

Potomac Chase Stormwater Pond Retrofit



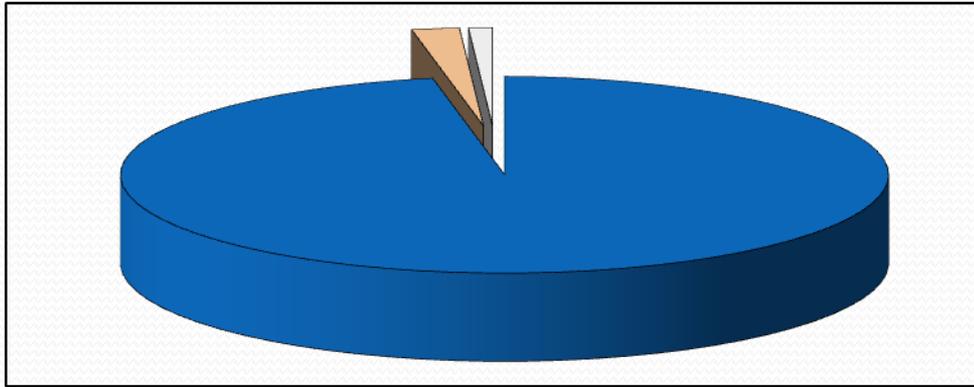
Don Dorsey, Watershed Planner
Mike Lichty, Engineer

Montgomery County Department of Environmental Protection
Watershed Management Division

Today's Agenda

- Sources of Water on Earth
- Montgomery County background
- What is a Watershed & Runoff?
- Intro to Stormwater
- What the County is Doing to Protect Our Streams
- Goals of the Project
- Proposed Retrofit of the Pond
- Trees proposed to be saved and removed
- Health of those trees to be removed
- Questions/Comments

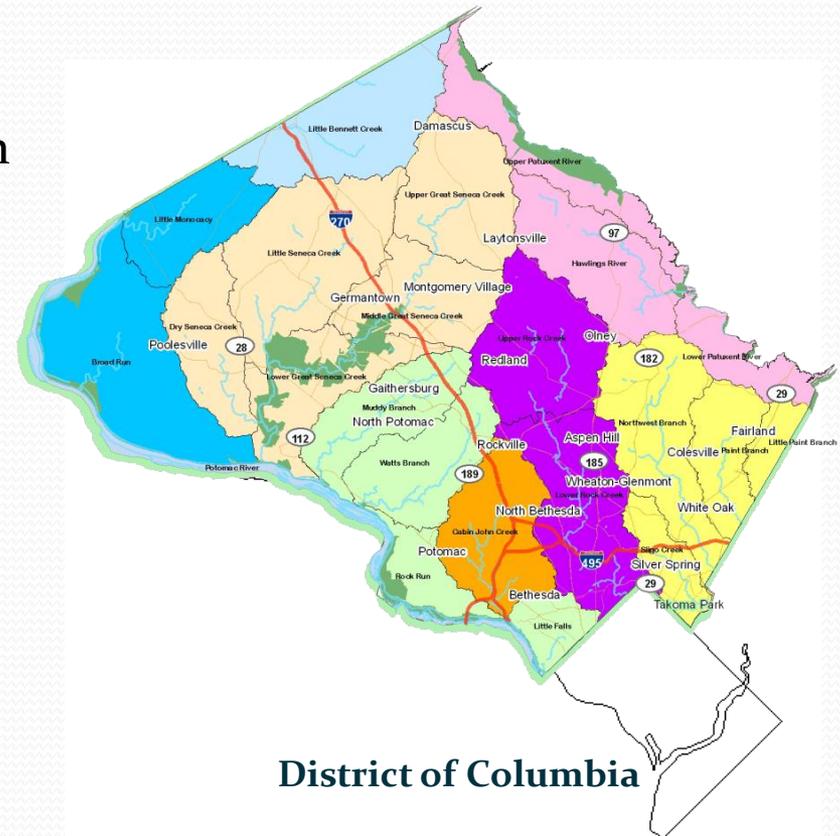
Sources of Water



- About 97% is salt water
- About 2% is fresh
- Only 1% is available for drinking water
 - 95% from groundwater across the Country
 - 32% from groundwater, 68% from surface water in Maryland
 - Potential for greater impacts from runoff in Maryland

Montgomery County, MD

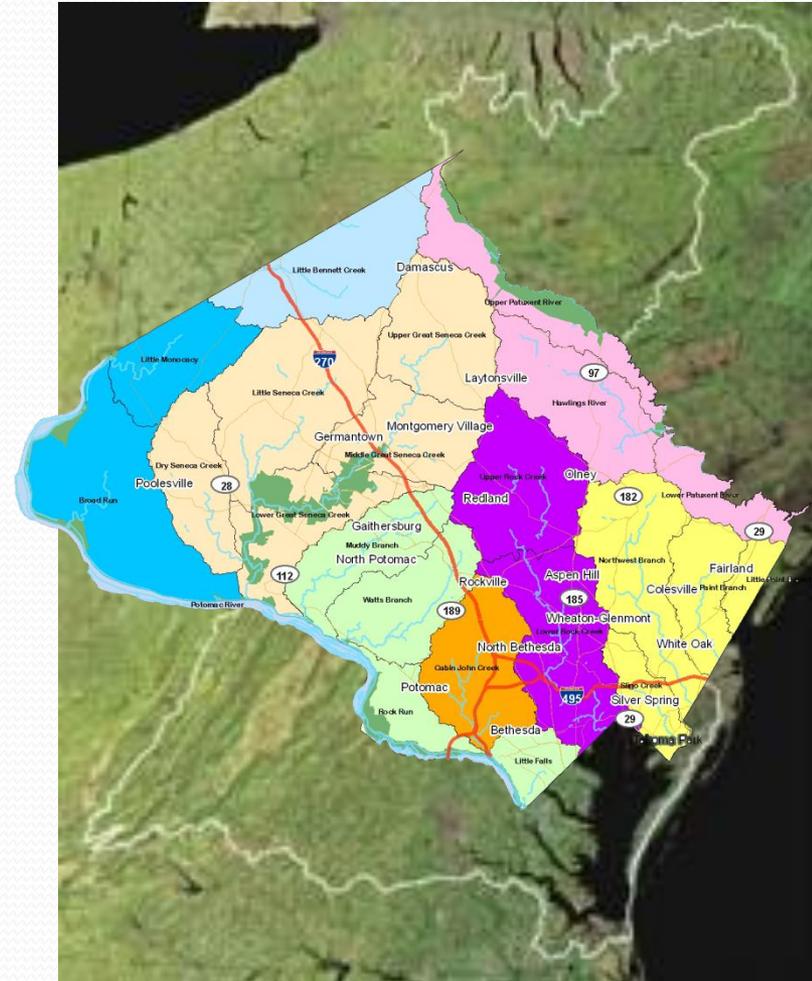
- 970,000 people
 - Second only to Baltimore City within Maryland in average people per square mile
- 500 sq. miles
- About 12% impervious surface overall
 - About the size of Washington DC
- Over 1,500 miles of streams
- Two major river basins:
 - Potomac
 - Patuxent
- Eight local *watersheds*



Impervious: Not allowing water to soak through the ground.

What is a Watershed?

- A *watershed* is an area from which the water above and below ground drains to the same place.
- Different scales of watersheds:
 - Chesapeake Bay
 - Eight local watersheds
 - Neighborhood (to a storm drain)

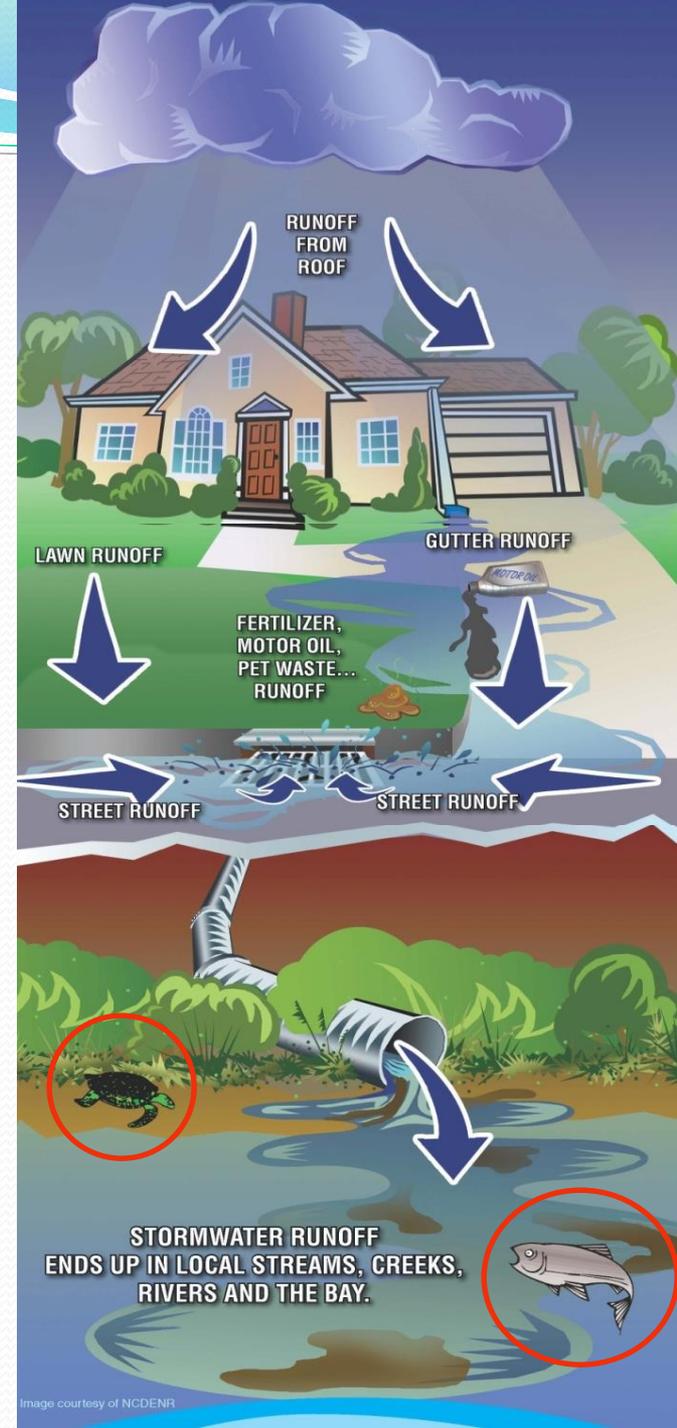


What is Runoff?

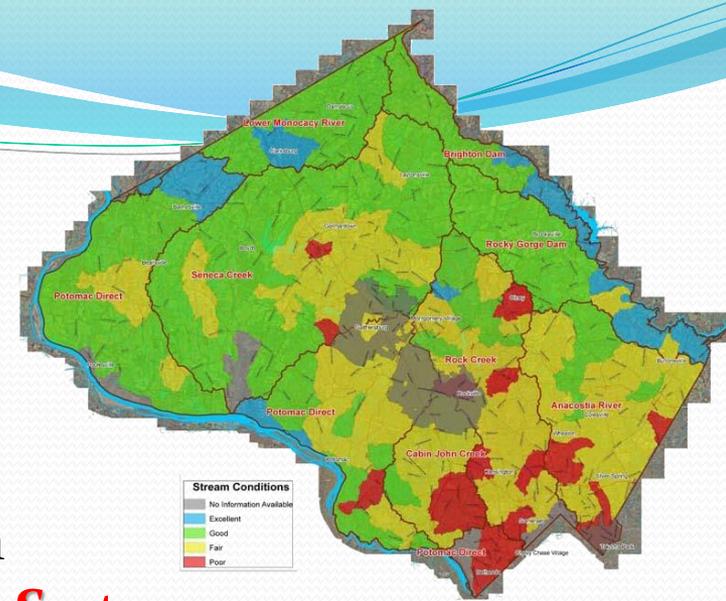
Water that does not soak into the ground becomes surface runoff. This runoff flows over hard surfaces like rooftops, driveways and parking lots collecting potential contaminants and flows:

- **Directly into streams**
- **Into storm drain pipes, eventually leading to streams**
- **Into stormwater management facilities, then streams**

Two Major Issues:
Volume/Timing of Runoff
Water Quality



What is the County doing to protect our Streams?



- Must meet regulatory requirements
 - Federal Clean Water Act permit program
 - **MS4 = Municipal Separate Storm Sewer System**
- Applies to all large and medium Maryland jurisdictions
- County programs
 - Restore our streams and watersheds
 - Add runoff management
 - Meet water quality protection goals
 - Reduce pollutants getting into our streams
 - Educate and engage all stakeholders
 - Individual actions make a difference
 - Focus on watersheds showing greatest impacts

MS4 permit, what is it?

- Montgomery County is responsible for:
 - What goes into our storm drain pipes
 - What comes out of them
 - What flows into the streams
- Requires additional stormwater management for **20 percent** of impervious surfaces (4,292 acres = 6.7 square miles). That's about three times the size of Takoma Park.

Goals of the Project

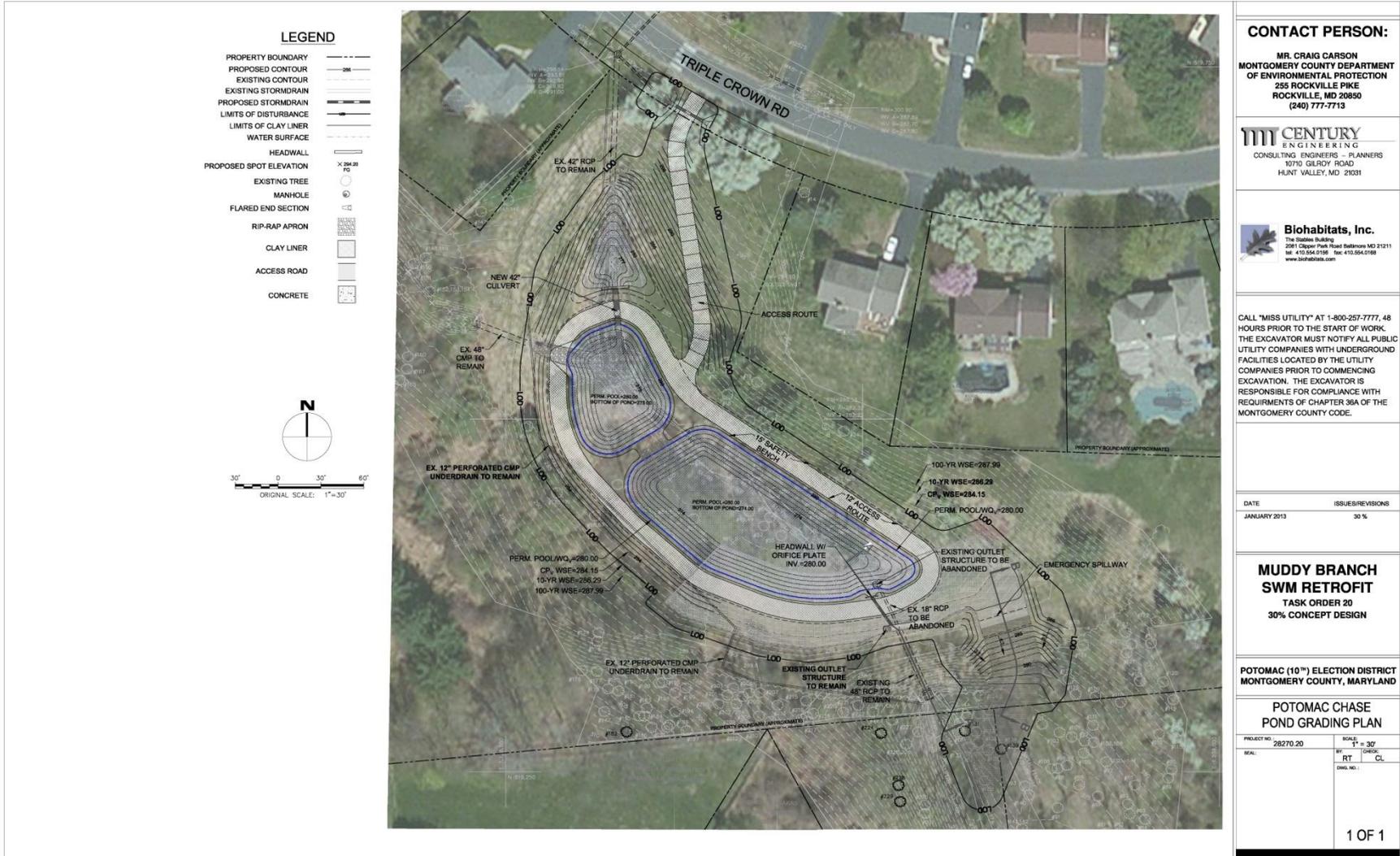
- Capture more “peak-flow” runoff from Impervious Surfaces (Rooftops/Driveways/etc.) within the Stormwater Pond, also called Channel Protection Volume (Cpv)
 - Flows are evaluated to ensure no upstream houses are flooded
- Create a Permanent Pool to Capture Nutrients
 - Aquatic plants within and along the perimeter of the permanent pool will help absorb nutrients and provide a balanced aquatic ecosystem.
 - May Attract Red Winged Black Birds
 - Aquatic ecosystem will have a balance of prey (mosquitoes) vs. predator species.
 - Referred to as Water Quality Volume (WQv)

Mosquito Predators

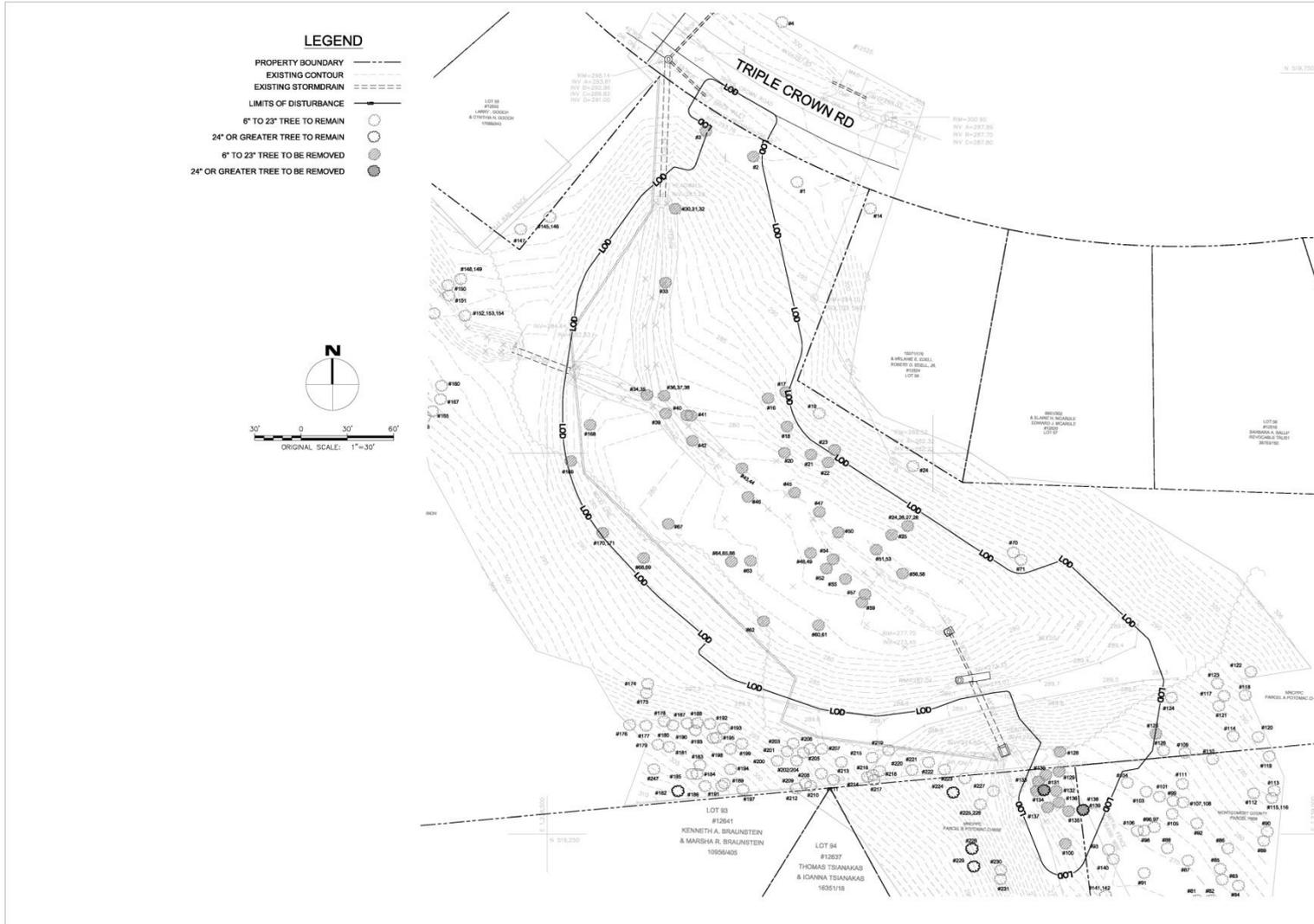
- **Non-Biting Midge**
- **Diving Beetle**
- **Damselfly Larvae**
- **Backswimmers**
- **Water Scorpion**
- **Dragonfly Nymph**
- **Phantom Midge**
- **Water Strider**
- **Swallows, Adult Dragonflies, Frogs**



Proposed Pond Design



Trees Proposed to be Saved/Removed



CONTACT PERSON:

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CALL "MISS UTILITY" AT 1-800-257-7777. 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 38A OF THE MONTGOMERY COUNTY CODE.

DATE	ISSUES/REVISIONS
JANUARY 2013	30 %

MUDDY BRANCH SWM RETROFIT
 TASK ORDER 20
 30% CONCEPT DESIGN

POTOMAC (10th) ELECTION DISTRICT
 MONTGOMERY COUNTY, MARYLAND

POTOMAC CHASE TREE DELINEATION

PROJECT NO:	28270.20	SCALE:	1" = 30'
SHEET NO.:	RT	TITLE:	CONCEPT
DWG. NO.:	CL		

1 OF 1



Questions/Comments?

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www.montgomerycountymd.gov/watershedrestoration
Click on -->Stormwater Pond Retrofits