Stormwater Action Plan

Wheaton Hills
Civic Association

Contents

Preface

This document, prepared by the Environmental Finance Center (EFC) at the University of Maryland, is part of an outreach and education effort designed to increase awareness about the issue of stormwater pollution, increase the rate of participation by residents in Montgomery County programs, and to more fully engage the leadership of residents of County civic associations in the implementation of watershed restoration activities in their communities.

The purpose of this document is to better equip Montgomery County civic associations to access available resources and implement meaningful and successful projects that support the County's permit requirements and community priorities.

This document is not meant to provide specific engineering solutions but rather to provide a foundation for pursuing these solutions if warranted.

On July 6, 2018, EFC staff met with a group of stakeholders from the Wheaton Hills Civic Association (WHCA) to discuss the stormwater related issues in their community, to review a detailed aerial map of the community and identify problem areas, and to take a walking tour of the community to take photos and conduct a visual assessment of on-the-ground conditions.

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Introduction

Throughout the United States, including Montgomery County, the main policies that protect water quality are the Clean Water Act, Total Maximum Daily Loads (TMDL), and Municipal Separate Storm Sewer (MS4) Permits, all of which are designed to prevent the violation of water quality standards. Established in 1972, the Clean Water Act established the basic structure for regulating water pollution. A TMDL is essentially a "pollution diet" in the sense that TMDLs set the maximum amount of a pollutant that can enter a waterbody. MS4 permits, which are federally mandated but issued by the state, are designed to reduce pollution that is coming specifically from the stormwater travelling through storm drains. Together, these policies protect both large and small water bodies, including the Chesapeake Bay, Potomac River, Rock Creek, and its tributaries. The WHCA lies within the lower Rock Creek watershed, and two tributaries of Rock Creek flow through Wheaton-Claridge Local Park.

Due to poor water quality, the US Environmental Protection Agency set TMDLs for the amounts of nitrogen, phosphorus, and sediment entering the Chesapeake Bay. Consequently, every state in the Bay watershed, including Maryland, is expected to do their part to reduce these pollutants and achieve load limitations. In addition to the Chesapeake Bay TMDL, many jurisdictions, including Montgomery County, also have MS4 permits to regulate stormwater pollution and local TMDLs to address local water quality impairments. In order to address water quality impairments and meet pollution reduction requirements, the County has developed Watershed Implementation Plans (WIP). A WIP serves as a roadmap for how a jurisdiction is going to achieve their water quality goals.

Montgomery County has developed WIPs for multiple watersheds in the County including Rock Creek[1] and the Anacostia River. These WIPs were developed in order to help the County meet the requirements set forth in the MS4 Permit issued by the Maryland Department of the Environment. In addition to providing a thorough overview of the existing conditions of the watersheds, the WIPs also include a list of practices and projects that will help the County meet its MS4 requirements. These lists include projects that support watershed restoration through runoff management and impervious cover treatment, as well as projects that support trash and litter management as mandated through the Anacostia River Trash Total Maximum Daily Load (TMDL) and the Potomac River Watershed Trash Treaty. Lastly, the WIPs recognize the importance of educating residents by identifying Outreach and Stewardship Strategies.

In an effort to more broadly engage citizens in these efforts, Montgomery County developed a Watershed Restoration and Outreach grant program. The program, which is managed by the Chesapeake Bay Trust, provides funds to local non-profits to help them carry out programming designed to educate citizens and implement projects on community property to reduce stormwater runoff, improve water quality, and expand the reach of County efforts.

Managing stormwater and achieving the required water quality improvements in Montgomery County is a major endeavor which requires significant investments. Green infrastructure implementation projects that will reduce flooding, and outreach programs that educate local stakeholders on the importance of stormwater management, are two ways that can offer multiple co-benefits and enhanced return on investment. While Montgomery County has a longstanding commitment to protecting and enhancing the natural and built environments to ensure improved water quality, their ultimate goals cannot be accomplished without the increased participation of local communities, including civic

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1 https://www.montgomerycountymd.gov/DEP/Resources/Files/ReportsandPublications/Water/Watershed%20studies/Rock-creek-watershed-implementation-plan-11.pdf

associations, and the active participation of their leadership and residents.

The Environmental Finance Center (EFC) at the University of Maryland developed the *Sustainable Maryland Stormwater Outreach Campaign* with funding by the Chesapeake Bay Trust – Montgomery County Watershed Restoration and Outreach Grant Program. This outreach and education campaign was designed to increase awareness about the issue of stormwater pollution, increase the rate of participation by residents in County programs, and to more fully engage the leadership and residents of civic associations in the implementation of watershed restoration activities in their communities.

As part of this campaign, EFC worked with local civic associations to develop stormwater-based community action plans. A community action plan is a participatory tool used to build the capacity of community members and empower them to take action. It helps residents identify areas of concern, specify what actions can be taken, define who will be responsible, and explore the resources available to help the community take action. The development of these stormwater action plans has been informed by County and community engagement and input throughout the *Sustainable Maryland Stormwater Outreach Campaign*.

It is important to note that while some priorities identified in the stormwater action plan will require Montgomery County to intervene, other actions may be led entirely by community volunteers, and some will require cooperative effort from both the County and the local community. Beyond the context of the immediate issues and initiatives within any specific community, there may also be opportunities to work with neighboring communities on regional stormwater planning and coordination. This action plan is not meant to provide prescriptive strategies or specific engineering solutions, but rather to provide a foundation for pursuing these solutions if warranted. It seeks to provide support for the outreach and behavior change activities that can be championed by the community itself and to highlight when a community should be advocating for County intervention on larger infrastructure projects and deeper legislative issues.

Community Overview

On July 6, 2018, EFC staff met with a group of stakeholders from the WHCA to discuss stormwater related issues in their community. Participating stakeholders reviewed a detailed aerial map of the community (Figure 1), identifying hot spots and areas of concern, then took a brief walking tour with EFC staff to take photos and perform a visual assessment of on-the-ground conditions. An image of the map from the meeting can be found in Appendix A.
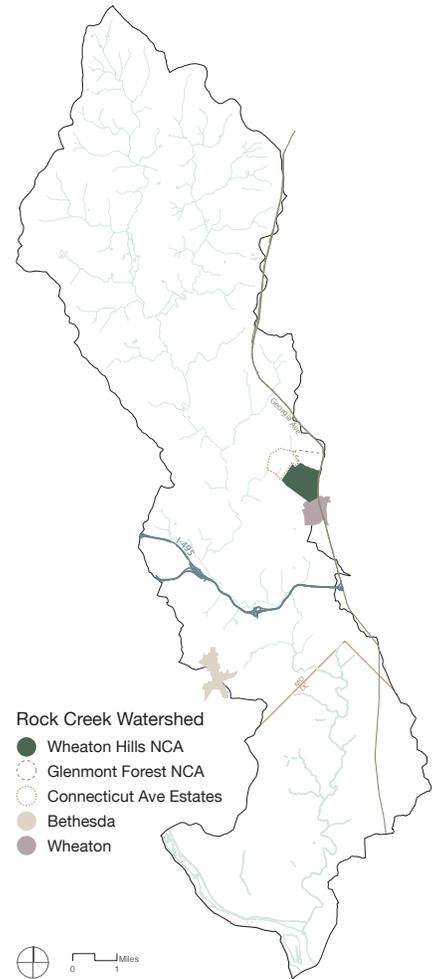
The Wheaton Hills Civic Association, formed in 2014, is a non-partisan neighborhood organization comprised of 1,100 homes and 3,500 residents spread across 360 acres of rolling hills in Montgomery County, Maryland. The area is almost wholly within the Lower Rock Creek watershed. The goals of the WHCA are to preserve and enhance the quality of life for its members, promote community engagement and provide activities to bring members together, and to serve as a liaison between members, elected officials, and County development heads.

WHCA is bounded by Henderson Avenue to the north, Georgia Avenue to the east, University Boulevard to the south/southeast, Veirs Mill Road to the west, and Claridge Road to the northwest (Figure 2). The community is primarily residential, with the housing stock consisting of Colonial and Cape Cod homes that were built during the late 1940s and early 1950s on former farmland in Wheaton. Neighboring communities include Glenmont Forest Neighbors Civic Association to the north and Connecticut Avenue Estates to the west.

Rock Creek Watershed
- Wheaton Hills NCA
- Glenmont Forest NCA
- Connecticut Ave Estates
- Bethesda
- Wheaton

Figure 2 Location of Wheaton Hills within Rock Creek watershed

Wheaton-Claridge Local Park is the only significant green space in the community. The park is approximately 21 acres in size, 17 acres of which are wooded. Natural surface, multi-use trails run along Joseph's Branch and another unnamed stream that flow through the park. Montgomery County Parks completed a park renovation program in 2018. The renovations included the removal of invasive plant species and stream buffer enhancements as well as the installation of lighting, a picnic area, a new playground and basketball court, and a recreational facility.

Figure 1 Wheaton Hills community members identifying neighborhood stormwater issues during stakeholder meeting

Neighborhood students are served by four public schools. Elementary students either walk to Highland Elementary School or are bused to Arcola Elementary School. Teenagers attend Newport Mill Middle School and Einstein High School. The Avalon School, a private boys school, recently relocated from Gaithersburg to the St. Catherine Laboure Parish property (Figure 3).

The WHCA is located in the 20902 zip code. According to the 2016 census, the median age in the community is 34.9 years old, with an annual income of $86,189. The unemployment rate for the area is 5.6%, with 6.9% of the population living below the poverty level. Approximately

WHCA Map

Features of the Built and Natural Environment

- ⬛ Single Family Detached
- ⬛ Single Family Attached
- ⬛ Institutional/Community Facility
- ⬛ Retail
- ⬛ Office
- ⬛ Industrial
- ⬛ Parking and Transportation
- ⬛ Utility
- ⬛ Road/Sidewalk/Lot
- ⬛ Wheaton-Claridge Park
- ⬛ Recreation - Impervious
- ⬛ Recreation - Pervious

- ⬛ Tank/Smokestack
- ⬛ Swimming Pool
- ⬛ Patio
- • Water Inlets
- • Water Outlets (County Map)
- • Water Outlets (State Map)
- • County Manholes
- ◉ State Manholes
- — Stream

Figure 3 Street map of Wheaton Hills

40% of all WHCA residents speak English as a second language, and according to the school website, over 80% of the students at Highland Elementary School speak two languages. Demographic information for race and education levels within the community is seen in Figure 4.

WHCA Stormwater Issues

This action plan provides the WHCA with a road map for implementing stormwater management and treatment practices. The action plan highlights issues that were identified through the walking tour and stakeholder meeting, categorizes the issues to identify which can be handled by the community on its own and which will require assistance from the County, and provides a comprehensive list of resources designed to help the community navigate stormwater issues to implement meaningful and successful projects (Appendix B).

After reviewing the information from the stakeholder meeting and the walking tour, the issues identified were broken into two categories: *Community Priority Areas* and *Community Action Areas*. *Community Priority Areas* are significant issues that pose an immediate threat to the community and demand immediate attention. Generally speaking, these issues are more complex in nature and will most likely require coordination with, and action by, the County or other entity.

Figure 4 Wheaton Hills race and education demographics

Community Action Areas are issues that were discussed with the community, but are currently maintained or not posing a significant problem. It is important to monitor these areas so that if an issue arises, appropriate action can be taken. In most cases, Community Action Areas are initiatives that could be undertaken and maintained by the community without major assistance from or coordination with the County. They also provide good opportunities for community engagement and education. A calendar of suggested outreach and education opportunities can be found in Appendix C. This calendar can be used as a guide for how and when to engage residents in some of the community's issues and action areas.
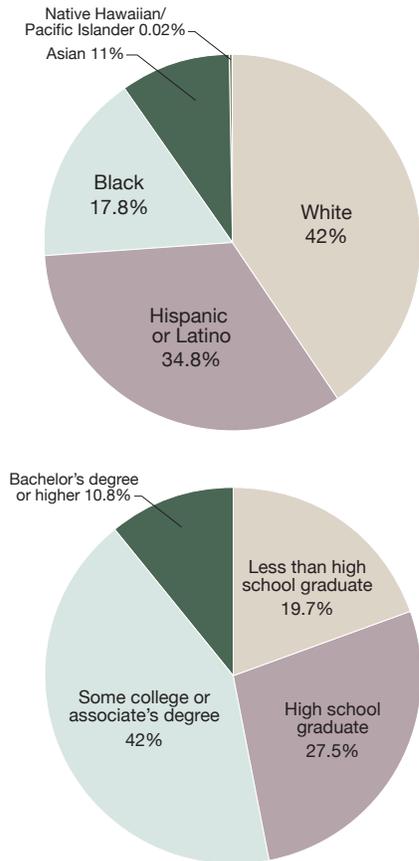
WHCA Stormwater Concerns

Identified Focus Areas

- 🔴 Litter
- 🟡 Sinkhole
- 🔵 Flooding
- • • • Heavy rain flow
- • • • No Inlets
- ✕ Stream Outfall
- ✛ Stream Odor
- 🟩 Constructed Marsh

Figure 5 Topographic map of Wheaton Hills

1,000 Feet

Community Priority Areas

Flooding

Generalized flooding was identified as a major concern by community members. It was noted that stormwater flows heaviest down Parker and Blueridge Avenues and that there are no storm drains on Byron Street, Dawson Avenue, or Higby Street. The intersections on Galt Avenue and Parker Avenue, Avena Street and Parker Avenue, and Blueridge Avenue and Parker Avenue were all identified as flood-prone areas (Figure 5). Figure 6 shows flooding along Byron Court, an area where there are no storm drains.

Figure 6 Flooding along Byron Court

Repeated flooding is presumably adding to existing concerns about sinkholes and basement flooding. Several residents along Blueridge Avenue have reported sinkholes forming in their yards while other community members have indicated that they need to run sump pumps nearly 24 hours a day to keep their basements from flooding.

Recommendations

Large-scale flood control measures, such as installing storm drains or green streets, are not projects that the WHCA can undertake on their own. Additionally, it is not likely that such a project will occur unless there are other roadway projects scheduled to occur. However, there are several things that residents can do on their own to help with flooding issues:

1. **Think Residentially**
   a. Develop an outreach campaign. Use WHCA's outreach channels (Facebook, Listserv, newsletter, etc.) to promote the RainScapes rebate program. Set up a schedule and assign responsibilities for executing outreach to residents, and customize existing marketing materials to fit the community's needs. Through this process you can provide residents with access to County resources and provide peer-to-peer learning and support throughout the process. This will help provide capacity to residents that are interested in installing projects at home but don't know where to begin. ***Capturing water at residential properties means less water flowing down the street.***
   b. An emphasis should be put on installing RainScapes projects at homes where there are known stormwater issues. These areas include Parker and Blueridge Avenues where heavy rain flow has been noted, along Byron Street, Dawson Avenue, and Higby Street where there are no storm inlets, and at the intersections of Galt Avenue and Parker Avenue, Avena Street and Parker Avenue, and Blueridge Avenue and Parker Avenue, all of which were identified as flood-prone areas.
   c. Install educational signage. Use art and informational signage to notify residents of hot

spots and problem areas, as well as promote the adoption of best management practices. Montgomery County has a number of signs you can request or community specific educational signs could be developed.

    d. Promote proper water quality practices including mindful lawn care and winter maintenance.

2. **Pursue County support for large-scale restoration efforts/advocate for stronger County intervention.**

    a. Stay informed on County watershed plans and take advantage of public comment periods. Review and provide comments where appropriate. As a resident, it is your prerogative to let the County staff and elected officials know that residents support green infrastructure and other stormwater management practices.

Cisterns

Cisterns are large sealed tanks that can be located above ground, partially buried, or below ground and collect water from several downspouts from one building's roof or from multiple roofs. There are a number of multi-family developments and larger institutional land uses within the community that would be suitable for the installation of multiple cisterns for capturing and re-using stormwater. These include Clairmont Townhomes on Grandview Avenue, Highland Elementary School on Claridge Road, St. Catherine Laboure Church and the Avalon School at the corner of Claridge Road and Veirs Mill Road, and the Wheaton Community Church on Church Lane. WHCA should reach out to these multi-family developments and institutions and encourage them to look into rain water harvesting. At the same time, the civic association should educate residents about the use of cisterns and small-scale rain barrels at single-family homes.

A nearby example of a multi-family development that has installed multiple cisterns is Glen Waye Gardens Condominiums, which is located off Georgia Avenue and adjacent to the Glenmont Shopping Center.

Pervious Pavers or Pavement Removal

Removal of paved areas and the installation of pervious pavers/pavement or native vegetation is an effective way to prevent stormwater from entering local waterways. In addition to converting parking areas at places of worship, schools, and businesses, permeable pavers can also be installed at private residences to replace traditional patios, sidewalks, and driveways. However, installing permeable pavers can be expensive and the work needs to be completed by individuals with the proper training.

The parking area at Wheaton-Claridge Local Park could be strategically retrofitted with pervious pavers to reduce sheet flow runoff. Likewise, if parking areas at parks rarely reach maximum capacity, or there are specific parking spaces that rarely get used, there are opportunities where pavement might be removed and replaced with native plants in order to increase stormwater infiltration and provide habitat for pollinators. These projects would be at the discretion of Montgomery County Parks. Additionally, the parking lots of both churches within the community could potentially be good candidates for retrofitting with pervious paving.

Rain Gardens

A rain garden is a garden with a shallow depression that collects and drains stormwater. They are typically planted with native plants with deep roots that loosen the soil allowing stormwater to soak into the ground more easily. Rain gardens can range in size from small to large, making them an ideal option for wide variety of properties including individual homes, multi-family residential developments, and religious and school properties. In addition to hundreds of single family homes that might be eligible, Claremont View has locations for the installation of rain gardens or bio-swales. Highland Elementary already features several different types of rain gardens on its property, with the added value of offering an educational component for students at a variety of grade levels. Both St. Catherine's Church and the Wheaton Community Church have properties which may be suitable for rain gardens.

Figure 7 Example rainscape projects

b. Review the Rock Creek Watershed Assessment.[2] The watershed assessment provides an overview of existing conditions within the watershed and identifies potential restoration opportunities. This document will not only help residents better understand the pressures impacting local water quality, but it may also help identify projects that the community will want to support.

c. Take advantage of opportunities to let the County and elected officials know about issues within the community. Encourage them to incorporate stormwater management practices into other road and sidewalk projects and show community support for the Green Streets program. Information on how to identify your elected officials and council member is contained in Appendix B.

d. Document the efforts of the WHCA and local residents. This local-led effort and groundswell of community support relays to the County a level of commitment and initiative on the part of the community.

3. Call 311/Seek Professional Help

a. Report sinkholes and flooding issues by calling 311. Calling 311 is the fastest way to have the issue routed to the appropriate County department. Though it may not seem like it, calling 311 is more efficient than trying to navigate the County's system on your own.

b. Report sinkholes to WSSC. Sinkholes typically occur in areas with porous and highly erodible soils. These soil types are not found in Montgomery County. If you have a sinkhole forming, it most likely means that there is something happening underground that is causing the soils to erode. This situation can often be the result of a leaking pipe. WSSC can determine if there is a pipe issue and who is responsible for any necessary repairs. Filling in a sinkhole is just a temporary fix, it won't correct the underlying issue.

c. Seek the guidance of an engineer or property inspector. As with sinkholes, continuous basement flooding is typically a more common problem in areas with porous soils or where basements are close to or below sea level, such as the Virginia coastal plain. In this region, constant infiltration of significant amounts of water in a basement is usually a symptom of a larger problem. Hire a professional to assess the situation and make sure that you do not have an underlying foundation issue or problem with a pipe. You should also check your water bill to make sure that your fees seem "normal." A dramatic increase with no other known cause could also indicate a pipe leakage issue. Before calling a professional, document when you experience flooding, the extent of the flooding (depth and duration), and the conditions leading up to the event.

Litter

Residents expressed a variety of concerns about litter, ranging from the typical lack of/overflowing trash cans to illegal dumping. Many of the litter hotspots that were identified are located at intersections of major roads, including the bus stop at the intersection of Georgia and Henderson Avenues. Additional hotspots were identified at the trail entrance to Wheaton-Claridge Local Park on Medway Street, Wheaton Claridge Park near Claridge Court, and the entrance to the WSSC property on Kensington Boulevard (Figure 5). Illegal dumping issues were identified on the edge of Wheaton-Claridge Park, adjacent to the St. Catherine's parking lot and the median along Brookview Road.

Unfortunately, there is no simple solution when dealing with overflowing trash cans, a situation that is

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2   https://www.montgomerycountymd.gov/water/Resources/Files/stormwater/implementation-strategy/rock-creek-summary-2018.pdf

often exacerbated by the fact that people choose to throw trash on the ground rather than using the next available can. Calling 311 is the fastest way to bring attention to the issue. The call will be logged and routed to the appropriate County office. If there is a persistent issue with dumpsters or trash cans on private property such as a school, church, or locally owned business, try reaching out the property owner to politely bring the problem to their attention. If the issue persists, call 311.

Illegal dumping is a serious issue. In Montgomery County, people convicted of illegal dumping are subject to a minimum $500 fine and in some cases criminal prosecution. If you want to report illegal dumping, you need to get as much information as possible, and most importantly, the exact location. If you witness dumping happening, try to get the license plate number of the vehicle, date and time of the incident, a description of the person(s) involved, and photos or a description of the materials. ***Do not put yourself in danger trying to get this information!*** If you inadvertently find a dump site, it is still important to get the exact location as well as photos or a description of the dumped material.

As with trash cans, the first step in reporting illegal dumping should be calling 311 to report the issue, regardless of location. In addition to calling 311, use Montgomery County DEP's online form to report the issue electronically.[3] Lastly, see Appendix B for how to request a "No Dumping" sign be installed. If the dump site is on park property, report the problem through the M-NCPPC website or call the service center[4] as well as calling 311. Using both of these resources reinforces concerns about the issue.

Installation of Green Street Treatments

Green streets are large-scale infrastructure that incorporate multiple types of stormwater management practices including stormwater planters, pervious paving, native trees and plants, and other traffic-calming measures. Montgomery County DEP would be responsible for the implementation of green streets. Green street treatments could be potentially help with the heavy rain flow and lack of storm inlets along Blueridge, Parker, and Dawson Avenues, and Byron Street. Additional locations could include the upper portion of Fennimore Road and Arcola Avenue.

Figure 8 Dennis Ave green street

As a community, one of the quickest ways to make an impact on litter is by organizing a community cleanup. Holding a cleanup won't necessarily solve the underlying issue, but there is something to be said for showcasing a clean neighborhood. If people see that others care, they are more inclined to care themselves, and less inclined to litter. Community cleanups make great, family-friendly events. They can be held on any scale ranging from simple street cleanups to large scale cleanups of dump sites, provide opportunities for students and scouts to fulfill community service/SSL hours, and are great opportunities to educate others about the impacts of trash. Stakeholders indicated that WHCA holds a community cleanup once a year in October. The next step would be to consider coupling the existing cleanup with a storm drain marking event, committing to holding cleanups several times throughout the year, or forming a litter management team.

There are several avenues you can take to get assistance with holding a cleanup. Montgomery County DEP and Montgomery Parks both have volunteer programs. ***If you want to hold a cleanup on County or park land, it is essential that you contact them first to get approval.*** Rock Creek Conservancy and the Alice Ferguson Foundation also have robust volunteer programs focusing on trash cleanups. All of these entities are available to assist with community cleanups and in most cases, supplies (bags, gloves, etc.) can be provided and arrangements can be made the have the bags

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3   https://www.montgomerycountymd.gov/dep/contact.html

4   https://www.montgomeryparks.org/services/report-a-problem/

collected free of charge. Contact information for cleanup partners is listed in Appendix B.

Protecting and Labeling Storm Drains

Stakeholders raised concerns about the dumping of hazardous materials (motor oil, grease, etc.) down storm drains and expressed interest in establishing a storm drain labeling program. The dumping of fats, oils, and grease (often referred to as FOGs) down drains can cause major issues. In fact, the EPA regulates animal fats and vegetable oils the same way they regulate motor oil. Among the many issues associated with FOGs, they can cause physical harm to animals and plants, be toxic, produce odors, and linger in the environment for years.

Montgomery County and Washington Suburban Sanitary Commission (WSSC) both have free educational materials available on FOGs. However, these materials deal specifically with the dumping of FOGs down the drains inside homes, not with the dumping of FOGs in storm drains. WSSC has Customer Advocates that specifically focus on providing outreach and education to communities. They are available to come to community events or meetings to educate residents about FOGs. Although their outreach is focused on what happens inside the home, this education could provide a good first step and connection to expanding educational opportunities to include why you shouldn't dump FOGs down storm drains. If people understand the harm they can do inside the home, they are more likely to understand why it is also a bad idea outside.

Storm drain labeling can be an effective educational tool, especially if paired with a cleanup event. Many people believe that storm drains go directly to the wastewater treatment plant and are not aware of the fact that storm drains often empty directly into bodies of water. Coupling a storm drain marking event with a cleanup provides additional opportunities to talk about the connections between storm drains and water pollution including litter, lawn debris, and FOGs. Storm drain marking in Montgomery County is a permitted activity. The County will provide storm drain markers for free, but you must complete an online application. See Appendix B for contact information.

It is also important to note that if a storm drain in your neighborhood is clogged with leaves or trash, the issue can and should be reported through 311. Dumping materials into storm drains is considered illegal dumping. If you see this occurring, follow the same instructions given to report illegal dumping in the previous section.

Incorporating Green Infrastructure into Future Sidewalk and Roadway Projects

Several speed bumps have been installed within the community in recent years. Future traffic calming efforts, including sidewalk bump-outs and traffic roundabouts, could provide opportunities for incorporating green infrastructure.

In the event that the WHCA learns of any new or proposed sidewalk or roadway projects, the community should lobby the County and other appropriate parties to consider a "Dig Once" approach. The "Dig Once" approach involves incorporating green infrastructure practices into the planning process so that the ground is only disturbed one time. It facilitates the process of resolving traffic and pedestrian issues while simultaneously addressing stormwater management and water quality issues. The WHCA should also encourage the County to embed stormwater management and other environmental resilience practices into the Capital Improvement Program. Letting the County know that WHCA supports green infrastructure and other stormwater management practices is an important step in this process.

Community Action Areas

Pet Waste Management

The community has identified issues with residents neglecting to pick up pet waste. There is currently one pet waste station in the community, located at Wheaton-Claridge Local Park. Stakeholders expressed interest in having more stations, but were concerned about maintaining them. Not having any community owned property complicates, but doesn't eliminate, the option of installing pet waste stations. In addition to stations, there are also other options to encourage dog owners to pick up.

Before moving forward with any of the options presented below, the first step is to complete a thorough assessment of the community to determine where the problem spots and high dog traffic areas are located. There are many resources online that can guide you through the process of assessing your problem and developing an appropriate maintenance plan. A good place to start is the Zero Waste USA website. It provides useful information on why pet waste management is important and outlines many of the options. The EPA also has a helpful manual that focuses on figuring out what type of program is the best fit for the community. Links to both of these websites are in Appendix B. A survey that can be used to assess the community's understanding of pet waste issues and personal habits regarding cleaning up after their own dogs can be found in Appendix D.

Installing an additional station on park property would need to be approved by, and coordinated with, Montgomery County Parks (see contact information in Appendix B). If the community is able to identify a suitable location outside of park property, there are many options for the size, type, and cost of station installed. If maintenance is a concern, consider installing a station that does not have an attached trash can. These stations are typically smaller and cost less. After installation, the only recurring maintenance and cost is making sure that the station has bags. Although these stations do not provide a place to dispose of waste, they are still providing waste bags and encouraging pet owners to scoop the poop. If the community does not want to commit to any type of maintenance, consider using a private company to install and maintain stations.

Regardless of whether or not a suitable location for a station is identified, WHCA may also want to consider an outreach campaign to promote proper pet waste management. Yard signs can be requested from Montgomery County DEP and posted in problem areas to remind and encourage pet owners to pick up after their pets. Signs can also be purchased for a relatively low cost online. WHCA should also share pet waste related facts and reminders about picking up after your dog through its communication channels. Residents should be encouraged to remind offenders that not picking up after pets is punishable with a fine, and encouraged to report repeat offenders through 311.

Montgomery County has a pet waste management program designed to educate residents and install pet waste stations in common areas managed by homeowners associations. As a civic association, the Wheaton Hills community does not qualify for this program. However, the WHCA can leverage this experience and potentially explore piloting a civic association based program to install pet waste stations. Links and contact information for all of the tools referenced above are available in Appendix B.

Street Sweeping

A Montgomery County contractor runs a street sweeper through the community once a year in the spring. Stakeholders did not identify problems with this program in general, but did note that not everyone will move their car as requested. Stakeholders also mentioned that the street sweeper does not go into many of the cul-de-sacs within the community.

As other residential communities with little off-street parking have found, better advance notice of the street sweeper's schedule and stronger penalties for not moving cars would improve the effectiveness of this program. WHCA should use its communication channels to educate residents about why street sweeping is important, reinforce the request for people to move their cars, and publicize the date street sweeping will occur. WHCA should also reach out to MC DOT to request stricter enforcement of the fines for not moving cars on street sweeping day and request that cul-de-sacs be added to the route. Information about street sweeping, including the schedule, is available on the MC DOT website. See Appendix B for the link.

Leaf Pickup

Montgomery County conducts two leaf pickups in the fall, typically one in November and one in December. Residents are instructed to collect leaves in loose piles in their yards. Stakeholders expressed no concerns about adequate promotion or effectiveness of this program but noted that not everyone participates and that many residents pile leaves in the street, rather than in their yards. Piling leaves in the street not only hinders the effectiveness of collection, but also leads to clogged storm drains. WHCA should use its communication channels to educate residents about why leaf collection, including proper placement of the leaves, is important, and to publicize collection dates. The newsletter and listserv can also be used to educate residents about alternative ways to utilize leaves in lieu of the County's collection program. Information about leaf collection, including the schedule, is available on the MC DOT website. Links to resources for alternative uses of leaves and the MC DOT website can be found in Appendix B.

Tree Planting

A windshield survey of every street within Wheaton Hills identified several opportunities for strategic planting of trees, which help reduce runoff, dampen the heat island effect, and improve local air quality. The overall condition of the community's tree canopy is mixed, with some streets having very little tree cover and few spaces to plant them, to streets that have a fairly intact row of mature street trees shading the homes below. Based on ample lawn space, gaps in street trees, whether or not the area is public right-of-way, and lack of utility poles and wires, the streets below have been identified as high yield opportunities for the planting of shade trees:

1. **Fennimore Road:** This road is wider than most and has few sidewalks along its length. Currently, it features a low level of tree cover, but the mostly flat, adjacent lawns make it a good opportunity area for new trees.
2. **Arcola Avenue:** The blocks from Georgia Avenue to Parker Avenue have a low level of tree canopy. With sidewalks and wide lawns on both sides, it is an opportune area for planting shade trees.
3. **Byron Court:** This cul-de-sac has a long grassy median where several trees could be planted (Figure 9).

4. **Harris Avenue:** The block between Lafayette Drive and Judson Road has a low level of tree canopy, but a wide lawn on one side with no utility poles makes it an ideal area to plant trees.
5. **Kramer Street:** This block-long street has a low level of tree canopy, but wide lawns suitable for planting.
6. **Ivanhoe Street:** There is a low level of tree cover on this street, which is located toward the top of a ridge. Wide tree lawn area on the east side of this street offers many opportunities for planting (Figure 10).

Figure 9 Byron Court

Additionally, the two churches within the community and Highland Elementary School feature several acres of land which could be converted to community forest areas or be the site of smaller tree plantings. WHCA should approach Highland Elementary School and the Avalon School, which is located at St. Catherine's, about a joint tree planting initiative.

If the community is interested in conducting a more comprehensive tree canopy analysis, that can be completed using the i-Tree Canopy tool. The i-Tree Canopy tool uses Google Maps aerial photography to

Figure 10 Ivanhoe Street

conduct a canopy assessment within a defined area. It can also be used to estimate tree benefits. WHCA could use the information from i-Tree Canopy to develop a community tree planting initiative.

There are several County and State programs in place to assist with increasing tree canopy for little or no cost. Tree Montgomery provides and plants free trees on private property and the Montgomery County DOT tree program provides and plants free street trees. Marylanders Plant Trees is a program designed for individuals that want to purchase and plant their own tree. Through this program, individuals receive a coupon to purchase a tree at a discounted price from participating nurseries. Information about these programs can be found in Appendix B.

Advocacy

As residents and property owners, WHCA residents should take advantage of opportunities to advocate for projects and initiatives they support. The best way to do this is to sign up to receive action alerts from one of several local, state, or Bay-wide organizations such as Audubon Naturalist Society or the Chesapeake Bay Foundation. WHCA stakeholders expressed specific interest in a potential "Bottle Bill." One of the best ways to receive updates on the bottle bill or any other legislation involving trash (plastic bags, foam, straws, etc.) is by signing up to receive updates from Trash Free Maryland. Through these listservs, subscribers receive emails providing them with easy links and pre-written letters that can be used to reach out to elected officials in support of a variety of environmental initiatives. Residents shouldn't hesitate to reach out to elected officials and County Council to show support, or oppose, local initiatives and legislation, and when available, take advantage of opportunities to respond to calls for public comment. Links to organizations with advocacy alerts and a link to identify your elected officials and council member are included in Appendix B.

Summary

This action plan contains many recommendations for how the WHCA can address stormwater issues within the community. A list highlighting those recommendations is located at the end of this summary. Specific details about the recommendations can be found throughout the various sections of the action plan. WHCA should also review the information presented in Montgomery County's 2018 Rock Creek Watershed Assessment and look for opportunities to work with the County or commercial/multi-family complexes to join forces on stormwater management practices.

WHCA has a good handle on what the community's issues are, the community just needs to figure out the best way to organize around those issues. The recommendations and resources provided in this action plan can be used to provide that roadmap. An important part of that process will be starting to think locally, not globally. In other words, start thinking about what can be done at individual homes and as individual citizens, not just what can be done as a community.

The primary concerns identified through this process were flooding, litter, protecting storm drains, and the incorporation of green infrastructure into future County projects. Other topics that were discussed, but not noted as significant issues, include street sweeping, leaf pickup, and pet waste. Some of the recommendations made (trash cleanups, promoting street sweeping, contacting elected officials, etc.) can easily be undertaken without any assistance from partners. However, some of the recommendations (actions regarding illegal dumping, large-scale flooding, developing a pet waste outreach campaign, etc.) will either require or be easier with some level of assistance from the County or other partner entity.

County action will be necessary to correct the large-scale flooding issues that are due to a lack of existing infrastructure. One piece of that solution could potentially be the installation of green street practices. However, anything that can be done on private property to minimize the amount of runoff making it to the street will also help minimize flooding. Residents should be thinking about planting trees, installing rain gardens, rain barrels, and other practices recommended through the RainScapes program at their own homes. It may not seem like much on a case-by-case basis, but the combination of many smaller practices implemented at individual homes throughout the community can make a noticeable reduction in the amount of stormwater reaching the road.

Should the community decide to move forward with some of the more complex recommendations that do not require County interaction, such as developing a pet waste campaign, WHCA should consider reaching out to Amanda Rockler at Maryland Sea Grant. Ms. Rockler was part of the EFC team that met with WHCA stakeholders and her organization has the capacity to help the community navigate the process and nuances of the more complex recommendations given in this document. Contact information for Maryland Sea Grant can be found in Appendix B.

Regardless of how the WHCA decides to proceed from this point, it is paramount that residents embrace neighbor-to-neighbor communication and continue to take ownership of the community. The best way to have an impact is to educate each other.

Recommendations

1. Develop and implement an outreach campaign focusing on the importance of stormwater management.
2. Promote the RainScapes program, focusing on homes and streets where there are known flooding

issues, including Byron Street, Dawson Avenue, and Higby Street which have no storm drains as well as areas surrounding the intersections on Galt Avenue and Parker Avenue, Avena Street and Parker Avenue, and Blueridge Avenue and Parker Avenue all of which were all identified as flood-prone areas.

3. Reach out to multi-family complexes, houses of worship, and schools in the community and encourage them to consider implementing stormwater management practices.

4. Conduct a tree canopy assessment using i-Tree and develop a plan for increasing tree canopy in yards as well as through street trees.

5. Conduct a thorough neighborhood assessment, including the resident's survey, to identify the complete extent of the pet waste management issues. After the assessment, evaluate the feasibility and need of conducting an outreach campaign, installing pet waste stations, and hiring a private contractor.

6. Continue advocating for green infrastructure practices with County staff, elected officials, and council members.

7. Evaluate options for taking the community's current litter reduction program to the next level by increasing the number of annual cleanups, developing a litter management team, and coupling community cleanup events with storm drain marking.

8. Reach out to WSSC's Community Advocate and develop an outreach campaign related to the illegal dumping of FOGs in storm drains. This can be coupled with the development of a storm drain marking program.

9. Utilize the WHCA's communications channels to promote street sweeping and leaf collection dates. Reinforce the importance of participating in these programs, moving vehicles as requested, proper placement of leaves, and alternative uses.

10. Step up advocacy efforts by signing up to receive action alerts and taking advantage of opportunities to show support for green infrastructure and other stormwater management practices by reaching out to elected officials and council members.

11. Increase the availability of educational materials at community events such as National Night Out.

12. Review the Rock Creek Watershed Assessment and identify opportunities to support or partner on stormwater management projects.

13. Utilize the Outreach Plan (Appendix C) to schedule activities and educational posts throughout the year.

Appendix A: Stakeholder Map
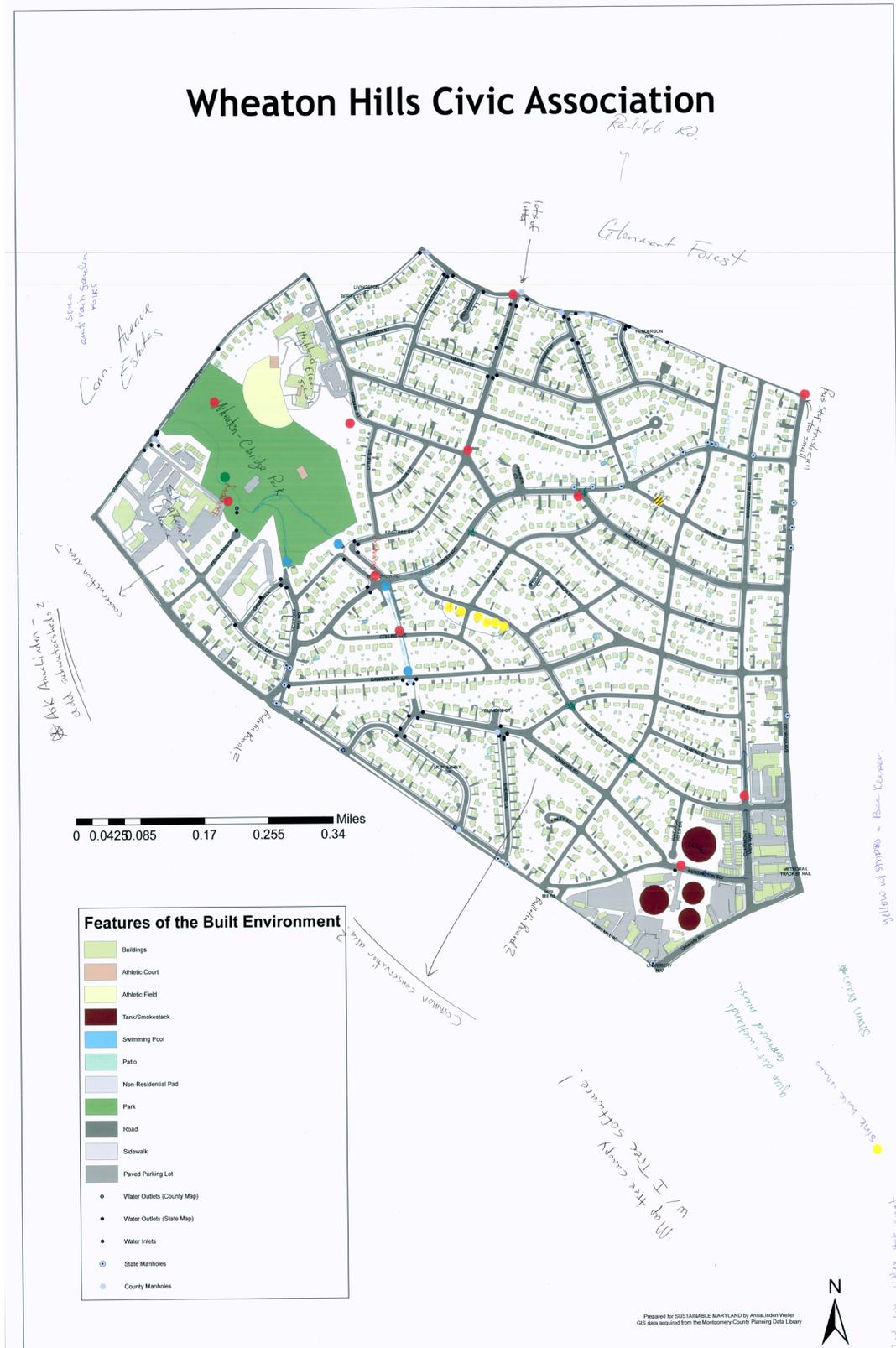
Appendix B: Resources

Montgomery County's Stormwater and Restoration Programs		
Stormwater Management		
General	**Stormwater Management**- Basic information on stormwater management, facility maintenance fact sheets, and links to more clean water programs.	https://www.montgomerycountymd.gov/water/stormwater/index.html
General	**County Implementation Strategy**- Details how the County will meet the MS4 Permit required watershed restoration goals and water quality standards. This webpage includes the county's public outreach workplan, watershed implementation plans, and watershed pre-assessment reviews.	https://www.montgomerycountymd.gov/water/stormwater/county-implementation-strategy.html
General	**Rock Creek Implementation Plan**- Details the County's plan for how they are going to meet their stormwater management and pollution reduction goals as required by the EPA and the Maryland Department of the Environment.	https://www.montgomerycountymd.gov/DEP/Resources/Files/ReportsandPublications/Water/Watershed%20studies/Rock-creek-watershed-implementation-plan-11.pdf
General	**Rock Creek Watershed Assessment**- This document summarizes the County's assessment of the Rock Creek watershed. It provides an overview of the existing conditions in the watershed and identifies restoration opportunities.	https://www.montgomerycountymd.gov/water/Resources/Files/stormwater/implementation-strategy/rock-creek-summary-2018.pdf
General	**Rock Creek Watershed Assessment Appendix**- The appendix to the previously listed Watershed Assessment, this appendix provides more extensive information about specific catchments in within the Rock Creek Watershed, including McKenney Hills (pages 12-23)	https://www.montgomerycountymd.gov/water/Resources/Files/stormwater/implementation-strategy/rock-creek-appendix-a.pdf
General	**Stormwater Facility Maintenance Program**- The County is responsible for inspecting and ensuring maintenance of all public and private stormwater management facilities within Montgomery County. The Stormwater Facility Maintenance Program inspects stormwater facilities at least every three years in order to make sure the facilities are functioning. This page contains an interactive map of current stormwater facilities maintained by the county.	https://www.montgomerycountymd.gov/water/stormwater/maintenance.html
Stream Restoration		
General	**Watershed Restoration** - Summary of restoration tools, watershed study process, and watershed restoration project process.	https://www.montgomerycountymd.gov/water/restoration/process.html

General	**Watershed study and restoration project selection**- Describes the process by which the county selects restoration projects.	https://www.montgomerycountymd.gov/water/restoration/process.html
General	**Stream Restoration**- Summary of stream restoration techniques including brush layering, coir logs, cross vane, and more.	https://www.montgomerycountymd.gov/water/restoration/streams.html
General	**Restoration monitoring**- summary of how and what the county monitors.	https://www.montgomerycountymd.gov/water/restoration/monitoring.html
Infographic	**Stream restoration brochure**- Infographic of stream restoration techniques.	https://www.montgomerycountymd.gov/DEP/Resources/Files/PostersPamphlets/Restoring_Montgomery_Countys_Streams.pdf
Video	**Why restore local streams video**- Two-minute video on the importance of restoring local streams.	https://www.youtube.com/

Green Streets

Guidance	**Green Streets**- Guidance and information on green streets practices, how to maintain them, and frequently asked questions.	https://www.montgomerycountymd.gov/water/restoration/green-streets.html
Guidance	**Green Streets in Your Neighborhood**- This guidance document describes the neighborhood experience of installing a green street. It explains the various aspects of a green street, how they benefit your community, and how they are maintained.	https://www.montgomerycountymd.gov/DEP/Resources/Files/brochures/GreenStreetsHandout.pdf
Photos	**Montgomery County Green Streets Flickr Album**- Picture album of Montgomery County green street projects.	https://www.flickr.com/photos/mocobio/sets/72157633663354666/
Video	**Did You Know 57: Green Streets Montgomery County**- YouTube Video at 5:14 they discuss how informational signage posted during green streets project helped keep residents informed of the ongoing stormwater management projects.	https://youtu.be/SgL0A5whL9A?t=314

RainScapes Rebates

Rebate	**Montgomery County RainScapes Rebate Program**- Comprehensive resources for the RainScapes program including manuals and guides, choosing a professional, plant lists, and additional resources. Multi-lingual resources are available (Amharic, Chinese, French, Korean and Spanish). Potential projects include canopy trees, conservation landscapes, green roofs, pavement removal, permeable pavement, rain barrels & cisterns, and rain gardens.	https://www.montgomerycountymd.gov/water/rainscapes/resources.html#manuals
Video	**Did You Know #53** - Montgomery County RainScapes Program- Seven-minute video introduction to the County's RainScapes program, what it is, and how to take advantage of the available resources.	https://www.youtube.com/

Rebate	**RainScapes Community Program**- RainScapes project resources designed for specific community stakeholders such as schools, congregations, pools, neighborhoods, and HOAs. Requirements for funding, project opportunities, and planning support.	https://www.montgomerycountymd.gov/water/rainscapes/communities.html
Video	**Sacred Waters: RainScapes and Congregations in Action**- Eight-minute video introduction for places of worship, how the County's RainScapes program can benefit them, and how to take advantage of the available resources.	https://www.youtube.com/watch?v=8pNAkd3PoI0
Guidance	**RainScapes Choosing a Professional**- Guidance on choosing the right professional to help develop a stormwater or watershed restoration project. Describes the different services offered by designer, architect, or contractor professionals and provides links to reputable resources.	https://www.montgomerycountymd.gov/water/Resources/Files/rainscapes/ChoosingAProfessional_01_18.pdf
Contacts	**RainScapes Landscape Professionals List**- A list of landscape professional who have attended the RainScapes Landscape Professionals training series and the number of projects installed under the RainScapes Rebate program. This is not a County endorsement.	https://www.montgomerycountymd.gov/water/Resources/Files/rainscapes/Contractor_List.pdf

Stormwater Reduction Strategies

Guidance	**RainScapes Rain Barrels and Cisterns**- How to guide for installing a rain barrel or cistern including, what is the difference between rain barrel or cistern, what are the benefits, how to asses your property, developing a design and plan, and how to install them on your own.	https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/rainscapes/fact-sheets/rainbarrelsCisterns.pdf
Flyer	**Rain Barrels**- Basic flyer explaining rain barrels.	https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/stormwater/signs/Rain-Barrel-sign.pdf
Guidance	**RainScapes Rain Gardens**- How to guide for installing a rain garden including, what is rain garden and what are the benefits, how to asses your property, developing a design and plan, and how to build and implement.	https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/rainscapes/fact-sheets/rain-gardens.pdf
Flyer	**Bioretention Gardens**- Basic flyer explaining bioretention gardens.	https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/stormwater/signs/Bioretention-sign.pdf
Flyer	**Rain Gardens**- Basic flyer explaining rain gardens.	https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/stormwater/signs/Rain-Garden-sign.pdf
Video	**RainScapes Rain Garden Video**- nine-minute video describing what is rain garden, the benefits of installing one on your property, and a step-by-step process for getting started.	https://www.youtube.com/watch?v=eunRYZps67c

Guidance	**RainScapes Dry Wells**- How to guide for installing a dry well including, what is a dry well and when is it appropriate to install one, how to asses your property, developing a design and plan, and questions to ask a contractor.	https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/rainscapes/fact-sheets/drywells.pdf
Guidance	**RainScapes Conservation Landscaping**- How to guide for conservation landscaping techniques, what is conservation landscaping and what are the benefits, how to asses your property, developing a design and plan, appropriate native plants, and questions to ask a contractor.	https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/rainscapes/fact-sheets/
Guidance	**RainScapes Pavement Removal**- How to guide for installing a green roofs including, what is a green roof and what are the benefits, how to asses your property, developing a design and plan, and questions to ask a contractor.	https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/rainscapes/fact-sheets/pavementremoval.pdf
Guidance	**RainScapes Permeable Pavers**- How to guide for installing a permeable pavers including, what is permeable pavement and what are the benefits, how to asses your property, developing a design and plan, and how to build and implement.	https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/rainscapes/fact-sheets/permpavers.pdf
Flyer	**Porous Pavement**- Basic flyer explaining porous pavement.	https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/stormwater/signs/Porous-Pavement-sign.pdf
Flyer	**Wet Ponds**- Basic flyer explaining wet ponds.	https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/stormwater/signs/Wet-Pond-sign.pdf
Guidance	**RainScapes Green Roofs**- How to guide for installing a green roofs including, what is a green roof and what are the benefits, how to asses your property, developing a design and plan, and questions to ask a contractor.	https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/rainscapes/fact-sheets/greenroofs.pdf
Flyer	**Green Roofs**- Basic flyer explaining green roofs.	https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/stormwater/signs/Green-Roof-sign.pdf

Water Quality Improvement Strategies

Storm Drain Marking

Program	**Montgomery County's Storm Drain Marking Program**- County's storm drain marking project request form and link to the County's 2019 Storm Drain Art Contest.	https://www.montgomerycountymd.gov/water/volunteer/index.html#marking https://mygreenmontgomery.org/2018/storm-drain-art-contest-2/

Guidance	**Keep Your Storm Drain Clean**- Steps to keep residential storm drains clean, information on reporting illegal dumping, and an educational video on how stormwater destroys our streams.	https://mygreenmontgomery.org/project/keep-your-storm-drain-clean/
Photos	**Montgomery County Storm Drain Art Flickr Album**- Picture album of Montgomery County storm drain art for inspiration.	https://www.flickr.com/photos/mocobio/albums/72157648949583875
Program	**Storm Drain Stenciling**- Maryland Department of Natural Resources storm drain stenciling program and instructions.	https://dnr.maryland.gov/ccs/Pages/stormdrain.aspx
Guidance	**Stenciling Storm Drains**- Steps for developing a storm drain stenciling event including setting a budget, identifying locations, recruiting volunteers, and follow up. Includes additional resources and links to local programs.	https://www.potomacriver.org/resources/get-involved/water/storm-drains/

Waste Management

Guidance	**Help Stop Water Pollution**- This webpage provides resources and guidance to help prevent water pollution and how to report pollution issues to the county. It discusses littering and illegal dumping, automobiles, septic systems, construction, and many other substances that contaminate our water ways.	https://www.montgomerycountymd.gov/water/streams/pollution.html
Guidance	**Household Hazardous Waste Program**- This webpage discusses how residents can dispose of and recycle common household hazardous waste such as pesticides, batteries, and syringes.	https://www2.montgomerycountymd.gov/DepHowDoI/material.aspx?tag=household-hazardous-waste&key=224
Guidance	**How to recycle / dispose salt and sand**- Information on how residents can properly dispose of their snow salt and sand.	https://www2.montgomerycountymd.gov/DepHowDoI/material.aspx?material_key=67&tag=salt-sand
Guidance	**How to recycle / dispose motor oil**- Information on how residents can properly dispose of their used motor oil.	https://www2.montgomerycountymd.gov/DepHowDoI/material.aspx?tag=motor-oil&material_key=34
Guidance	**Hazardous Waste Management in Montgomery County**- A guide for businesses generating hazardous waste.	https://www.montgomerycountymd.gov/sws/resources/files/ecowise/ecowise_guide.pdf
Guidance	**Montgomery Parks Pesticide Reduction and Integrated Pet Waste Management Program**- This website discusses the county's pesticide use in Montgomery Parks and notifies residents when pesticides are used on public parks.	https://www.montgomeryparks.org/about/parks/pesticides/
Guidance	**Lawn Care Guide**- This website provides tips and best practices for switching to organic lawn care, explains the current laws and regulations, and has a list of resource providers.	https://www.montgomerycountymd.gov/lawns/

Anti-Litter

Program	**Montgomery County DEP Contact Us**- This is the general link to report issues to Montgomery County regarding any type of litter, pollution, dumping, or noise violations. In addition to using this link, issues should also be reported via 311.	https://www.montgomerycountymd.gov/dep/contact.html
Program	**Montgomery County Parks Customer Service**- This is the general link to report park issues including any type of litter, pollution, or dumping violations. In addition to using this link, issues should also be reported via 311.	https://www.montgomeryparks.org/services/report-a-problem/
Guidance	**Anti-Littering Public Outreach and Stewardship Workplan**- This is the workplan for an anti-littering pilot at White Oak Neighborhood. This pilot work plan can serve as a model for developing an outreach campaign.	https://www.montgomerycountymd.gov/DEP/Resources/Files/ReportsandPublications/Water/Countywide%20Implementation%20Strategy/White-Oak-Anti-litter-Factsheet.pdf
Program	**Adopt a Road**- This is a volunteer program that encourages residents to participate in a community activity by keeping roadsides litter free. This webpage describes the benefit of the Adopt a Road program, a program application, and available roads to adopt.	https://www.montgomerycountymd.gov/dot-dir/AdoptARoad/index.html
Service	**Residential Street Sweeping**- This webpage describes the street sweeping program and provides an interactive map and schedule for upcoming services.	https://www.montgomerycountymd.gov/DOT-Highway/streetsweep/index.html
Guidance	**Montgomery County Vacuum Leaf Collection Program**- This website provides guidance on how to properly manage leaf piles and hosts the County's Leaf Collection Schedule.	https://www.montgomerycountymd.gov/DOT-Highway/leaf/index.html
Guidance	**Recycle Everything!**- Guidance and resources for recycling household products in Montgomery County.	https://mygreenmontgomery.org/project/recycle-everything/
Guidance	**Residents and the Bag Law**- This webpage explains the 5 cent bag charge, provides strategies for keeping reusable bags clean, and answers other related questions.	https://www.montgomerycountymd.gov/bag/residents.html
Guidance	**Yard Trim Disposal**- This website provides guidance on how to properly manage yard waste including trim leaves, grass, and brush piles.	https://www2.montgomerycountymd.gov/DepHowDoI/material.aspx?tag=yard-trim&material_key=72
Guidance	**Leaf Management**-These website provides information and links to additional sources with information about to use leaves in your yard if you don't want to rake them up for collection.	https://www.todayshomeowner.com/how-to-recycle-leaves-in-your-yard/
Service	**Washington Suburban Sanitary Commission (WSSC)**- This website provides information about the dumping of fats, oils, and grease (FOGs) and has the contact information for WSSC's Customer Advocates. There are also educational resources available on the WSSC website.	https://www.wsscwater.com/education-and-recreation/community-outreach/outreach-in-your-community.html

Program	**Trash Free Maryland**- This group works specifically on trash issues including styrofoam, plastic bags, straws, and the bottle bill. They also have a listserv that you can join to be alerted about advocacy opportunities.	https://trashfreemaryland.org/
Events	**Trash Free Potomac Network**- Database for Potomac Watershed trash clean up events. Designed to foster connections between volunteers, organizations, businesses, and governments who are involved with solving the litter problem and to help promote local cleanup events.	http://trashnetwork.fergusonfoundation.org/map/

Pet Waste

Program	**Montgomery County Pet Waste Program**- Montgomery County provides a number of educational materials for residents to promote proper pet waste management, including infographics, fun facts, and There's no such thing as the poop fairy, yard sign. Also, HOAs in the Anacostia, Rock Creek, and Cabin John watersheds of Montgomery County and County owned parks may be eligible to participate in the County's pet waste management program.	https://www.montgomerycountymd.gov/water/education/pet-waste.html
Guidance	**Dog Waste Stations**- Install dog waste stations around pet waste hotspots and around areas where flooding occur. Stations can include a trash can, baggie dispenser, or can simply include signage. Basic stations generally range in price from $119-$339.	https://www.dogwastedepot.com/dog-waste-stations-and-mini-stations-prodlist.html
Outreach	**Pet Waste Outreach Material**- EFC developed a Dropbox resource folder with various pet waste outreach material including flyers, a listed of example pet waste management videos, social media fun facts, and a community survey.	https://www.dropbox.com/sh/f4pjrfhjca1yo9h/
Guidance	**Zero Waste USA**- This website contains good information about why it is important to manage pet waste as well as information about different types of management plans and pet waste stations	https://zerowasteusa.com/advice.asp
Service	**Doody Calls**- Doody Calls is a pet waste management service that can contracted to install and maintain pet waste stations.	http://www.doodycalls.com/
Guidance	**The Inside Scoop**- The EPA has written a guidance document called "The Inside Scoop: How to Conduct a Pet Waste Outreach Campaign" designed to help navigate the process of determining what type of outreach is best for your organization or community.	https://cfpub.epa.gov/npstbx/files/NHDES%20Pet%20Waste%20Campaign2.pdf
Outreach	**Poop Toss Game**- Originally developed by Snohomish County Public Works, this game is a fun interactive way to engage youth and adults of all ages with learning how to best dispose of their pet waste.	https://www.dropbox.com/sh/vp4lpplqh3n9maq/

Trees

Program	**Let's Plant 100 Trees!**- An initaitve to have 100 trees planted in the McKenney Hills-Carroll Knolls Civic Association	http://mhckcivic.org/files/letsplant100trees.pdf
General	**Forest Conservation Program**- Montgomery County's Forest Conservation Law protects and maintains the urban forest cover. This explains who is subject to the law and provides detailed guidance on how to report forest conservation violations.	https://montgomeryplanning.org/planning/environment/forest-conservation-and-trees/
Service	**Tree Concerns and Removal**- This page provides information on receiving a permit to remove trees, hiring a tree experts, and how to dispute neighbor disputes focused on trees.	https://www.montgomerycountymd.gov/green/trees/permits-and-concerns.html
Service	**Highway Services**- Montgomery County Department of Transportation is responsible for any tree growing in a street right-of-way. Residents can request that the County plant a street tree, conduct an inspection, remove or maintain trees.	https://www.montgomerycountymd.gov/dot-highway/tree/index.html
Program	**Tree Montgomery**- A free shade tree program for County residents.	https://treemontgomery.org/
Program	**Tree Montgomery How It Works**- Step by step process for receiving a free shade tree from the Tree Montgomery program.	https://treemontgomery.org/how-it-works/
Guidance	**Planting and Caring for Trees**- This page provides information on where to plant your tree, how to choose a tree, when to plant, and how to maintain trees.	https://www.montgomerycountymd.gov/green/trees/plant-a-tree.html
Guidance	**Tree Care Guide** - Guidance on how to properly fertilize, weed, water, mulch, and protect newly planted trees from deer grazing.	https://treemontgomery.org/care-guide/
Map	**Tree Map**- Map shows the location, species, and date of all trees planted through Tree Montgomery.	https://treemontgomery.org/tree-map/
Funding	**Shades of Green**- Montgomery County's Planning Department provides free trees and planting for qualifying property owners in specific urban areas.	https://montgomeryplanning.org/planning/environment/forest-conservation-and-trees/shades-of-green/
Funding	**Leaves for Neighborhoods**- Montgomery County Planning Department tree planting program to increase the county's tree canopy on residential properties. This program offers a $40 coupon for purchasing and planting shade trees.	https://montgomeryplanning.org/planning/environment/forest-conservation-and-trees/leaves-for-neighborhoods/
Program	**Montgomery County Champion Trees**- The Montgomery County Forestry Board keeps track of and measures significant trees. Residents can nominate a Champion Tree to be considered.	https://www.montgomerycountymd.gov/green/trees/champion-trees.html
Funding	**Marylanders Plant Trees**- Citizens can receive $25 off the purchase of a native tree at 86 participating nurseries across the State. It is funded through a settlement from a major power generator for Clean Air Act violations.	http://dnr.maryland.gov/forests/Pages/MarylandersPlantTrees/Introduction.aspx

Funding	**TREE-MENDOUS Maryland**- Provides trees at a reduced cost to be planted on public property.	http://dnr.maryland.gov/forests/Pages/treemendous/default.aspx
Funding	**Backyard Buffers program**- This program for small landowners who have a drainage ditch, stream, creek or river adjacent to their property may be eligible for a free "buffer in a bag" to help get homeowners started in buffering their streamside.	http://dnr.maryland.gov/forests/Pages/programs/Backyard-Buffer-Program.aspx
Funding	**Trees for Sacred Places**-Faith-based institutions can receive free trees for planting, technical support, and workshops on trees, planting, and maintenance.	https://www.allianceforthebay.org/our-work/key-program-focuses/conserving-chesapeake-forests/forest-restoration-old/trees-for-sacred-places/
Guidance	**i-Tree Canopy**- This tool uses Google imagry to conduct a canopy assessment within a defined project area. It can also be used to estimate tree benefits.	https://canopy.itreetools.org/
Funding	**Maryland Urban and Community Forestry Committee (MUCFC)**- Grants program- helps community groups fund tree planting and education projects statewide to enhance Maryland's urban forest.	http://dnr.maryland.gov/forests/Pages/programs/urban/mucfcgrant.aspx

Sinkholes

Service	**Sinkhole Repair**- Online service request for the Montgomery County Department of Transportation, Division of Highway Services to inspect and repair sinkholes on County maintained roadways within the Right-of-Way.	https://www3.montgomerycountymd.gov/311/(X(1)S(lja4zfmmtbwjx33fmfyhb5dh))/Solutions.aspx?SolutionId=1-
Service	**Customer Service Request**- Online service request for the Maryland Department of Transportation State Highway Administration for sinkholes that affect Maryland state roads.	http://marylandsha.force.com/customercare/request_for_service
Guidance	**What To Do If You Suspect a Sinkhole**- Maryland Geological Survey resources on how to identify and address sinkholes on residential property.	http://www.mgs.md.gov/geology/geohazards/sinkhole_resources.html
Guidance	**Sinkholes & property insurance claims: You've got that sinking feeling**- An article describing the warning signs for sinkholes, insurance issues, and ways to repair issues.	https://www.propertycasualty360.com/2018/11/06/youve-got-that-sinking-feeling/?slreturn=20190112022917

Other Outreach and Education Opportunities

Photo Contest

Guidance	**Berlin Stormwater Feasibility Study Appendices**-Example of a stormwater community photo contest including promotional flyer, registration form, photograph release form, and submitted photos.	https://efc.umd.edu/assets/berlin_stormwater_feasibility_study_appendices.pdf
Guidance	**Maryland Natural Resource Photo Contest**- Good example of how to set up a photo contest. The webpage provides a good breakdown of the rules, terms, and conditions.	http://dnr.maryland.gov/Pages/photocontest.aspx

Community Organizing

Contacts	**Federal, State, and County Elected Officials**- Database of current elected officials can be used to advocate for development of policies that require long-term maintenance plans for public infrastructure and increased green infrastructure installations.	https://www.montgomerycountymd.gov/Elections/Information/electedofficials.html
Contacts	**County Council Member**- This website lists current Montgomery County Council members and an has an interactive map that will help you identify your council member.	https://www2.montgomerycountymd.gov/mccouncildistrict/
Petition	**Glenwood Pool Save Our Stream!**- This is a petition from Glenwood Pool members to petition the county exective to take action on the erosion of the unamed stream "LRBM-146."	http://www.glenwoodpool.org/save-our-stream/
Guidance	**Maps for Community Organizing**- Toolbox for identifying, organizing, and sharing its collective voice with decision makers at the local and state levels.	https://hc-v6-static.s3.amazonaws.com/media/resources/tmp/Community_Organizing.pdf
Guidance	**Community Engagement Toolkit: Organizing Your Community**- toolkit is designed for individuals and organizations implementing local community engagement campaigns. This resource is an example of community organizing around demand for energy services but the principles can by applied to stormwater.	https://powershift.org/sites/default/files/resources/1.31.2012_Organizing_Your_Community.pdf
Program	**Sustainable Maryland**- A "one-stop-shopping" program helping municipalities choose a direction for their sustainability efforts, improve access to resources needed to implement action, measure their progress, and gain recognition for their accomplishments	http://sustainablemaryland.com/

Training and Education

Education	**Municipal Online Stormwater Training Center**- online platform to provide stormwater education and training that includes tools, resources, and brief educational videos for the purpose of increasing awareness and empowering its stakeholders to take action toward effective stormwater management.	https://mostcenter.org/
Education	**Master Naturalist Training Courses**- University of Maryland Extension offers a variety of courses to engage citizens as stewards of nature. Master naturalists conduct field research, build and maintain natural areas, and lead nature walks and programs.	https://extension.umd.edu/masternaturalist/become-master-naturalist/training-courses-piedmont-region-scroll-down-full-listing
Education	**Master Naturalist Training Courses**- Audubon Naturalist Society offers a Master Naturalist training program in partnership with the University of Maryland.	https://anshome.org/master-naturalist/
Education	**Nature Classes and Field Trips**- The Maryland Audobon Society offers a number of educational opportunities	https://anshome.org/adults/

Engagement	**Montgomery County's Stream Stewards Program**-Benefits of joining the Stream Stewards program, available volunteer opportunities, and Stream Stewards Informational Form.	https://www.montgomerycountymd.gov/water/volunteer/index.html#stewards
Engagement	**Alice Ferguson Foundation**- Offers education, stewardship, and advocacy opportunities to people interested in natural world, sustainable agricutlure, and cultural heritgate in their community.	http://fergusonfoundation.org/trash-free-potomac-watershed-initiative/

Funding Opportunities***

***Please note that most of these opportunities will require a non-profit partner

Chesapeake Bay Trust Montgomery County Watershed Restoration and Outreach Grants- Up to $100,000 with larger awards possible with prior approval from the Trust.	https://cbtrust.org/grants/montgomery-county-watershed-restoration-outreach/
Chesapeake Grants-Grants typically under $25,000 to accelerate the pace of nutrient reduction in the Bay through engagement of diverse stakeholders and partnerships between agricultural interests and environmental concerns.	http://www.campbellfoundation.org/
Greater Washington Community Foundation Montgomery County- The County's community foundation may be an opportunity for community-based project funding.	https://www.thecommunityfoundation.org/montgomery/
Green Streets, Green Jobs, Green Towns (G3)- Up to $15,000 for conceptual plans, up to $30,000 for engineered designs, up to $75,000 for implementation projects.	https://cbtrust.org/grants/green-streets-green-jobs-green-towns/
Innovative Nutrient and Sediment Reduction Grants-Grants between $200,000 and $500,000 to collaborative and sustainable regional-scale partnerships and networks of practitioners with a shared focus on water quality restoration and protection in order to accelerate the implementation of water quality improvements.	https://www.nfwf.org/chesapeake/Pages/innovative-nutrient-and-sediment-reduction-grants.aspx
Montgomery County RainScapes Rebate Program- Comprehensive resources for the RainScapes program including manuals and guides, choosing a professional, plant lists, and additional resources. Multi-lingual resources are available (Amharic, Chinese, French, Korean and Spanish). Potential projects include canopy trees, conservation landscapes, green roofs, pavement removal, permeable pavement, rain barrels & cisterns, and rain gardens.	https://www.montgomerycountymd.gov/water/rainscapes/resources.html#manuals
Small Watershed Grants- Grants between $20,000 and $200,000 for projects that result in improvements to local stream health and habitat, and/or the water quality of the Chesapeake Bay.	https://www.nfwf.org/chesapeake/Pages/small-watershed-grants.aspx
TD Green Streets Grant Program-Grants up to $20,000 for innovative local forestry projects in low- to moderate-income neighborhoods.	https://www.arborday.org/programs/tdgreenstreets/requirements.cfm

Organizations and Contacts

Partnership Groups

Audubon Naturalist Society	https://anshome.org/	Eliza Cava - Director of Conservation eliza.cava@anshome.org
Chesapeake Bay Foundation (CBF)	https://www.cbf.org/	
Chesapeake Bay Landscape Professionals	https://cblpro.org/	
Design Green	https://www.designgreenllc.com/	Rebecca Stack info@designgreenllc.com
Environmental Finance Center	https://efc.umd.edu/	Michelle Kokolis - Program Manager mkokolis@umd.edu
Alice Ferguson Foundation	http://fergusonfoundation.org/trash-free-potomac-watershed-initiative/	
Interfaith Partners for the Chesapeake	https://www.interfaithchesapeake.org/	
Low Impact Development Center- non-profit organization that focuses on sustainable stormwater management solutions for urban and developing areas.	https://lowimpactdevelopment.org/	Emily Clifton Senior Environmental Planner emily.clifton@me.com
Maryland Sea Grant	https://www.mdsg.umd.edu/topics/extension/our-services	Amanda Rockler – Central Maryland Regional Watershed Restoration Specialist arockler@umd.edu
Rock Creek Conservancy	https://www.rockcreekconservancy.org/	Jeanne Braha - Executive Director jbraha@rockcreekconservancy.org
Sustainable Maryland	http://sustainablemaryland.com/	Mike Hunninghake – Program Manager – Sustainable Maryland Mikeh75@umd.edu
UMD Extension	https://extension.umd.edu/	
University of Maryland Extension Programs- The grant writing assistance program offers advice, information, and resources to help ag service providers and others turn a bright idea into a fundable project.	http://extension.umd.edu/grants	

Backyard Buffers program- This program for small landowners who have a drainage ditch, stream, creek or river adjacent to their property may be eligible for a free "buffer in a bag" to help get homeowners started in buffering their streamside.	http://dnr.maryland.gov/forests/Pages/programs/Backyard-Buffer-Program.aspx	Montgomery County James Eierdam 301-854-6060 james.eierdam@maryland.gov
Maryland Urban and Community Forestry Committee (MUCFC)- Grants program- helps community groups fund tree planting and education projects statewide to enhance Maryland's urban forest.	http://dnr.maryland.gov/forests/Pages/programs/urban/mucfcgrant.aspx	Wanda MacLachlan MUCFC Grants Chair University of Maryland Extension 11975 Homewood Road Ellicott City, MD 21042 410-531-5973 wtm@umd.edu

Policy Action Alerts

Audubon Naturalist Society	https://anshome.org/policy-and-advocacy/	
Trash Free Maryland	https://trashfreemaryland.org/support-us/	
Natural Resources Defense Council (NRDC)	https://www.nrdc.org/get-involved	
Chesapeake Bay Foundation	http://www.cbf.org/take-action/	

Training and Education

Audubon Naturalist Society Environmental Education Classes	https://anshome.org/adults/#	
Master Gardener Training – UMD Extension	https://extension.umd.edu/mg/locations/montgomery-county-master-gardeners	
Master Naturalist Training – Audubon Naturalist Society	https://anshome.org/master-naturalist/	
Master Naturalist Training – UMD Extension	https://extension.umd.edu/masternaturalist/become-master-naturalist/training-courses-piedmont-region-scroll-down-full-listing	

Volunteer Opportunities

Audubon Naturalist Society	https://anshome.org/volunteer/	
Montgomery County	https://www.montgomerycountymd.gov/water/volunteer/	
Montgomery County Parks	https://www.montgomeryparks.org/support/volunteer/	301-495-2504
Rock Creek Conservancy	https://www.rockcreekconservancy.org/get-involved/volunteer	

Appendix C: Outreach Calendar

Wheaton Hills Stormwater Outreach & Education Plan
January – December

	January	February	March	April	May	June
Website Promotion	• RainScapes reminder: start planning now	• #DoYourDoodyWHCA-example of photo w/ hashtag	• Tree Montgomery and MDOT Tree program reminder	• Earth Day storm drain labeling and trash cleanup	• Household hazardous waste drop off at Shady Grove • Street sweeping reminder	• Special Project: Volunteers needed for tree canopy mapping
Email Alert	• RainScapes reminder: start planning now		• Tree Montgomery and MDOT Tree program reminder	• Earth Day storm drain labeling and trash cleanup	• Household hazardous waste drop off at Shady Grove • Street sweeping reminder	• Special Project: Volunteers needed for tree canopy mapping
Listserv: NextDoor	• RainScapes reminder: start planning now	• #DoYourDoodyWHCA-example of photo w/ hashtag	• Tree Montgomery and MDOT Tree program reminder	• Earth Day storm drain labeling and trash cleanup	• Household hazardous waste drop off at Shady Grove • Street sweeping reminder	• Special Project: Volunteers needed for tree canopy mapping
Facebook/ Twitter	• RainScapes reminder: start planning now	• #DoYourDoodyWHCA-example of photo w/ hashtag	• Tree Montgomery and MDOT Tree program reminder • Promote Earth Day Cleanup	• Earth Day storm drain labeling and trash cleanup	• Household hazardous waste drop off at Shady Grove • Street sweeping reminder	• Special Project: Volunteers needed for tree canopy mapping
Special Events				• Earth Day storm drain labeling and trash cleanup • Community Meeting		
County Services Email	• RainScapes reminder: start planning now		• Volunteers Needed: Earth Day Cleanup		• Street sweeping reminder	
Bulletin Board	• RainScapes reminder: start planning now		• Volunteers Needed: Earth Day Cleanup	• Earth Day storm drain labeling and trash cleanup • Community Meeting	• Street sweeping reminder	• Special Project: Volunteers needed for tree canopy mapping

Wheaton Hills Stormwater Outreach & Education Plan
January – December

	July	August	September	October	November	December
Website Promotion	• Pet Waste: Poop Fairy promotion	• #DoYourDoodyWHCA-example of photo w/ hashtag	• Fall trash cleanup • Community Meeting	• Resident pet waste survey • Community Meeting	• Leaf pickup and alternative uses reminder	• Leaf pickup and alternative uses reminder
Email Alert	• Pet Waste: Poop Fairy promotion		• Fall trash cleanup	• Reminder: Fall yard maintenance • Community Meeting	• Leaf pickup and alternative uses reminder	• #DoYourDoodyWHCA-example of photo w/ hashtag • Leaf pickup and alternative uses reminder
Listserv: NextDoor	• Pet Waste: Poop Fairy promotion	• #DoYourDoodyWHCA-example of photo w/ hashtag	• Fall trash cleanup	• Reminder: Fall yard maintenance • Community Meeting	• Leaf pickup and alternative uses reminder	• #DoYourDoodyWHCA-example of photo w/ hashtag • Leaf pickup and alternative uses reminder
Facebook/ Twitter	• Pet Waste: Poop Fairy promotion	• #DoYourDoodyWHCA-example of photo w/ hashtag		• Resident pet waste survey • Community Meeting	• Leaf pickup and alternative uses reminder	• Leaf pickup and alternative uses reminder
Special Events	• Tree Canopy Mapping project – implementation	• National Night Out: Table with info about pet waste and fall cleanup	• Fall trash cleanup	• Resident pet waste survey • Community Meeting		
County Services Email			• Fall trash cleanup		• Leaf pickup and alternative uses reminder	• Leaf pickup and alternative uses reminder
Bulletin Board	• Pet Waste: Poop Fairy promotion	• Volunteers needed: Fall trash cleanup	• Fall trash cleanup	• Residents pet waste survey • Community Meeting		• Leaf pickup and alternative uses reminder

Link to MoCo Stormwater Outreach Materials folder: https://www.dropbox.com/sh/jo4ftskv80a2y85/AABLypgVlTY2J-7mDGf4uqlAa?dl=0

Outreach Materials: Rainscapes, Tree Montgomery, MDOT Tree program, Pet Waste Management, Litter Control, Household Hazardous Materials, Storm Drain Labeling

Appendix D: Pet Waste Community Survey

Pet Waste Questionnaire

Do you think dog waste is a problem in your neighborhood?
- o Yes, I frequently see it on the ground
- o Sort of, I occasionally see it on the ground
- o No, I never see it on the ground
- o Not sure, haven't really noticed

Dog waste can pollute streams, rivers, and bays.	True	False	Not sure
Dog waste can make people and animals sick.	True	False	Not sure
Dog waste can hurt business and property values.	True	False	Not sure

How many dogs do you own? _____ If none, skip the next 5 questions.

How do you generally take care of your dog's waste in your <u>yard</u>?
- o Don't use the yard, only walks
- o Leave it in the yard
- o Bag it and put in the trash can
- o Put in the toilet

How often do you pick up your dog's waste in your <u>yard</u>?
- o Don't use the yard, only walks
- o Never
- o Daily
- o Once a week
- o Once a month

How do you generally take care of your dog's waste while <u>on walks</u>?
- o No walks, only use the yard
- o Leave it on the ground
- o Bag it and put in the trash can
- o Put in the toilet

How often do you pick up your dog's waste while <u>on walks</u>?
- o No walks, only use the yard
- o Never
- o Some of the time
- o Most of the time
- o All of the time

Which would make you more likely to pick up dog waste? *(Check all that apply)*
- o Having pet waste stations and bags in the neighborhood
- o Laws and fines for not picking it up
- o Knowing that pet waste is polluting our streams and can harm people and pets
- o Respect for my neighbors and our community
- o Probably won't change my habits
- o I already pick up my dog's waste
- o Don't own a dog

Prior to today, where have you seen/heard about dog waste causing water pollution over the past year?
(Check all that apply)
- o Didn't see or hear anything
- o At school
- o TV or newspaper
- o Flyer or brochure
- o Friend or neighbors
- o Community listserv
- o From websites
- o From posted signs at parks or pet waste stations

How did seeing or hearing about dog waste and water pollution affect your behavior?
- o Don't own a dog
- o Didn't see any information
- o More likely to pick up pet waste
- o Less likely to pick up pet waste
- o No change

Gender: _____   Age: _____

Highest level of education: _____   Rent or own your home: _____

Comments or thoughts on pet waste "hot spots" in the community: