

Watershed Restoration Program and Purpose of the Woodlawn Stream Restoration Project



Stream Restoration Community Walk

May 15th, 2013

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Project website www.montgomerycountymd.gov/restorationprojects

Click Northwest Branch, then Woodlawn Stream Restoration



Introductions

- Jennifer St. John and Paul Bogle
 - Montgomery County Department of Environmental Protection (MCDEP), Watershed Restoration Program staff:
 - Provide public outreach, real estate, and in-kind services, partial money for project
- Claire O’Neill and Carol Ohl
 - U.S. Army Corps of Engineers (USACE), Project & Design Managers:
 - Manage construction & design contracts; Primary POC between sponsors
- Bob Palmer
 - Rummel, Klepper & Kahl (RK&K), Design Engineer
 - Provide final design for project and engineering services during construction
- Maryland National Park & Planning Commission (M-NCPPC)
 - Caretaker and regulator for projects on parkland
- Angler Environmental
 - Contractor performing work

Stormwater 101



- Impervious (hard surfaces) = Increased runoff & pollutants
- Reduced groundwater recharge (infiltration)

- Storm drain systems convey heated, dirty water directly to streams



- Degraded aquatic habitat & water quality



Stormwater 101

- Increased storm flows and decreased base flows



- Streams eroded, incised

- Infrastructure threatened

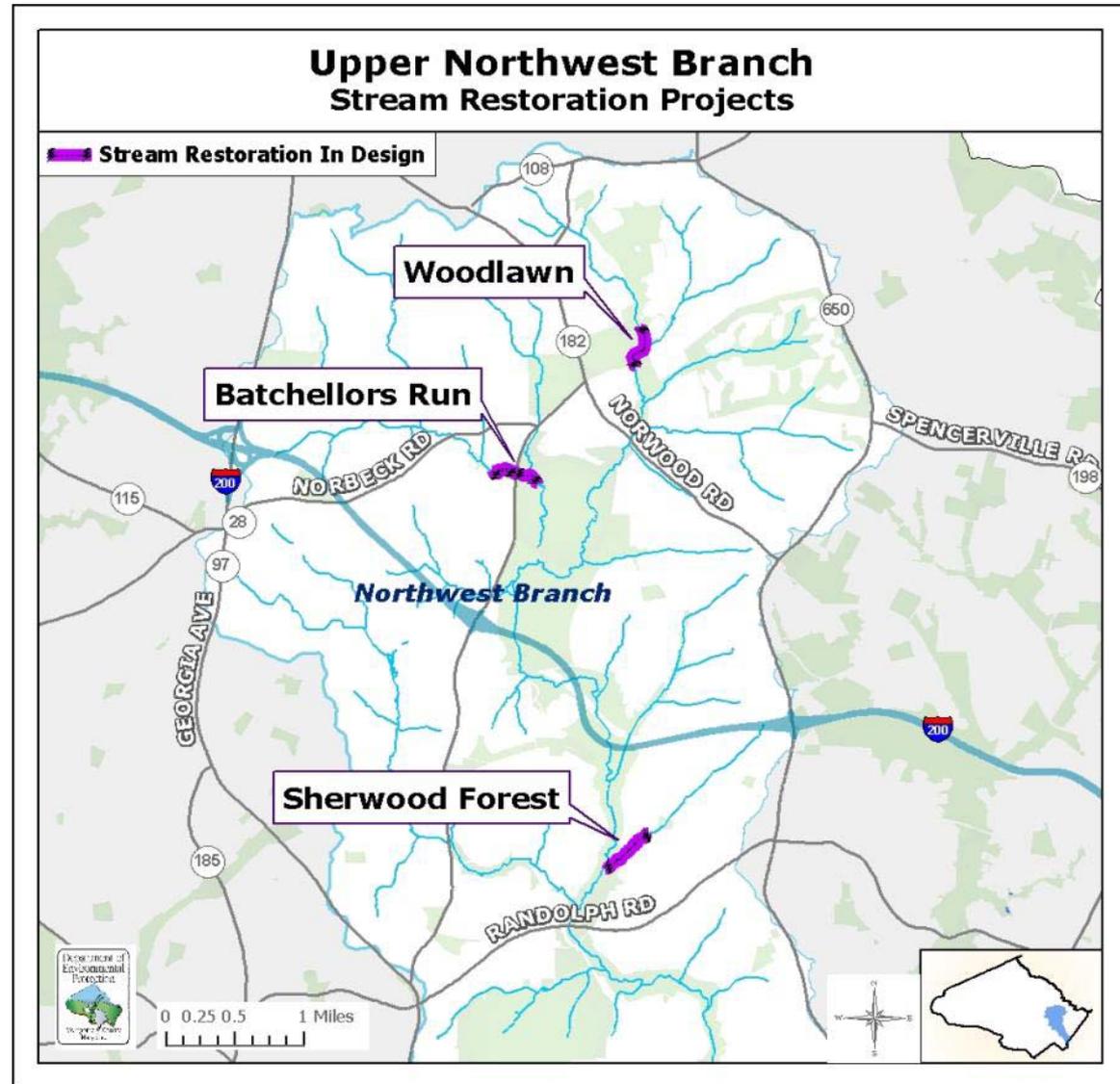


Background on Project Selection

- The Woodlawn (Sandy Spring) tributary was identified as a priority for restoration in the Northwest Branch Watershed Feasibility Study (July 2000).
- This site was not found to be severely degraded, but was selected as an opportunity, through careful repair and enhancement of habitat, to maintain/improve stream stability that would otherwise continue to degrade.
- Montgomery County's National Pollutant Discharge Elimination System (NPDES) Permit (issued in 2010) Requires:
 - New stormwater management for **20% of existing impervious** area that is currently unmanaged (~ **4,292 acres**).
 - Meet goals set forth in the “Potomac River Watershed Trash Treaty”
 - Identify pollution sources and improve water quality in all county watersheds
 - Increase use of Environmental Site Design (ESD), or Low Impact Development (LID)

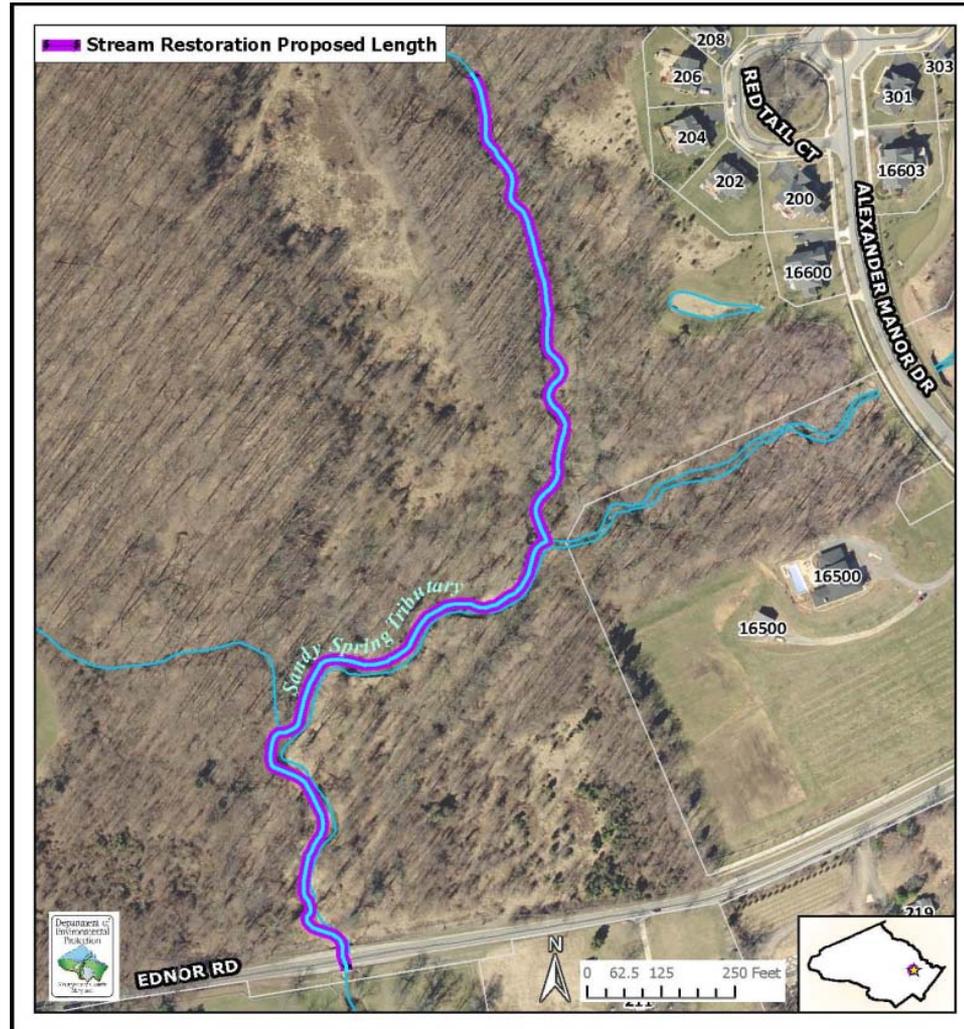
Background on Project Selection

- The Woodlawn (Sandy Spring) tributary flows into the Northwest Branch watershed, and eventually the Anacostia River.
- The Batchellors Run and Sherwood Forest stream restoration projects are also planned in the Upper Northwest Branch and will be completed with the Batchellors Run restoration project.



Project Location & Goals

Woodlawn Stream Restoration Project



- Improve aquatic habitat by enhancing pool and riffle fish habitat and creating overhead cover for fish;
- Stabilize eroding streambanks to reduce sediment entering the stream;
- Reforest stream banks for added bank stability and overhead cover; and
- Construct wetlands for amphibian habitat and improved water quality.

Problems & Opportunities

- Channel Constrictions

Existing



Proposed



May 15 2013

- Grade Control

Existing



Proposed



Woodlawn Stream Walk

- Eroded streambanks & inadequate stream buffers

Existing



Proposed



8

Typical Details

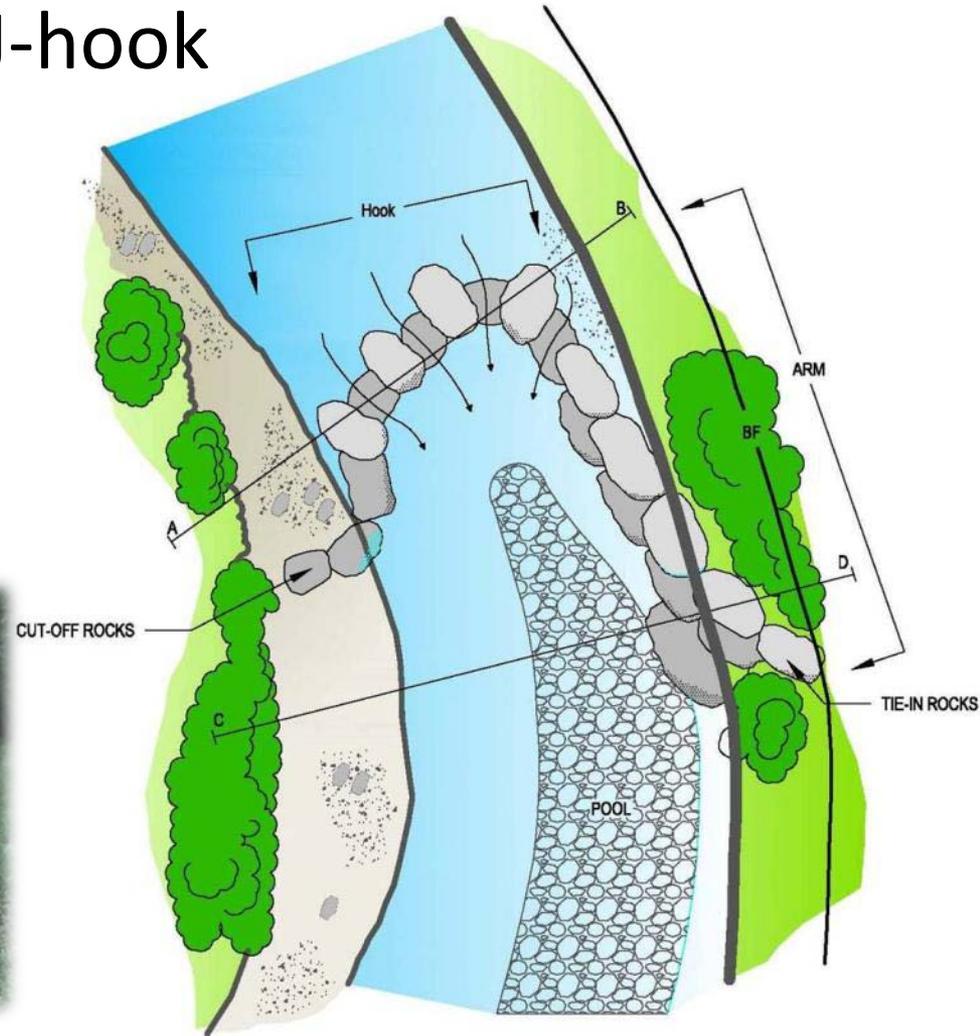
- Boulder/ Log Boulder J-hook



Boulder J-Hook

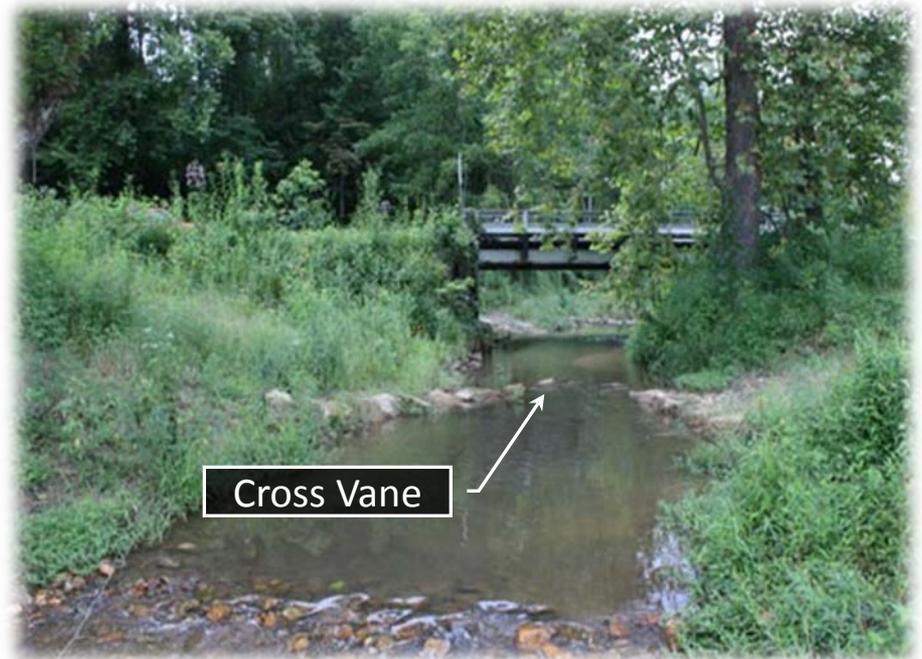
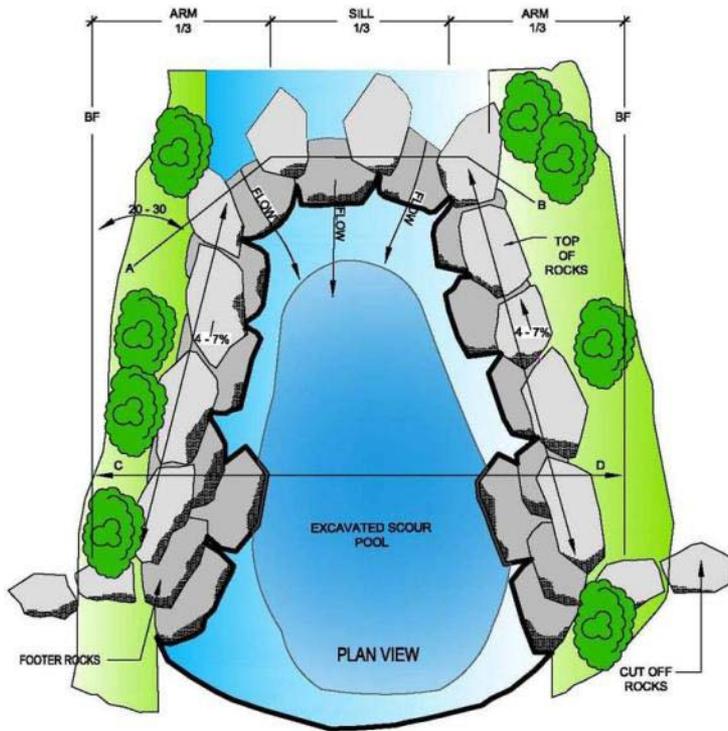


Log Boulder J-Hook



Typical Details

- Cross Vane



Typical Details

- Bankfull Bench



Typical Details

- Constructed Riffle



Typical Details

- Imbricated Rock Wall



Typical Details

- Log Meander Protection



Typical Details

- Wetland Creation

- Amphibian & Reptile Habitat



Spotted Salamanders



Eastern American Toads



Volunteer for the Maryland Reptile & Amphibian Atlas:
marylandnaturalist.org/mara

Typical Details

- Temporary Construction Access and Equipment



During Construction



After Construction



Rubber Tracked Vehicles



Tree Protection Fence

Typical Details

- Temporary Construction Access and Equipment



- Temporary Bridge



- Typical Contractor & Engineer

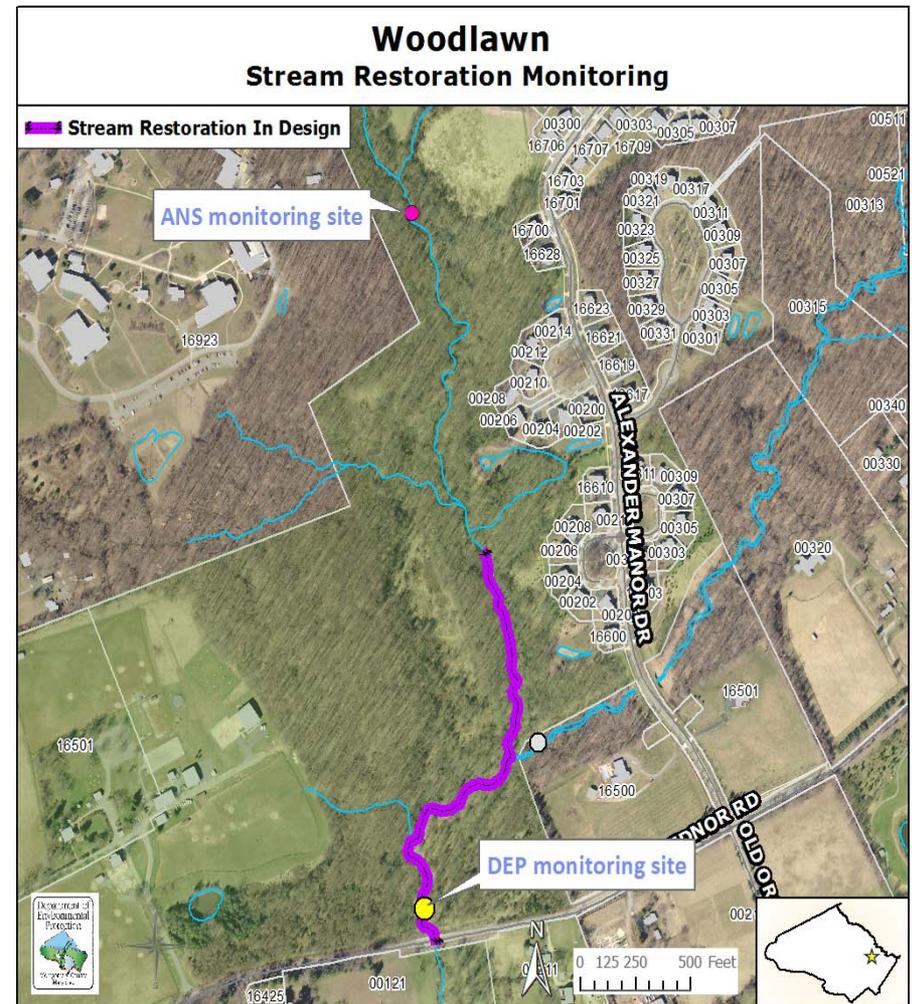


Schedule

- Tentative Schedule (subject to change):
 - May 15th, 2013 – Community Stream Walk
 - On-going (March-June 2013) – Construction activities such as clearing/grubbing, setting up mulch access roads, etc
 - June 2013 – In-stream construction Begins
(March 1 to May 31 2013 – Stream Closure for Use IV Waters - No in-stream work allowed)
 - Sept/Oct 2013 – Estimated construction end

Restoration Monitoring

Project Goal	Monitoring
Improve aquatic habitat by enhancing pool and riffle fish habitat and creating overhead cover for fish	Benthic and Fish Sampling; Rapid Habitat Assessments, and Physical Chemistry Measurements
Stabilize eroding streambanks to reduce sediment entering the stream	Quantitative Surveys (Longitudinal profile, cross sections, bed material characterization, and Bank Erosion Hazard Index (BEHI), Photo-documentation)
Reforest streambanks and riparian area alongside stream for added bank stability and overhead cover	Botanical Reforestation Surveys; Photo-documentation
Construct wetlands for amphibian habitat and improved water quality	Wetland/ Vernal Pool Herpetofauna Surveys



Restoration Monitoring



Woodlawn - Fish Found in 2009	
Species	Tolerance
Blacknose dace	Tolerant
Bluntnose minnow	Tolerant
Creek chub	Tolerant
Cutlips minnow	Intermediate
E. silvery minnow	Intermediate
Fantail darter	Intermediate
Largemouth bass	Tolerant
Longnose dace	Intermediate
Redbreast sunfish	Tolerant
Rosyside dace	Intermediate
Silverjaw minnow	Intermediate
Spottail shiner	Intermediate
Swallowtail shiner	Tolerant
Tessellated darter	Tolerant
White sucker	Tolerant

Fish			
Site Location	Sample Date	Percent Score	Condition
Woodlawn, just north of Ednor Rd	6/24/2009	68	Fair

Benthic Macroinvertebrates			
Site Location	Sample Date	Percent Score	Condition
Woodlawn, just north of Ednor Rd	4/22/2009	73	Good



RainScapes Rebate Program

- The County’s RainScapes program promotes and implements projects on residential, institutional, and commercial properties to reduce stormwater pollution.

Property Type	Maximum Rebate
Residential Property	\$2,500
Commercial, multi-family, or institutional property	\$10,000

- RainScapes Techniques:

- Downspout Diversion
- Rain Barrels, Cisterns* (water re-use)
- Rain Gardens*
- Permeable Pavers*
- Green Roofs*
- Conservation Landscaping*
- Urban Tree Canopy*
- Pavement Removal*
- Dry Wells*
- Soil Reconditioning and Amendment



* Eligible for Rebate

Visit www.rainscapes.org for more information and to apply online.

