Stormwater Action Plan

Glenmont Forest Neighbors
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 9, 2018, EFC staff met with a group of stakeholders from the Glenmont Forest Neighbors Civic Association (GFNCA) 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 during which staff took photos and conducted 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 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 Glenmont Forest Neighbors Civic Association (GFNCA) lies within the Rock Creek watershed.

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 February 2019, the County released the Rock Creek Watershed Assessment.[2] The watershed assessment provides an overview of existing conditions within the watershed and identifies potential restoration opportunities. The assessment also includes a more detailed assessment of the Glenmont Forest Catchment (Appendix A).

In an effort to more broadly engage County 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.

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1   https://www.montgomerycountymd.gov/DEP/Resources/Files/ReportsandPublications/Water/Watershed%20studies/Rock-creek-watershed-implementation-plan-11.pdf
2   https://www.montgomerycountymd.gov/water/Resources/Files/stormwater/implementation-strategy/rock-creek-summary-2018.pdf

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 strategies 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 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.
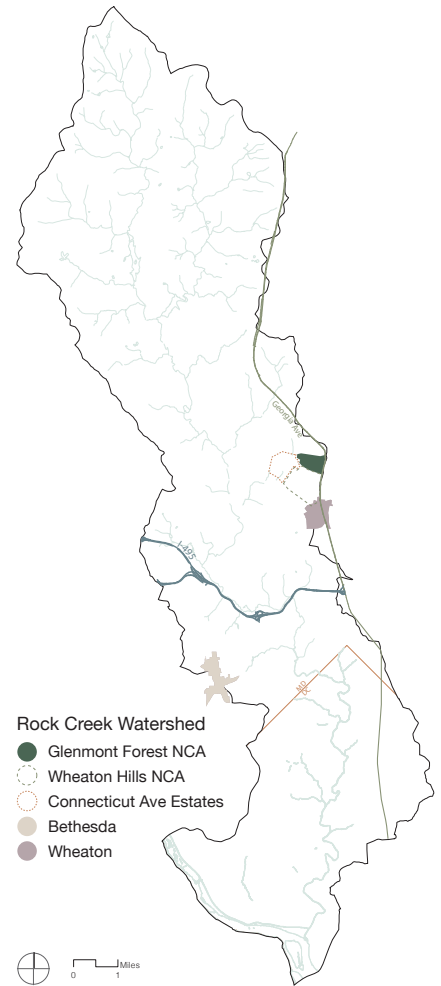
Community Overview

On July 9, 2018, EFC staff met with a group of stakeholders from the GFNCA to discuss stormwater related issues in their community. Participating stakeholders reviewed a detailed aerial map of the community, 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 B.

The Glenmont Forest Neighbors Civic Association (GFNCA) was formed in 2009 to represent residents of the community. GFNCA focuses on environmental health, pedestrian and vehicular safety, improved infrastructure, and community building. The Association also stays abreast of redevelopment plans for downtown Wheaton and the greater Glenmont area.
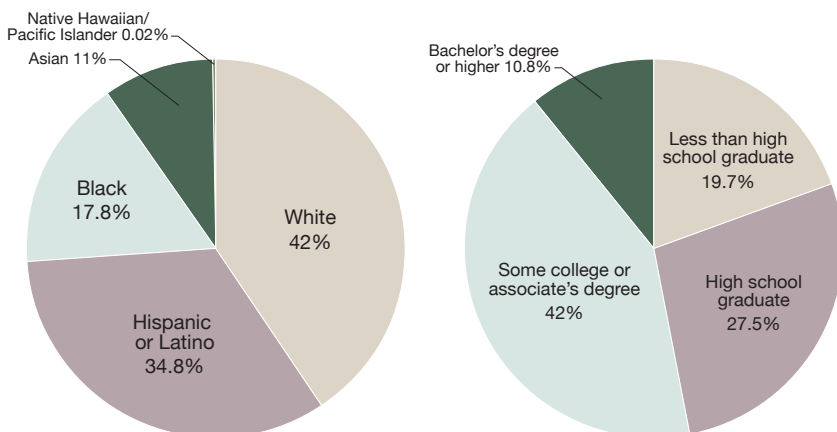
Comprised of approximately 900 homes, the community is primarily residential, with the housing stock consisting of colonial and Cape Cod homes that were built in the early 1950s. Rental units are estimated to comprise approximately 30% of the households. GFNCA represents residents living south of Randolph Road, west of Georgia Avenue, north of Henderson Avenue, and east of Kendall Street in Montgomery County, Maryland. It is bordered by Aspen Hill to the north, the Wheaton Hills Civic Association to the south, the Glenmont neighborhood to the east and the Connecticut Avenue Estates to the west (Figure 1).

The community is served by Arcola Elementary School, Col. E. Brooke Lee Middle School, and Northwood High School, all of which are located outside of the community and east of Georgia Avenue. There are no private schools within the community.

GFNCA is located in the 20902 zip code. According to the 2016 census, the median age in the zipcode 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. Demographic information for race and education levels within the zipcode is seen in Figure 2.

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

Figure 1 Location of Glenmont Forest within Rock Creek watershed

Native Hawaiian/Pacific Islander 0.02%
Asian 11%
Black 17.8%
White 42%
Hispanic or Latino 34.8%

Bachelor's degree or higher 10.8%
Less than high school graduate 19.7%
Some college or associate's degree 42%
High school graduate 27.5%

Figure 2 Glenmont Forest race and education demographics

GFNCA lies within the Rock Creek watershed but there are no streams or parks within the community's boundaries. There is an un-named stream that runs north/south approximately a quarter mile east of Kendall Street. The stream corridor is predominantly forested and portions of it have become common locations for illegal dumping. There is currently a park under development adjacent to Glenmont Fire Station 18 on the corner of Georgia Avenue and Randolph Road.
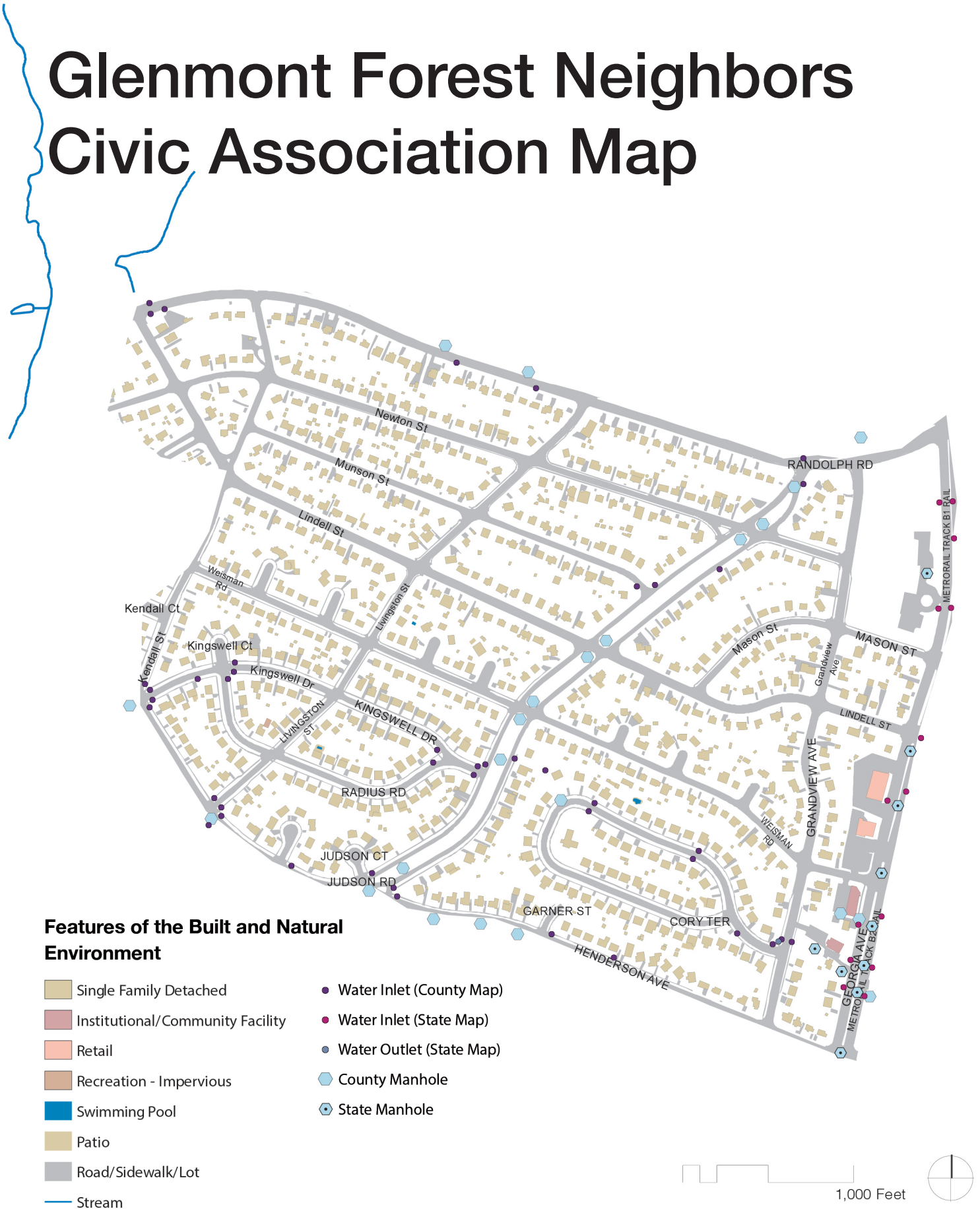
Glenmont Forest Neighbors Civic Association Map

Map labels:
Newton St, Munson St, Lindell St, Weisman Rd, Kendall Ct, Kendall St, Kingswell Ct, Kingswell Dr, Livingston St, KINGSWELL DR, RADIUS RD, JUDSON CT, JUDSON RD, GARNER ST, HENDERSON AVE, CORY TER, RANDOLPH RD, Mason St, MASON ST, Grandview Ave, LINDELL ST, GRANDVIEW AVE, WEISMAN RD, GEORGIA AVE, METRORAIL TRACK B1 RAIL, METRORAIL TRACK B2 RAIL

Features of the Built and Natural Environment

- Single Family Detached
- Institutional/Community Facility
- Retail
- Recreation - Impervious
- Swimming Pool
- Patio
- Road/Sidewalk/Lot
- Stream

- Water Inlet (County Map)
- Water Inlet (State Map)
- Water Outlet (State Map)
- County Manhole
- State Manhole

1,000 Feet

Figure 3 Street map of Glenmont Forest

The majority of the commercial land use is focused along the Georgia Avenue corridor, consisting primarily of fast food/take out on the northern portion and medical offices and businesses along the southern portion. Litter from the fast food and take out restaurants creates a significant issue for adjacent homeowners. In addition, litter is also a significant issue along the east side of Grandview Avenue between Randolph Road and Mason Street. The east side of the street is commonly used by commercial operators who illegally park their trucks and dump their trash on county owned property. One of the only large impervious surfaces within the community is the parking lot at the Buddhist temple located at the intersection of Randolph Road and Linden Street (Figure 3). Several of the commercial and medical buildings along Georgia Avenue also have sizeable parking lots. With the exception of several stormwater best management practices (BMPs) installed at the new Glenmont Fire Station, green infrastructure practices are lacking in the community.

GFNCA Stormwater Issues

This action plan provides the GFNCA 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 or other entity, and provides a comprehensive list of resources designed to help the community navigate stormwater issues to implement meaningful and successful projects (Appendix C).

After reviewing the information from the stakeholder meeting and the walking tour (Figure 4), 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.

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 or escalates, 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 D. 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.

Figure 4 Glenmont Forest community members identifying neighborhood stormwater issues during stakeholder meeting

GFNCA Stormwater Concerns

Identified Focus Areas

- 🔵 Litter
- 🔵 Bus stop trash overflow
- ⊗ Dumping
- 🟡 Pet Waste
- 🔴 Flooding
- 🟣 Heat Island
- ✕ Low Point
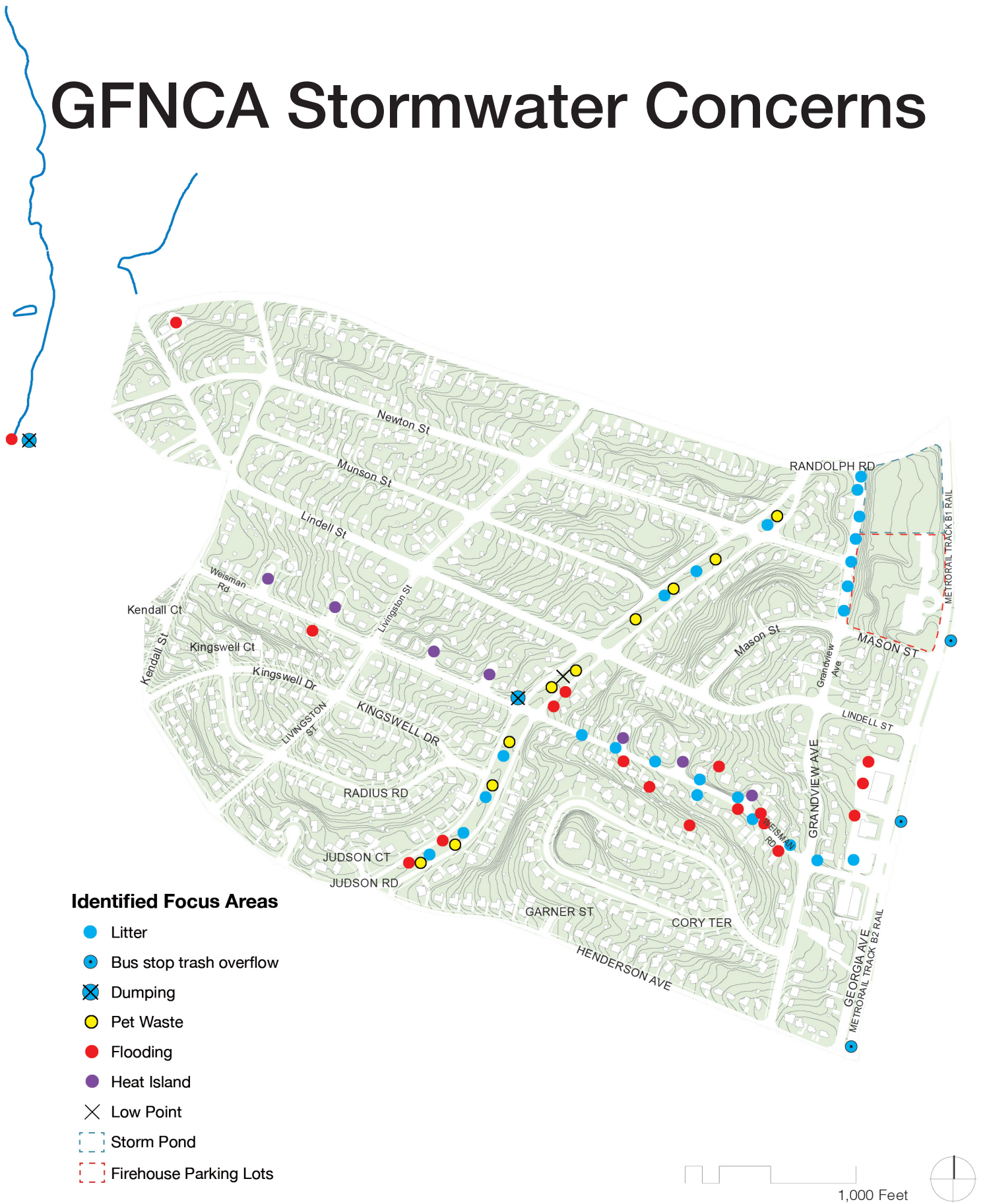- ⬚ Storm Pond
- ⬚ Firehouse Parking Lots

1,000 Feet

Figure 5 Topographic map of Glenmont Forest

Community Priority Areas

After reviewing the information from the stakeholder meeting, four priority areas surfaced: generalized flooding throughout the community, the proposed park at the corner of Georgia Avenue and Randolph Road, Green Streets, and litter. It was also clear that plans around the proposed park were of particular importance to the stakeholders.

Georgia Avenue and Randolph Road Park Project

The GFNCA has expressed concern over the development of a park adjacent to Glenmont Fire Station 18 at the corner of Randolph Road and Georgia Avenue. The park is being developed by Montgomery County Department of General Services (DGS), not Montgomery Parks. Upon completion, this park will be the only substantial green space within the community.

A community meeting about the park was held on April 18, 2018. The park is slated to contain a picnic shelter with seating, a children's play area, and a large open space. There will also be a small section of new trail that will connect to an existing walkway. A copy of the presentation from the community meeting, including concept design plans, is included in Appendix E.

Entrance to the park will be from Randolph Road where a new path will connect to an existing walkway. Stakeholders are concerned that not providing access from Grandview Avenue will limit residents' access to the park. Access from Grandview Avenue will not be possible for two reasons: 1.) the slope of the land between the park and Grandview Ave. is very steep, making in nearly impossible to create an access route that would be compliant with the Americans with Disabilities Act (ADA); and 2.) the existing trees on the slope are protected by the Forest Conservation Act (FCA), meaning that they cannot be cut down nor can the root systems be damaged in any way by construction activities. There is a very small gap in the FCA coverage, however, the area is too narrow to create access without potential damage to tree roots and too steep to be ADA compliant. While residents may be disappointed that access will not be available from within the community, it is important to remember that the existing trees are providing important benefits to the GFNCA. Not only are they providing important slope stabilization and stormwater management/erosion control, they are also providing both a visual and noise buffer between the park and the homes along Grandview Avenue.

Stakeholders also raised concerns regarding some of the materials that will be used at the park. The GFNCA wants to make sure that "green" materials are being use when possible, including for the surfaces of the new trail and playground. The County is involved in on-going conversations regarding the design of the space. As of March 2019, the project is still in the concept design phase, meaning that no final decisions have been made about any materials to be used or facilities to be installed.

Knowing that there are regulatory issues that prevent access from Grandview Ave., it is best to focus conversations around areas where there may be the possibility of influencing the decisions that will be made as the plan moves from concept to engineering. To that point, GFNCA should continue engaging with DGS to lobby for the use of "green" materials and the installation of stormwater best management practices (rain gardens, conservation landscaping, permeable pavers, etc.) at the park.

Flooding

Generalized flooding was identified as a major concern by community members. The following areas were identified as flood-prone during moderate rainfall events: the intersection of Judson Road and Henderson Avenue and of Judson Road and Weisman Road, the area between Georgia Avenue and Grandview Avenue on the block between Lindell Street and Weisman Road, where Garner Street dead ends, and homes fronting on the south side of Weisman Road. It was also observed that there are no storm drains on Grandview Avenue, Newton Street, or Lindell Street (Figure 5).

Repeated flooding is presumably adding to existing concerns basement flooding. Stakeholders indicated that sump pumps running nearly 24 hours a day is normal at homes on the western side of Judson Road between Henderson Avenue and Kingswell Drive and on the eastern side of Judson Road between Lindell Street and Weisman Road.

Recommendations

Large-scale flood control measures, such as installing storm drains or green streets, are not projects that the GFNCA can undertake on their own. However, there are several things that residents can do on their own to help with flooding issues:

1. **Think Residentially**
   a. Develop and implement an outreach campaign. Use GFNCA's outreach channels (Facebook, Listserv, email, 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 your community's needs. Through this process residents can be provided with access to county resources and 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 do not know where to begin. ***Capturing water on 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 the intersection of Judson Road and Henderson Avenue and the intersection of Judson Road and Weisman Road, the area between Georgia Avenue and Grandview Avenue on the block between Lindell Street and Weisman Road, where Garner Street dead ends, and homes fronting on the south side of Weisman Road, all of which were noted as being prone to flooding. Homes along Grandview Avenue, Newton Street, or Lindell Street where there are no strorm drains should also consider RainScapes projects. Emphasis should also be put on the locations identified in the Glenmont Forest Catchment Plan (Appendix A).
   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 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 the community supports green infrastructure and other stormwater management practices.

b. Let the Montgomery County Department of Environmental Protection (DEP) and elected officials know that residents and other community members support the Green Streets Program and advocate for the County to complete the green streets that were planned for the GFNCA community. Maps showing proposed green streets locations within the community can be found in Appendix F.

c. Review the Rock Creek Watershed Assessment and Glenmont Forest Catchment Plan. These documents provide an overview of existing conditions within the watershed and identify potential restoration opportunities. This document will not only help residents better understand the pressures impacting local water quality, but it may also help identify County projects that the community will want to support.

d. 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

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

Several of the commercial buildings along Georgia Avenue may have suitable spaces for cisterns. These buildings contain a mixture of fast-food, medical, and retail establishments. GFNCA should reach out to these businesses to introduce and support the idea of using rain water harvesting devices. Likewise, GFNCA should also promote the installation of cisterns and small-scale rain barrels at single family homes.

Cistern, Glenwaye Gardens

Pervious Pavers or Pavement Removal

Removal and replacement of impervious pavement with pervious pavers or native vegetation is an effective way to help prevent stormwater runoff from entering our steams. In addition to converting parking areas at places of worship 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 lots behind the office and retail buildings along Georgia Avenue between Weismann Road and Henderson Avenue could be strategically retrofitted with pervious pavers to reduce sheet flow runoff. Additionally, the new walkways proposed for the new Glenmont Park could be opportunities to utilize pervious pavers or pavement. The Glenmont Forest Catchment Plan also includes several suggestions where impervious surface removal could be a viable option for stormwater management.

Pervious Pavers

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, places of worship, and commercial properties. In addition to dozens of single-family homes that might be suitable, the commercial properties along Georgia Avenue offer potential locations for these practices. The new park planned for the corner of Georgia Avenue and Randolph Road offers an opportunity for the installation of a rain gardens, as well as informational signage informing residents about their design and benefits. The Glenmont Forest Catchment Plan also includes suggestions for potential rain garden locations.

Rain garden at Town Hall, Somerset, MD

Location of future Glenmont Park

Figure 6 Example rainscape projects

road and sidewalk projects and show support for the Green Streets program. Information on how to identify your elected officials and council member is contained in Appendix B.

e. Document the efforts of the GFNCA 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.

f. Connect to local, state, and Bay-wide advocacy organizations.

3. Seek Professional Help

a. Seek the guidance of an engineer or property inspector. 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 and the continuous need for a sump pump is usually a symptom of a larger problem. Hire a professional to assess the situation and make sure that there isn't 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.

Incorporating Green Infrastructure into Future Sidewalk and Roadway Projects

Several speed bumps have been installed within the community in recent years and additional traffic calming measures are being planned, including speed humps, bump-outs, and new signals. Many of these projects could provide opportunities for incorporating green infrastructure.

GFNCA should encourage 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 GFNCA should also encourage the County to embed stormwater management and other environmental resilience practices into the Capital Improvement Program.

Installation of Green Street Treatments

Green streets are larger-scale infrastructure that require county action. Green street treatments, including a combination of stormwater planters, pervious paving, native trees and plants, and traffic-calming measures, could be installed at several locations throughout the community. Previously planned green street treatments should be considered first, since Montgomery County staff have already conducted assessments and of the suitability of the locations and green infrastructure to be installed, as well as held stakeholder meetings and walking tours with community members. The Glenmont Forest Catchment Plan identifies several additional green streets locations.

Figure 7 Dennis Ave green street

Litter

Stakeholders expressed concerns about litter and identified several litter hotspots including the entire length of Judson Road, Weisman Road from Grandview Avenue to Judson Road, Grandview Avenue between Randolph Road and Mason Street, and the corner of Weisman Road and Grandview Avenue where the primary concern is litter from neighboring fast food restaurants. Stakeholders also identified a large-scale dumping issue at a stream culvert that is located just outside of the community. Other observations included an overall lack of trash cans throughout the community and overflowing trash cans at the bus stops along Georgia Avenue (Figure 5).

Unfortunately, there is no simple solution when dealing with overflowing trash cans, a situation that is often exacerbated by the fact that people often 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 business or restaurant, 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. In addition to calling 311, use Montgomery County DEP's online form to report the issue electronically.[3] Using both of these resources reinforces concern about the issue. Lastly, see Appendix B for how to request a "No Dumping" sign be installed.

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 fulfil community service/SSL hours, and are great opportunities to educate others about the impacts of trash. Stakeholders indicated that GFNCA holds an annual Earth Day cleanup. 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 that can be taken 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 collected free of charge. Contact information for cleanup partners is listed in Appendix C. Information about storm drain marking can be found in the Community Action Areas section of this document.

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

Community Action Areas

Protecting and Labeling Storm Drains

Stakeholders expressed interest in establishing a storm drain labeling program. 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 and lawn debris. Montgomery County has a storm drain marking program as well as a storm drain art program. Storm drain marking is a permitted activity. The County will provide storm drain markers for free, but you must complete an online application. See Appendix C 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, you should follow the same instructions given to report illegal dumping in the previous section.

Pet Waste Management

Stakeholders indicated that pet waste management is an issue within the community, with the biggest problem area being the grassy median of Judson Avenue between Randolph Road and Henderson Avenue. There are currently no pet waste stations in the community. While stakeholders expressed interest in installing stations, they also had concerns about the maintenance of the stations. 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 that can be used 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 the pet waste 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 your community. Links to both of these websites are in Appendix C. 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 G.

If the community is able to identify a suitable location(s), 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, GFNCA 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. GFNCA 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 Glenmont Forest Neighbors community does not qualify for this program. However, the GFNCA 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 C.

Street Sweeping

A Montgomery County contractor runs a street sweeper through the community once a year in the spring (typically in early May). 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 penalties for not moving cars would improve the effectiveness of this program. GFNCA 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. GFNCA 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 C 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 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. GFNCA 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. These channels 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 C.

Tree Canopy

A windshield survey and Google map analysis of every street within Glenmont Forest 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 a few

blocks 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. Most of the trees in the Glenmont Forest neighborhood were planted at approximately the same time and many of those trees are reaching the end of their lifespans. Therefore, GFNCA should give some concerted thought to conducting a more comprehensive tree canopy survey and developing a tree replacement plan. Relatively recent plantings where there are gaps in the canopy is evidence that some homeowners are thinking about increasing tree canopy.

Based on ample lawn space, presence of tree lawns (the grassy area between the sidewalk and the curb), 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. **Livingston Street:** The block from Kingswell Drive to Radius Road has sidewalks with tree lawns on both sides. The western side of this street does not have utility poles and offers a good opportunity for plantings (Figure 8).

2. **Lindell Street:** The two blocks from Judson Road to Kendall Street have minimal tree canopy. The south side of the street features sidewalks with tree lawns, and offers many opportunities for street tree plantings.

3. **Henderson Avenue:** The blocks from Lafayette Drive to Livingston Street feature broad tree lawns and no utility poles, offering several opportunities for plantings.

4. **Munson Street:** The entire southern side of Munson Street is mostly devoid of trees. The flat front yards and absence of utility poles makes it a possible location for street tree plantings (Figure 9).

5. **Corey Terrace:** This street has a fairly intact tree canopy and unusually wide tree lawn. However, there is a large gap at the curving western end of the street that offers the opportunity for several plantings (Figure 10).

6. **Lindell Court:** This short street has a long grassy median. Provided there are no utilities in the median, it could be an ideal spot for tree planting. There are also several front yard areas, where multiple street trees could be planted.

7. **Radius Road:** The southern side of the block between Kingswell Drive and Livingston Street contains minimal tree cover. Broad tree lawns and absence of utility poles make this an opportune area for street tree plantings.

Figure 8 Livingston Street, between Kingswell and Radius

Figure 9 Front yards of Munson Street

Figure 10 Corey Terrace

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 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 C.

Advocacy

As residents and property owners, GFNCA 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. 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 C.

Summary

This action plan contains many recommendations for how the GFNCA 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. GFNCA should also review the information presented in Montgomery County's 2018 Rock Creek Watershed Assessment and the Glenmont Forest Catchment Plan and look for opportunities to work with or support the County, or to join forces with other entities, on stormwater management practices.

GFNCA 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 the development of the Glenmont Forest Park Plan, flooding, litter, and the incorporation of green infrastructure into future County projects. Other topics that were discussed, but not noted as significant issues, include storm drain protection and labeling, pet waste, street sweeping, leaf pickup, and tree canopy. 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 green

infrastructure, 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 be the installation of green street practices (new or already planned). 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, GNFCA should consider reaching out to Amanda Rockler at Maryland Sea Grant. Ms. Rockler was part of the EFC team that met with GFNCA 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 C.

Regardless of how the GFNCA decides to proceed from this point, is it paramount that residents talk to each other 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. Continue to engage with the County regarding the development of the Glenmont Forest Park. Focus communication on amenities and the materials used, rather than on additional access points.

3. Promote the RainScapes program focusing on homes and streets where there are known flooding issues, including the intersection of Judson Road and Henderson Avenue and the intersection of Judson Road and Weisman Road, the area between Georgia Avenue and Grandview Avenue on the block between Lindell Street and Weisman Road, where Garner Street dead ends, and homes fronting on the south side of Weisman Road. Also focus on the homes along Grandview Avenue, Newton Street, and Lindell Street where there are no strorm drains.

4. Reach out to houses of worship and businesses in the community and encourage them to consider implementing stormwater management practices.

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

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

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

8. 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.

9. Utilize the GFNCA'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 the annual block party and Earth Day Cleanup.

12. Review the Rock Creek Watershed Assessment and Glenmont Forest Catchment Plan, identifying opportunities to support or partner on stormwater management projects.

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

Appendix A:

Catchment Plan

Glenmont Forest Catchment Plan

Overview

The Glenmont Forest catchment is a 324-acre area that drains to Rock Creek and is located in Montgomery County's Lower Rock Creek watershed. The catchment is approximately 35% (113 acres) impervious and is largely residential. The Glenmont Forest catchment is intersected by Randolph Road and is bordered on the east by MD Route 97 (Georgia Avenue).

Streams throughout the Rock Creek watershed, including within the Glenmont Forest catchment area, were assessed between 2016 and 2017. Based on stream conditions and other factors, described under "Priority for Assessment Factors" below, some catchments within the Rock Creek watershed were prioritized for further assessment of stormwater management opportunities. The intent of these assessments was to identify focus areas where multiple projects could be combined in order to maximize the benefits of restoration efforts, provide enhanced improvement in local water quality and ecosystems, and to protect the investments made in these projects.

Priority for Assessment Factors – Glenmont Forest Catchment

- **1st or 2nd Order Stream:** Includes 1st order stream but upland areas all piped from largely residential areas.
- **High Priority Stream:**
  - GF-23 ranked high from Erosion Severity Method
- **Synergy of Opportunities:** The southern portion of this catchment, as well as the Glenmont Forest neighborhood south of the catchment was assessed for green streets and draft designs prepared under Task Order WRE 12-16. The completed Upper Joseph's Branch Stream Restoration could be better protected by adding upland neighborhood stormwater management.
- **Existing SWM Projects:** New stormwater management was added as part of the Wheaton High School reconstruction. Weller Road Elementary School also has MS4 credited stormwater treatment.
- **Known Issues:** Largely residential area built without stormwater management.
- **Public Interest:** Glenmont Forest Civic Association has positively supported Green Streets and stormwater improvements in the community.
- **Biological Improvement:** 2012 Montgomery County biological monitoring identified the tributary as having a fair rating.
- **Sector Plans:** Glenmont Sector Plan (1997) and Kensington Wheaton Sector Plan (1990)

Characteristics

Of the total 324-acre catchment, 295 acres were further assessed for stormwater management opportunities. Locations not assessed included areas excluded from Montgomery County's Municipal Separate Storm Sewer System (MS4) Permit and some areas that already provide credited stormwater management treatment.

The Glenmont Forest catchment characteristics are summarized in the series of tables below. As depicted in Table 1 below, little existing stormwater quality treatment exists in the Glenmont Forest catchment and the majority of the impervious area is covered by the County MS4 Permit.

Table 1: Glenmont Forest Catchment Impervious Cover Breakdown

Impervious Area (IA) Breakdown	Area (acres)	Area (%)
Credited IA[1]	4.0	3.6
Uncredited IA[2]	109.0	96.4
MS4 Excluded IA[3]	4.8	4.3
MS4 Permit Area IA	108.2	95.7
Total impervious area	**113.0**	**100.0**

1: Credited impervious area (IA), includes the treated IA within the catchment draining to credited stormwater management practices.
2: Uncredited impervious area (IA), includes both the treated IA within the catchment draining to an uncredited stormwater management practice and untreated IA.
3: Area excluded from the MS4 Permit includes rural zoning, Maryland-National Capital Park and Planning Commission (M-NCPPC) lands, federal and state property, and federal and state roads.

The land uses in the Glenmont Forest catchment are shown in Table 2. Medium-density residential is the dominant land use in the catchment covering 79% of the catchment. This use is followed by institutional uses at 12%.

Table 2: Glenmont Forest Catchment Land Use

Maryland Department of Planning 2010 Land Cover / Land Use	Area (acres)	Area (%)
Agricultural [1]	0.0	0.0
Forested [2]	4.8	1.5
Institutional [3]	40.3	12.4
High-Density Residential (>4 du/acre)	5.1	1.6
Medium-Density Residential (1-4 du/acre)	256.4	79.0
Low-Density Residential (<1 du/acre)	0.0	0.0
Industrial	0.0	0.0
Commercial	0.0	0.0
Bare Ground	0.0	0.0
Open Urban Land	15.4	4.8
Transportation	2.3	0.7
Water	0.0	0.0

du: dwelling unit
1: Orchards, Vineyards, Horticulture, Feeding Operations, Cropland, Pasture, and Agricultural Buildings land use
2: Deciduous Forests, Evergreen Forests, Mixed Forest, and Brush
3: Institutional land use (churches, schools, municipal buildings)

Landownership in the Glenmont Forest catchment primarily consists of private ownership followed by public ownership (e.g., road rights-of-way). The breakdown of landownership type is detailed in Table 3 below.

Table 3: Glenmont Forest Catchment Landownership Type

Ownership Type	Area (acres)	Area (%)
Private	264.9	82%
Public	41.9	13%
Parks	17.5	5%
HOA	0.0	0%
Other Jurisdictions	0.0	0%

Summary of Opportunities

The Glenmont Forest catchment was evaluated for restoration opportunities with an emphasis on providing treatment for uncredited impervious areas within the MS4 Permit area. A desktop and field verification were conducted for the following types of opportunities:

- **Stream Restoration**: Streams were identified as good candidates for restoration when they were highly eroded or ecologically deteriorated. Restoration consists of techniques or methods to protect infrastructure and improve water quality by reducing stream bank erosion, minimizing down-cutting of stream beds, and restoring aquatic ecosystems. Some streams were not field-assessed for restoration. These include streams that were located along the mainstem of Rock Creek, already had draft stream restoration designs, already had completed stream restoration, or were located outside Montgomery County's jurisdiction (e.g., SHA property).
- **Regenerative Stormwater Conveyance (RSC) and Outfall Stabilization**: Outfall areas and channel reaches with intermittent or ephemeral flows and significant erosion were identified as potential opportunities. RSC consists of a series of step pools and sand filters constructed to allow surface water to replenish the shallow groundwater. Outfall stabilization is typically implemented for a short distance from an outfall and uses techniques to minimize erosion in the outfall area.
- **Stormwater Management Facility**: Suitable specific locations with drainage areas of about an acre or more were identified for retrofit, or new individual or clustered facilities:
  - **New Stormwater Management Facility**: Locations where a stormwater management facility does not currently exist, but where there may be sufficient space for a facility and a drainage area of approximately one acre or greater.
  - **Retrofit Stormwater Management Facility**: Locations where there is an existing stormwater management facility, but the facility does not sufficiently treat runoff from its associated drainage area. Retrofit would consist of upgrades to improve water quality in the receiving stream.
- **Stormwater Management**: Neighborhoods and other areas were assessed for general suitability of introducing various types of stormwater management which mimic nature to capture and treat stormwater as close to the source as possible:
  - **Green Streets**: Rain gardens and other low-impact practices constructed within the public street right-of-way that reduce and filter stormwater runoff.
  - **RainScapes**: Low impact design techniques such as raingardens, conservation landscaping, and permeable pavement that are voluntarily implemented by private property owners. Under this program, typically on single-family residential lots, the owner receives a rebate for a portion of the implementation costs from the County.
  - **Community Environmental Site Design (ESD)**: Low-impact stormwater management practices that are constructed on private property with the approval of the property owner. These could include capital improvement projects, grant projects, or RainScapes projects on larger parcels.

- **Public Property Environmental Site Design (ESD)**: Low-impact stormwater management practices that are constructed on public property. These could include capital improvement projects, grant projects, or RainScapes projects on larger parcels.
- **Potential Green Streets Corridor**: County arterial and collector roads which may have opportunity for low-impact stormwater practices within the right-of-way and for which these practices should be prioritized during the design of roadway improvement projects.

Whenever possible, homogenous areas were delineated and identified using a unique identification code (i.e., GF-01, GF-02, etc.). Areas were delineated based on similar characteristics such as land use, density, slope, and potential for restoration opportunity implementation. Areas may be viable opportunities for multiple restoration types (e.g., green streets and RainScapes). A summary of each restoration area is provided in Table 4 and is depicted in Figure 3. Criteria for determining restoration potential can be found in Appendix B.

In general, the Glenmont Forest catchment has good potential to support several green streets, stream restoration, RSC or outfall stabilization, and stormwater management opportunities (see Figures 1 and 2). **One** stream was identified as a restoration candidate and is summarized in Table 5 below. **Six** locations had potential for a new stormwater management practice described in Table 6. There was also **one** existing stormwater management practice available as a retrofit listed in Table 7. **Eight** sections of neighborhoods had potential for Green Streets or RainScapes opportunities listed in Tables 8 and 9. **One** new community environmental site design opportunity was observed and are summarized in Table 10 below.

Figure 1: Opportunity for impervious removal and bioretention installation at southern end of Flack Street

Figure 2: WMATA's existing stormwater management practice might be retrofit to a wet pond

Table 4: Detailed Summary of Restoration Opportunities

Catchment Restoration ID [1]	In Credited Area (Yes, No, Partial) [2]	Type of Opportunity	Restoration Potential (Good, Fair, Limited) [3]	Details
GF-01	No	New Stormwater Management Facility	Good	This large area of extra impervious in a dead-end section of Flack St. presents an opportunity for both impervious removal and a new stormwater management practice. There are no observable utility conflicts in the roadway.
GF-02	No	New Stormwater Management Facility	Good	The intersection of Flack St., Urbana Dr., and Livingston St. includes extraneous imperviousness and a median that could be reconfigured with both impervious removal and a new stormwater management practice. Sewer lines and water lines running under the roadway may present conflicts.
GF-03	No	New Stormwater Management Facility	Fair	This curbed, grassed median at the intersection of Denley Rd. and Randolph Rd. does not seem to have utility conflicts and might be reconfigured into a new stormwater management practice.
GF-04	No	Green Streets	Fair	This unnecessarily wide roadway presents an opportunity for impervious area removal and addition of bump-outs along the roadway. Utility conflicts exist under the roadway.
GF-05	No	New Stormwater Management Facility	Fair	The intersection of Newton St. and Kendall St. is unnecessarily large. This area could be reconfigured with a roundabout and a new stormwater management practice, however, there may be potential utility conflicts and space constraints.
GF-07	No	Green Streets	Good	Draft green street designs prepared for watershed restoration task order WRE 12-16. The Glenmont Forest Neighbors Civic Association requested the Green Streets project and has expressed support for completion of the project.

Catchment Restoration ID [1]	In Credited Area (Yes, No, Partial) [2]	Type of Opportunity	Restoration Potential (Good, Fair, Limited) [3]	Details
		RainScapes	Fair	This residential area contains lots with small- to medium-sized yards with some higher-grade slopes. Many of the lots have older driveways that could be replaced with permeable pavements.
GF-08	No	Green Streets	Good	The streets and intersections throughout this area are wide and could be reconfigured with bump-outs or other green street opportunities. Many utilities run through the roadway and some utilities run through the yards, which could present conflicts.
		RainScapes	Good	This residential area contains lots with small- to medium-sized yards with some higher-grade slopes. Many of the lots have older driveways that could be replaced with permeable pavement. Corner lots and several streets have houses set back enough to provide yard space for RainScapes.
GF-09	No	Potential Green Streets Corridor	Fair	This 8- to 12-foot-wide median along Randolph Rd. has some mature trees and visible utilities, with most of the utilities in roadway. The majority of the roadway drains away from the median, so diverting flow towards the median may be difficult.
GF-10	No	New Stormwater Management Facility	Good	This large area of extra impervious in a dead-end section of Valleywood Dr. presents an opportunity for both impervious removal and a new stormwater management practice. There are no utility conflicts, but a pedestrian trail transects this area.
GF-11	No	Green Streets	Fair	The streets throughout this area are narrow, but bump-outs or other green street opportunities are possible
		RainScapes	Fair	This residential area contains lots with small- to medium-sized yards with some higher-grade slopes. Many of the lots have older driveways that could be replaced.

Catchment Restoration ID [1]	In Credited Area (Yes, No, Partial) [2]	Type of Opportunity	Restoration Potential (Good, Fair, Limited) [3]	Details
GF-12	No		Limited	Wheaton High School and Edison High School were recently re-constructed with new stormwater management, although the data was not available for mapping.
GF-13	No		Limited	Narrow panels and lots, overhead wires, and mature trees present few green street or RainScapes opportunities.
GF-14	No	Green Streets	Good	Wide, curbed lawn median with potential flow from center crown of bordering streets; opportunities at irregular gaps between existing red maples. Possible sewer conflict in select areas. Two median areas that are potential. Minimal conflicts are apparent.
GF-15	No	Green Streets	Fair	12-foot-wide panels, overhead wires allow green streets. Utilities in the roadway
		RainScapes	Fair	Driveways have permeable pavement retrofit opportunities with many roof drains directed onto driveways. Slopes are variable among lots – some slope towards homes. There are conservation landscaping opportunities for downspout disconnection.
GF-16	Partial		Limited	Weller Road Elementary School. Stormwater management opportunities are already fully implemented.
GF-17	No	Green Streets	Good	Wide road, small panels. Significant opportunities for bumpouts in areas without mature trees.
GF-18	No	New Stormwater Management Facility	Good	Bioretention in open turf areas. No apparent utility conflicts.
GF-19	No	Community Environmental Site Design	Fair	Iglesia Eben Ezer - Limited-area permeable pavement opportunity at this place of worship. Conservation landscaping opportunity in existing swale.

Catchment Restoration ID [1]	In Credited Area (Yes, No, Partial) [2]	Type of Opportunity	Restoration Potential (Good, Fair, Limited) [3]	Details
GF-20	No		Limited	Fox Hall Square. Limited lawn area, level parking but close to buildings. Potential for underground facility and possible permeable paving.
GF-21	No	RainScapes	Fair	Possible replacement of parking pads with pervious paving. Small panels with significant tree cover. Potential for rain barrels.
GF-22	No	Retrofit Stormwater Management Facility	Fair	WMATA Parking Garage. WMATA-owned existing forebay, infiltration, and dry pond in series. Potential conversion to wet pond. Existing pond does not exist within GIS data provided by DEP.
GF-23 (LRJB-104-RE-001)	No	Stream Restoration	Good	715-foot-long stretch with erosion along +80% and 50% with inadequate buffer. Stream quality predominantly optimal/suboptimal and fed by 3 outfalls from street runoff.

1: Opportunities with the ID in the format of LRJB-RI-005 were identified as part of the 2016 Rock Creek watershed assessment field work. Opportunities with the ID in the format of GF-03 were identified as part of the 2018 Glenmont Forest catchment plan assessment.
2: "Yes" or "Partial" indicates the opportunity is in an area already receiving some MS4 credit or treatment.
2: Criteria for establishing restoration potential can be found in Appendix B.

The following series of tables are organized by the type of opportunity and provide estimated pollutant load reductions. Pollutant load reductions were calculated for opportunities rated as good and fair (i.e., not calculated for limited opportunities).

Table 5: Glenmont Forest Stream Restoration, Regenerative Stormwater Conveyance (RSC), and Outfall Stabilization Opportunities

Stream/RSC/ Outfall Stabilization ID[1]	Length (ft)	Pollutant Load Reduction			Planning-Level Construction Cost	Restoration Potential
		TSS (tons/yr)	TN (lbs/yr)	TP (lbs/yr)		
GF-23	715	0.9	14.3	2.5	$557,500	Good

1: Refer to Table 4 for long-form IDs

Table 6: Glenmont Forest New Stormwater Management Facility Opportunities

New Stormwater Management ID	Estimated Drainage Area (ac)	Estimated Impervious Area (ac)	Pollutant Load Reduction			Planning-Level Construction Cost	Restoration Potential
			TSS (tons/yr)	TN (lbs/yr)	TP (lbs/yr)		
GF-01	0.8	0.4	0.2	6.4	0.9	$93,100	Good
GF-02	0.4	0.2	0.1	3.1	0.4	$59,800	Good
GF-03	0.6	0.2	0.1	4.9	0.6	$61,000	Fair
GF-05	2.3	1.0	0.5	18.2	2.3	$200,500	Fair
GF-10	1.0	0.4	0.2	8.1	1.0	$97,700	Good
GF-18	0.4	0.2	0.1	3.5	0.5	$68,200	Good

Table 7: Glenmont Forest Stormwater Management Facility Retrofit Opportunities

Retrofit ID	Estimated Drainage Area (ac)	Estimated Impervious Area (ac)	Pollutant Load Reduction			Planning-Level Construction Cost	Restoration Potential
			TSS (tons/yr)	TN (lbs/yr)	TP (lbs/yr)		
GF-22	6.0	1.9	0.7	11.8	2.8	$156,000	Fair

Table 8: Glenmont Forest Green Streets Opportunities

Area ID	Estimated Drainage Area (ac)	Estimated Impervious Area (ac)	Pollutant Load Reduction			Restoration Potential
			TSS (tons/yr)	TN (lbs/yr)	TP (lbs/yr)	
GF-04	3.4	2.4	0.1	1.4	0.2	Fair
GF-07	30.1	9.2	0.3	11.6	1.2	Good
GF-08	60.2	18.5	0.6	23.2	2.4	Good
GF-11	26.5	7.7	0.3	10.2	1.0	Fair
GF-14	3.0	1.5	0.0	1.2	0.2	Good
GF-15	9.7	3.3	0.1	3.8	0.4	Fair
GF-17	48.7	17.0	0.5	18.8	2.1	Good

Table 9: Glenmont Forest RainScapes Opportunities

Area ID	Estimated Drainage Area (ac) [1]	Estimated Impervious Area (ac) [1]	Pollutant Load Reduction			Restoration Potential
			TSS (tons/yr) [1]	TN (lbs/yr) [1]	TP (lbs/yr) [1]	
GF-07	30.1	9.2	0.2 - 0.7	10.5 - 31.6	1.0 - 3.0	Fair
GF-08	60.2	18.5	0.5 - 1.6	22.1 - 66.2	2.1 - 6.3	Good
GF-11	26.5	7.7	0.2 - 0.7	9.8 - 30.3	0.9 - 2.8	Fair
GF-15	9.7	3.3	0.1 - 0.3	3.2 - 9.5	0.3 - 1.0	Fair
GF-21	8.0	3.1	0.0 - 0.2	1.8 - 6.5	0.2 - 0.7	Fair

1: Range assumes implementation by 10 – 30% of properties with potential for RainScapes implementation

Table 10: Glenmont Forest Community Environmental Site Design Opportunities

Area ID	Estimated Drainage Area (ac)	Estimated Impervious Area (ac)	Pollutant Load Reduction			Planning-Level Construction Cost	Restoration Potential
			TSS (tons/yr)	TN (lbs/yr)	TP (lbs/yr)		
GF-19	0.3	0.1	0.0	0.2	0.0	$36,600	Fair
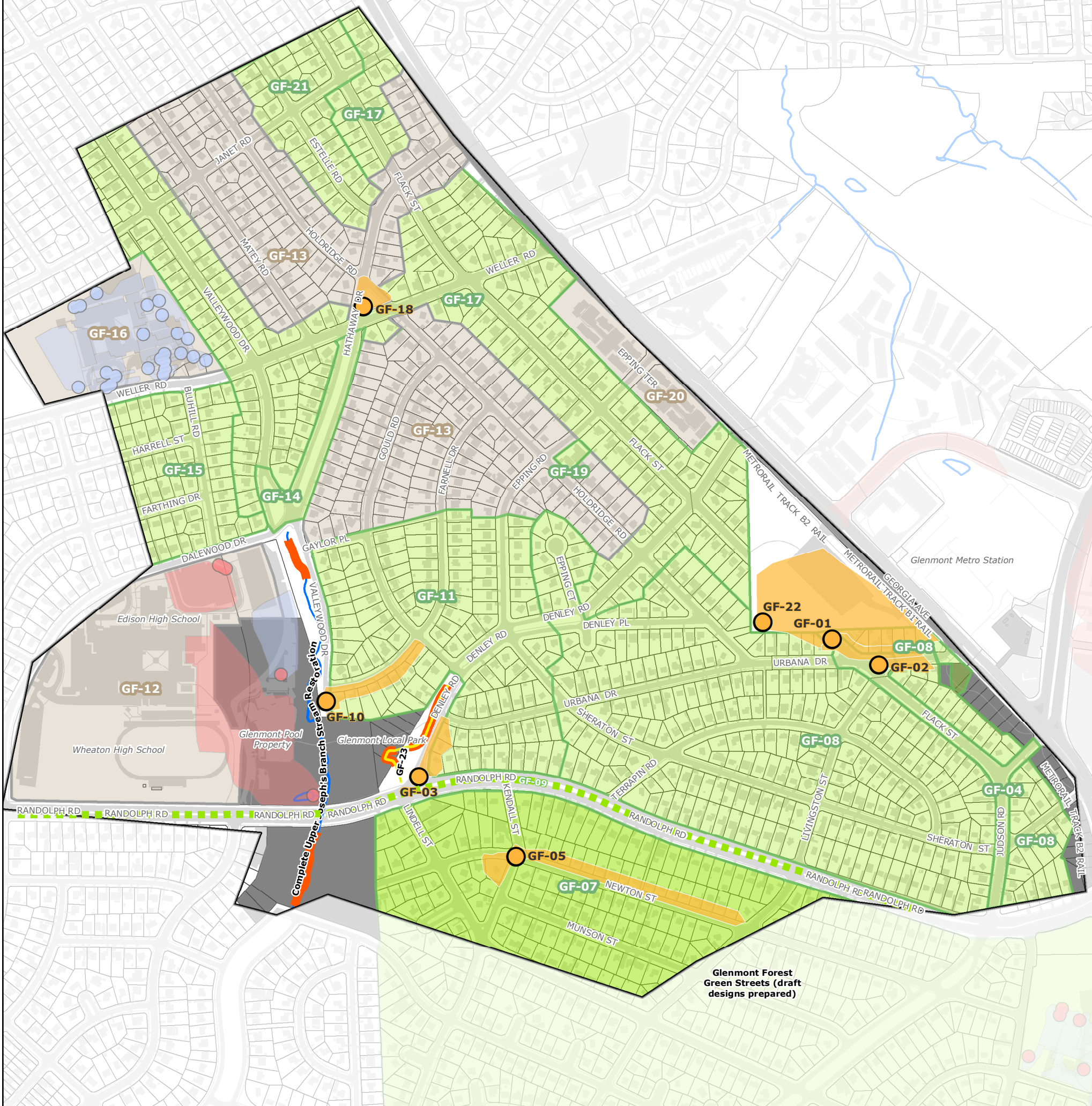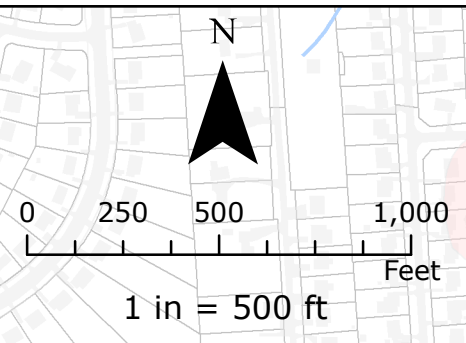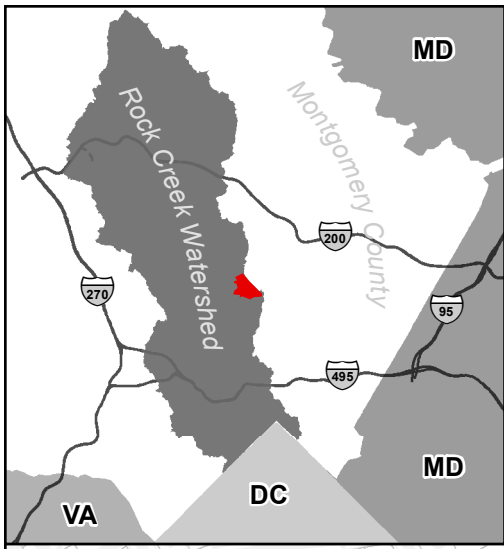
Rock Creek Watershed
Glenmont Forest

Catchment Assessment
October 2018

Assessed for Stormwater Management
- Good/Fair Opportunity
- Limited Opportunity

Assessed for Stormwater Management Facility
- Good/Fair Opportunity
- Limited Opportunity
- Good/Fair Opportunity Drainage Area

Assessed for RSC or Outfall Stabilization
- Good/Fair Opportunity
- Limited Opportunity
- Potential Green Streets Corridor

- Streams
- Priority Streams for Restoration
- Erosion Along Stream
- Catchment Boundary
- Property Boundaries
- Impervious Area (2014)
- MS4 Excluded Area (2009)

Existing Stormwater Management Facility (2017)
- Not Credited
- Credited
- Not Credited Drainage Area
- Credited Drainage Area

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MONTGOMERY COUNTY • MARYLAND

Biohabitats
Brown AND Caldwell
A Joint Venture

Appendix B: Stakeholder Map

Glenmont Forest Neighbors Association

Prepared for SUSTAINABLE MARYLAND by AnnaLinden Weller
GIS data acquired from the Montgomery County Planning Data Library

Features of the Built Environment

- Buildings
- Athletic Court
- Swimming Pool
- Patio
- GlenmontForestParking
- GlenmontForestRoads
- Sidewalk
- Paved Parking Lot
- Unpaved Parking Lot
- Water Outlets (County Map)
- Water Outlets (State Map)
- Water Inlets (County Map)
- Water Inlets (State Map)
- County Manholes
- State Manholes

- Litter
- Pet Waste
- Flooding

Green Streets pulled from Weisman, Judson, Cory Terrace

Speed Bumps coming to Weisman

Heat Island

Corn Estates

Construction debris generally

Forest ownership?

Open Stream

Traffic Light 2019

Greater Glenmont

HAWK lite

tunnel

Storm pond

Fire House Parking lots

HHS Conservation Corp Parking

Bus Stop trash

Flow

Flow

Bus Stop trash overflow

lots of Litter

resident puts trash/recycling on Weisman/Grandview

Wheaton Hills

Bus Stop trash overflowing

New wire

Flow

Low representation

Farm house Trees

0   0.05   0.1   0.2   0.3   0.4   Miles

Glenmont

Appendix C: 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%20 Campaign2.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 D: Outreach Calendar

Glenmont Forest Stormwater Outreach & Education Plan
January – December

	January	February	March	April	May	June
Website Promotion	• RainScapes reminder: start planning now		• Tree Montgomery and MDOT Tree program reminder	• General membership meeting • Earth Day cleanup	• Household hazardous waste drop off at Shady Grove • Street sweeping reminder	• Special Project: Volunteers needed for tree canopy mapping
GFNCA Email Alert	• RainScapes reminder: start planning now		• Tree Montgomery and MDOT Tree program reminder	• General membership meeting • Earth Day cleanup	• Household hazardous waste drop off at Shady Grove • Street sweeping reminder	• MHP Craft and Family Event: table with info about pet waste, etc.
Listserv: Next Door	• RainScapes reminder: start planning now		• Tree Montgomery and MDOT Tree program reminder	• Earth Day cleanup	• Household hazardous waste drop off at Shady Grove • Street sweeping reminder	• Special Project: Volunteers needed for tree canopy mapping
Social Media: Facebook & Twitter	• RainScapes reminder: start planning now	• #DoYourDoodyGFNCA-example of photo w/ hashtag	• Tree Montgomery and MDOT Tree program reminder	• Earth Day cleanup	• Household hazardous waste drop off at Shady Grove • Street sweeping reminder	• Special Project: Volunteers needed for tree canopy mapping
Special Events				• General membership meeting • Earth Day cleanup		• MHP Craft and Family Event: table with info about pet waste, etc.
Flyer Distribution	• RainScapes reminder: start planning now			• Earth Day cleanup • General membership meeting		

Glenmont Forest Stormwater Outreach & Education Plan
January – December

	July	August	September	October	November	December
Website Promotion	• Pet Waste: Poop Fairy promotion		• Storm drain labeling • Fall trash cleanup	• Resident pet waste survey	• General membership meeting • Leaf pickup and alternative uses reminder	• Leaf pickup and alternative uses reminder
GFNCA Email Alert	• Pet Waste: Poop Fairy promotion		• Storm drain labeling • Fall trash cleanup	• Resident pet waste survey	• Leaf pickup and alternative uses reminder	• Leaf pickup and alternative uses reminder
Listserv: NextDoor	• Pet Waste: Poop Fairy promotion		• Storm drain labeling • Fall trash cleanup	• Resident pet waste survey	• Leaf pickup and alternative uses reminder	• Leaf pickup and alternative uses reminder
Social Media: Facebook & Twitter	• Pet Waste: Poop Fairy promotion	• #DoYourDoodyGFNCA-example of photo w/ hashtag	• Storm drain labeling • Fall trash cleanup	• Resident pet waste survey	• General membership meeting • Leaf pickup and alternative uses reminder	• Leaf pickup and alternative uses reminder
Special Events	• Tree canopy mapping project - implementation	• Annual Block Party: Table with brochures/ pet waste signs	• Storm drain labeling • Fall trash cleanup		• General membership meeting	
Flyer Distribution	• Pet Waste: Poop Fairy promotion		• Storm drain labeling • Fall trash cleanup		• Leaf pickup and alternative uses reminder	• Leaf pickup and alternative uses reminder

Link to Montgomery County 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 E:

Glenmont Forest Park Concept Plan

COMMUNITY PRESENTATION

April 18, 2018

GLENMONT FOREST PARK
Silver Spring, Maryland

HG
ARCHITECTS

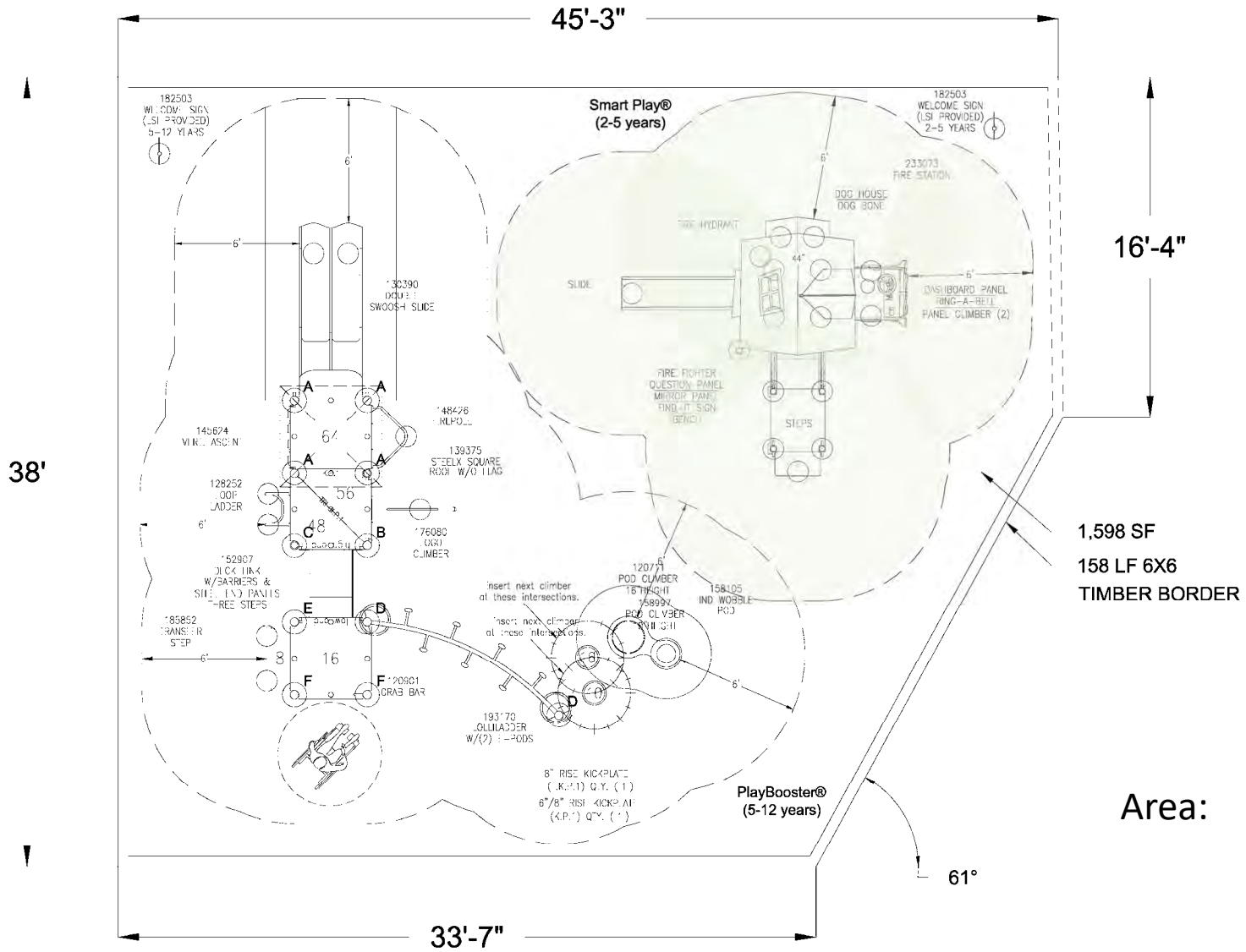**REVISED SITE PLAN**
April, 2018

1. FIRE STATION

2. OPEN AREA

3. LANDSCAPE BUFFER

4. EXISTING TRAIL

5. NEW PATH: 1,128 sf

6. PICNIC SHELTER: 500 sf

7. PLAY AREA: 1,580 sf

8. EXISTING TREE SAVE AREA SUBJECT TO FCP

9. UTILITY EASEMENT

Impervious Area: 3,208 sf
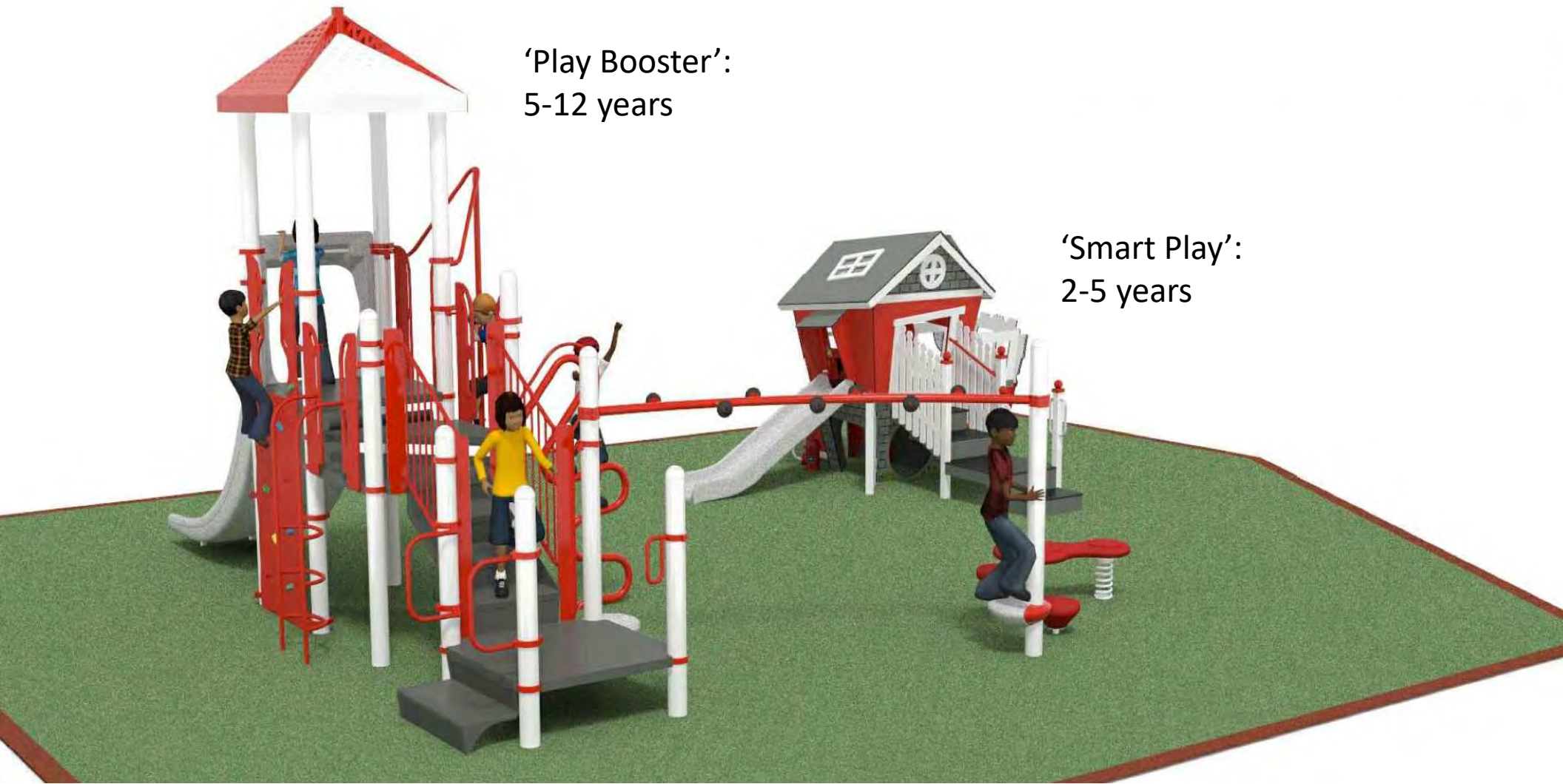
GLENMONT FOREST PARK
Silver Spring, Maryland

HG ARCHITECTS

45'-3"

16'-4"

38'

33'-7"

61°

Area: 1,580sf

1,598 SF
158 LF 6X6
TIMBER BORDER

Smart Play® (2-5 years)

PlayBooster® (5-12 years)

182503 WELCOME SIGN (LSI PROVIDED) 5-12 YEARS
182503 WELCOME SIGN (LSI PROVIDED) 2-5 YEARS

233073 FIRE STATION
DOG HOUSE DOG BONE
FIRE HYDRANT
SLIDE
DASHBOARD PANEL RING-A-BELL PANEL CLIMBER (2)
FIRE FIGHTER QUESTION PANEL MIRROR PANEL FIND IT SIGN (BENCH)
STEPS

130390 DOUBLE SWOOSH SLIDE
148426 RLPOLE
145624 VERT ASCENT
139375 STEELX SQUARE ROOF W/O FLAG
128252 LOOP LADDER
176080 LOGO CLIMBER
152907 DECK LINK W/BARRIERS & STEEL END PANELS TREE STEPS
185852 TRANSFER STEP
120711 POD CLIMBER 16" HEIGHT
158997 POD CLIMBER SWING SET
158105 IND WOBBLE POD
120901 GRAB BAR
193170 COIL LADDER W/(2) E-PODS

insert next climber at these intersections.
insert next climber at these intersections.

8" RISE KICKPLATE (K.P.1) QTY. (1)
6"/8" RISE KICKPLATE (K.P.1) QTY. (1)

GLENMONT FOREST PARK
Silver Spring, Maryland

PLAY AREA

HG ARCHITECTS

3

'Play Booster':
5-12 years

'Smart Play':
2-5 years

GLENMONT FOREST PARK
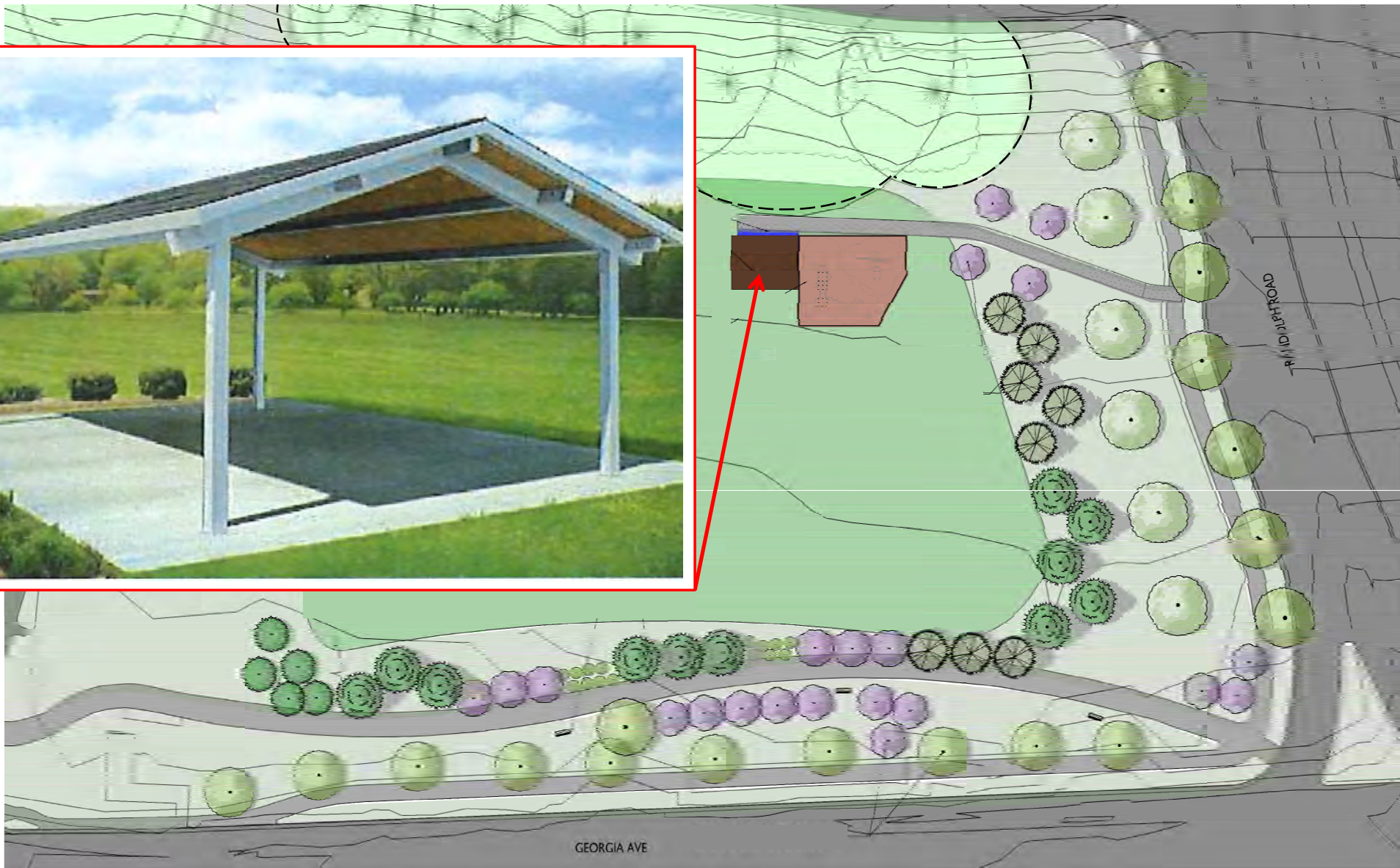Silver Spring, Maryland

PLAY AREA

'Play Booster':
5-12 years

'Smart Play':
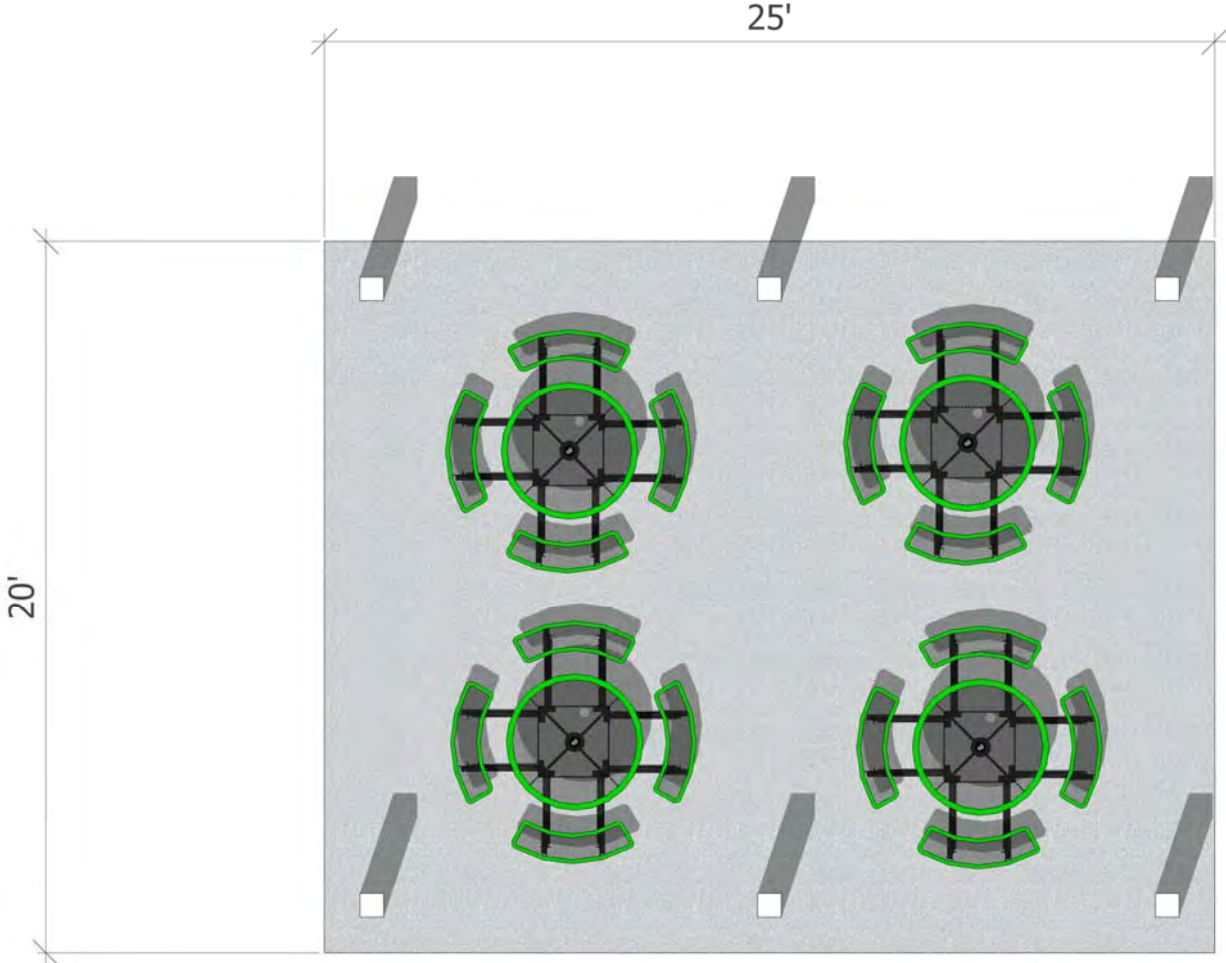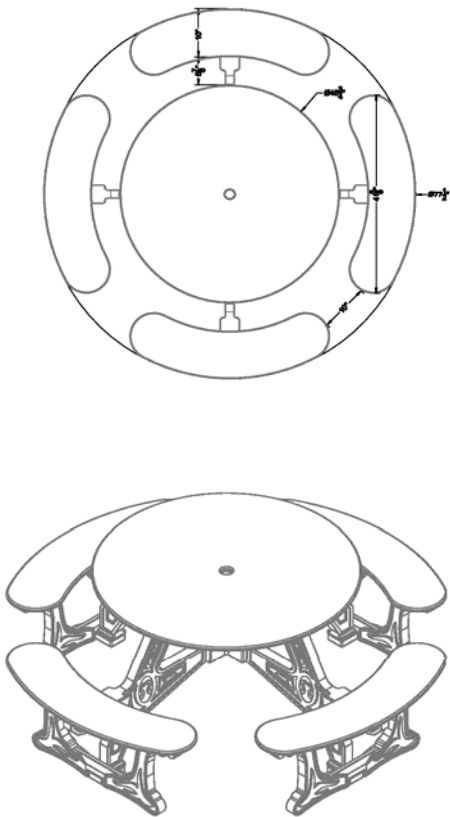2-5 years

GLENMONT FOREST PARK
Silver Spring, Maryland

PICNIC SHELTER

HG ARCHITECTS

PICNIC SHELTER SEATING LAYOUT

32 people total at 4 tables

EXISTING TREE
SAVE AREA
SUBJECT TO FCP

FLOWERING TREES
EVERGREEN TREES
BY MCG

MIXED PLANTING, EVERGREEN
TREES, FLOWERING TREES, LARGE
SHRUBS BY MCG

BENCH TYP, BY SHA

RANDOLPH ROAD

GEORGIA AVE

GLENMONT FOREST PARK
Silver Spring, Maryland

LANDSCAPE PLAN

HG
ARCHITECTS

8
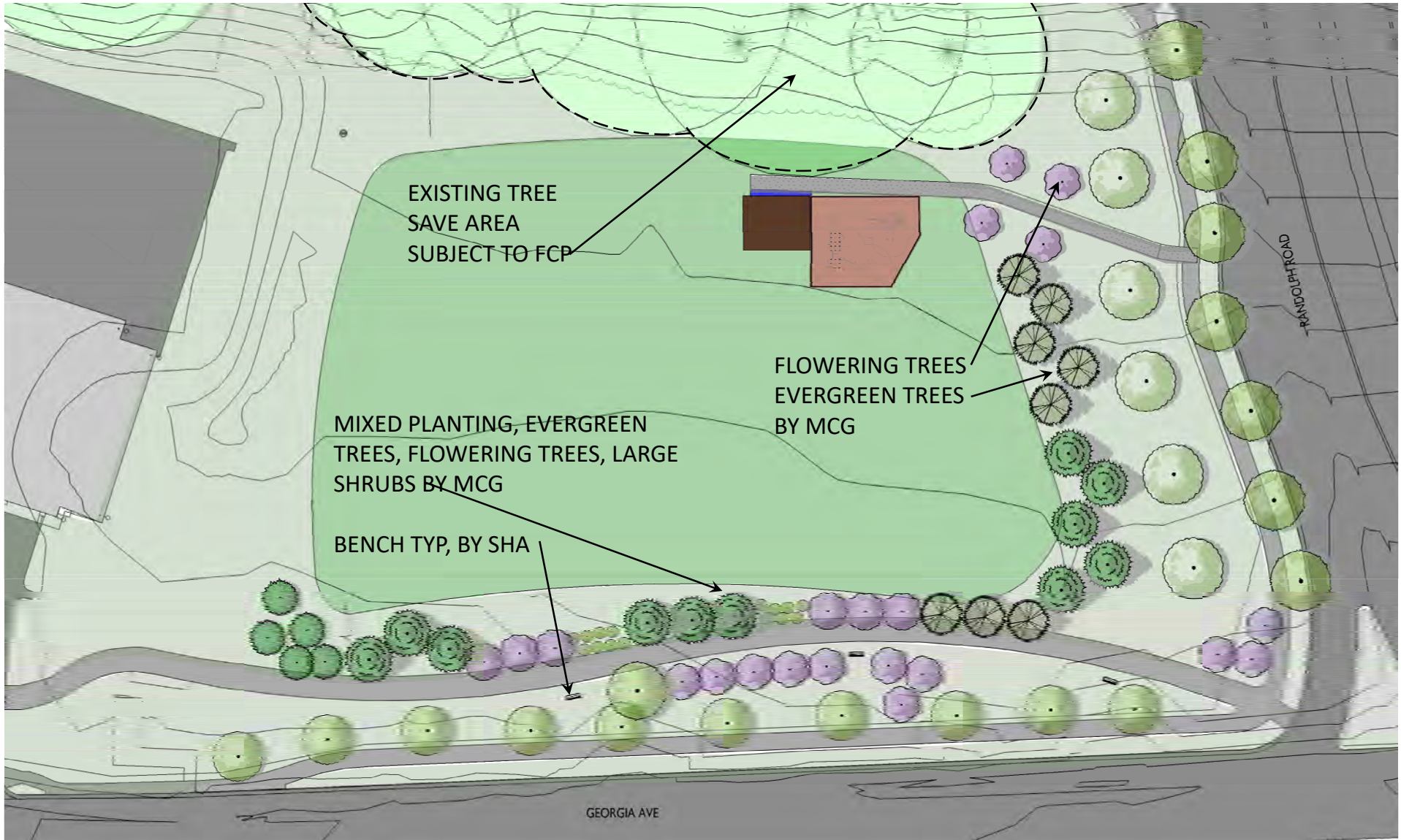
QUESTIONS
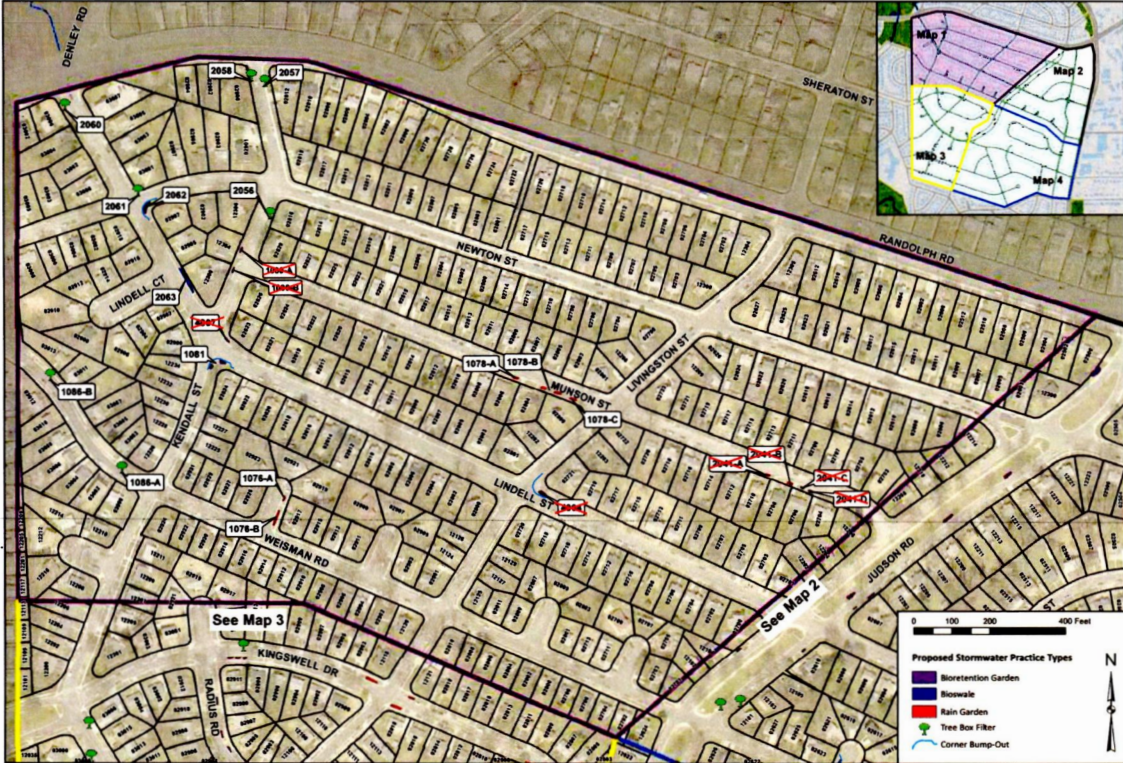
GLENMONT FOREST PARK
Silver Spring, Maryland

9

Appendix F:

Green Streets Plan

Glenmont Forest Green Streets Project
Map 1 - Proposed Locations

ID #	Stormwater Practice Proposed
1081	Bioretention
2056	Tree Box Filter
2057	Tree Box Filter
2058	Tree Box Filter
2060	Tree Box Filter
2061	Tree Box Filter
2062	Bioretention
2063	Bioswale
4804	Bioretention
4807	Bioretention
1076-A	Rain Garden
1076-B	Rain Garden
1078-A	Rain Garden
1078-B	Rain Garden
1078-C	Rain Garden
1080-A	Bioretention
1080-B	Bioretention
1086-A	Tree Box Filter
1086-B	Tree Box Filter
2041-A	Rain Garden
2041-B	Rain Garden
2041-C	Bioretention
2041-D	Bioretention

Updated June 2017 - Locations shown are still being revised based on resident feedback. Locations in red have been removed due to utility conflicts.

Proposed Stormwater Practice Types

- Bioretention Garden
- Bioswale
- Rain Garden
- Tree Box Filter
- Corner Bump-Out

0 100 200 400 Feet

N

Green Streets are county-maintained landscaping practices between the curb and sidewalk to help water quality.

Construction Start Anticipated: 2018

Glenmont Forest Green Streets Project
Map 2 - Proposed Locations
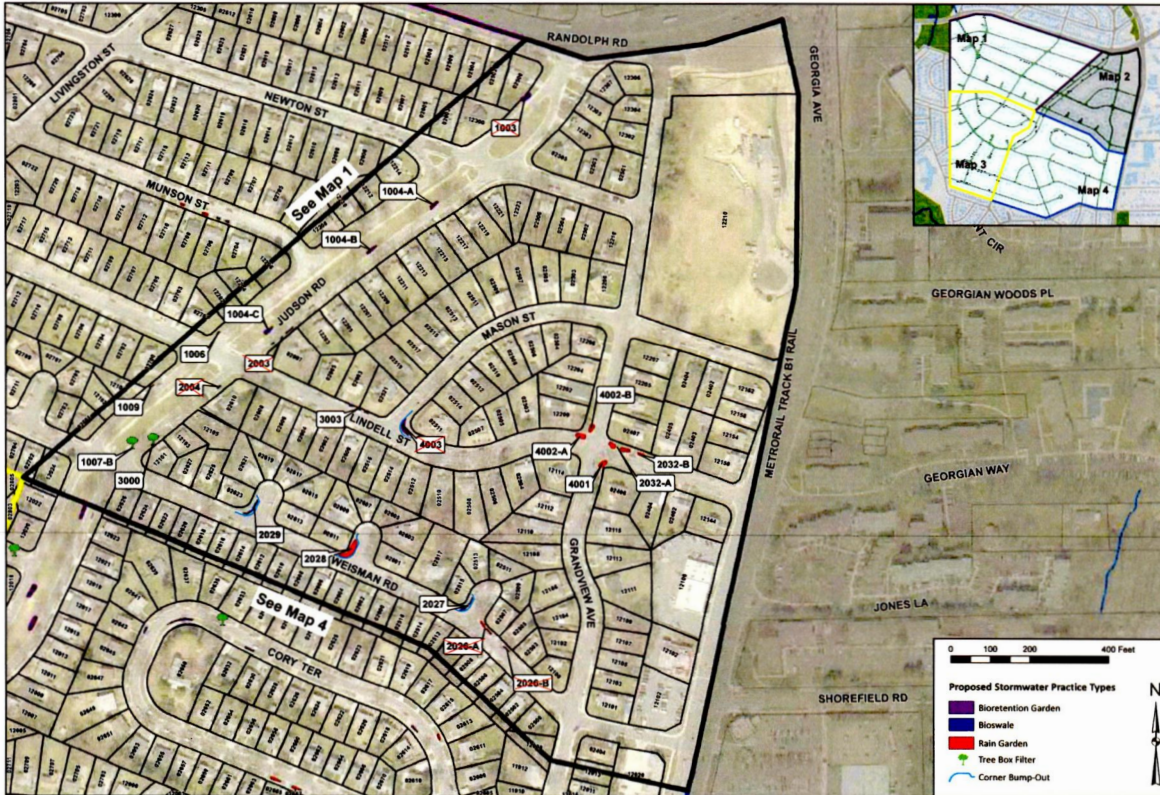
ID #	Stormwater Practice Proposed
1003	Bioretention
1006	Bioretention
1009	Bioretention
2003	Bioretention
2004	Bioretention
2027	Bioswale
2028	Rain Garden
2029	Bioswale
3000	Tree Box Filter
3003	Bioretention
4001	Rain Garden
4003	Bioretention
1004-A	Bioretention
1004-B	Bioretention
1004-C	Bioretention
1007-B	Tree Box Filter
2026-A	Rain Garden
2026-B	Bioretention
2032-A	Rain Garden
2032-B	Rain Garden
4002-A	Rain Garden
4002-B	Rain Garden

Updated June 2017 - Locations shown are still being revised based on resident feedback. Locations in red have been removed due to utility conflicts.

Green Streets are county-maintained landscaping practices between the curb and sidewalk to help water quality.

Construction Start Anticipated: 2018

Proposed Stormwater Practice Types
- Bioretention Garden
- Bioswale
- Rain Garden
- Tree Box Filter
- Corner Bump-Out

0 100 200 400 Feet

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Glenmont Forest Green Streets Project
Map 3 - Proposed Locations
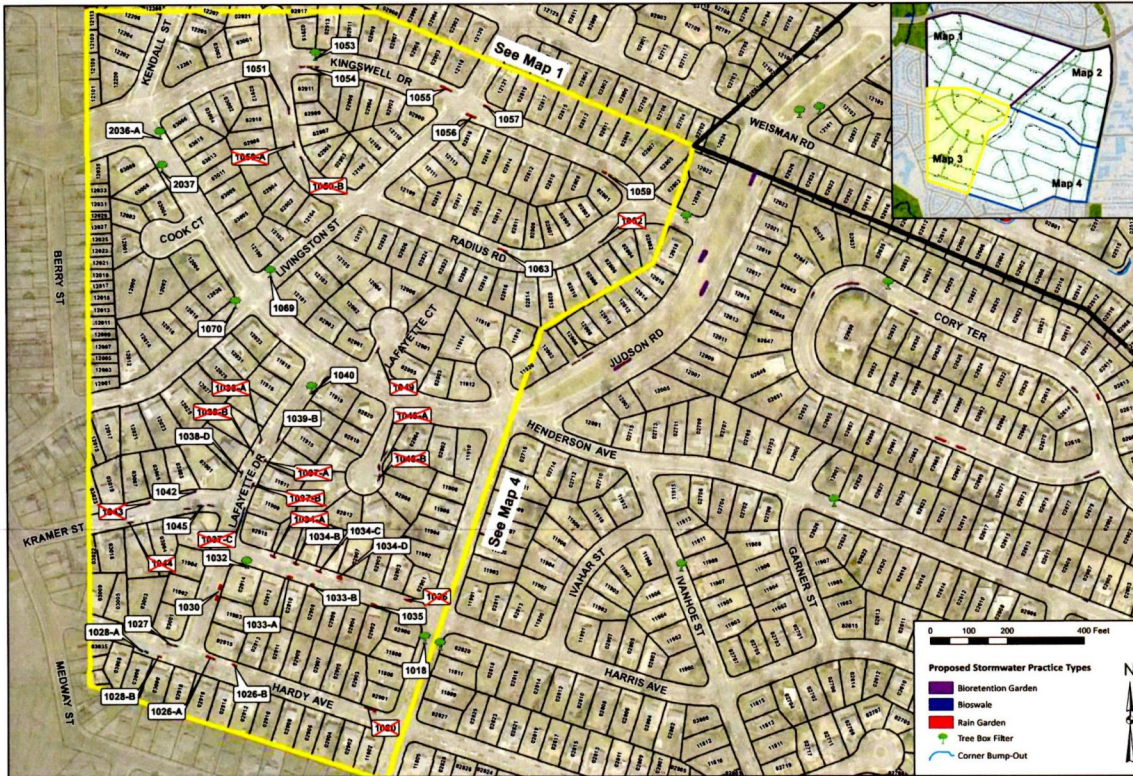
ID #	Stormwater Practice Proposed
1018	Tree Box Filter
1026	Rain Garden
1027	Bioretention
1030	Rain Garden
1032	Tree Box Filter
1035	Rain Garden
1036	Rain Garden
1040	Tree Box Filter
1042	Bioretention
1043	Bioretention
1044	Bioretention
1045	Bioretention
1051	Bioretention
1053	Tree Box Filter
1054	Bioretention
1055	Rain Garden
1056	Rain Garden
1057	Rain Garden
1059	Rain Garden
1062	Bioretention
1063	Rain Garden
1069	Tree Box Filter
1070	Tree Box Filter
2037	Tree Box Filter
1026-A	Rain Garden
1026-B	Rain Garden
1028-A	Bioswale
1028-B	Rain Garden
1033-A	Rain Garden
1033-B	Rain Garden
1034-A	Rain Garden
1034-B	Rain Garden
1034-C	Rain Garden
1034-D	Rain Garden
1037-A	Bioretention
1037-B	Bioretention
1037-C	Bioswale
1038-A	Bioretention
1038-B	Bioretention
1038-D	Bioretention
1039-B	Bioretention
1040-A	Bioretention
1040-B	Bioretention
1050-A	Bioretention
1050-B	Bioretention
2036-A	Tree Box Filter

Proposed Stormwater Practice Types
- Bioretention Garden
- Bioswale
- Rain Garden
- Tree Box Filter
- Corner Bump-Out

0 100 200 400 Feet

N

Green Streets are county-maintained landscaping practices between the curb and sidewalk to help water quality.

Construction Start Anticipated 2018

Date: 7/21/2016

RK&K
Responsive People | Creative Solutions

Updated June 2017 - Locations shown are still being revised based on resident feedback. Locations in red have been removed due to utility conflicts.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Glenmont Forest Green Streets Project
Map 4 - Proposed Locations

ID #	Stormwater Practice Proposed
1001	Bioretention
1060	Tree Box Filter
2006	Tree Box Filter
2007	Tree Box Filter
2012	Tree Box Filter
2013	Rain Garden
2014	Bioretention
2015	Bioretention
2016	Tree Box Filter
2017	Bioretention
2018	Bioretention
2021	Bioretention
2023	Tree Box Filter
2030	Tree Box Filter
2031	Tree Box Filter
1008-A	Bioretention
1008-B	Bioretention
1008-C	Bioretention
1008-D	Bioretention
2020-A	Rain Garden
2020-B	Rain Garden
2022-A	Bioretention
2022-B	Bioretention

Updated June 2017 - Locations shown are still being revised based on resident feedback. Locations in red have been removed due to utility conflicts.

Green Streets are county-maintained landscaping practices between the curb and sidewalk to help water quality.

Construction Start Anticipated: **2018**

Proposed Stormwater Practice Types
- Bioretention Garden
- Bioswale
- Rain Garden
- Tree Box Filter
- Corner Bump-Out

0   100   200   400 Feet

N

Appendix G: Pet Waste Community Survey

Pet Waste Questionnaire

Do you think dog waste is a problem in your neighborhood?
- Yes, I frequently see it on the ground
- Sort of, I occasionally see it on the ground
- No, I never see it on the ground
- 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>?
- Don't use the yard, only walks
- Leave it in the yard
- Bag it and put in the trash can
- Put in the toilet

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

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

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

Which would make you more likely to pick up dog waste? *(Check all that apply)*
- Having pet waste stations and bags in the neighborhood
- Laws and fines for not picking it up
- Knowing that pet waste is polluting our streams and can harm people and pets
- Respect for my neighbors and our community
- Probably won't change my habits
- I already pick up my dog's waste
- 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)
- Didn't see or hear anything
- At school
- TV or newspaper
- Flyer or brochure
- Friend or neighbors
- Community listserv
- From websites
- From posted signs at parks or pet waste stations

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

Gender: _____   Age: _____

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

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