious surface runoff and a large wet and soggy area that pooled in the front yard. The homeowner met their CBLP Certified Sustainable Landscape Designer on a VNPS native plant walk where they instantly bonded over their passion for native plants and supporting wildlife. The homeowners and their Designer together decided to apply for two Northern Virginia Soil and Water Conservation District (NVSWCD) Virginia Conservation Assistance Program (VCAP) grants: one for a Dry Well and a second application for a Rain Garden. As the owners stated on their VCAP grant applications, they were "ready for a more comprehensive and watershed-friendly solution for the yard's erosion, drainage, and runoff issues." Once they were approved grant funding for both VCAP projects, their Designer holistically incorporated the two stormwater practices into a larger front yard project to address the family's additional outdoor lifestyle priorities. While stormwater mitigation was a front yard priority, introducing native plants to a manicured, lawn-dominated suburban community was another priority to demonstrate native plants are not wild and messy but fit for a king's formal garden to an informal one.

With a Contributing Drainage Area (CDA) from the street at more than 2,500 SF, the property could have benefitted from putting in an infiltration trench, but the owners recognized the limited space available and opted for a Dry Well practice instead. From the street, the CDA is roughly 646 SF. During a 1-inch rain event, the impervious stormwater runoff volume from the street CDA is ~51 CF or 381 gallons to be treated by installing a VCAP approved 5' x 5' Dry Well stormwater BMP. Since it is not allowed to locate any VCAP practice in the existing VDOT Right-of-Way (ROW), the Designer positioned the Dry Well a minimum 10' from paved areas and beyond the VDOT ROW on the right side of the driveway.

Additional stormwater runoff from the front half of the house roof plus carport roof with a total CDA of 1456 SF will be treated with Rain Barrels. When it rains 1-inch, the volume of stormwater runoff from 1456 SF is 115 CF or 860 gallons of roof water that flows to the front

lawn and ends up ponding and creating a large soggy wet area. As a result, the owners decided to disconnect and reuse the roof water first. Eight 90-gallon Rain Barrels were placed two apiece at the two house front downspouts and the two side carport downspouts. Plus, when the two front right Rain Barrels reach capacity, any excess stormwater overflows through a 4" buried pipe connected to the uphill end of their newly installed 350 SF Rain Garden, which was planted with 100% Virginia native plants per VCAP guidelines and homeowner wishes.

A stone retaining wall was built to create a flatter yard for the family to run around and play outside. Locating the proposed Rain Garden next to the stone wall solved the dual problem of pushing infiltrating water a safe distance from the house foundation while creating important family fun and play space. Moreover, the stone wall creates a lovely backdrop for the new Rain Garden native plants. A variety of Virginia flora creates a diverse habitat and offers an engaging seasonal succession of blooms, fragrance, berries, fall foliage, and winter interest. An Ernst seed mix of native grasses and forbs ideal for a roadside meadow was added to the upper terrace to slow down and filter the street runoff in the ROW spanning the front width of the property. To keep costs down, the native seed mix is a great alternative to planting plugs in larger areas, especially ROWs and easements. Along the top of the stone wall, a dwarf *Myrica cerifera* hedge adds some vertical interest to the meadow and screens the front yard from the busy street.

The homeowners faced another challenging problem: their front yard slopes down towards the house and basement window wells instead of falling away from the house. To solve for the challenging front yard grade, the existing stone window wells were built up and raised by a few inches, then the yard regraded for a 5% positive slope.

The homeowners are pleased they added a second phase of Conservation Landscaping to welcome more Virginia native trees and shrubs to three main areas of the front yard. Site prep added 2" of Leafgro to amend the soil, plus 2-3" of double shredded, hardwood mulch applied after the Virginia trees and shrubs were planted. An Eastern Redbud was planted in memory of a Japanese maple that died pre-construction when their yard was very soggy and anaerobic. And the foundation beds expanded to make room for additional future Conservation Landscaping. The mature oak and hickory trees on their property evoke nature walks and remind them that our oak-hickory forests have been reduced by our long history of agriculture and urban development.

Also, the homeowners no longer worry about a wet basement. As an Audubon-at-Home volunteer, our enthusiastic homeowner enjoys sharing her sustainable landscaping story with her family, friends and neighbors. A beautiful and fully functional front yard with several stormwater BMPs makes it easier for her to convince other homeowners to make stormwater-friendly and ecologically-friendly landscape changes to their properties. When she invited her neighborhood garden club for a tour of their new front yard, the Rain Garden in particular received much praise for its beauty and surprising ability to help get rid of their water problems once and for all.

Our whole team loves periodically visiting the property to see the buzzing activity of native pollinators and birds and hear the owners' latest story about wildlife and how water is being

handled with ease by the multiple sustainable stormwater practices implemented on their property. Living in an urban location with more impervious surfaces than vegetation, it surprises homeowners that virtually every resident living in Fairfax County lives within a half-mile of a local stream in their watershed. Therefore, while an individual Rain Garden or Dry Well may seem like a small contribution, collectively retrofitting Rain Barrels, Dry Wells, Rain Gardens, Conservation Landscaping and other stormwater BMPs on private property produce critical water quality benefits downstream for all to enjoy.