ANNUAL REPORT 2024

General VPDES Permit for
Small Municipal Separate
Storm Sewer Systems
Permit No. VAR040057

Year 1 Annual Report
July 1, 2023 – June 30, 2024

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Small Municipal Separate Storm Sewer Systems
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In compliance with the "General VPDES Permit for Discharges of Stormwater from Small Municipal Separate
Storm Sewer Systems" VAR040057

City of Alexandria, Virginia

Submitted by
City of Alexandria
Department of Transportation and Environmental Services
2900-B Business Center Drive, Alexandria, VA 22314

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CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Jesse E. Maines	Division Chief, Transportation and Environmental Services, Stormwater Management	9/30/2024
Name	Title	Date

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General VPDES Permit for Small Municipal Separate Storm Sewer Systems Permit No. VAR040057

Year 1 Annual Report
July 1, 2023 – June 30, 2024
City of Alexandria, Virginia

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ACRONYMS

AWL – Animal Welfare League
BMP – Best Management Practice
C&I – Construction and Inspection
CSS – Combined Sewer System
CRM – Customer Relations Management
DEQ – Virginia Department of Environmental Quality
E&SC – Erosion and Sediment Control
EIU – Environmental Industrial Unit
EMO – Environmental Management Ordinance
EPC – Environmental Policy Commission
GI – Green Infrastructure
HOA – Home Owners Association
LID – Low Impact Development
MCM – Minimum Control Measure
MS4 – Municipal Separate Storm Sewer System
NMP – Nutrient Management Plans
NVRC – Northern Virginia Regional Commission
OEQ – Office of Environmental Quality
PCB – polychlorinated biphenyls
PSA – Public Service Announcement
PY – Permit Year
RPCA – Department of Recreation, Parks and Cultural Activities
SEAS – School Environmental Action Showcase
SWCB – State Water Control Board
SWM – Stormwater Management Division
SWPPP – Stormwater Pollution Prevention Plan
SWWG – Stormwater Work Group
T&ES – Department of Transportation and Environmental Services
TMDL – Total Maximum Daily Load
VCA – Veterinary Centers of America
VESCL – Virginia Erosion and Sediment Control Law
VESCR –Virginia Erosion and Sediment Control Regulations
VPDES – Virginia Pollutant Discharge Elimination System
VSMP – Virginia Stormwater Management Program

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1 Introduction

This 2023 – 2024 MS4 Annual Report is prepared by the City of Alexandria (City) Department of Transportation and Environmental Services (T&ES) in accordance with the requirements of the General VPDES (Virginia Pollutant Discharge Elimination System) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (9VAC25-890-40 *et seq.*). The City was originally issued General Permit VAR040057 on July 8, 2003, under the program. DEQ reissued the current five-year permit effective November 1, 2023.

Under the terms of the General Permit, the City has developed a Municipal Separate Storm Sewer System (MS4) Program Plan to implement six minimum control measures aimed at reducing the discharge of pollutants to the "maximum extent practicable." Minimum control measures are:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illegal Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management for New Development and Development on Prior Developed Lands
6. Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee within the MS4 Service Area

The General Permit requires that the City submit annual reports no later than October 1st covering the reporting period of the preceding July 1st through June 30th. This annual report covers the period of July 1, 2023, through June 30, 2024. The 2023-2028 General Permit outlines the requirements for the annual report in Part I E and Part II B. As indicated in the General Permit (Part I.D.6.), the *Chesapeake Bay TMDL Implementation Annual Status Report* is provided as a separate document from this report.

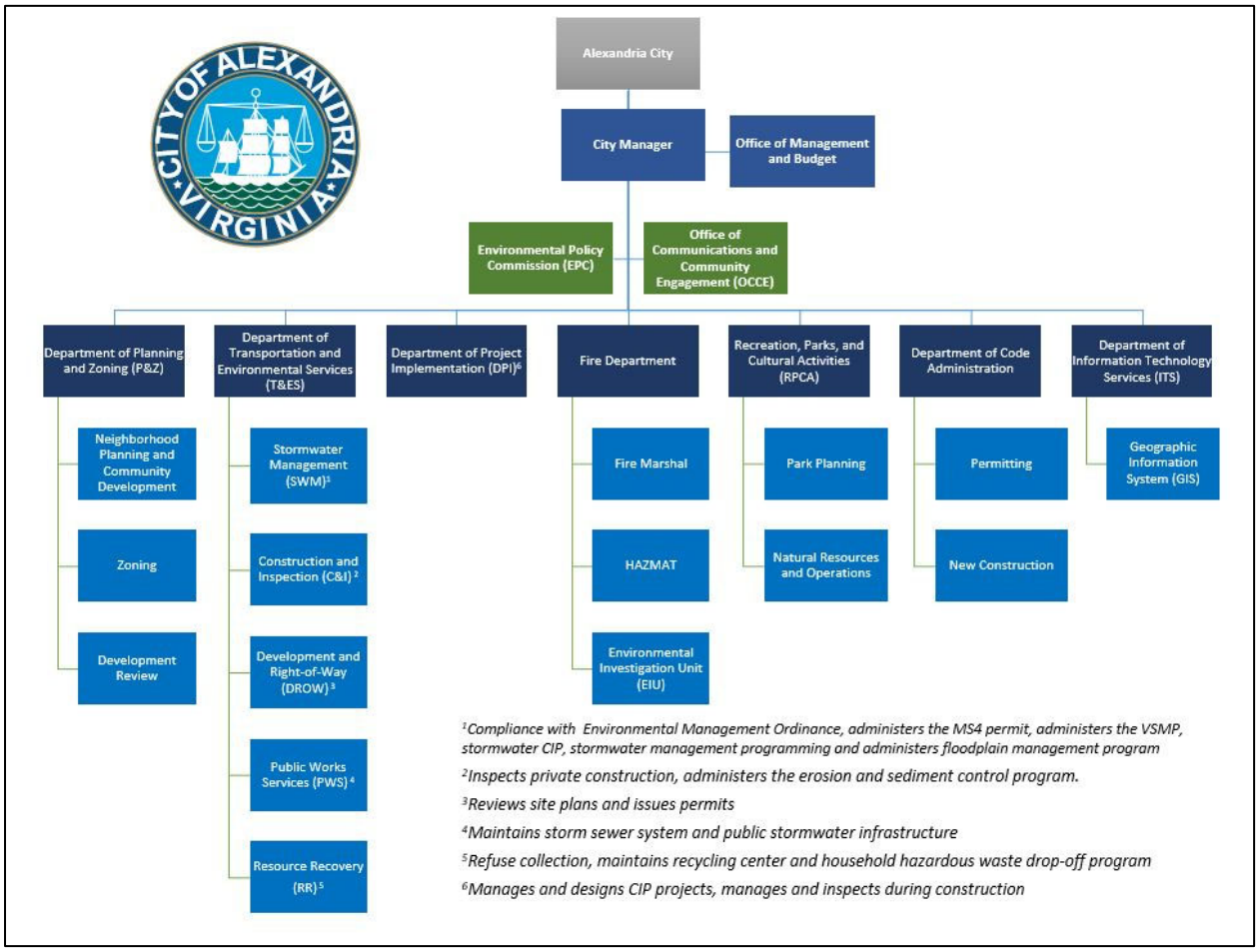
2 General Information

This section provides general information as required in Part I D 2 of the General Permit.

Name of Permittee:	**System Name:**	**Reporting Period:**	**Permit Number:**
City of Alexandria	City of Alexandria MS4	2023-2024	VAR040057
Modifications to Roles and Responsibilities: None.			
6th Order HUC:	**Potomac River (PL28)**	**Cameron Run (PL26)**	**Four Mile Run (PL25)**

The organizational chart outlines major stormwater activities and functions divided among several different departments and divisions. Additional information about each department is found in the MS4 Program Plan. In 2016, The City created a separate Stormwater Management Division (SWM) in Transportation and Environmental Services that has the primary responsibility for coordinating permit compliance, in addition to other duties.

Stormwater Management Organizational Chart – Roles and Responsibilities



3 2023 – 2024 Permit Conditions Compliance Status

The following provides the status of best management practices for each of the six minimum control measures (MCMs) during the 2023 – 2024 reporting period or Permit Year 1 (PY). The MS4 Program Plan is up to date based on the requirements in the 2023-2028 General Permit and will continue to be revised throughout the permit cycle as applicable . This annual report is organized to reflect the City's current MS4 Program Plan – BMPs under each MCM follow the format for the Program Plan. Each section in this report begins with a summary table describing the task, the implementation year, the measurable goal as described in the City's MS4 Program Plan, and task status. Following the summary table is a more detailed discussion of the implementation status of each task. Additional support materials are found in the appendices.

3.1 Public Education and Outreach (MCM #1)

MCM #1: Public Education and Outreach (Permit Reference: Part I.E.1.g.)

The annual report shall include the following information:
(1) A list of the high-priority stormwater issues the permittee addressed in the public education and outreach program;
(2) A summary of the public education and outreach activities conducted for the report year, including the strategies used to communicate the identified high-priority issues;
(3) A description of any changes in high-priority stormwater issues, including, strategies used to communicate high-priority stormwater issues or target audiences for the public education and outreach plan. The permittee shall provide a rationale for any of these changes; and
(4) A description of public education and outreach activities conducted that included education regarding climate change.

Table 1 summarizes activities associated with Minimum Control Measure #1 and their completion status. Additional detail is provided after the table and in Appendix A.

Table 1. Summary of Activities for MCM #1

Strategy	BMP	Measurable Goal	Status
1A – Traditional Written Materials	Distribute pamphlets and other written materials about proper fertilization, pet waste, household hazardous waste, and other water quality topics at outreach events.	Dates and location of outreach events with the approximate number of attendees.	✓ Complete
1B – Alternative Materials	Distribute promotional items (giveaways) at education and outreach events. Include the Eco-City Alexandria Clean Waterways logo on these items, where possible.	Dates and location of outreach events with the approximate number of attendees.	✓ Complete
1C - Signage	Place BMP identification signs at surface structural stormwater BMPs (bioretention, swales, green roofs, etc.)	The total number of BMPs within the City.	✓ Complete
1C - Signage	Installation, maintenance, and re-stocking of pet waste stations with appropriate signage.	Number of existing and new pet waste stations. Number of pet waste bags used and distributed to refill stations.	✓ Complete
1C - Signage	"Poop Fairy" yard signs	Number of "Poop Fairy" yard signs distributed	✓ Complete
1C - Signage	Install storm drain markers.	Number of markers placed.	✓ Complete
1C - Signage	Install and maintain stream crossing signs.	Number of existing signs and number of signs added or replaced.	✓ Complete
1D – Media Materials	Use eNews (City electronic news distribution system), social media (Instagram, Facebook, and/or X)),	The number of individuals signed up to receive the City's eNews. The number of Facebook Page	✓ Complete

Strategy	BMP	Measurable Goal	Status
	television, and/or websites to convey message.	followers and X followers. The number of visits to the Stormwater Management webpage. Clean Water Partners Only Rain Summary Report of Findings.	
1D – Media Materials	Have a reporting mechanism on the City's website so that residents can report potential illicit discharges.	The number of stormwater pollution related complaints received.	✓ Complete
1D – Media Materials	Use social media (Instagram, Facebook, and/or X), website, and/or television including airing the City's stormwater pollution prevention video on the government/community access channel.	The number of individuals signed up to receive the City's eNews and the number of Facebook Page, Instagram, and X followers. The number of visits to the Stormwater Management webpages including the TMDL, MS4, and What You Can Do to Protect Stormwater webpages.	✓ Complete
1E – Speaking Engagements	Present at no less than 2 events per year and include messages about excess nutrients, pet waste, illicit discharges and other stormwater quality issues.	Dates and locations of presentations with the approximate number of attendees.	✓ Complete

*The City uses Alexandria eNews, which is a service that allows users to receive information through email on nearly 100 topics (including stormwater related messages).

Public Education and Outreach Plan Development

The Public Education and Outreach Program identified (1) Chesapeake Bay Nutrients (phosphorus and nitrogen), (2) Pet Waste; and (3) Illicit Discharges, as high-priority water quality issues as part of the update to the Program Plan and created three distinct sets of BMPs to address these issues. A summary of specific strategies chosen from General Permit Table 1 and implemented during this reporting period for each of the high-priority water quality issues is provided at the end of this BMP section. The City also continues to implement BMPs associated with other aspects of water quality and has included these in the updated Public Education and Outreach Plan.

Clean Water Partners

The City continues to participate in the Northern Virginia Regional Commission (NVRC) Clean Water Partners, a regional educational partnership among other MS4 permittees: Fairfax County; Arlington County; Loudoun County; Fairfax Water; City of Fairfax; City of Falls Church; City of Manassas; Town of Leesburg; Town of Dumfries; Doody Calls; Northern Virginia Regional Commission; George Mason University; Virginia Coastal Zone Management Program; Fairfax County Public Schools; Prince William County Public Schools; and the Northern Virginia Soil and

Water Conservation District. For the 2023 – 2024 reporting period, the Clean Water Partners used television, print, internet advertising and the "Only Rain" website (www.onlyrain.org) to distribute messages linked to specific stormwater problems associated with high-priority water quality issues, such as proper pet waste disposal, not bagging lawn clippings, planting native plants, and proper disposal of waste.

For 2024, the Northern Virginia Clean Water Partner's campaign issues were nutrients (phosphorus and nitrogen); bacteria; salt; and illicit discharges (e.g., pesticides, motor oil, etc.), which includes the City's identified issues.

Included in Appendix A and referenced under BMP 1D measure of effectiveness is the annual report on the Clean Water Partners program efforts with information on the effectiveness of the program based on the results of the program's annual survey. Specifically, the program conducted an online poll survey of 500 Northern Virginia residents to determine the effectiveness of on-line efforts and a series of TV, Facebook, and X ads to reveal any changes in behavior, and to aid in directing the future efforts of the campaign. In 2020, the Partners contracted with a digital communications firm to develop and implement a social media campaign on Facebook and X; Instagram came online in 2022. The results so far have shown that these platforms are an effective way to engage with the target audiences. During PY1, the survey instrument used was updated to try and better understand the impact of advertainments. In total, 500 residents were surveyed, with half of them men and half women, and all were 21 years or older, with 13% of the survey respondents were from Alexandria. The survey was broken down into three categories: behaviors and behavioral drivers; knowledge; and campaign perceptions.

Approximately 55% of Alexandrians responding to the survey recalled seeing the "Only Rain Down the Drain" logo and 26% recalled Clean Water ads on TV, Facebook, or X on reducing water pollution.

The annual survey found that due to seeing the reducing water pollution advertisements:

- 83% of respondents reported they have a greater understanding of pet waste;
- 70% of respondents pick up pet waste more often;
- 82% of respondents have a greater understanding of fertilizer on water quality;
- 88% of respondents have a greater understanding of the impact of motor oil on water quality; and
- 81% of respondents now properly dispose of motor oil.

The survey also documented the following regarding responding Alexandrians:

- 65% are familiar with the term "watershed";
- 86% always pick up dog waste on walks;
- 71% use a garage or oil change service;
- 46% wash their gar in grass, gravel, or dirt; 55% use eco-friendly detergent; 36% don't use soap (water only); and 62% wash their car at a commercial car wash;

- 35% believe stormwater ends up in the Chesapeake Bay or Potomac River watershed;
- 50% know where to drop off household hazardous waste;
- 22% had heard of water quality activities in the past 12-months; and
- 36% said that they participated in a cleanup activity in the last 12-months.

BMP 1A Traditional Written Materials

Traditional written materials are a proven and reliable strategy. The City has created stormwater educational flyers/brochures that are distributed at various outreach events. The brochures are included in Appendix A.

In November 2022, the City updated the Stormwater Utility Fee Credit Program to add mature trees and flood mitigation efforts as new ways to achieve credit reductions. Further, the total amount of fee reductions was increased from 30% to 50%. To help further engage the public with this program, an updated Credit Manual was released and two new brochures were developed in October 2023. The City also provided education and outreach to groups on these updates to the program in early 2024 as described herein. These new brochures are included in Appendix A.

Measure of Effectiveness

Dates and locations of outreach events where these brochures were made available with the approximate number of attendees can be found in the table under BMP 2C. No changes to the MS4 Program Plan were deemed necessary.

BMP 1B Alternative Materials

Promotional items, or alternative materials, such as giveaways that include the City's Eco-City Clean Waterways logo also are distributed at outreach events. T&ES-SWM prioritizes selection of promotional items that are useful and related to stormwater while the logo brings awareness of the City's goal of improved water quality and clean waterways.

Measure of Effectiveness

Dates and locations of outreach events where these promotional items were distributed with the approximate number of attendees can be found in the table under BMP 2C. No changes to the MS4 Program Plan were deemed necessary.

BMP 1C Signage

The City continues to require all new and redevelopment projects to provide signage or labeling to identify new surface structural stormwater BMPs as part of the site plan approval process.

Additionally, the City has installed stream crossing signs at locations where hike and/or bike trails cross major waterways. The City maintains and replaces these signs as needed. No additional signs were installed during this reporting period. The City maintains 20 signs at 18 road crossings and five signs at three trail crossings. The signs promote awareness of Alexandria's surface water resources, water bodies, drainage basins, and location in the Chesapeake Bay Watershed.

The City was one of the first localities in Northern Virginia to implement a storm drain marking program. The City continues to require new development and redevelopment to mark storm drain inlets within the development and located within 50 feet of the project with information on the drainage destination of waters entering the structures. In addition, City staff continue to promote the storm drain marking program at community outreach events and to work with interested residents to implement storm drain marking.

The City created and distributed "Poop Fairy" yard signs to residents to help promote cleaning up after dogs across the City, especially in highly trafficked areas.

Measure of Effectiveness

- BMP signage is required for surface structural stormwater BMPs installed and a photo of the BMP sign and a copy of a final site plan sheet calling for the BMP signage can be found in Appendix A. See Appendix D for a list of all stormwater BMPs installed in this permit cycle.

- The City continues to maintain the stream crossing signs so that they are in good condition. A photo of one of the stream crossing signs can in found in Appendix A.

- Storm drain markers were installed as a requirement of development or redevelopment and a sample plan sheet with this requirement is provided in Appendix A. During FY24 approximately 30 new drain markers have been placed by developers and volunteer efforts.

No changes to the MS4 Program Plan were deemed necessary.

BMP 1D Media Materials

The City continues to host a stormwater quality webpage, located at www.alexandriava.gov/Stormwater. The page includes information about the City's Stormwater Management Program, the Chesapeake Bay Action Plan, the City's Virginia Stormwater Management Program (VSMP), the MS4 Program – to include the Program Plan and annual reports – and provides information for residents to learn how they can protect local streams and rivers. In addition, pages linked to this main page contain external links for the Chesapeake Bay Preservation Act, VSMP requirements, and the Construction General Permit. It also contains information and links to the City's Environmental Management, and Erosion and Sediment Control ordinances. Staff continues to add new content to the site and update existing content.

In addition, the City highlights upcoming events or important information, and posts information on the T&ES Facebook, Instagram, and X accounts. These tools are used to promote water quality events such as volunteer stream cleanups, build your own rain barrel workshops, and pre-made rain barrel sales events, and raise awareness of water quality topics.

The City also uses *Alexandria eNews* to distribute information through email on nearly 100 topics (including stormwater related messages). Users sign up for these email alerts and choose to receive specific informational topics. For example, individuals may choose to receive news with a specific focus on environmental and water quality issues, and/or information on volunteer opportunities, tips, and workshops. T&ES and the Office of Communications & Community Engagement (OCCE) work

closely together to widely distribute eNews messages and other Citywide information. Example eNews distributed during FY2024 is included in Appendix A.

The City maintains its online resident reporting capabilities (See BMP 3A). The City's Alex311 system information is prominent on the City's main page and subordinate pages.

Measure of Effectiveness

See the tables under the High Priority Issues for the following:

- The number of individuals signed up to receive the City's eNews.
- The number of Facebook Page followers, Instagram followers, and X followers.
- The number of visits to the Stormwater Management webpage.

See Appendix A for the following:

- Sample eNews, Facebook posts, Instagram posts, and X posts
- The Clean Water Partners Only Rain Summary Report of Findings

No changes to the MS4 Program Plan were deemed necessary.

BMP 1E Speaking Engagements

T&ES-SWM staff often presents at various meetings and events including rain barrel workshops, homeowner association meetings, community events, and stream clean-ups. These activities all create awareness regarding the importance of preventing stormwater pollution. Table 3 provides an overview of Outreach activities including speaking engagements.

Measure of Effectiveness

The events were virtual, with dates and approximate number of attendees at each speaking engagement can be found in the table under General Stormwater Pollution Prevention Public Education and Outreach. No changes to the MS4 Program Plan were deemed necessary.

High-Priority Issues

#1 – Chesapeake Bay Nutrients

Chesapeake Bay nutrients (nitrogen and phosphorus) have been identified as the as the first high-priority water quality issue. The following strategies were implemented in accordance with the MS4 Program Plan and as described in the BMPs 1A, 1C, 1D, and 1E above. Documentation of each activity is found in Appendix A.

1. Distributed proper fertilization brochures and other written materials at outreach events, where applicable.
2. Used eNews (City electronic news distribution system), social media (Instagram, Facebook, and X), television, and/or websites to convey messages regarding Chesapeake Bay Nutrients. Message addressed seasonally specific stormwater pollution prevention

tactics for nutrients and pointed readers back to the City's website with additional information on the topic.

3. Maintained and updated a "Stormwater Management" webpage at www.alexandriava.gov/Stormwater related to the proper application and use of fertilizers to protect water quality. Also, a link to the NVRC www.onlyrain.org website was included.
4. Placed BMP identification signs at surface structural stormwater BMPs (bioretention, swales, green roofs, etc.) as each BMP is installed.
5. Presented at events and included a message about excess nutrients in stormwater.
6. Continued to participate in the NVRC Clean Water Partners program he partners used television, print, internet advertising and the Only Rain website to distribute messages such as over fertilization of lawns and gardens. The Clean Water Partners 2024 Summary and Survey may be found in Appendix A.

The goal of these strategies is to reach a wide audience with a message regarding the potential impact of nutrients on the Chesapeake Bay as well as specific actions that can be taken to reduce pollution. The table below provides the potential reach of different media used in the City's Public Education and Outreach Plan.

For a list of public education and outreach events, please see the table under BMP 2C. In addition, Appendix A contains examples and supporting materials for these best management practices.

#2 – Pet Waste

The second high-priority water quality issue identified is bacteria from pet waste. The following activities were implemented during this permit cycle in accordance with the MS4 Program Plan to address pet waste.

1. Distributed pet waste pamphlets and other written materials at all appropriate outreach events where applicable. Shared outreach materials with local animal welfare league.
2. Created and distributed 50 "Poop Fairy" yard signs to promote residents to pick up after their pets.
3. Used eNews (City electronic news distribution system), social media (Facebook, Instagram, and X), television, and/or websites to convey message of the importance of picking up after pets and disposing of the waste properly.
4. Continued to maintain City pet waste stations and supply bags for stations. Six hundred (600) pet waste bags were provided during this permit cycle. Additional installations of stations will continue to occur, where appropriate, to make pick-up and disposal more convenient. Also, there are many residential communities in the City that install and maintain their own pet waste stations.

5. Distributed "dog bone" pet waste bag dispensers and refills at outreach event. During FY2024, the City also purchased and distributed plastic-free pet waste bag holders.
6. Continues to participate in the NVRC Clean Water Partners regional efforts, with the survey found in Appendix A.

The goal of these strategies is to reach a wide audience with the pet waste message and specific actions to reduce pollution.

The Clean Water Partners annual survey found that 83% of respondents picked up pet waste more often after seeing the advertisements.

For a list of public education and outreach events, please see the table in Section BMP 2C. In addition, Appendix A contains examples and supporting materials for these best management practices.

#3 – Illicit Discharges

The third high-priority water quality issue identified is illicit discharges. The following activities were implemented in accordance with the MS4 Program Plan during the permit year to address illicit discharges.

1. Used eNews (City electronic news distribution system), social media (Facebook, Instagram, or X), television, and/or websites to convey messages regarding illicit discharges.
2. Maintained the www.alexandriava.gov/Stormwater webpage which includes a page specifically related to illicit discharges for the targeted businesses and the general public, and included a link to the NVRC www.onlyrain.org website.
3. Continued to participate in the NVRC Clean Water Partners regional efforts. During FY2024, the Partners focused on bacteria, pet waste, illicit discharges, and salt. The Northern Virginia Clean Water Partners 2024 Summary and Survey can be found in Appendix A.

The goal of these strategies is to reach a wide audience with an illicit discharge message and specific actions to reduce pollution.

Table 2 provides strategy, potential target reach, and estimated reach information for the high-priority issues.

Table 2. Estimated Reach of High-Priority Issues

Media	Potential Target Reach	Estimated Permit Year Reach
eNews message	Environmental eNews Subscribers – 8,245	100% of Environmental eNews Subscribers
Social Media Message	Instagram, Facebook, and X Followers	T&ES Facebook Page has 2,576 followers. T&ES has 2,848 X followers. Instagram has 1,732 followers.
Stormwater Webpage	1,725 unique page views	100% of unique page views
Clean Water Partners Digital TV Impressions	1,034,052 Impressions	100% of Impressions
Clean Water Partners Social Media Impressions	625,900 Impressions	100% of Impressions

General Stormwater Pollution Prevention Public Education and Outreach

The City implemented the following activities during the permit cycle in accordance with the MS4 Program Plan.

1. Distributed other written materials about water quality and stormwater pollution prevention at outreach events. For FY2024, this information was shared during in-person and virtual events; the City continued to update and refine it's online stormwater presence, including the Stormwater Quality webpage which includes a link to the City's BMP site tour.
2. Used social media (Facebook, Instagram, and X), webpages, and/or television including airing the City's stormwater pollution prevention video on the government/community access channel.
3. Maintained stream crossing signs to promote awareness of Alexandria's surface water resources, water bodies, and drainage basins.
4. Presented at events to include message about water quality and stormwater pollution prevention. See Appendix A for the Advancing Stormwater Management presentation slides.

The goal of this BMP is to reach a wide audience with a general pollution prevention message as well as specific actions that can be taken to reduce pollution. The following table summarizes the City's public education and outreach activities and events where information on pollution prevention and water quality were distributed. Appendix A contains examples from the City's general education program.

Public Education and Outreach Activities Focused on Climate Change

When discussing stormwater management with the public, the topic of climate change, and flood mitigation and resilience, is at the forefront of all conversations. The City is currently engaging with the Office of Climate Action (established in FY2023) to help the public understand the impacts of climate change on our community. The City also launched the Flood Action Alexandria effort in FY2021 to help mitigate the impacts of flooding across the community. These topics were discussed with the public as described in Table 3.

Energy and Climate Change Action Plan and Office of Climate Action

The City's Stormwater Management Division supported the development of the Energy and Climate Change Action Plan 2023 in coordination with Department of General Services and the Office of Environmental Quality, with input from the public and the City's Environmental Policy Commission. This Plan focuses on both climate change mitigation and resilience, specifically in the areas of heat island impacts and flooding, which ties into the Flood Action Alexandria initiative described below. During FY2023, the City announced the development of the new Office of Climate Action in the City Manager's Office.

Flood Action Alexandria

During PY1, the City continued implementation of the Flood Action Alexandria program. Launched in early calendar year 2021, Flood Action Alexandria brings together experts from the Department of Transportation and Environmental Services Stormwater Management, Public Works Services, and Sanitary Infrastructure divisions, as well as Code Enforcement, Planning and Zoning, the Department of Project Implementation and the Stormwater Utility and Flood Mitigation Advisory Committee to address stormwater flooding issues across the City. The City has experienced more frequent and severe storms due to climate change and is working through Flood Action Alexandria to accelerate stormwater capital infrastructure improvements, conduct education and outreach, support monitoring and emergency operations, and help improve the City's overall resilience.

As part of this effort, the City added to its "Early Warning" system by installing additional rain gauges throughout the City in May 2021 to increase data gathering capacity, which are tracked by local watershed. Also in 2021, the City launched a new "Locate Your Watershed" built on a ArcGIS platform to help educate residents on which local watershed they live in. A Project Dashboard, also built on an ArcGIS platform, provides details on flood mitigation infrastructure projects. The Advisory Committee participates in frequent meetings to learn and discuss issues pertaining to the City's storm sewer infrastructure, flooding, and the Stormwater Utility fee. The City received funding from the Virginia Department of Conservation and Recreation to enhance hardened infrastructure projects aimed at reducing flood impacts and incorporating green infrastructure.

The Flood Mitigation Grant Program – the first in Virginia – was launched in August 2021 as part of the new Flood Action Alexandria Program as a partnership between the City and property owners to incentivize property owners to implement eligible flood mitigation measures on their property. The grant provides a matching 50/50 reimbursement grant up to $5,000 ($25,000 for common areas) spent on implementing eligible flood mitigation practices, with cleanup and damage repair not constituting eligible practices. The grant incentivizes property owners to implement these small-scale flood mitigation practices in the near term to protect their property while staff works on Large Scale Capacity and Spot Improvement projects that take longer to deliver.

Staff worked with the City's Legislative Director and a local state senator to introduce a bill to revise the Code of Virginia effective July 1, 2021, to allow for the use of public funds on private property for the purpose of the grant program. Staff from T&ES worked with the City Attorney's Office, Planning and Zoning, and Code Administration to develop the requirements of the Flood Mitigation Pilot Grant Program and worked with ITS staff for the application process.

Table 3. Summary of Public Education and Outreach Activities

Activity	Date	Topic	Number of Participants (approximate)
Alexandria Beautification Commission	1/11/2024	Met with the Beautification to discuss stormwater management and updates to the Stormwater Utility Fee Credit Program. Information on Flood Action and climate change also was included.	15
Virtual Meeting to Share Updates to the Stormwater Utility Fee Credit Program	1/22/2024	Held a virtual education and outreach meeting via Zoom to discuss stormwater management and updates to the Stormwater Utility Fee Credit Program. Information on Flood Action and climate change also was included.	15
Enviroscape™ and Stormwater Pollution Educational Activity in Partnership with Alexandria City Library	3/25/2024	Provided a hands-on demonstration of the watershed model at the Beatley Library for youth.	15
Enviroscape™ and Stormwater Pollution Educational Activity to 5th Graders	4/22/2024, 4/23/2024, 4/24/2024, 4/25/2024, 4/26/2024	Met with 5th Graders at Polk Elementary School and walked them through pollution scenarios using an Enviroscape™ watershed model. The students learned about watersheds, stormwater pollution, and ways to prevent pollution.	500
Advancing Stormwater Management	4/23/2024	Held a virtual presentation, in partnership with the Alexandria Library, to educate and provide outreach to residents on stormwater management and water quality. Information on Flood Action and climate change also was included.	7
Rain Barrel Workshop	7/8/2023	Presented on stormwater management and provided a hands-on rain barrel making workshop in collaboration with the Alexandria City Library and the Northern Virginia Rain barrel Partner Program. Information on Flood Action and climate change also was included.	40

3.2 Public Involvement/Participation (MCM #2)

MCM #2: Public Involvement and Participation (Permit Reference: Part I.E.2.i.)

The annual report shall include the following information:
(1) A summary of any public comments on the MS4 program received and how the permittee responded;
(2) A summary of stormwater pollution complaints received under the procedures established in Part I E 2 a (1), excluding natural flooding complaints, and how the permittee responded;
(3) A webpage address to the permittee's MS4 program and stormwater website;
(4) Federal and state nontraditional permittees with security policies preventing the MS4 program and stormwater pollution prevention webpage from being publicly accessible utilizing an internal staff accessible website, such as intranet, shall provide evidence of the current internal MS4 program and stormwater pollution prevention webpage; (Not applicable)
(5) A description of the public involvement activities implemented by the permittee, including any efforts to reach out and engage all economic and ethnic groups;
(6) A description of public education and outreach activities conducted that also included education regarding climate change;
(7) A report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality; and
(8) The name of other MS4 permittees with whom the permittee collaborated in the public involvement opportunities.

The following table is a summary of activities for Minimum Control Measure #2 and their completion status. Additional detail is provided after the table and in Appendix B.

Table 4. Summary of Activities for MCM #2

BMP	Measurable Goal	Status
2A Public Reports, Input, and Participation Procedures		
Maintain the City's web-based reporting (Alex311) and call center systems.	Include a screen shot of Alex311 and phone number for T&ES Stormwater management.	✓ Complete
Post MS4 Program Plan on webpage and document input/feedback.	Document that the program plan has been placed on the webpage and any input received on the plan.	✓ Complete
2B MS4 Program and Stormwater Pollution Prevention Webpage		
Maintain the City's MS4 and Stormwater Pollution Prevention Webpage	Provide the address of the webpage and a snapshot of the webpage.	✓ Complete
2C Local Activities Public Involvement		
Implement at least two clean-ups per year	Document sponsorship and participation in clean-up events	✓ Complete

BMP	Measurable Goal	Status
	including approximate participation	
Participate in at least two educational events per year	Document sponsorship and participation in educational events, including approximate participation	✓ Complete
Continuously implement the storm drain marker program and maintain City owned pet waste stations.	Document the number of individuals marking storm drains and the maintenance of City owned pet waste stations	✓ Complete

BMP 2A Public Reports, Input, and Participation Procedures

The City implemented the following BMPs during this permit year in accordance with the MS4 Program Plan.

1. Maintained Alex311 web-based problem reporting/service request and call center (311) that can be used by residents and others to report suspected illicit discharges (including improper disposal or spills), complaints (including ones regarding land disturbing issues), and other input. During this reporting period, no public input on the MS4 program was received. Input pertaining to stormwater illicit discharges is included in Section 3 of this report.

2. The MS4 Program Plan was posted on April 1, 2024, to the City's Stormwater MS4 Program webpage (https://www.alexandriava.gov/stormwater-management/municipal-separate-storm-sewer-system-ms4-permit). The updated Plan aligns with the 2023-2028 MS4 General Permit. The webpage includes a general email address (MS4ProgramPlan@alexandriava.gov) and the main phone number for T&ES-SWM for the public to use to submit input and feedback on the plan.

Measure of Effectiveness

1. A hyperlink to the Alex311 webpage is provided in Appendix B. Potential illicit discharge complaints, some which were received through Alex311, may be found in Appendix C.

2. The updated MS4 Program Plan was posted April 1, 2024. No comments were received for the plan.

BMP 2B MS4 Program and Stormwater Pollution Prevention Webpage

The City maintains a website dedicated to stormwater pollution prevent, water quality and the MS4 Program at www.alexandriava.gov/Stormwater that has links to other aspects of the stormwater management program. The site provides information about the program, serves as a forum to distribute educational materials, includes information on where to report suspected illegal dumping, and makes documents accessible to the public for review and comment.

In accordance with Part I.E.2.b, the City's MS4 Program and Stormwater Pollution Prevention webpage contains the following:

1. Current MS4 permit and coverage letter;
2. Most current MS4 Program Plan;
3. Annual reports from FY2015 to current;
4. T&ES-SWM main phone number and Alex311 link through "Contact Us" at the top of the page for reporting illicit discharges or other potential stormwater pollution concerns; and
5. Email address (MS4ProgramPlan@alexandriava.gov) for providing input on the MS4 Program Plan and other general inquiries about the program.

Measure of Effectiveness

The address to the City's MS4 Program webpage is https://www.alexandriava.gov/stormwater-management/municipal-separate-storm-sewer-system-ms4-permit. No updates to the MS4 Program Plan were deemed necessary.

BMP 2C Local Activities Public Involvement & Engagement of All Economic and Ethnic Groups

The City sponsors, promotes, and participates in numerous local events to educate citizens about the importance of preventing stormwater pollution. During FY2024, the City held many activities to promote stormwater awareness and water quality including those listed below and those presented in Table 5.

The City continued to work to engage and reach out with diverse economic and ethnic groups in the City. During FY2024, the City participated in Science Night in a predominantly non-English speaking, lower income community. Based on this outreach event, the City is in the process of developing additional outreach materials (brochures) in Spanish, Amharic languages, and other languages spoken in the City. The City participated in a variety of outreach events in various locations throughout the City in order to reach different audiences. In-person outreach at local events targets residents who may not have access to a computer or social media or email blasts. The City will continue its efforts to engage all community members to educate them on water quality to help prevent stormwater pollution.

- The City held two clean up events during FY2024, as indicated in Table 5.
- The City participated in the inaugural Eco Fest which was held this reporting period in lieu of the City's annual Earth Day Celebration. The City also supported outreach and education to residents on Stormwater for "Earth Month".
- The City hosted "Imagine a Day without Water" in October through "One Water Alexandria". Initiated in 2018, One Water Alexandria is a partnership between the three water entities that serve the City of Alexandria: Virginia American Water, who provides drinking water; the City of Alexandria, who owns the sanitary and storm sewer infrastructure; and AlexRenew, who owns the water resource recovery facility, interceptors, pump stations, and combined sewer outfalls.

- The City's Stormwater Management Division met with 500 5th graders at a local elementary school to discuss stormwater pollution prevention and tabled at a very well attended science night.

Measure of Effectiveness

The T&ES-SWM organized, coordinated, and participated in several virtual activities focused on water quality in the City of Alexandria where staff had the opportunity to educate participants about stormwater pollution and prevention and provide online resources focused on education and outreach (see Table 5). These activities all create awareness regarding the importance of preventing stormwater pollution and are all beneficial to pollution prevention and fostering water quality awareness. Specific water quality benefits are included in Table 5 in italics. No updates to the MS4 Program Plan were deemed necessary.

Public Education and Outreach Activities Focused on Climate Change

When discussing stormwater management with the public, the topic of climate change is on the forefront of all conversations. The City is currently engaging with the Office of Climate Action to help the public understand the impacts of climate change on our community. The City also launched the Flood Action Alexandria effort in FY2021 to help mitigate the impacts of flooding in the community. Finally, the City will be kicking off the development of a comprehensive Flood Resilience Plan in the new fiscal year to support future efforts of the Flood Action Alexandria initiative which works to help mitigate flooding across our community. The new plan will include hazard identification, flood mitigation, flood preparedness and response, policies and regulations, funding strategies, and communication and information dissemination. These topics are discussed with the public during public participation events as described in Table 5.

Table 5. Public Stormwater Involvement/Participation Events during PY1

Activity	Date	Participants	Event Details
Chesapeake Bay Clean Up at the Potomac River	6/8/2024	30	Volunteers came out to pick up litter along the Potomac River at Oronoco Bay. *This activity improved water quality directly through litter cleanup.*
Spring Clean Up	4/6/2024	50	Volunteers came out to pick up litter at Windmill Hill Living Shoreline. *This activity improved water quality directly through litter cleanup.*
Student Environmental Action Showcase (SEAS) Event	4/18/2024	100	Participated in SEAS which focuses on middle school students in the DC Metro area. The hands-on activity offered education on different types of stormwater pollutants while creating a key chain. *This activity improved water quality directly through education and awareness of pollution prevention activities.*

Activity	Date	Participants	Event Details
Del Ray Garden Fest	4/21/2024	250	Educated community about stormwater and updates to the Stormwater Utility Fee Credit Program. Information on Flood Action and climate change also was included. *This activity improved water quality directly through education and awareness of pollution prevention activities.*
RPCA Environmental Education Event at Hume Park	4/15/2024	100	Educated community about stormwater in partnership with RPCA. *This activity improved water quality directly through education and awareness of pollution prevention activities.*
Ramsey Elementary School Science Night	4/24/2024	300	Educated community about stormwater in partnership with Alexandria City Public Schools during Science Night. *This activity improved water quality directly through education and awareness of pollution prevention activities.*
Bike To Work Day	5/17/2024	100	Provided general information on stormwater management and the key education topics. Information on Flood Action and climate change also was included. *This activity improved water quality directly through education and awareness of pollution prevention activities.*
Eco Fest / Earth Day Event	5/11/2024	375	Educated community about stormwater and updates to the Stormwater Utility Fee Credit Program during Eco Fest at NVCC. Information on Flood Action and climate change also was included. *This activity improved water quality directly through education and awareness of pollution prevention activities.*
Imagine a Day without Water	10/19/2023	30	One Water Alexandria hosted an event where materials were distributed to the public who stopped by to learn about water resources in the City in partnership with Virginia American Water and AlexRenew. Educated community about stormwater and updates to the Stormwater Utility Fee Credit Program. Information on Flood Action and climate change also was included. *This activity improved water quality directly through education and awareness of pollution prevention activities.*

3.3 Illicit Discharge Detection and Elimination (MCM #3)

MCM #3: Illicit Discharge Detection and Elimination (Permit Reference: Part I.E.3.e.)

The annual report shall include the following information:
(1) A confirmation statement that the MS4 map and outfall information table have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year;
(2) The total number of outfalls and observation points screened during the reporting period as part of the dry weather screening program; and
(3) A list of illicit discharges to the MS4, including spills reaching the MS4 with information as follows:
(a) The location and source of illicit discharge;
(b) The dates that the discharge was observed, reported, or both;
(c) Whether the discharge was discovered by the permittee during dry weather screening, reported by the public, or other method (describe);
(d) How the investigation was resolved;
(e) A description of any follow-up activities; and
(f) The date the investigation was closed.

Table 6 provides a summary of activities for Minimum Control Measure #3 and their completion status. Additional detail is provided after the table and in Appendix C.

Table 6. Summary of Activities for MCM #3

BMP	Measurable Goal	Status
3A Storm Sewer System Outfall Map and Outfall Information Table		
Maintain an up-to-date storm sewer map and outfall information table.	Keep up-to-date storm sewer map and outfall information table available on request.	✓ Complete
Update the storm sewer map and outfall table by October 1st of each year.	Include PDF of updated storm sewer map and information table in the annual report. Provide a summary of updates.	✓ Complete
Provide GIS shapefiles to DEQ no later than 11/01/2024	Include documentation of submittal.	Pending
Notify downstream MS4s of any new physical interconnections.	Include copies of previous notifications and list and provide any notifications from the permit year.	✓ Complete

BMP	Measurable Goal	Status
3B Prohibition on Illicit Discharges		
Enforce prohibition on illicit discharges (Chapter 13 of City Code).	Report number of illicit discharges identified and report how they were controlled or eliminated. Review City IDDE Program Manual and corresponding City Code and make recommendations accordingly.	✓ Complete
3C Illicit Discharge Detection and Elimination Written Procedures		
Maintain, implement and enforce the written procedures found in the City's IDDE Program Manual.	Follow procedures and update as necessary.	✓ Complete
Investigate suspected illicit discharges.	Report number of suspected illicit discharges and provide a narrative on how they were controlled or eliminated.	✓ Complete
Screen at least 50 outfalls annually such that no more than 50 are screened in the previous 12-month period.	Include documentation of the outfall screening completed during the permit year to include results, resolution, and investigation closure. Any follow-up actions will also be included.	✓ Complete
3D Alex311		
Maintain Alex311	Include a screen capture of Alex311. Document the number and types of incidents handled.	✓ Complete
3E Household Hazardous Waste (HHW) Program		
Provide HHW collection services to all residents	Provide copies of the program web site and brochures. Document program participants and the number of equivalent barrels of waste accepted.	✓ Complete
3F Identification of Permitted Stormwater Discharges		
Keep up-to-date permitted discharges information and distribute to field crews.	Provide up-to-date map and list of state-permitted stormwater discharges.	✓ Complete

BMP	Measurable Goal	Status
3G Prohibition of Outdoor Cleaning of Restaurant Equipment		
Enforce prohibition on outdoor cleaning of restaurant equipment.	Document example SUP, if one has been done in the permit year.	✓ Complete

BMP 3A Storm Sewer System Outfall Map and Outfall Information Table

The City has previously developed and continues to maintain a storm sewer system map showing all features required in the MS4 permit, including all stormwater outfalls discharging to the waters of the Commonwealth, as well as pipes, catch basins, and inlets. The map provides a valuable tool to fully understand the storm system and aids in investigating and eliminating possible illicit discharges. The data used to develop this map is continuously updated as new systems are installed and needed refinements to the system area discovered. The updated data is used to create the map which is exported for the annual report each permit cycle. Therefore, data shown on the map reflects all changes and updates to the City's documented storm sewer system as the date on the map.

During FY2024, the City added the MS4 map to the City's online ArcGIS Sewer Viewer mapping platform which is publicly available.

The City shall continue to identify physical interconnections with other regulated MS4s and notify in writing any downstream regulated MS4 of any new physical interconnections.

Measure of Effectiveness

The storm sewer system map and corresponding outfall information table have been updated to reflect any changes to the MS4 occurring on or before June 30th of the reporting year. Updates to the storm sewer system map are completed as redevelopment occurs and when refinements to the system are realized. The most current storm sewer system map and associated outfall table has been provided in Appendix C.

On July 30, 2020, the City provided an updated letter of adjacent MS4 jurisdictions where likely interconnections exist however, none have been identified. The letters were shared with National Park Service for George Washington Memorial Parkway, Arlington County, Fairfax County, and Virginia Department of Transportation. Copies of these notifications can be found in Appendix C. No updates to the MS4 Program Plan were deemed necessary.

BMP 3B Prohibition on Illicit Discharges

The purpose of this BMP is to ensure that the City has the legal tools necessary to effectively prohibit illicit discharges and to conduct necessary enforcement in the case of an illicit discharge. City Council has adopted appropriate measures, including civil and criminal penalties, to prohibit illicit discharges. The City Attorney has reviewed the City Code and has determined that no additional changes are needed at this time. In recent years, the City did recognize the need for civil penalties for offenses that are not categorized as criminal. As a result, the City updated the Environmental Offenses ordinance to include civil penalties for identified illicit discharges.

Measure of Effectiveness

Appendix C provides a summary of illicit discharge complaints and a narrative on how each complaint was handled, including how any actual discharge was controlled or eliminated as appropriate. No pattern of illicit discharges necessitated a review of policies, procedures, or ordinances. No updates to the MS4 Program Plan were deemed necessary.

BMP 3C Illicit Discharge Detection and Elimination Written Procedures

Pursuant to the 2013-2018 General Permit program plan update requirements, the City developed the Illicit Discharge Detection and Elimination Program manual which includes written policies, procedures, and legal authority for the detection, investigation, and elimination of illicit discharges. Outfall field screening is performed in accordance with the IDDE Program manual which includes the requirement outlined in Part I.E.3.c of the 2023-2028 permit. The City's IDDE Program manual was updated to align with the 2023-2028 permit and to ensure current methodology and compliance with the current permit, to include the use of civil penalties. This manual can be found in the City's MS4 Program Plan under Appendix C.

The City continues to maintain, implement, and enforce the written policies and procedures found in the City's IDDE Program manual.

Measure of Effectiveness

A list of illicit discharges to the MS4 including spills reaching the MS4 can be found in Appendix C. In addition, a list of all investigations performed for reported suspected illicit discharges to include results, resolution, and date of investigation closure can also be found in Appendix C.

A total of 50 outfalls were screened during the reporting period as part of the dry weather screening program, with a table summarizing the effort found in Appendix C. During this Permit Year, the MS4 Program Plan and IDDE written procedures (Program Manual) was revised in April 2024 to align with the 2023-2028 MS4 General Permit.

BMP 3D Alex311

Alex311 uses a web-based reporting form, smart phone app, and call center built upon the Salesforce Customer Relationship Management (CRM) system. The Salesforce CRM system is a cloud-based repository for public complaints and service requests. The CRM is integrated with the City's asset management database, Cityworks™, for public submissions requiring asset maintenance or investigation. Illicit discharge and illegal dumping complaints are investigated by T&ES-Stormwater Management Division and the Fire Marshal's Environmental and Industrial Unit (EIU). All public submissions are tracked through the City's CRM database and Cityworks™.

The Alex311 customer service center connects customers to information, services, and solutions using phone (703-746-HELP or 311) and web-based portals to receive and process requests and complaints. Alex311 enables the City to standardize best practices and knowledge base information throughout the City in support of citizen engagement, customer service, service request and case management services. Alex311 provides improved tracking and information updates for customers through the life

cycle of the service request, streamlined service request creation and management, and data-driven analytics such as dashboards and maps.

Measure of Effectiveness

The City (through T&ES-Stormwater and EIU reporting mechanisms) handled 59 water quality and illicit discharge related complaints or incidents during this reporting period. Appendix C provides a summary of the complaints and a narrative on how each discharge was controlled or eliminated. The T&ES SWM Division receives complaints directly from Alex311 and/or documents the information received via email, phone, or another source. Reports are also made via 911. The EIU is responsible for entering this information into the EnerGov database. The SWM Division receives and enters data into Alex311 for incidents handled solely by their office. During coordinated responses, the EIU and SWM Division maintain both the EnerGov and Alex311 database. Screen shots of EnerGov, Alex311, and Cityworks™ are provided in Appendix C.

BMP 3E Household Hazardous Waste (HHW) Program

Participation in the household hazardous waste (HHW) program continues to be a popular and effective program with approximately 15,066 participants using the program in this permit year. Materials are calculated based on 55-gallon drums or equivalent (barrels). The number of barrels has been tracked since 2008 when the materials were put into the large barrels or drums. As a result, the City continues to track this number as "equivalent" barrels. The webpage alexandriava.gov/19206 includes information on the types of materials that may be left at the drop-off points and the schedule for drop-offs. The following table provides a snapshot of HHW program statistics.

Table 7. HHW Users and Barrels by Fiscal Year (FY)

Year	Users	Barrels (or Equivalent Barrels) of HHW
FY2008	4,987	-
FY2009	6,067	754
FY2010	7,059	875
FY2011	7,920	822
FY2012	7,698	702
FY2013	8,424	759
FY2014	9,535	516
FY2015	10,476	504
FY2016	9,976	409
FY2017	10,974	359
FY2018	11,431	309
FY2019	12,278	328
FY2020	11,975	298

Year	Users	Barrels (or Equivalent Barrels) of HHW
FY2021	16,359	385
FY2022	14,528	353
FY2023	14,311	250
FY2024	15,066	356

Measure of Effectiveness

Table 7 shows the quantity of material collected. Hyperlinks to the HHW webpage and the most recent program brochure is provided in Appendix C. No updates to the MS4 Program Plan were deemed necessary.

BMP 3F Identification of Permitted Stormwater Discharges

The City continues to obtain updated information annually on state-permitted stormwater discharges within the City limits and maintains a map of these discharges. The purpose of this BMP is to provide field operations staff with a visual tool for identifying permitted and non-permitted discharges.

Measure of Effectiveness

A current map and table of state-permitted stormwater discharges, current as of June 2024 is in Appendix C. No updates to the MS4 Program Plan were deemed necessary.

BMP 3G Prohibition of Outdoor Cleaning of Restaurant Equipment

The City continues to include in the Special Use Permit (SUP) issued for restaurant facilities a standard condition that states: “Kitchen equipment shall not be cleaned outside, nor shall any cooking residue be washed into the streets, alleys, or storm sewers.”

Measure of Effectiveness

A sample of a Development Special Use Permit (DSUP) reviewed during the reporting period with the appropriate language regarding restaurant equipment is found in Appendix C. No updates to the MS4 Program Plan were deemed necessary.

3.4 Construction Site Stormwater Runoff and Erosion and Sediment Control (MCM #4)

MCM #4: Construction Site Stormwater Runoff and Erosion and Sediment Control (Permit Reference: Part I.E.4.e.)

The annual report shall include the following information:
(1) Total number of erosion and sediment control inspections conducted;
(2) Total number of each type of compliance action and enforcement action implemented; and
(3) For nontraditional permittees:
(a) A confirmation statement that land disturbing projects that occurred during the reporting period have been conducted in accordance with the current department approved annual standards and specifications for erosion and sediment control; and
(b) If any land disturbing projects were conducted without department approved annual standards and specifications, a list of all land disturbing projects that occurred during the reporting period with erosion and sediment control plan approval dates for each project. (Not Applicable)

The following table is a summary of activities for Minimum Control Measure #4 and their completion status. Additional detail is provided in the table below and in Appendix D.

Table 8. Summary of Activities for MCM #4

BMP	Measurable Goal	Status
4A Maintain DEQ Erosion and Sediment Control Program Consistency		
Maintain E&SC program consistency with State regulations.	Document the City program consistency with state law and regulations.	✓ Complete
4B Site Control Implementation		
Ensure that the proper controls are implemented to prevent nonstormwater discharges to the MS4.	Implement City's Policies and Procedures for Construction Site Runoff Control Inspections	✓ Complete
4C Construction General Permit Inspections and Tracking		
Require applicable land-disturbing activities secure coverage under the construction general permit.	Require construction general permits as required in accordance with City ordinance.	✓ Complete
Review and approve SWPPPs and ensure SWPPP implementation.	Review and approve SWPPPs. Document total number of inspections; provide a summary of enforcement actions included number and type.	✓ Complete

BMP	Measurable Goal	Status
Maintain a database log for tracking all land disturbing activities.	Summarize annual land disturbing activities that secured a construction general permit	✓ Complete
Inspect land-disturbing activities in compliance with the E&S ordinance, the EMO and written policies and procedures.	Document total number of inspections; provide a summary of enforcement actions included number and type.	✓ Complete
Ensure inspectors and plan reviewers are certified and keep records on file.	Document certifications held by City staff and ensure they stay up-to-date.	✓ Complete
Utilize legal authority to require compliance with an approved plan or require plan revisions or modifications if the inspection shows an approved plan to be inadequate to control stormwater runoff.	Document total number of inspections; provide a summary of enforcement actions included number and type.	✓ Complete

BMP 4A Maintain Erosion and Sediment Control Program Consistency

The City's construction site stormwater runoff program is implemented in accordance with Part I.E.4.a of the permit.

The City's Erosion and Sediment Control Program continues to be consistent with the Virginia Erosion and Sediment Control Law (VESCL) and attendant regulations. During the 2014 – 2015 permit year, the City reviewed the Erosion and Sediment Control (E&SC) Ordinance for consistency with the Environmental Management Ordinance (EMO) and adopted the appropriate amendments to the E&SC ordinance.

Consistent with the Consolidated Regulations effort at the state level, on April 13, 2024, the City Council adopted the amended Article XIII of the Alexandria Zoning Ordinance (the Environmental Management Ordinance) in accordance with Text Amendment No. 2024-0003 by authority of §§ 62.1-44.15:24 - 62.1-44.15:50, Code of Virginia. On this date the City Council also adopted the amendments to Title 5, Chapter 4 of the City Code (the Erosion and Sediment Control Ordinance). These consolidated regulations combine both the Virginia Erosion and Sediment Control Program and the Stormwater Management Program into one regulatory chapter: Virginia Erosion and Stormwater Management Program (VESMP), 9VAC25-875, as amended.

Updates to the local VESMP with related ordinances, policies, and procedures were made effective July 1, 2024, and further detail will be included in subsequent Annual Report updates.

Measure of Effectiveness

The effectiveness of the City's program is measured by consistency with State regulations as determined by staff from the T&ES-SWM. No consistency issues were identified during this permit year. Following review of the E&SC ordinance in the 2014-2015 permit year, the City amended the language for consistency with the EMO. The City Council adopted the amendments on June 10, 2015. Consistent with the Consolidated Regulations effort by the Commonwealth, Article XIII of the Alexandria Zoning Ordinance (the Environmental Management Ordinance) and Title 5, Chapter 4 of the City's Code of Ordinances (the Erosion and Sediment Ordinance) were updated. Effective July 1, 2024, the City began administration of the local Virginia Erosion and Stormwater Management Program. Further details will be included in subsequent Annual Report updates.

The MS4 Program was updated effective July 1, 2024, to reflect the updated local VESMP however, this date is outside the scope of the Annual Report.

BMP 4B Site Control Implementation

The City has incorporated language into its plan review checklist, policies and procedures, and Sec. 13-111of the EMO which requires applicable proposed land disturbing activities to secure coverage under the construction general permit prior to commencing land-disturbance. Proper controls are required to be implemented at these sites to prevent nonstormwater discharges to the MS4. These nonstormwater discharges include wastewater, concrete washout, fuels and oils, and other illicit discharges. To ensure that these controls are in place, the City has developed a policies and procedures document entitled *Policies and Procedures for Construction Site Runoff Control Inspections* which can be found in Appendix D of the City's MS4 Program Plan.

Measure of Effectiveness

Continue to implement City's *Policies and Procedures for Construction Site Runoff Control Inspections*.

BMP 4C Construction General Permit Inspections and Tracking

The City received local VSMP authority approval to administer the Construction General Permit effective July 1, 2014. Since this date, applicable construction sites had to submit stormwater pollution prevention plans (SWPPP) to the City for review and approval in order to secure coverage under the General VPDES Permit for Stormwater Discharges Associated with Construction Activities prior to final site plan release. This requirement is found in Sec. 13-111 of the EMO. The City also revised the plan review checklist and plan review standard conditions to reflect this requirement. A copy of the SWPPP template can be found on the City's website at www.alexandriava.gov/50216.

Part I.E.4.d.5. of the permit requires the City to conduct inspections and have written inspection procedures of land-disturbing activities. The City has developed a policies and procedures document entitled *Policies and Procedures for Construction Site Runoff Control Inspections* as described in BMP 4B and found in the City's MS4 Program Plan.

Land disturbing activities are tracked by T&ES-Development and Right-of-Way (DROW) through the plan review process. The information is recorded and logged when final approved plan mylars and grading plans are released. Reports are sent to T&ES-SWM who provides the data quarterly to DEQ.

In accordance with 9VAC25-850-40, inspectors and plan reviewers are required to maintain the appropriate certification of competency from the state.

The City continues to use its legal authority to require compliance with an approved plan or require plan revisions or modifications if the inspection shows and approved plan to be inadequate to control stormwater runoff. Stormwater staff reviewed each plan set the City receives for compliance with the EMO. If changes to the plans are required, the plans will be reviewed again to ensure compliance.

Measure of Effectiveness

Land disturbing projects that occurred during the reporting period have been conducted in accordance with the department approved standards and specifications for erosion and sediment control. No updates to the MS4 Program Plan were deemed necessary.

The following table provides an annual summary of land-disturbing activities data. This data, broken down quarterly, has been provided to DEQ through the construction general permit process. A total of 33 projects were released; with a total of approximately 21 acres disturbed.

Table 9. Land-Disturbing Activities

Reference #	Address	Disturbed Acres	Release Date
DSP2020-00027	4200 Eisenhower Avenue	10.23	2.15.2024
DSP2022-00004	6336 Stevenson Avenue	0.55	10.6.2023
DSP2022-00005	951 N Fairfax Street	0.0426	4.26.2024
DSUP2021-10012	101 Duke Street	0.4827	8.10.2023
DSUP2021-10017	1033 N Fairfax Street	1.15	2.9.2024
DSUP2021-10027	4547 Seminary Road	2.62	1.18.2024
DSUP2022-10011	615 King Street	0.0758	11.29.2023
DSUP2022-10018	4600 Eisenhower Avenue	1.27	10.12.2023
DSUP2023-10006	801 S Payne Street	0.147	3.6.2024
GRD2022-00056	17 W Linden Street	0.1538	7.19.2023
GRD2023-00001	3106 Circle Hill Road	0.1705	1.12.2024
GRD2023-00005	2406 Sanford Street	0.1202	9.28.2023
GRD2023-00009	909 Vicar Lane	0.375	7.20.2023
GRD2023-00011	400 Carlisle Drive	0.18	11.1.2023
GRD2023-00011	400 Carlisle Drive	0.287	8.31.2023
GRD2023-00012	906 Junior Street	0.1309	7.18.2023
GRD2023-00014	90 Junior Street	0.293	9.28.2023
GRD2023-00018	11 W Maple Street	0.1362	10.30.2023
GRD2023-00019	320 N Washington Street	0.1118	11.29.2023
GRD2023-00020	109 E Uhler Avenue	0.1022	9.20.2023

Reference #	Address	Disturbed Acres	Release Date
GRD2023-00021	3516 Saylor Place	0.2128	9.18.2023
GRD2023-00022	503 E Howell Avenue	0.1341	10.12.2023
GRD2023-00023	2507 Terrett Avenue	0.1385	9.19.2023
GRD2023-00024	19 W Windsor Avenue	0.111	10.30.2023
GRD2023-00027	109 E Alexandria Avenue	0.1367	12.18.2023
GRD2023-00029	3400 Duke Street	0.86	3.25.2024
GRD2023-00031	2435 Ridge Road Drive	0.0512	4.17.2024
GRD2023-00037	110 E Raymond Avenue	0.1287	2.13.2024
GRD2024-00001	113 E Randolph Avenue	0.1726	4.16.2024
GRD2024-00002	307 Rucker Place	0.071	3.25.2024
GRD2024-00003	6 W Linden Street	0.1393	4.16.2024
GRD2024-00004	103 E Delray Avenue	0.0705	6.7.2024
GRD2024-00010	3306 Circle Hill Road	0.2218	5.20.2024

The City performed a total of 1,718 onsite inspections – 1,175 outside of the MS4 boundary and 543 inside of the MS4. As described in the MS4 Program Plan, T&ES-C&I inspectors perform other duties beyond E&SC inspections. For this reason, inspectors may visit a site up to two times daily. During this time, inspectors may provide verbal direction regarding E&SC and stormwater measures. This verbal direction is considered formal but may not always be documented formally in an inspection report unless a required inspection and report is due, or if a major corrective action is required. Due to this enhanced oversight, City inspectors provide continual direction which helps keep a site in order. Staff confirmed no enforcement actions and no Stop Work Orders were issued during the permit year.

The applicable City staff have obtained DEQ certifications (Stormwater Management Program Administrator, Plan Reviewer, and/or Inspector) or are in the process of obtaining these certifications. All applicable staff are currently fully certified, provisionally certified, or have the necessary training scheduled.

3.5 Post Construction Stormwater Management for New Development and Development on Prior Developed Lands (MCM #5)

MCM #5: Post Construction Stormwater Management for New Development and Development on Prior Developed Lands (Permit Reference: Part I.E.5.e.)

The annual report shall include the following information:
(1) If the traditional permittee implements a VSMP in accordance with Part I E 5 a (1), (2), or (3):
(a) The number of privately owned stormwater management facility inspections conducted; and
(b) The number of enforcement actions initiated by the permittee to ensure long-term maintenance of privately owned stormwater management facilities including the type of enforcement action;
(2) Total number of inspections conducted on stormwater management facilities owned or operated by the permittee;
(3) A description of the significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the permittee to ensure it continues to perform as designed. This does not include routine activities such as grass mowing or trash collection;
(4) For traditional permittees as specified in Part I E 5 a (1), a confirmation statement that the permittee submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part III B 1 or a statement that the permittee did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities (9VAC25-880);
(5) A confirmation statement that the permittee electronically reported stormwater management facilities using the DEQ BMP Warehouse in accordance with Part III B 1 and 2; and
(6) A confirmation statement that the permittee electronically reported stormwater management facilities inspected using the DEQ BMP Warehouse in accordance with Part III B 5.

The following table is a summary of activities for Minimum Control Measure #5 and their completion status. Additional detail is provided after the table and in Appendix E.

Table 10. Summary of Activities for MCM #5

BMP/Task	Year	Measurable Goal	Status
5A Stormwater Facility BMP Inventory			
Maintain an updated electronic BMP database for reporting.	All	Provide a table and electronic spreadsheet of all BMPs brought online during the reporting period.	✓ Complete
5B Stormwater Facility BMP Maintenance Agreements and Guidelines			
Require the proper execute and recordation of BMP maintenance agreements.	All	Provide a sample of a properly executed and recorded BMP agreement.	✓ Complete

BMP/Task	Year	Measurable Goal	Status
5C Implement Bay Act and Local VSMP Authority			
Continue to implement the Environmental Management Ordinance.	All	Comply with DEQ Bay Act reporting and review requirements and implement the ordinance.	✓ Complete
5D Stormwater Facility BMP Design Guidelines			
Require adherence to Virginia BMP Clearinghouse and Virginia BMP Handbook.	All	Ensure design is consistent with VSMP regulations and summarize any changes to standards.	✓ Complete
5E Public Stormwater BMP Facility Inspection and Maintenance			
Inspect public BMP facilities for proper operation at least once annually.	All	Document the number of BMPs inspected each year and provide summary information.	✓ Complete
5F Private Stormwater BMP Facility Inspection and Enforcement			
Inspect all BMP facilities for proper operation at least once during the permit period.	All	Document total number of inspections completed, and the number of enforcement actions, when applicable.	✓ Complete

BMP 5A VSMP Implementation

The City amended the EMO for consistency with the new VSMP regulations and maintained consistency with the Chesapeake Bay Act requirements and received provisional approval as a local VSMP authority effective July 1, 2014, and received full approval in November 2014. Updates were made effective July 1, 2024, and will be further described in PY2.

The City continues to implement a stormwater management program, including design standards, that are compliant with the Chesapeake Bay Preservation Area Designation and Management Regulations and the VSMP regulations, as incorporated in the EMO. Section 13-109 of the EMO, requires that development and redevelopment projects subject to VSMP Part II.B technical criteria conform to the design specifications of the Virginia BMP Clearinghouse for stormwater facility BMPs, and utilize the Virginia Runoff Reduction Method spreadsheet to demonstrate compliance with water quality and quantity requirements. Grandfathered projects and those meeting the "time limits" associated with coverage under the construction general permit are subject to Part II. C technical criteria and may use stormwater facility BMPs previously approved by the City and adhere to the design guidelines in the Alexandria Supplement to the Northern Virginia BMP Handbook. The City has also adopted a Green Building Policy that includes a requirement for all new private development and redevelopment projects to meet a minimum of 65% of their state phosphorous reductions using green infrastructure, which was first promulgated through a "Use of manufactured/Proprietary Stormwater BMPs" memo to industry. The Green Building Policy require City projects must meet 100% of their state phosphorous reductions through green infrastructure.

Consistent with the Consolidated Regulations effort at the state level, on April 13, 2024, the City Council adopted the amended Article XIII of the Alexandria Zoning Ordinance (the Environmental Management Ordinance) in accordance with Text Amendment No. 2024-0003 by authority of §§ 62.1-44.15:24 - 62.1-44.15:50, Code of Virginia. On this date the City Council also adopted the amendments to Title 5, Chapter 4 of the City Code (the Erosion and Sediment Control Ordinance). These consolidated regulations combine both the Virginia Erosion and Sediment Control Program and the Stormwater Management Program into one regulatory chapter: Virginia Erosion and Stormwater Management Program (VESMP), 9VAC25-875, as amended.

Updates to the local VESMP with related ordinances, policies, and procedures were made effective July 1, 2024, and further detail will be included in subsequent Annual Report updates.

The City adopted a combination of homeowner outreach and education for owners of stormwater facility BMPs on individual residential lots.

Measure of Effectiveness

A copy of the approval letter designating the City as a local VSMP authority and a copy of the City's adopted ordinance is provided in Appendix E. No updates to the MS4 Program Plan were deemed necessary.

Consistent with the Consolidated Regulations effort at the state level, on April 13, 2024, the City Council adopted the amended Article XIII of the Alexandria Zoning Ordinance (the Environmental Management Ordinance) in accordance with Text Amendment No. 2024-0003 by authority of §§ 62.1-44.15:24 - 62.1-44.15:50, Code of Virginia. On this date the City Council also adopted the amendments to Title 5, Chapter 4 of the City Code (the Erosion and Sediment Control Ordinance). These consolidated regulations combine both the Virginia Erosion and Sediment Control Program and the Stormwater Management Program into one regulatory chapter: Virginia Erosion and Stormwater Management Program (VESMP), 9VAC25-875, as amended.

Updates to the local VESMP with related ordinances, policies, and procedures were made effective July 1, 2024, and further detail will be included in subsequent Annual Report updates.

BMP 5B Public Stormwater Facility Inspection and Maintenance

Pursuant to the general permit, the City inspects public facilities at least once every year. The inspections are performed according to the written policies and procedures entitled *Policies and Procedures for Post-Construction BMP Inspection and Maintenance* which can be found in Appendix E of the City's MS4 Program Plan. The City inspected 121 stormwater facility BMPs that it currently owns and operates including regional ecosystem restoration facilities. The following describes significant issues found during PY1 that will be evaluated and addressed during PY2:

- The Regional Wet Pond located at 2901 N. Hampton Dr. (2001-0014-A 01) underwent improvements in association with the Lucky Run stream restoration which was considered substantially complete Dec. 2023. The work consisted of dredging the pond to restore the original elevations, adding a new forebay, and repairing the outfall weir.

- There were access issues for three SMFs: (1) Grass Channel located at 3704 Mt. Vernon Ave. (2002-0037 01); (2) Manufactured Treatment Device, Filtering, at 4609 Seminary Rd. (2012-0103 01); and (3) Tree Box Filter located at the Route 1 Rapid Bus Transit depot (2014-0101 04). These facilities will be further evaluated during PY2.

- One BMP was found to be removed. BMP ID 2008-0012 04 was a StormFilter™ Stormwater Treatment System that was no longer in operation. The Credits received for this SMF will be removed from the BMP Warehouse; the Bay TMDL calculations; and reflected in this Phase 3 Action Plan.

Measure of Effectiveness

Stormwater management facilities inspection results have been electronically reported using the DEQ BMP Warehouse in accordance with Part III B 5. No updates to the MS4 Program Plan were deemed necessary.

BMP 5C Private Stormwater Facility Inspection and Enforcement

Pursuant to the general permit, the City inspects privately-owned stormwater facilities at least once every five years. Per Section 13-109 of the EMO, facility owners must perform periodic inspection and required maintenance to ensure the long-term functioning of the facilities as originally designed to protect water quality. The inspections are performed according to the written policies and procedures entitled *Policies and Procedures for Post-Construction BMP Inspection and Maintenance* which can be found in Appendix E of the City's MS4 Program Plan.

Measure of Effectiveness

One-hundred and three (103) private stormwater facility inspections were completed this permit year, with no actions being sent out this permit year related to these inspections. Please note that additional enforcement actions may be taken in response to these inspections; however, these actions may not take place until the next reporting period since owners have 90 days to complete the maintenance. Stormwater management facilities inspection results have been electronically reported using the DEQ BMP Warehouse in accordance with Part III B 5. No updates to the MS4 Program Plan were deemed necessary.

BMP 5D Stormwater Facility Inventory, Database, and Warehouse Reporting

The City submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part III B 1. The City electronically reported stormwater management facilities using the DEQ BMP Warehouse in accordance with Part III B 1 and 2. Further, the City continues to use an internal database (Microsoft Access) to track all stormwater facilities and/or BMPs that were implemented to improve water quality.

Measure of Effectiveness

During this permit year, 83 stormwater management facilities and/or BMPs were installed in the City to improve water quality. One facility is the Lucky Run stream restoration. These facilities have been included in the DEQ BMP Warehouse and also included in Appendix E, Stormwater Management Facilities Installed this Permit Year. During this Program Year, one Grading Plan, GRD2023-00033, also known as "King St 7-Eleven Fuel Tank Replacement", utilized an off-site nutrient credit purchase of .03 nutrient credits (.03 lbs) from the Spytek Nutrient Bank to comply with the project's onsite phosphorus reduction requirements. Spytek Nutrient Bank is an authorized bank sponsor by the Virginia Department of Environmental Quality Nutrient Reduction Implementation Plan

A map of the City's stormwater management facilities and/or BMPs is provided in Appendix E. No updates to the MS4 Program Plan were deemed necessary.

BMP 5E Stormwater Facility Maintenance Agreements

The City continues to require the execution and subsequent recordation of Stormwater BMP Facilities Maintenance / Monitoring Agreement to ensure long term operation and maintenance of new BMPs per the EMO. In addition, staff has also created a BMP maintenance vendor list for use by facility owners and operators.

Measure of Effectiveness

A sample BMP maintenance agreement that was submitted during this permit year and a screen capture that the form may be downloaded from the City's website Appendix E. The City continues the program of mailing educational letters that include maintenance responsibilities to single-family property owners with on-lot BMPs. An example of the letter and sample maintenance information sent to single-family residential BMP owners during this permit year is also located in Appendix E. No updates to the MS4 Program Plan were deemed necessary.

3.6 Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee within the MS4 Service Area (MCM #6)

MCM #6: Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee within the MS4 Service Area (Permit Reference: Part I.E.6.y.)

The annual report shall include the following information:
(1) A summary of any written procedures developed or modified in accordance with Part I E 6 a and b during the reporting period;
(2) A confirmation statement that all high-priority facilities were reviewed to determine if SWPPP coverage is needed during the reporting period;
(3) A list of any new SWPPPs developed in accordance Part I E 6 i during the reporting period;
(4) A summary of any SWPPPs modified in accordance with Part I E 6 j, 6 l, or 6 m;
(5) The rationale of any high-priority facilities delisted in accordance with Part I E 6 l or m during the reporting period;
(6) The status of each nutrient management plan as of June 30 of the reporting year (e.g., approved, submitted and pending approval, and expired);
(7) A list of the training activities conducted in accordance with Part I E 6 d, including the following information: (a) The completion date for the training activity;
(b) The number of employees who completed the training activity; and (c) The objectives and good housekeeping procedures covered by the training activity.

For the purposes of this annual report, municipal facilities are those facilities owned or operated by the City.

The following table is a summary of activities for Minimum Control Measure #6 and their completion status. Additional detail is provided after the table and in Appendix F.

Table 11. Summary of Activities for MCM #6

BMP	Measurable Goal	Status
6A Written Pollution Prevention and Good Housekeeping Procedures		
Implement Standard Operating Procedures for Daily Operations	Document any updates to SOPs and any new SOPs.	✓ Complete
6B Stormwater Pollution Prevention Plans for High-Priority Facilities		
Implement SWPPPs and annually review and add/remove as necessary	Document any new facilities requiring SWPPPs or any removed. Continue to implement SWPPPs.	✓ Complete

BMP	Measurable Goal	Status
6C Turf and Nutrient Management Plans		
Implement Turf and Nutrient Management Plans and annually review and add/remove as necessary	Document any new areas requiring turf and nutrient management plans or any removed. Continue to implement SWPPs.	✓ Complete
6D Prohibiting Deicing Agents with Urea		
Ensure that the City did not use deicing agents that included urea.	Statement that the City didn't using deicing agents that included urea.	✓ Complete
6E Contractor Controls and Oversight		
Ensure proper procedures and controls are implemented by City contractors.	Document any changes to process or procedures.	✓ Complete
6F Training		
Conduct annual training to applicable employees. Training topics will rotate each year between recognizing illicit discharge and pollution prevention and good housekeeping.	A summary report on the required training, including a list of training events, the training date, the number of employees attending training and the objective of the training.	✓ Complete
6G Street Sweeping and Leaf Collection Programs		
Continue to implement the City's street sweeping and leaf collection programs.	Document lane miles swept and cubic yards of debris collected. Document the amount of leaves collected.	✓ Complete
6H Catch Basin and Inlet Cleaning Program		
Continue the City's catch basin and inlet cleaning program.	Document the number of catch basins and inlets cleaned.	✓ Complete
6I Employee Complaint Reporting Program		
Continue to implement the "Report a Problem" program.	Document ongoing implementation.	✓ Complete

BMP	Measurable Goal	Status
6J Environmental Stakeholder Groups		
Participate in Environmental Stakeholder Groups	Presentation with the City's Environmental Policy Commission	✓ Complete

BMP 6A Written Pollution Prevention and Good Housekeeping Procedures

Part I.E.6.a – b. of the permit requires the maintenance and implementation of written procedures for public facilities for best practices for good housekeeping procedures to prevent stormwater pollution. During the 2013-2018 permit cycle, the City developed standard operating procedures (SOPs) to minimize or prevent pollutant discharge from daily operations such as road, street, and parking lot maintenance; equipment maintenance; and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers. These SOPs were reviewed during PY1 against the requirements outlined in the 2023-2028 MS4 General Permit.

The City continues to implement these SOPs and are utilized as part of the employee training program in accordance with Permit Part I.E.6.d. These SOPs will be continuously reviewed once during this permit cycle to ensure they include up-to-date information and effective procedures. New SOPs will be developed in accordance with the 2023-2028 MS4 General Permit, as required.

Measure of Effectiveness

The SOPs for Daily Operations are included in Appendix F of the City's MS4 Program Plan for those applicable operations. No SOPs required updating during this permit year. No updates to the MS4 Program Plan were deemed necessary.

BMP 6B Stormwater Pollution Prevention Plans for High-Priority Facilities

During the 2013-2018 permit cycle, the City identified its high-priority municipal facilities that may require the development and implementation of a SWPPP. This list was further refined for those high-priority municipal facilities with a high potential for discharging pollutants. Also completed during the previous permit cycle, the City developed an inspection checklist to be used at municipal facilities. The checklist covers good housekeeping practices, material storage and handling, as well as maintenance practices. The checklist is included in the SWPPPs developed for applicable municipal facilities.

The City continues to maintain and implement the SWPPPs for the identified municipal facilities. Facilities implementing SWPPPs keep an updated copy onsite, and SWPPPs have been incorporated into the pollution prevention training given to municipal employees. It is anticipated than an additional facility will come online during FY2025. Information for this facility will be included in the MS4 Program Plan and Annual Report, as required.

Measure of Effectiveness

The following table provides the list of the municipalities with SWPPPs along with other pertinent information. Upon review of the City's municipal facilities, no additional SWPPPs were developed or removed during the permit year. The Site Activity category was updated to reflect the language in 9VAC25-890-1 as reflected in the MS4 Program Plan for these facilities. Periodic inspections continue to be completed and documented in the SWPPPs. No updates to the MS4 Program Plan were deemed necessary.

Table 12. Summary Public Facilities with SWPPPs

Facility	Facility Location	Site Activity	SWPPP Location
Middle Yard at 3220 Colvin Street ("Sign Shop")	3220 Colvin Street	Long-Term Bulk Materials Storage	3220 Colvin Street
Household Hazardous Waste & Electronics Recycling Center	3224 Colvin Street	Solid Waste handling and Transfer Recycling	2900-B Business Center Dr. – Resource Recovery Office
Equipment and Materials Storage and Vehicle Wash Facility	133 South Quaker Lane	Anti-Icing and Deicing Agent Storage, Handling, and Transfer Equipment Storage, Cleaning, and Maintenance Long-Term Bulk Materials Storage Permittee-Owned or Operated Vehicle Washing	2900-B Business Center Dr. – Operations Office
Material Storage Yard	3130 Business Center Drive	Equipment Storage Long-Term Bulk Materials Storage	2900-B Business Center Dr. – Operations Office
Field Operations Center	2900-A/B Business Center Drive	Anti-Icing and Deicing Agent Storage, Handling, and Transfer Equipment Storage	2900-B Business Center Dr. – Operations Office
Leaf Mulch Facility	4125 Eisenhower Avenue	Composting Equipment Storage Long-Term Builk Materials Storage Recycling	2900-B Business Center Dr. – Operations Office
Transportation Division Impound Lot	5249 Eisenhower Avenue	Vehicle Storage	5249 Eisenhower Avenue

Facility	Facility Location	Site Activity	SWPPP Location
Impound Lot	3000 Business Center Drive	Vehicle Storage	5249 Eisenhower Avenue
Vehicle and Equipment Maintenance Center	3550 Wheeler Avenue	Vehicle Maintenance and Storage Equipment Storage	3550 Wheeler Avenue
Fuel Island	3400 Duke Street	Long-Term bulk Materials Storage	3550 Wheeler Avenue

BMP 6C Turf and Nutrient Management

Part I.E.6.p of the permit requires the maintenance and implementation of turf and landscape nutrient management plans (NMPs) that were developed during the permit cycle. These plans were developed for municipal properties where nutrients were applied in acres that exceeded one acre contiguous.

The list of municipal lands where nutrient management plans are required and have been completed is included in the MS4 Program Plan. This list includes the location and corresponding acreage for each plan and will be updated as needed. Per the requirements in the 2023-2028 MS4 General Permit, the status of these plans is included in this annual report.

Measure of Effectiveness

Table 13 provides the status of the 22 nutrient management plans representing 80.5 acres. All are approved and none are pending or expired.

Table 13. Status of Nutrient Management Plans for More than One-Acre

Facility	Street Address	Status
Angel Park	201 W. Taylor Run Parkway	Approved
Armistead Boothe Park	520 Cameron Station Blvd	Approved
Ben Brenman Park	4800 Ben Brenman Park Dr.	Approved
Braddock Park	1005 Mt. Vernon Ave	Approved
Charles Barrett Elementary School	1115 Martha Custis Drive	Approved
Chinquapin Park	3210 King St.	Approved
Founders Park	351 North Union Street	Approved
Four Mile Run Park	3700 Commonwealth Ave	Approved
George Washington Middle School	1005 Mt. Vernon Ave	Approved
Harborside Park	487 S. Union St	Approved
Hensley Park	4200 Eisenhower Ave	Approved
Luckett Park	3540 Wheeler Ave	Approved
Lyles-Crouch Traditional Academy	530 S St Asaph St.	Approved

Facility	Street Address	Status
Montgomery Park	901 North Royal Street	Approved
Mount Vernon Community Center	2601 Commonwealth Ave.	Approved
Oronoco Park	100 Madison Street	Approved
Polk Elementary School	5000 Polk Ave.	Approved
Potomac Yards Park	2501 Potomac Ave	Approved
Rivergate Park	2 Montgomery Street	Approved
Simpson Park	426 E. Monroe Ave	Approved
West Point	1 Oronoco St.	Approved
Windmill Hill Dog Park	501 South Union Street	Approved

BMP 6D Prohibiting Deicing Agents with Urea

Nutrients, if improperly applied, have the potential to pollute the local waterways, the Potomac River and the Chesapeake Bay. Part I.E.6.1.b. of the permit prohibits the use of deicing agents containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces.

Measure of Effectiveness

The City did not apply deicing agents containing urea or other forms of nitrogen or phosphorus to roadways, parking lots, sidewalks, or other paved surfaces during this reporting period, consistent with the SOP. No updates to the MS4 Program Plan were deemed necessary.

BMP 6E Contractor Controls and Oversight

The City continues to ensure that contractors working on behalf of the City follow procedures and employ required control measures to ensure that operations do not contribute to stormwater pollution. SOPs for pesticide and herbicide application place requirements on contractors. City employees charged with oversight of City capital projects receive annual water quality training. City capital improvement projects include pollution prevention language. The City will continue to implement this BMP and report on changes annually.

Measure of Effectiveness

During the permit year, the City continued to implement SOPs (described under BMP 6A), required necessary permits and certifications, had necessary language in contracts, and provided water quality training to City employees charged with oversight of City capital projects. No updates to the MS4 Program Plan were deemed necessary.

BMP 6F Training

Staff whose normal duties require a considerable amount of field work play a valuable role in identifying and addressing illicit discharges. Employees performing applicable duties shall be trained in recognizing and reporting illicit discharges no less than once every 24-months. Training provides

the appropriate tools for field staff to recognize, document relevant information and report the incident for follow up by the appropriate staff.

City staff engages in daily activities that have the potential to adversely impact water quality. The likelihood of these impacts occurring may be minimized or avoided by providing staff training on pollution prevention and good housekeeping. Employees performing applicable duties shall be trained in pollution prevention and good housekeeping no less than once every 24-months.

In addition, employees hired by the City who apply pesticides and herbicides shall be trained or certified with the Virginia Pesticide Control Act. Certification by the Virginia Department of Agriculture and Consumer Services (VDACS) Pesticide and Herbicide Applicator program shall constitute compliance with this requirement.

The City's employees and contractors serving as plan reviewers, plan inspectors, program administrators, construction site operators and those implementing the City's stormwater program will obtain and maintain the appropriate certification as required under the Virginia Erosion and Sediment Control Law and the Virginia Stormwater Management Act. The employees whose duties include emergency response will be properly trained in spill reporting which may be satisfied through a larger emergency response training program.

Measure of Effectiveness

The T&ES-SWM continues to provide annual training in compliance with the permit and the City's MS4 Program Plan. This program year's (PY1) training focused on IDDE. During PY1, training was administered via an in-person format at the Transportation & Environmental Services Field Services Office and two other field offices – 133 S. Quaker and 3200 Colvin Street. Training also was delivered via MS Teams to one group. Staff were all trained in IDDE and Pollution Prevention and Good Housekeeping was touched on, where applicable and when time allowed. Further, in addition to the training summarized in Table 14, a brief video highlighting staff's role in IDDE was shared in an employee newsletter during the Program Year that reached over 100 staff (see Appendix F). This video was created during PY1 to focus on IDDE in the City and is used for both public and internal use.

Table 14. Summary of Pollution Prevention & Good Housekeeping Training

Date	Department	Trainees
04/15/24	Transportation & Environmental Services Resource Recovery (In Person)	31
05/09/24	Transportation & Environmental Services Public Works Services (In Person)	51
05/09/24	Transportation & Environmental Services C&I (In Person)	12
06/20/24	Transportation & Environmental Services Traffic Operations (In Person)	18
06/07/24	Recreation, Parks & Cultural Activities (In Person)	18
06/17/24	Code Administration (Virtual)	20

BMP 6G Street Sweeping and Leaf Collection Programs

The City continues to implement a City-wide street sweeping program to remove possible sources of nutrients, sediment, and impacts to biological and chemical oxygen demand in order to protect local waterways, the Potomac River and the Chesapeake Bay. Additionally, collected leaves are turned to mulch and provided to for use on residential lawns; which decreases the use of fertilizers.

Measure of Effectiveness

The City swept approximately 2,092 lane miles this permit year. The amount of street lane miles swept changes slightly each year depending on weather conditions and other factors. No updates to the MS4 Program Plan were deemed necessary.

The City's Curbside Leaf Collection program performed the following:

1. Distributed approximately 72,000 biodegradable bags to various locations throughout city facilities.
2. Total cubic yards collected: 18,990

BMP 6H Catch Basin and Inlet Cleaning Program

The City has a long-standing program to inspect and clean stormwater catch basins and inlets. The catch basin and inlet cleaning program is meant to both reduce spot flooding and drainage problems as well as to prevent materials, including floatables and vegetative debris captured in inlets, from continuing to local streams. Catch basin cleaning varies year by year depending on the weather.

Measure of Effectiveness

The City maintained approximately 5,200 linear feet of stormwater lines were inspected during PY1. No updates to the MS4 Program Plan were deemed necessary.

BMP 6I Employee Complaint Reporting

The City continues to implement the "Report a Problem" program to empower employees to report problems, to include illicit discharges or issues with the functioning of City assets. The program provides a way of reporting problems associated with City infrastructure, including stormwater management.

Measure of Effectiveness

A hyperlink to the Alex311 reporting system is provided in Appendix F. The MS4 Program Plan has been updated to reflect the City's intranet is no longer being used for this function.

BMP 6J Environmental Stakeholder Groups

The City receives input on the stormwater program from several stakeholder groups including the Environmental Policy Commission (EPC), the Stormwater Work Group (SWWG), the Fire Department's Environmental and Industrial Use Unit (EIU), and the Eco-City Steering Committee.

The EPC is appointed by the City Council and makes recommendations on environmental issues, including stormwater management. The City Manager has established two internal stakeholder groups to work on stormwater issues and make policy decisions to ensure regulatory compliance and shape the stormwater program. The Water Quality Steering Committee, transitioned into the Eco-City Alexandria Steering Committee during the final reporting period of the 2013-2018 permit and is comprised of deputy city managers, department heads, and staff from T&ES-IEQ, and is charged with making policy decisions and setting the course for the City's environmental programming under the Eco-City Alexandria initiative, which include Water Resources. The Stormwater Work Group (SWWG) is an internal stakeholder group comprised of interdepartmental City staff with the deputy director of IEQ as the chair, the division chief as alternate, and other supervisory level staff. The SWWG's mission is to develop and coordinate the City's response across various City departments to MS4 permit requirements, including the Chesapeake Bay TMDL. The SWWG is charged with supporting development of policy, programs and plans to administer the local VSMP program and the MS4 general permit. The EIU acts as the lead for coordination of environmental issues, including water quality investigation, enforcement, and documentation.

Measure of Effectiveness

During the program year, staff discussions occurred between the Stormwater Management Division and departments across the City.

3.7 Evaluation of MS4 Program Implementation

In accordance with Part I.D.2.e of the permit, the City undertook a comprehensive review and update of the MS4 Program Plan to align it with the reissued MS4 permit.

This information also is provided within the *Chesapeake Bay TMDL Implementation Annual Status Report*.

3.8 Chesapeake Bay TMDL

Finalized in December 2010 by the United States Environmental Protection Agency (EPA), the Chesapeake Bay TMDL and the associated Watershed Implementation Plans (WIPs) developed by the Commonwealth of Virginia, set limits on nitrogen, phosphorus and sediment entering the Bay. The 2013 – 2018 MS4 general permit included new special conditions to address the Chesapeake Bay TMDL to achieve 5% of the target reductions captured in the City's Phase 1 Action Plan. The subsequent 2018 – 2023 MS4 general permit contained special conditions requiring the City to meet a total of 40% of the targeted reductions for the Bay that were captured in the City's Phase 2 Action Plan.

Strategies identified in the Phase 1 and 2 Action Plans have been implemented to achieve 70% reductions, above the required total 40% reductions in the 2018 – 2023 MS4 general permit. The City's Chesapeake Bay TMDL Action Plan for 5% Reductions was approved in 2016 and the Phase 2 Action Plan was approved in 2019. It also can be found in Appendix G and incorporated into the MS4 Program Plan.

The Phase 3 Action Plan is developed in accordance with the 2023 – 2028 MS4 general permit and will be submitted by November 1, 2024. Figure 2 provides an overview of several BMP retrofit projects that help the City meet the Bay Special Conditions. Specific details for each project is included in the Bay TMDL Action Plan.

Figure 2. BMP Retrofit Projects

Table 16 provides a summary of the required reductions per permit cycle as of the 2018-2023 MS4 General Permit specific to Alexandria, VA, as indicated in the Phase 2 Chesapeake Bay Action Plan.

The reduction requirement for TSS was removed from the 2023-2028 MS4 General Permit however, the City continues to track reductions for consistency purposes.

Table 15. Summary of Required Reductions by Permit Cycle

Phase	Permit Cycle	Required Reduction (%)	Nitrogen (TN) (lbs/yr)	Phosphorus (TP) (lbs/yr)	Suspended Solids (TSS) (lbs/yr)
1	2013-2018	5%	380	50	43,097
2	2018-2023	35%	2,659	351	301,678
3	2023-2028	60%	4,558	602	517,162
Total		**100%**	**7,597**	**1,004**	**861,937**

Progress made during this reporting period toward the Chesapeake Bay required pollutant reductions are presented in Table 16. An individual accounting for each BMP included in PY1 progress is included in Appendix E.

Table 16. Progress during PY1 – Individual Facilities/Retrofits (July 1, 2023 – June 30, 2024)

Project	TN Reductions (lbs/yr)	Percent of TN 100% Goal	TP Reductions (lbs/yr)	Percent of TP 100% Goal	TSS Reductions (lbs/yr)	Percent of TSS 100% Goal
Development SWM Facilities	100.9	1%	19.9	2%	9,351.2	1%
Lucky Run Stream Restoration	658.0	9%	257.0	26%	489,818.0	57%
FY2024	758.9	10%	276.9	28%	499,169.2	58%

The City's overall progress toward meeting the Chesapeake Bay required pollutant reductions from Phase 1 and Phase 2 are presented in Table 17. Table 18 provides an overview of progress towards the Bay TMDL goal through FY2024. The Chesapeake Bay TMDL Action Plan to be submitted to Virginia Dept. of Environmental Quality November 1, 2024, outlines the implementation strategies to achieve 100% compliance.

Table 17. Cumulative Progress for Phase 1 – 2

Cumulative Progress	TN Reductions (lbs/yr)	Percent of TN 100% Goal	TP Reductions (lbs/yr)	Percent of TP 100% Goal	TSS Reductions (lbs/yr)	Percent of TSS 100% Goal
Phase 1 (2013-2018)	2,689.8	35%	402.4	40%	361,990.0	42%
Phase 2 (2018-2023)	2,636.5	35%	337.3	34%	221,529.0	26%
Cumulative Phase 1 – 2	5,326.4	70%	739.8	74%	583,518.0	68%

Table 18. Cumulative Progress through PY1

Cumulative Progress	TN Reductions (lbs/yr)	Percent of TN 100% Goal	TP Reductions (lbs/yr)	Percent of TP 100% Goal	TSS Reductions (lbs/yr)	Percent of TSS 100% Goal
Cumulative Phase 1 – 2	5,326.4	70%	739.8	74%	583,518.0	68%
FY2024 (PY1)	758.9	10%	276.9	28%	499,169.2	58%
Progress to Date	6,085.3	80%	1,016.7	101%	1,082,687.2	126%

3.9 Local TMDLs

The City has four existing TMDLs with an approved WLA for the MS4 area, two of which were approved prior to July 2008 and two of which were approved between July 2008 and June 2013.

A TMDL for bacteria related to fecal coliform was approved in 2004 for the non-tidal portion of Four Mile Run, and in 2007 a TMDL for PCBs was approved for the Tidal Potomac watershed. Given that these TMDLs were approved prior to July 2008, TMDL Action Plans were completed by June 30, 2015 and were submitted with the permit year 2015-2016 Annual Report.

In 2010, the SWCB issued approval of bacteria TMDLs for Tidal Four Mile Run, and the Hunting Creek, Cameron Run, and Holmes Run watersheds. In both recent TMDLs, bacterial water quality is based on levels of *E. coli*. Since these TMDLs were approved between July 2008 and June 2013, the corresponding TMDL Action Plans were completed by June 30, 2016, and were submitted with the 2016-2017 annual report. Based on guidance and conversations with DEQ staff, the City developed a comprehensive Bacteria TMDL Action Plan that addresses bacteria impairments for those affected watersheds. Beginning with the Non-Tidal Four Mile Run TMDL Action Plan which was due by June 30, 2015, the City incorporated the successive TMDLs for Hunting Creek, Cameron Run, and Holmes Run to create a comprehensive Bacteria TMDL Action Plan.

In accordance with the permit, these Local TMDL Action Plans were updated prior to May 2020 (18 months after the permit effective date). The permit also has a requirement for plans to be developed for TMDLs approved by EPA between July 1, 2013, and June 30, 2018 that have WLAs no later than May 2021 (30 months after permit effective date); however, the City does not have any new TMDLs that meet this criteria. Part II.B.3 of the permit provides a list of items to be included in each Local TMDL Action Plan. Based on the type of TMDL (bacteria, sediment, phosphorus, nitrogen, or PCBs), there is list of different strategies the City must choose from to address the impairments.

The City of Alexandria's Bacteria TMDL Action Plan was updated in 2020 after a 15-day public comment period (no comments were received). This Action Plan is found in Appendix G. Information pertaining to the updates are found in the PY2 Annual Report. DEQ completed their review and found the Plan acceptable on April 13, 2022. This Action Plan will be revised pursuant to the 2023-2028 MS4 General Permit and submitted to the Department by May 1, 2025.

The City of Alexandria's Tidal Potomac PCB TMDL Action Plan was updated in 2020 after a 15-day public comment period (no comments were received). This Action Plan is found in Appendix G.

Information pertaining to the updates are found in the PY2 Annual Report. DEQ completed their review of the updated Action Plan and found it acceptable on April 13, 2022. This Action Plan will be revised pursuant to the 2023-2028 MS4 General Permit and submitted to the Department by May 1, 2025.

Actions taken pursuant to these updated TMDL action plans are in alignment with the education and outreach and public participation sections of the MS4 Program Plan and are included in this Annual Report under MCM #1 and #2 for pet waste (bacteria). In addition, the City developed best management practices regarding BMPs as documented in the June 30, 2015, Tidal Potomac PCB TMDL Action Plan.

The Action Plan is currently being implemented and includes the following BMPs:

1. City will include standard condition language for all site plan (DSP and DSUP) requiring a site characterization for PCBs during the redevelopment of a property where PCBs have been historically used or stored; or during the redevelopment of a property that falls into a DEQ identified high risk category for PCBs. The language was updated in permit year 2015-2016 and was included in all site plan reviews, placing the onus on the developer to perform due diligence; and is reviewed by the City.
2. The PCB brochure updated in PY4. The brochure educates about residents and development community about PCBs and may be found on the website. Hyperlinks to the website and the brochure can be found in Appendix A.

4 Results of Information Collected and Analyzed

No information, including monitoring data, was required to be collected or analyzed under the City's permit.

5 MS4 Program Regional Efforts and Agreements

The City continues to participate in with other localities in the Northern Virginia Regional Commission's Clean Water Partners to conduct regional public education and outreach activities, as discussed in Section 3.1. A copy of the Clean Water Partners Agreement can be found in Appendix A of the City's MS4 Program Plan. The City does not rely on other government entities to satisfy permit obligations.

6 Approval Status of Qualifying Local Programs

The City relies on implementation of the Erosion and Sediment Control Ordinance, mandated by the Virginia Erosion and Sediment Control Regulations (VESCR), to help satisfy Minimum Control Measure #4 - Construction Site Stormwater Runoff Control. During permit year 2014-2015, the City's Erosion and Sediment Control (E&SC) Ordinance was reviewed and revised for consistency with amendments to the Virginia Stormwater Management Act and the Virginia Stormwater Management Program (VSMP) Regulations, and the renumbering of these, as well

as the Virginia Erosion and Sediment Control Law (VESCL) and VESCR when administration of these programs was shifted from DCR to DEQ. The adoption of amendments to the City's E&SC ordinance during permit year 2014-2015 are discussed in BMP 4A.

In addition, the City relies on implementation of the EMO, mandated by the Virginia Chesapeake Bay Preservation Area Designation and Management Regulations, and the VSMP regulations as incorporated into the EMO, to help satisfy Minimum Control Measure #5 - Post Construction Stormwater Management.

The City's Erosion and Sediment Control Program has been reviewed and found consistent by the Virginia Soil and Water Conservation Board. In addition, the Chesapeake Bay Local Assistance Board (now superseded by the Virginia Soil and Water Conservation Board) has also found the City's Environmental Management Ordinance to be fully consistent with state regulations.

The City's approved VSMP Local Stormwater Management Program application included amendments to the EMO Ordinance for consistency with the new VSMP regulations and maintained the Chesapeake Bay Act requirements. The City received provisional approval as a local VSMP authority effective July 1, 2014, and received full approval in November 2014. Documentation of approval is included in Appendix E.

This information will be updated during PY2 with the consolidated regulations and updates to the City's EMO.

7 Contact Information

Mr. Jesse E. Maines, MPA, Division Chief
T&ES, Stormwater Management
703.746.4643 (direct)
703.746.6499 (main)

Ms. Jessica Lassetter, MNR
Senior Environmental Specialist
T&ES, Stormwater Management
703.746.4127

8 Appendicies

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 1 Annual Report

July 1, 2023 – June 30, 2024

Appendix A

Minimum Control Measure #1, Public Education and Outreach

1. Best Management Practices for Lawn Care Companies Brochure
2. Best Management Practices for Restaurant and Food Service Brochure
3. Best Management Practice for Automotive Garages and Service Centers Brochure
4. You Can Protect Alexandria Waterways Brochure
5. Pet Waste Brochure
6. Polychlorinated Biphenyls Brochure
7. Household Hazardous Waste & Electronics Recycling Program Pamphlet
8. Stormwater Utility Fee Credit Program for Residential Properties Informational Brochure
9. Stormwater Utility Fee Credit Program for Residential Condominium Associations Brochure
10. BMP Sign Requirement on Plan Set with Storm Drain Marker
11. Sign for Stormwater Management Facilities
12. Photo of Stream Crossing Sign
13. City's Stormwater Management Website
14. City's Stormwater Management Website Metrics, FY2024
15. City's Website with Information about Volunteering for Storm Drain Marking
16. Sample eNews
17. Social Media Examples
18. Northern Virginia Region Commission 2024 Only Rain Survey (Clean Water Partners)
19. Northern Virginia Clean Water Partners 2024 Summary
20. Advancing Stormwater Management Presentation Slides

Maintenance

The Cascade Separator® system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects sediment and debris will depend upon on-site activities and site pollutant characteristics. For example, unstable soils or heavy winter sanding will cause the sediment storage sump to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (i.e. spring and fall). However, more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment wash-down areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

A visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet chamber, flumes or outlet channel. The inspection should also quantify the accumulation of hydrocarbons, trash and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided in this Inspection and Maintenance Guide.

Access to the Cascade Separator unit is typically achieved through one manhole access cover. The opening allows for inspection and cleanout of the center chamber (cylinder) and sediment storage sump, as well as inspection of the inlet chamber and slanted skirt. For large units, multiple manhole covers allow access to the chambers and sump.

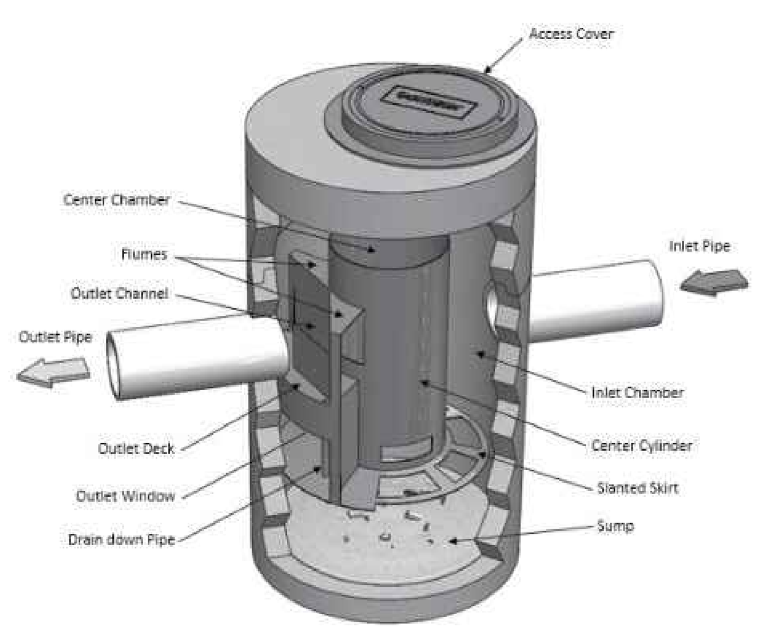
The Cascade Separator system should be cleaned before the level of sediment in the sump reaches the maximum sediment depth and/or when an appreciable level of hydrocarbons and trash has accumulated. If sorbent material is used, it must be replaced when significant discoloration has occurred. Performance may be impacted when maximum sediment storage capacity is exceeded. Contech recommends maintaining the system when sediment level reaches 50% of maximum storage volume. The level of sediment is easily determined by measuring the distance from the system outlet invert (standing water level) to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Finer, silty particles at the top of the pile typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the chart in this document to determine if the height of the sediment pile off the bottom of the sump floor exceeds 50% of the maximum sediment storage.

Cleaning

Cleaning of a Cascade Separator system should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole cover and insert the vacuum tube down through the center chamber and into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The areas outside the center chamber and the slanted skirt should also be washed off if pollutant build-up exists in these areas.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. Then the system should be power washed to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and to ensure proper safety precautions. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the Cascade Separator system must be done in accordance with local regulations. In many locations, disposal of evacuated sediments may be handled in the same manner as disposal of sediments removed from catch basins or deep sump manholes. Check your local regulations for specific requirements on disposal. If any components are damaged, replacement parts can be ordered from the manufacturer.



Cascade Separator® Maintenance Indicators and Sediment Storage Capacities

Model Number	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	y^3	m^3
CS-3	3	0.9	1.5	0.5	0.4	0.3
CS-4	4	1.2	2.5	0.8	0.7	0.5
CS-5	5	1.3	3	0.9	1.1	0.8
CS-6	6	1.8	3.5	1	1.6	1.2
CS-8	8	2.4	4.8	1.4	2.8	2.1
CS-10	10	3.0	6.2	1.9	4.4	3.3
CS-12	12	3.6	7.5	2.3	6.3	4.8

Note: The information in the chart is for standard units. Units may have been designed with non-standard sediment storage depth.

A Cascade Separator unit can be easily cleaned in less than 30 minutes.

A vacuum truck excavates pollutants from the systems.

Cascade Separator® Inspection & Maintenance Log

Cascade Model: Location:

Date	Depth Below Invert to Top of Sediment[1]	Floatable Layer Thickness[2]	Describe Maintenance Performed	Maintenance Personnel	Comments

1. The depth to sediment is determined by taking a measurement from the manhole outlet invert (standing water level) to the top of the sediment pile. Once this measurement is recorded, it should be compared to the chart in the maintenance guide to determine if the height of the sediment pile off the bottom of the sump floor exceeds 50% of the maximum sediment storage. Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.
2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

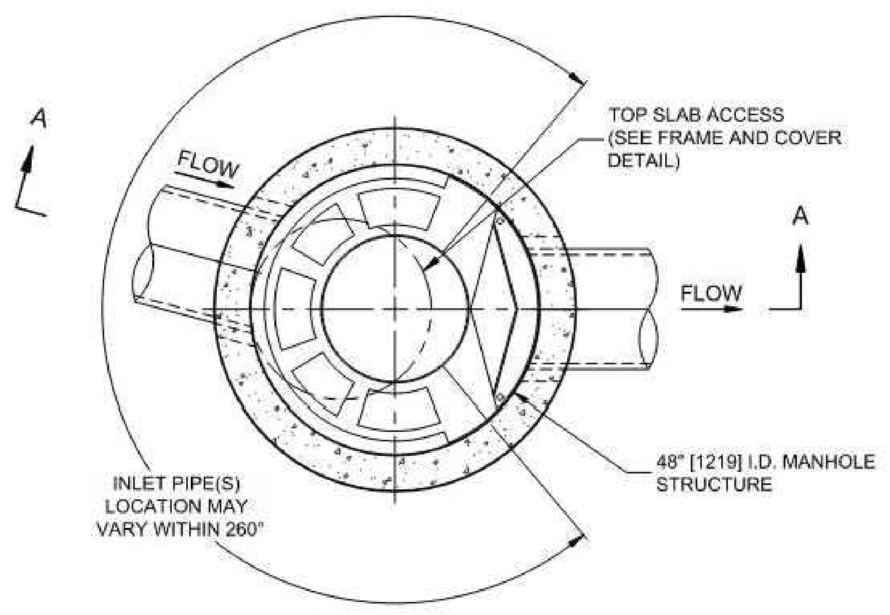
SUPPORT

- Drawings and specifications are available at www.ContechES.com.
- Site-specific design support is available from our engineers.

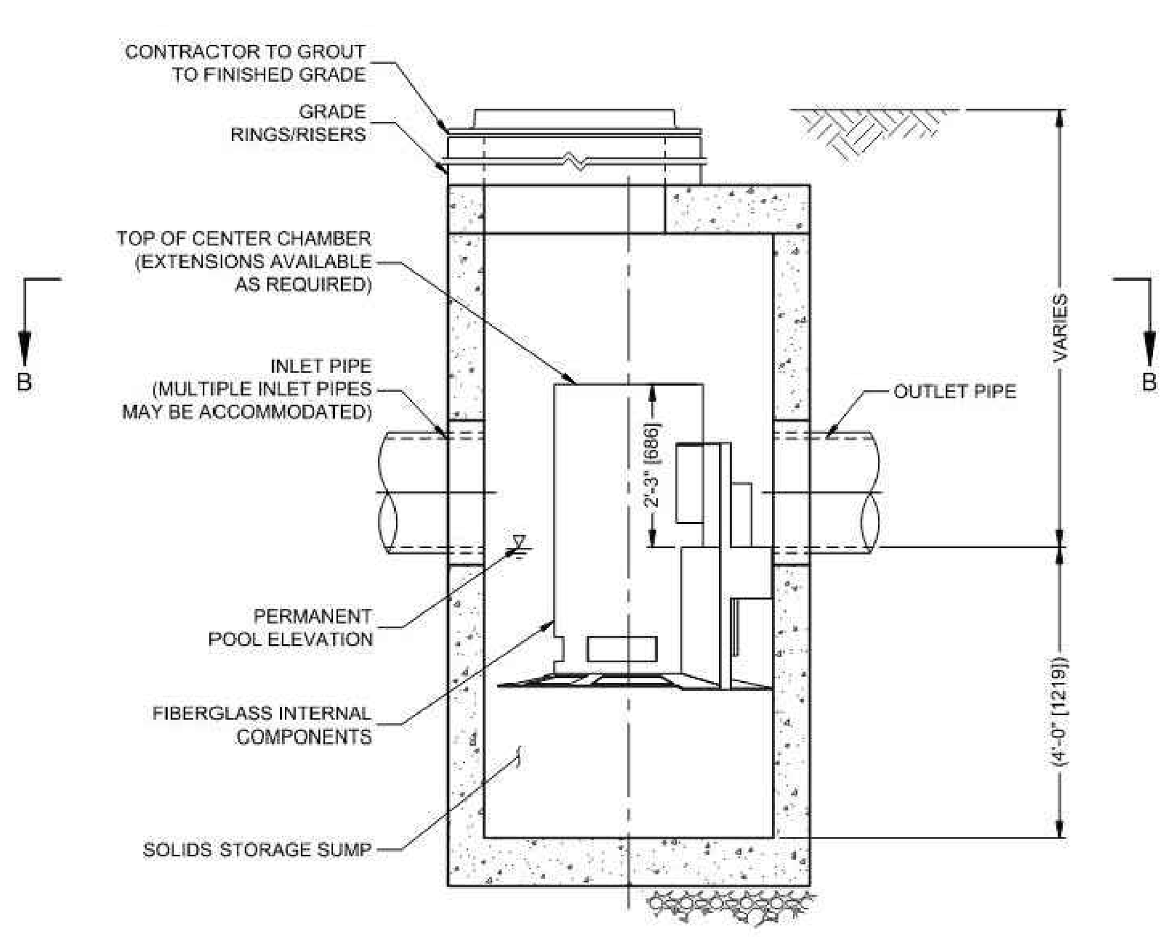
Contech Engineered Solutions LLC provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, sanitary sewer, stormwater, and earth stabilization products. For information, visit www.ContechES.com or call 800.338.1122

Cascade Separator Maintenance 06/21

CONTECH ENGINEERED SOLUTIONS
800-925-5240
www.ContechES.com



PLAN VIEW B-B
NOT TO SCALE



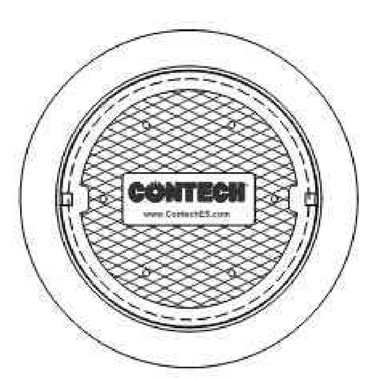
ELEVATION A-A
NOT TO SCALE

CASCADE separator™

CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-4 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (cfs [L/s])			
PEAK FLOW RATE (cfs [L/s])			
RETURN PERIOD OF PEAK FLOW (yrs)			
RIM ELEVATION			
PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			
NOTES / SPECIAL REQUIREMENTS:			

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CS-4
CASCADE SEPARATOR
STANDARD DETAIL

I:\COMMON\CAD\TREATMENT\21 CASCADE\40 STANDARD DRAWINGS\DWG\CS-4-DTL.DWG 1/22/2019 9:34 AM

SWM MANAGEMENT NOTES:

THE STORMWATER BEST MANAGEMENT PRACTICES (BMPS) REQUIRED FOR THIS PROJECT SHALL BE CONSTRUCTED AND INSTALLED UNDER THE DIRECT SUPERVISION OF THE DESIGN ENGINEER OR HIS DESIGNATED REPRESENTATIVE. THE DESIGN ENGINEER SHALL MAKE A WRITTEN CERTIFICATION TO THE CITY THAT THE BMP(S) ARE CONSTRUCTED AND INSTALLED AS DESIGNED AND IN ACCORDANCE WITH THE APPROVED FINAL SITE PLAN. IN ADDITION, AGGREGATE LAYERS AND COLLECTOR PIPES MAY NOT BE INSTALLED UNLESS THE DESIGN ENGINEER OR HIS REPRESENTATIVE IS PRESENT.

THE DEVELOPER SHALL FURNISH THE OWNERS WITH AN OPERATION AND MAINTENANCE MANUAL FOR ALL BEST MANAGEMENT PRACTICES (BMPS) ON THE PROJECT. THE MANUAL SHALL INCLUDE AN EXPLANATION OF THE FUNCTIONS AND OPERATIONS OF EACH BMP AND ANY SUPPORTING UTILITIES, CATALOG CUTS ON ANY MECHANICAL OR ELECTRICAL EQUIPMENT, A SCHEDULE OF ROUTINE MAINTENANCE FOR THE BMP(S) AND SUPPORTING EQUIPMENT, AND A COPY OF THE MAINTENANCE AGREEMENT WITH THE CITY.

SWM DETENTION PRIVATE MAINTENANCE NOTE:

THE STORMWATER DETENTION FACILITIES WILL BE PRIVATELY MAINTAINED. A MAINTENANCE CERTIFICATION PREPARED BY A REGISTERED ENGINEER, LICENSED LAND SURVEYOR OR A MASTER PLUMBER WILL BE SUBMITTED TO THE CITY OF ALEXANDRIA ANNUALLY. THE OWNER SHOULD CONTACT TRANSPORTATION AND ENVIRONMENTAL SERVICES IF THERE ARE ANY QUESTIONS CONCERNING THIS ANNUAL CERTIFICATION.

THE PRIVATE STORMWATER FACILITIES ONSITE SHALL BE INSPECTED SEMI-ANNUALLY AND WITHIN 72 HOURS OF EVERY MAJOR STORM EVENT (10 YR STORM OR GREATER). SEDIMENT AND DEBRIS SHOULD NOT BE ALLOWED TO BUILD UP IN THE STRUCTURES OR PIPES. PORTIONS OF THE SYSTEM SHOULD BE CLEANED IF THERE IS OBSERVABLE FAILURE OF THE SYSTEM, I.E. STANDING WATER IN STRUCTURES OR FAILURE OF WATER TO FLOW THROUGH THE STRUCTURE, OR BEFORE ANY PIPE IN THE SYSTEM HAS 25% OF ITS OPEN AREA OBSTRUCTED. CLEANING OF STRUCTURES AND PIPES MAY BE ACCOMPLISHED BY HAND WHERE POSSIBLE AND VACUUM PUMPS. FLUSHING IS NOT AN ACCEPTABLE MEANS. CARE SHOULD BE TAKEN TO MINIMIZE THE FLOW OF SEDIMENT INTO THE OUTFLOW PIPE AND PUBLIC STORM SEWER SYSTEM.

SWM CONSTRUCTION INSPECTION STATEMENT:

THE STORMWATER MANAGEMENT FACILITIES SHOWN ON THIS PLAN SHALL BE CONSTRUCTED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER, WHO WILL PROVIDE TO THE CITY OF ALEXANDRIA ALL APPLICABLE CONSTRUCTION INSPECTION LOGS AND TEST DOCUMENTATION FOR THE FACILITY AND PREPARE AND SUBMIT A WRITTEN STATEMENT CERTIFYING THE FACILITY WAS BUILT AS DESIGNED PER THE APPROVED PLAN.

STORMWATER MANAGEMENT DESCRIPTIVE SIGNAGE

NOTE: STORMWATER MANAGEMENT SIGNAGE TO BE PLACED, ONE PER BLOCK FACE AT WAIST HEIGHT.

ESI
Peer Review

DESIGN ENGINEER / SURVEYOR

Bowman

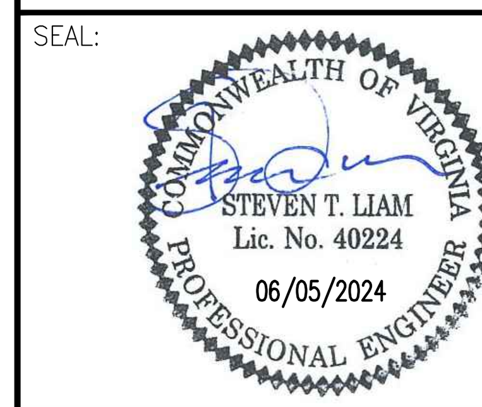
Bowman Consulting Group, Ltd.
13461 Sunrise Valley Drive, Suite 500
Herndon, Virginia 20171
Phone: (703) 464-1000
Fax: (703) 481-9720
www.bowmanconsulting.com

SCALE: N/A DATE: JUNE, 2024 DRAWN: JM

PLAN STATUS

DATE	DESCRIPTION
03/18/2024	ESI SUBMISSION
04/04/2024	1ST SUBMISSION
06/05/2024	2ND SUBMISSION

SEAL:



REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

THE LADREY
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: SWM DETAILS (5 OF 8)

APPROVED
SPECIAL USE PERMIT NO. 2023-10011
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ____________

DIRECTOR DATE

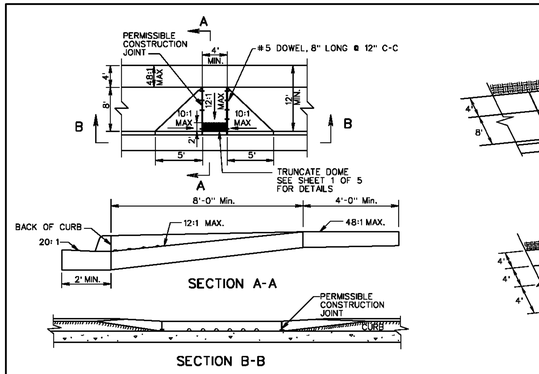
CHAIRMAN, PLANNING COMMISSION DATE

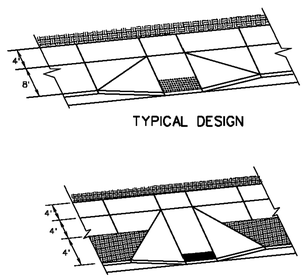
DATE RECORDED ____________

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Cad File Name: P:\140292 - the ladry homes\140292-01-001 (eng) - the ladry homes\engineering\engineering plans\FDSUP\140292-01-001-SWM-POST.dwg

CG-12

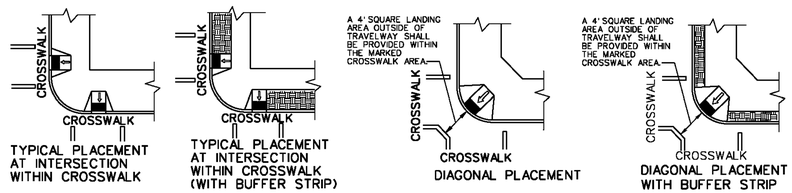




NOTES:

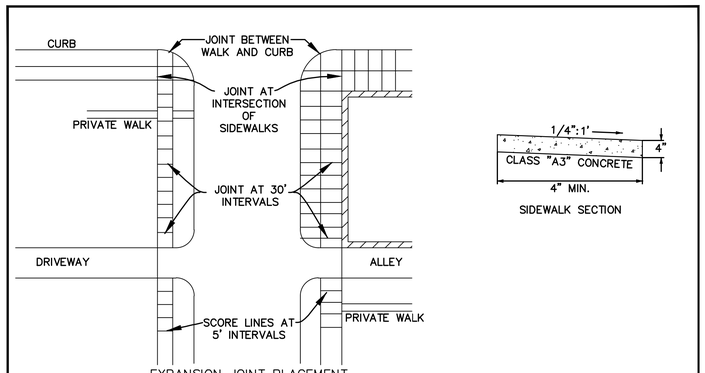
FOR GENERAL NOTES ON THE DETECTABLE WARNING SURFACE, SEE SHEET 1 OF 5.

THIS DESIGN TO BE USED FOR CONSTRUCTION THAT INCORPORATES WIDER SIDEWALK. LANDING (4' WIDE) REQUIRED AT TOP OF CURB RAMP. MINIMUM CURB RAMP LENGTH 8 FEET FOR NEW CONSTRUCTION.



SPECIFICATION REFERENCE	CG-12 DETECTABLE WARNING SURFACE	VDOT ROAD AND BRIDGE STANDARDS
105 502	TYPE A (PERPENDICULAR) APPLICATION VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE 07/15 · SHEET 2 OF 5 · 203.06

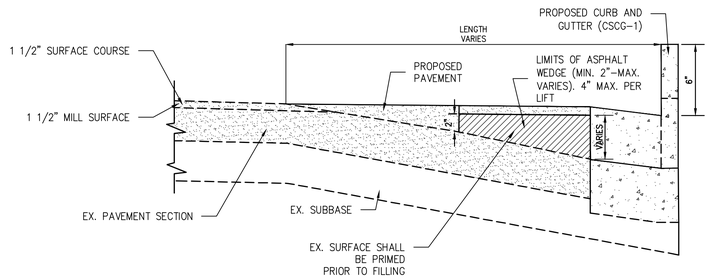
CONTRACTOR SHALL CONFORM TO LATEST VDOT STANDARD DURING CONSTRUCTION OF ADA RAMPS



NOTES: 1.) JOINTS ARE OF 1/2" PRE MOLDED EXPANSION MATERIAL PRICE OF MATERIAL TO BE INCLUDED IN COST OF SIDEWALK.

2.) SLOPE OF GRASS AREAS WILL BE 1/2" PER 1' MIN.

REVISIONS:
TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT
ALEXANDRIA VIRGINIA
SIDEWALK
CSSW-1 PAGE 29



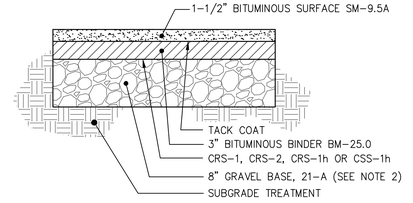
INSET SCHEMATIC PAVEMENT WEDGE DETAIL

NOT TO SCALE

TYPICAL PAVING DETAIL

NOT TO SCALE

PAVING FOR EMERGENCY VEHICLE EASEMENTS (EVE) AND FOR PATCHING OF EXISTING STREETS WHERE UTILITIES ARE INSTALLED

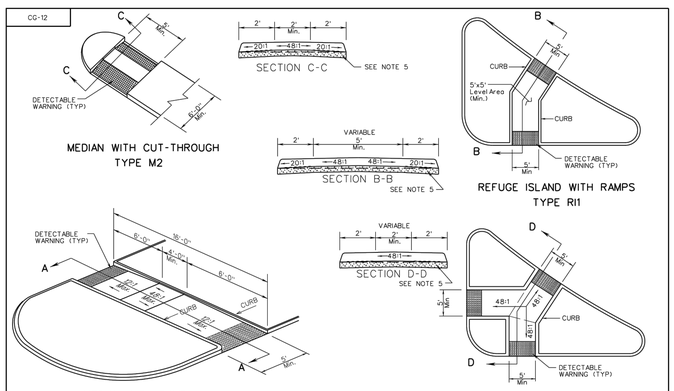


NOTES:

1. SUBGRADE DEPTH FOR SUBGRADE BASED ON A DESIGN CBR VALUE OF 10. SOIL TESTS FOR SUBGRADE MUST BE SUBMITTED FOR ACTUAL DETERMINATION OF REQUIRED SUBBASE THICKNESS PRIOR TO CONSTRUCTION.
2. THE GRAVEL BASE, 21-B AS AN ALTERNATE TO 21-A, CAN BE PROVIDED WITH UNDER DRAIN.
3. SUBGRADE SHALL BE REVIEWED BY GEOTECH TO DETERMINE IF UNDERCUT IS NECESSARY. CONTRACTOR TO BE AWARE THAT A 12" UNDERCUT COULD BE WARRANTED.
4. CONTRACTOR SHALL CORE SAMPLE EXISTING ROADS & MATCH THE EXISTING PAVEMENT SECTION MATERIAL OF THE ROAD, OR PROVIDE SECTION SHOWN ABOVE. WHICHEVER IS GREATER.

CONTRACTOR TO PROVIDE THIS MARKER ON ALL STORM INLETS WITHIN 50 FT. OF PROPERTY LINE

CG-12

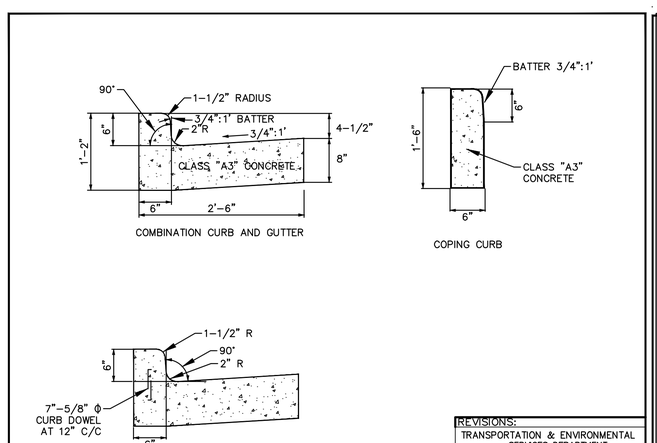


NOTES:

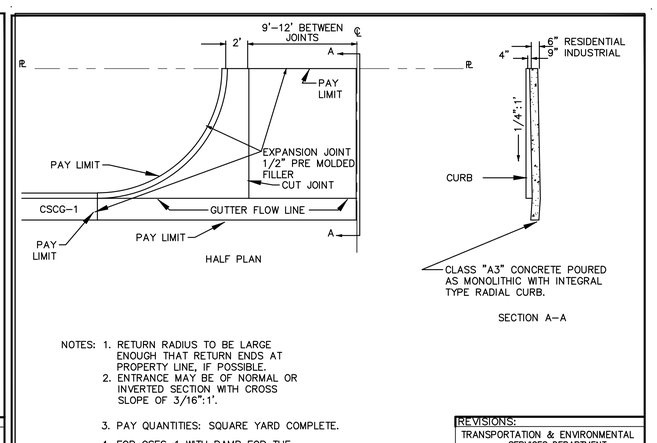
1. FOR GENERAL NOTES ON THE DETECTABLE WARNING SURFACE, SEE SHEET 1 OF 5.
2. CURB SHALL BE SHAPED TO MATCH THE FACE OF ROADWAY CURB.
3. SEE ROADWAY PLANS FOR MEDIAN AND REFUGE ISLAND DIMENSIONS
4. RAMPS AND CUT THROUGHS SHALL BE ALIGNED WITH CROSSWALKS.
5. THE RAMPS AND CUT THROUGHS SHALL BE INSTALLED AND PAID FOR AS 4" HYDRAULIC CEMENT CONCRETE SIDEWALK IN ACCORDANCE WITH SECTION 504 OF INSTALLATION & BRIDGE SPECIFICATIONS. EXCAVATION OF MATERIAL FOR 504 OF INSTALLATION & BRIDGE SPECIFICATIONS. EXCAVATION OF MATERIAL FOR 4" HYDRAULIC CEMENT CONCRETE SIDEWALK SHALL BE INCLUDED IN THE PRICE BID FOR 4" HYDRAULIC CEMENT CONCRETE SIDEWALK.
6. CUT THROUGHS LESS THAN 6' IN WIDTH SHALL NOT HAVE DETECTABLE WARNINGS INSTALLED.

VDOT ROAD AND BRIDGE STANDARDS	CG-12 DETECTABLE WARNING SURFACE	SPECIFICATION REFERENCE
SHEET 5 OF 5 · REVISION DATE 7/12 · 203.09	MEDIAN AND REFUGE ISLAND APPLICATIONS VIRGINIA DEPARTMENT OF TRANSPORTATION	105 502

2016 ROAD & BRIDGE STANDARDS



REVISIONS:
TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT
ALEXANDRIA VIRGINIA
CURB AND GUTTER
AND COPING CURB
CSCG-1 PAGE 24



NOTES: 1. RETURN RADIUS TO BE LARGE ENOUGH THAT RETURN ENDS AT PROPERTY LINE, IF POSSIBLE.
2. ENTRANCE MAY BE OF NORMAL OR INVERTED SECTION WITH CROSS SLOPE OF 3/16":1'.
3. PAY QUANTITIES: SQUARE YARD COMPLETE.
4. FOR CSES-1 WITH RAMP FOR THE PHYSICALLY HANDICAPPED SE CSES-1A AT PAGE 32.
5. SLOPE OF GRASS AREAS WILL BE 1/2": 1'.

REVISIONS:
TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT
ALEXANDRIA VIRGINIA
ENTRANCE
SEMI – STREET
CSES-1 PAGE 31

ESI Peer Review

DESIGN ENGINEER / SURVEYOR

Bowman

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13461 Sunrise Valley Drive, Suite 500
Herndon, Virginia 20171
Phone: (703) 464-1000
Fax: (703) 481-9720
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

SCALE: N/A · DATE: JUNE, 2024 · DRAWN: JVM

PLAN STATUS

DATE	DESCRIPTION
03/18/2024	ESI SUBMISSION
04/04/2024	1ST SUBMISSION
06/05/2024	2ND SUBMISSION

SEAL:

COMMONWEALTH OF VIRGINIA
STEVEN T. LIAM
Lic. No. 40224
06/05/2024
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV BY	APPROVED	DATE

THE LADREY
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: **SITE DETAILS (5 OF 5)**

APPROVED
SPECIAL USE PERMIT NO. 2023-10011

DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Tax Map No. #054.02-13-02 · File No. 140194-02-001 · Job No. xxxx

SHEET: **C24.40**

Cad File Name: P:\140292 - the lodry homes\engineering\engineering plans\TDS\P\140292-01-001-REV-SITE DETAILS.dwg

Appendix A

Sign for Stormwater Management Facilities

Appendix A

Sign for Stream Crossing

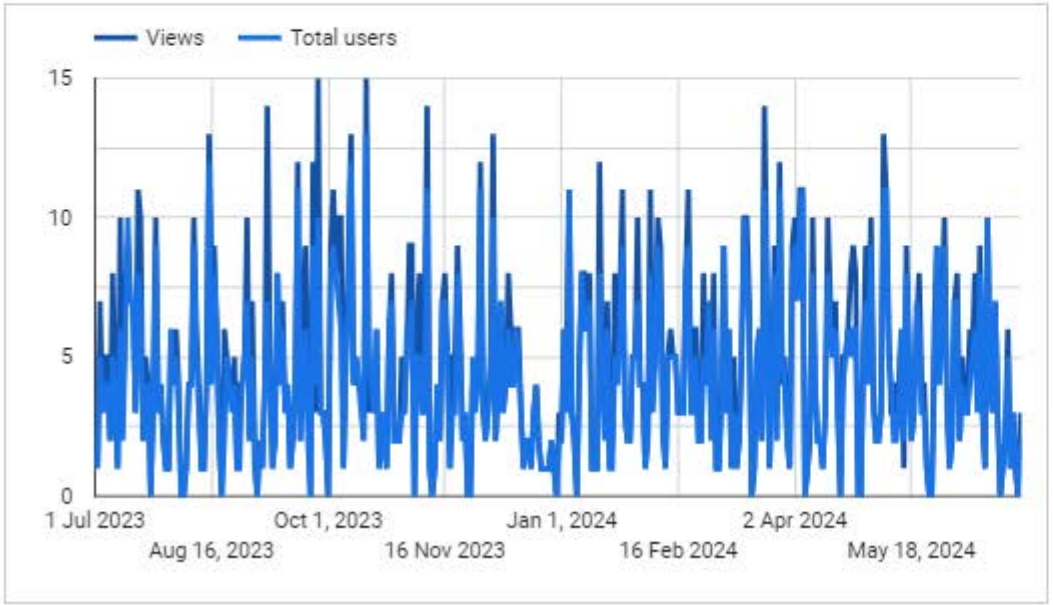
Page path

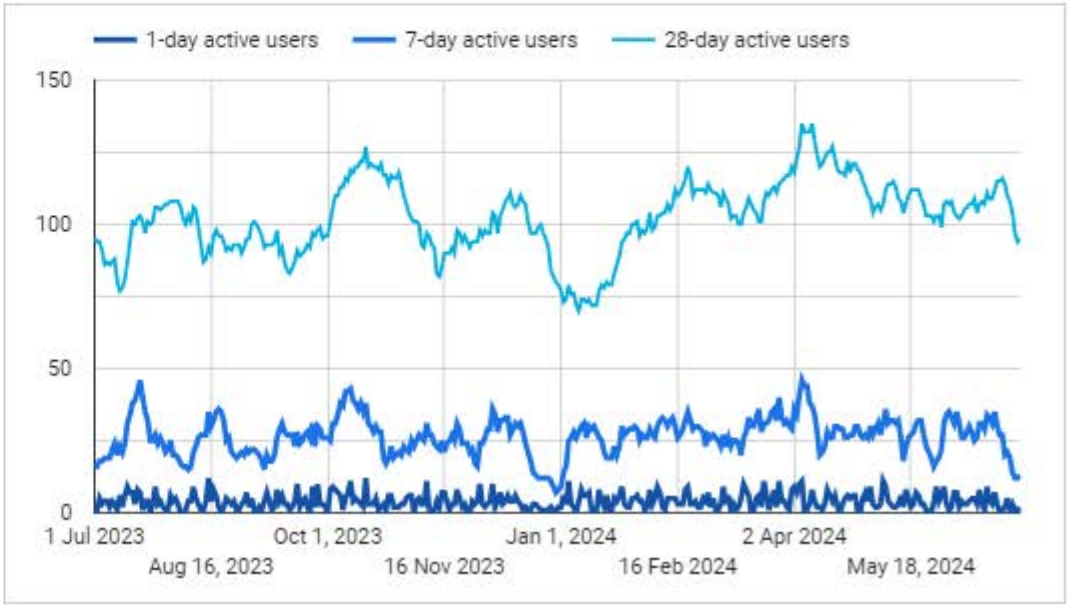
Sama den... /Stormwater

NOTE: Just like the Department View dashboard, this report is limited to the top 10 groups by traffic. To change this or request a page report for a page outside of these 10 groups, contact Jackie Cozma

1 Jul 2023 - 30 Jun 2024

Overview of your user behaviors





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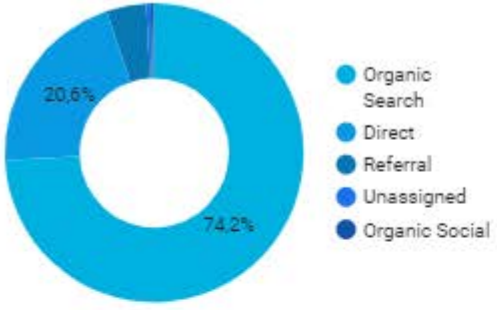
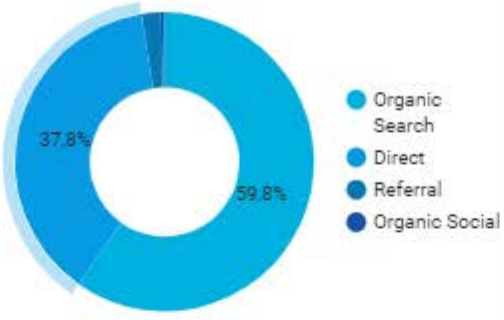


Session source	Sessions ▾
Google	1.030
(direct)	334
Bing	128
login.microsoftonline.com	27
Yahoo	23
duckduckgo	18
statics.teams.cdn.office.net	11
(not set)	8
gis.alexgov.net	7
alxnow.com	5

1 - 10 / 32

New Users



First user source	Total users ▾
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(direct)	475
Bing	68
duckduckgo	13
Yahoo	11
thezebra.org	4
alxnow.com	3
statics.teams.cdn.offi...	3
t.co	2
ecosia.org	2

1 - 10 / 27

Link Clicks

Link Text	Link URL	Clicks ▾
(not set)		4.966
(not set)	Tel: 7037464311	9
Download the printable appeal form.	https://media.alexandriava.gov/docs-a...	3
(not set)	https://www.visitalexandriava.com/	1
(not set)	javascript:coa_eventGridLoad('202306');	1
(not set)	javascript:coa_events_dayshow('20230...	1
20	javascript:coa_events_dayshow('20230...	1
NEXT	javascript:coa_eventGridLoad('202402');	1
NEXT	javascript:coa_eventGridLoad('202403');	1
VisitAlexandriaVA.com	https://www.visitalexandriava.com/	1

1 - 10 / 10

Language

	Browser Default Lang...	Total users ▾
1.	English	1.238
2.	English	8
3.	(other)	7
4.	Spanish	2
5.	German	1
6.	Thai	1

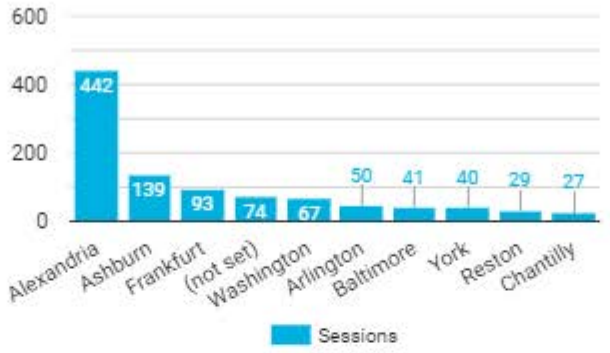
1 - 6 / 6 < >

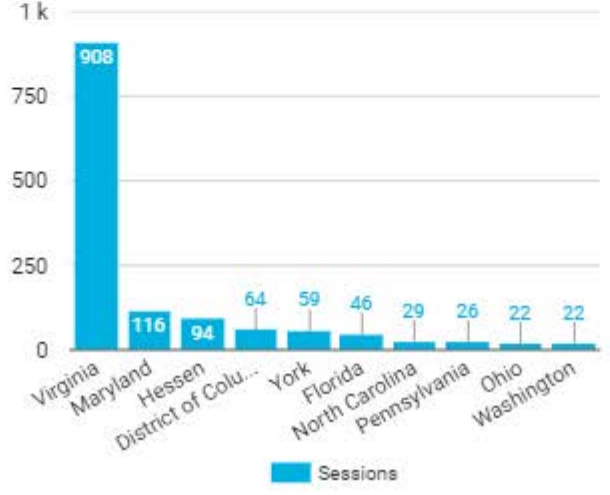
Translation Events

Language	Event count ▾	Total users
English	1	1
Overall total	**1**	**1**

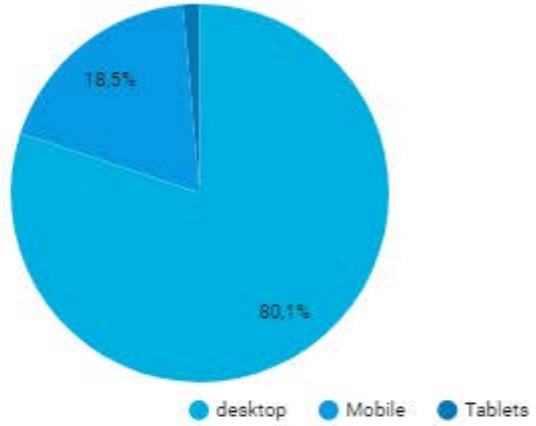
1 - 1 / 1 < >

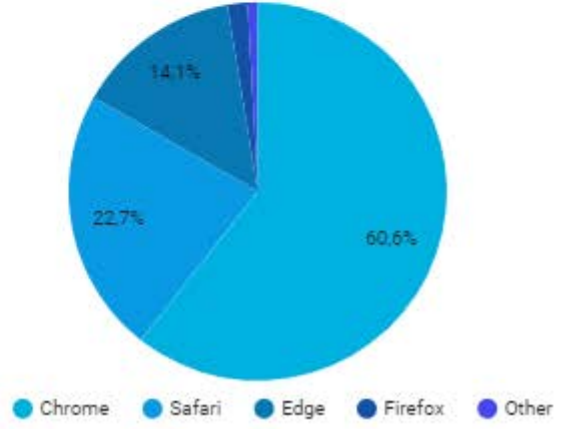
Location





Device





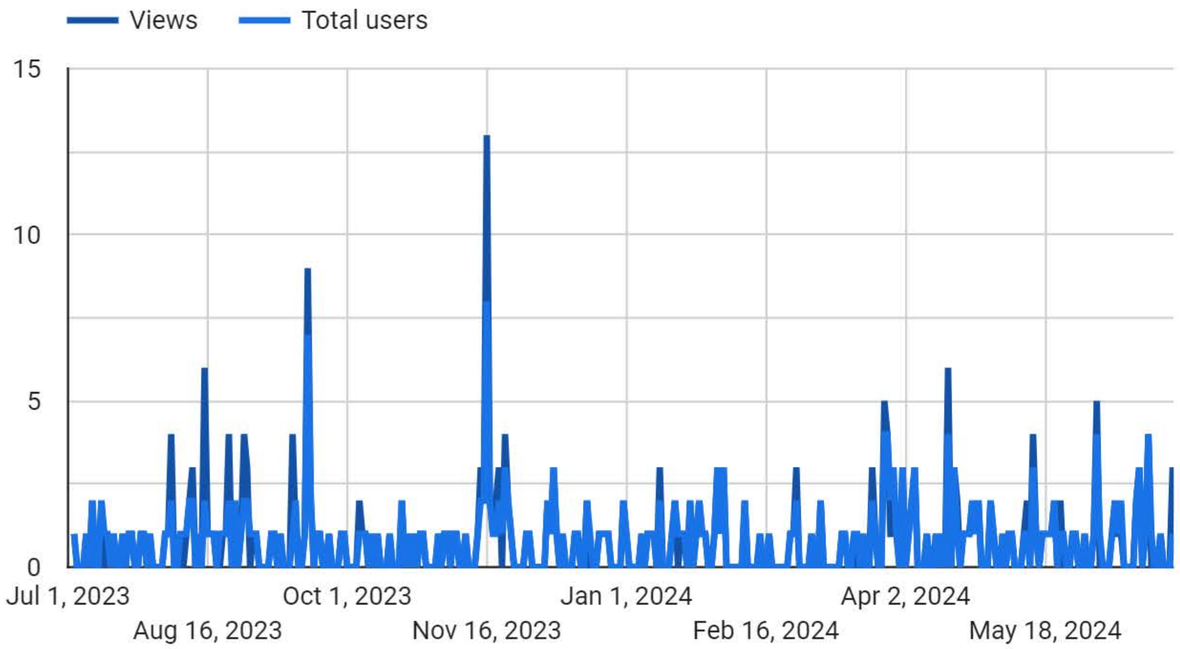
Page path

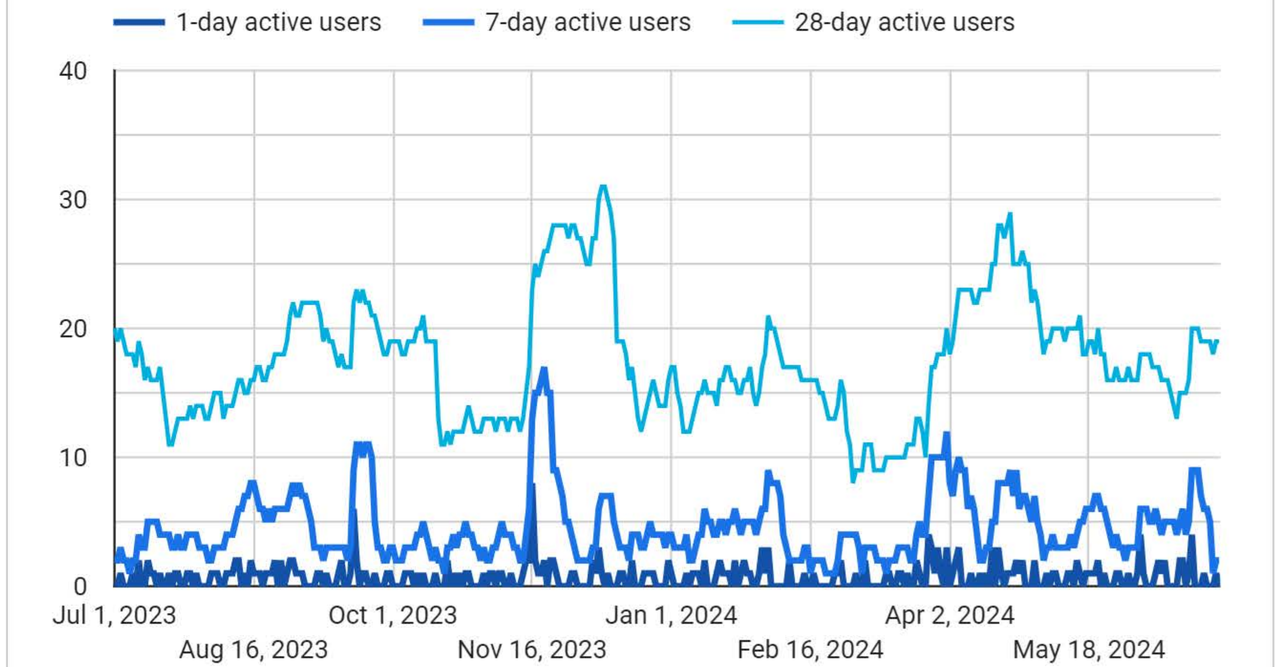
Equals /stormwater-management/what-you-can-do-to-protect-wat...

NOTE: Just like the Department View dashboard, this report is limited to the top 10 groups by traffic. To change this or request a page report for a page outside of these 10 groups, contact Jackie Cozma

Jul 1, 2023 - Jun 30, 2024

Overview of your user behaviors





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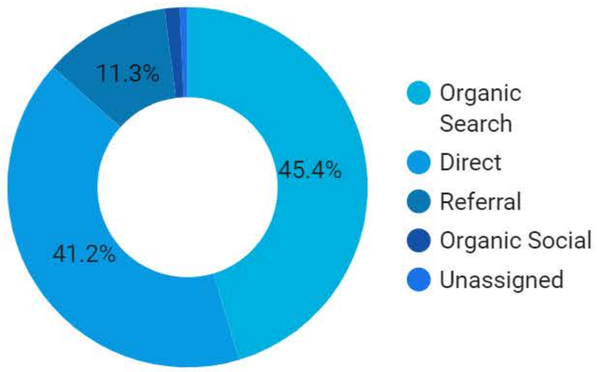

Session source	Sessions ▾
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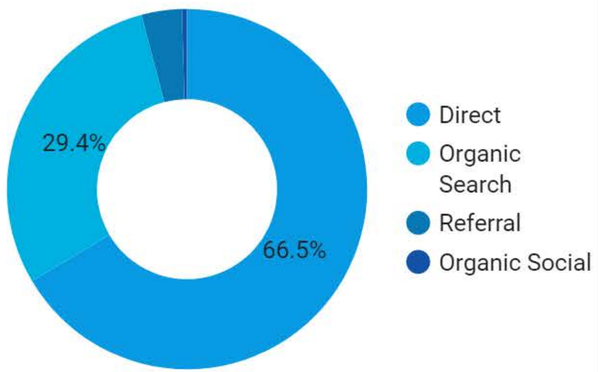
google	119
login.microsoftonline.com	14
bing	11
statics.teams.cdn.office.net	11
l.facebook.com	3
(not set)	2
alexandria.legistar.com	1
alxnow.com	1
duckduckgo	1

1 - 10 / 18

New Users



First user source	Total users ▾
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bing	7
statics.teams.cdn.offi…	2
alxnow.com	1
duckduckgo	1
ecosia.org	1
gbc-word-edit.officea…	1
gis.alexgov.net	1
mail.google.com	1

1 - 10 / 13

Link Clicks

Link Text	Link URL	Clicks ▾
(not set)		740
"Poop Fairy" Yard Sign campaign	https://www.alexandriava.gov/sites/de…	9
protecting local water resources	https://www.alexandriava.gov/sites/de…	8
(not set)	http://www.onlyrain.org/	4
Northern Virginia Clean Water Partners	http://www.onlyrain.org/	4
Pet Waste brochure	https://www.alexandriava.gov/sites/de…	4
field journal	https://media.alexandriava.gov/docs-a…	4
household hazardous waste drop off …	https://www.alexandriava.gov/sites/de…	4
field guide	https://media.alexandriava.gov/docs-a…	3
get your car serviced responsibly	https://www.alexandriava.gov/sites/de…	3
Lawn Care Best Management Practic…	https://www.alexandriava.gov/sites/de…	2
draining pool water	https://www.alexandriava.gov/sites/de…	2
(not set)	https://amwater.com/vaaw/	1
Drinking Water (Virginia American Wa…	https://amwater.com/vaaw/	1
En Español	https://www.alexandriava.gov/sites/de…	1
Lawn Care Best Management Practic…	https://www.alexandriava.gov/sites/de…	1
Restaurants and Food Services Best …	https://www.alexandriava.gov/sites/de…	1
draining pool water	https://alexandriava.gov/sites/default/…	1
field guide	https://media.alexandriava.gov/docs-a…	1

1 - 19 / 19

Language

	Browser Default Lang...	Total users
1.	English	217
2.	(other)	3
3.	Chinese	1

1 - 3 / 3

Translation Events

Language	Event count	Total users
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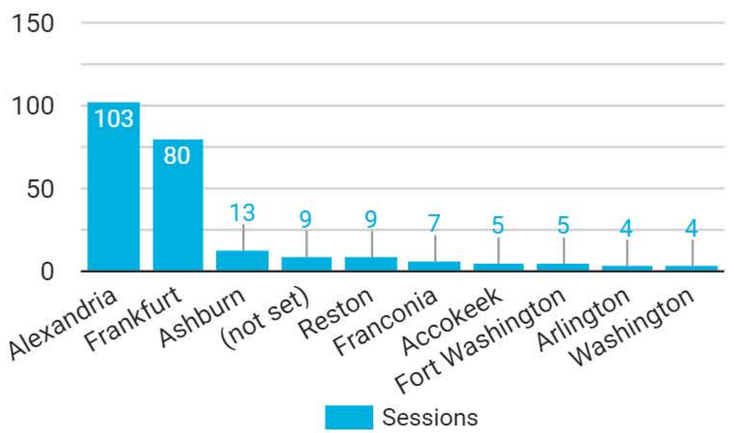
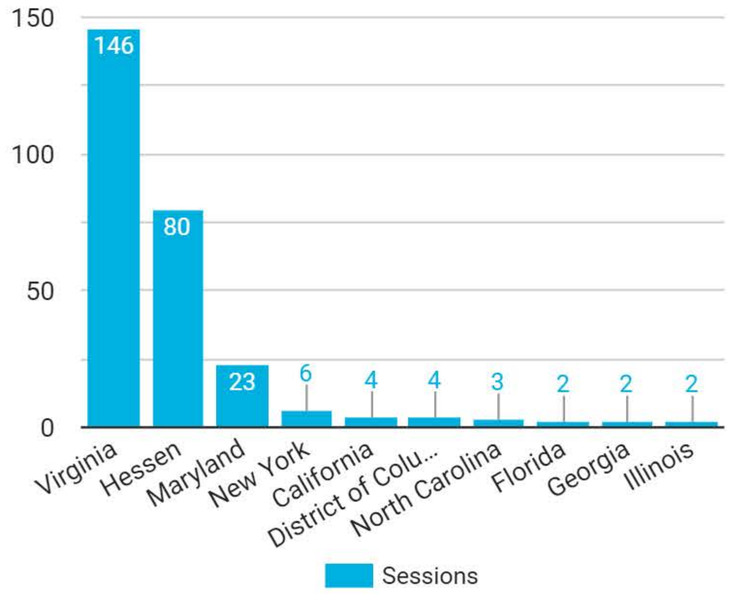
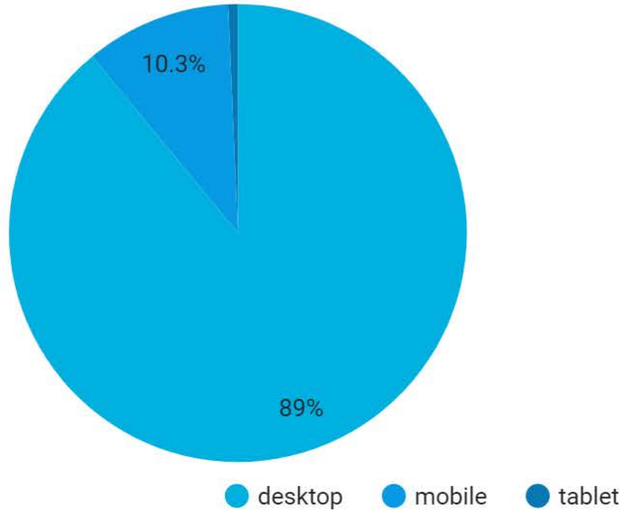
Grand total	**null**	**null**

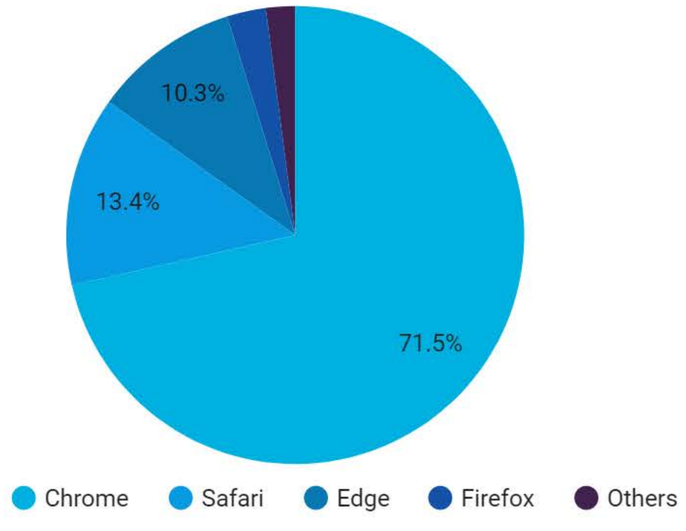
Location





Device





From: Alexandria eNews
To: Jessica Lassetter
Subject: City Reaches Milestone in 275 Tree Planting Project
Date: Friday, May 31, 2024 11:30:23 AM

City Reaches Milestone in 275 Tree Planting Project

The City of Alexandria Department of Transportation and Environmental Services is planting 275 new trees throughout the city in recognition of the City's 275th birthday. Last week, the City met a major project milestone with the planting of 100 trees to reduce gaps in the City's tree canopy.

The first of the 275 was planted at Windmill Hill Park on April 6 as part of the City's Birthday Kick-off Event. That was followed by the Earth Day and Arbor Day Proclamation and We Are Eco-City Alexandria Earth Month tree planting event on April 13.

The planting is being funded by the Stormwater Management Division through the Stormwater Utility Fee. The trees will help improve water quality, reduce nutrient runoff, and absorb stormwater to mitigate flooding.

Native trees will be selected to replace empty tree wells and provide canopy shade along roadways. The project focuses on adding shade trees in high heat index areas of the City and replenishing community locations with canopy cover.

Stormwater Management Division staff are partnering with Recreation, Parks, and Cultural Activities (RPCA) Urban Forestry in selecting locations for each of the trees and project development.

The City has created a new webpage to learn more about the project. Here you can also find an interactive map to locate of all 275 trees.

About the City's 275th Birthday

Alexandria at 275: Connecting to our past to define a brighter future. Since its 1749 founding, the historic City of Alexandria has played a major role in our nation's story and reflected its progress toward inclusivity. Join us at events from April through September as we mark Alexandria's 275th anniversary and embark on the next chapter in our city's vibrant history at alexandriava.gov/ALX275

From: Alexandria eNews
To: Jessica Lassetter
Subject: City to Observe Chesapeake Bay Awareness Week and Clean the Bay Day
Date: Tuesday, May 28, 2024 10:00:39 AM

City to Observe Chesapeake Bay Awareness Week and Clean the Bay Day

The City of Alexandria recognizes Chesapeake Bay Awareness Week, taking place from June 1 through June 9, 2024, as an opportunity to celebrate the history and continue to protect the Chesapeake Bay. As part of this commemoration, the Chesapeake Bay Foundation will coordinate its annual Clean the Bay Day.

On May 28, 2024, Alexandria Mayor Justin Wilson, on behalf of the Alexandria City Council, will be reading a proclamation at the City Council Second Legislative Session, affirming the City's commitment to the Chesapeake Bay and its natural resources, and to continue performing maintenance activities, stream cleanups, and implementing capital projects to protect it.

In celebration of Chesapeake Bay Awareness Week, the City's Department of Transportation and Environmental Services invites the community to participate in a stream cleanup event on **Saturday, June 8, 2024**, at Oronoco Bay Park, (100 Madison St.) The cleanup event will take place from 9:00 am to 11:00 am.

Clean the Bay Day, an annual event taking place the first week of June, is organized by the Chesapeake Bay Foundation to bring communities together to clean and protect the waters at various locations along the Chesapeake Bay.

For those participating in the Clean the Bay Day event at Oronoco Bay, City staff will provide gloves, trash grabbers and bags, and first aid kits. Participants are encouraged to bring sunscreen, snacks, water, and wear appropriate clothing, including long pants and closed-toe shoes.

Clean the Bay Day is just one way to increase awareness of the importance of the Bay, not only for Awareness Week, but throughout the year. Additional actions to protect the Bay include:

- Keep pet waste out of the City's storm drains, which causes bacteria contamination. Pick up and properly dispose of pet waste in a trash can.
- Keep the City litter-free, as waste dropped on streets, sidewalks, or parks ends up in local waterways and the Chesapeake Bay.
- Reduce or eliminate fertilizer use on home lawns. Excess fertilizer causes poor water quality. Consider applying for a ten-percent Stormwater Utility Fee credit for the no-fertilizer pledge.

If you suspect contamination entering the City's waterways, please contact Alex311.

For more information on the City's efforts to protect the Chesapeake Bay and other local waterways, please visit the Stormwater website.

From: Alexandria eNews
To: Jessica Lassetter
Subject: Volunteers Help Protect Historic Holmes Run During City of Alexandria Stream Cleanup
Date: Thursday, December 7, 2023 1:17:23 PM

Volunteers Help Protect Historic Holmes Run During City of Alexandria Stream Cleanup

On Saturday, December 2, the City of Alexandria Department of Transportation and Environmental Services Stormwater Management Division hosted a stream cleanup event of Historic Holmes Run.

Twelve volunteers donated their time to help pick up trash from a portion of Holmes Run behind Charles Beatley Library. A total of 13 bags were collected, weighing approximately 65-100 pounds. The bags were filled with a variety of items, most commonly glass and plastic bottles. The most interesting item picked was a metal folding chair.

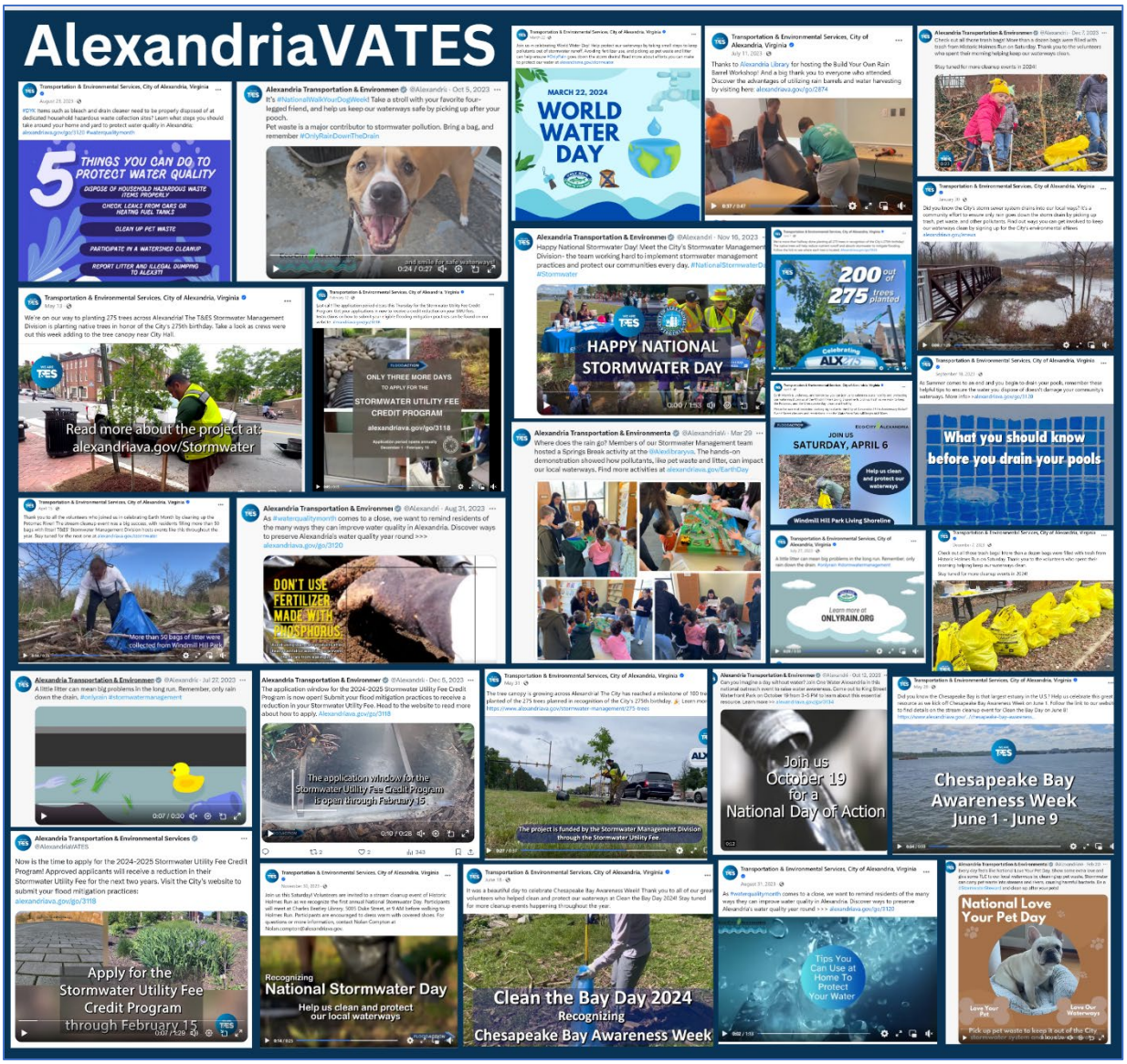
The cleanup event is held in recognition of the first annual National Stormwater Day on November 16. Established by the National Municipal Stormwater Alliance (NMSA), National Stormwater Day is an opportunity to recognize and raise awareness of stormwater management practices and programs.

The Stormwater Management plans to hold more stream cleanup events in 2024. Organizers will announce details of those events when they are available.

Thank you to all the volunteers for participating, as well as the City of Alexandria Resource Recovery Team for collecting and properly disposing of the bags.

Appendix A

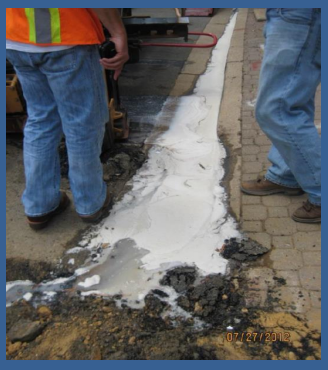
Social Media Examples, FY24



Northern Virginia Resident Stormwater Knowledge and Behavior Study

Summary Report of Findings

August 9 2024



Prepared for:
Northern Virginia Regional Commission

Prepared by:
Keisler Social & Behavioral Research
Authors:
Aysha Keiser, PhD*
Meghan Eife

**Contractor Point of Contact: aysha@keislersbr.com*

LIST OF TABLES

LIST OF FIGURES

1 INTRODUCTION AND APPROACH

Keisler Social & Behavioral Research (Keisler Research) was contracted by the Northern Virginia Regional Commission (NVRC) to conduct a survey of northern Virginia residents to capture knowledge, perceptions, beliefs, and behaviors surrounding stormwater and water pollution. The survey also assesses awareness and perceptions of two media campaigns conducted by the Northern Virginia Clean Water Partners (NVCWP) on stormwater drainage and water pollution, as well as awareness perceptions of NVCWP as an organization. The survey instrument is provided in the Appendix.

The survey was administered online in May and June of 2024 on the Alchemer survey platform. Individuals that participate in Alchemer's survey panel, and other partner survey panels, were invited to participate in the survey. Compensation was provided in the form of points on the Alchemer panel system, which can be redeemed for gift cards, prize drawings, and retail deals. To qualify for the survey, respondents must have been 21 years of age or older at the time of participation and reside in of the following cities and counties in northern Virginia: Fairfax County, Loudoun County, Prince William County, Arlington County, and Alexandria.

2 SUMMARY OF 2024 FINDINGS

2.2 Participant Characteristics

The final dataset includes surveys of 500 adults residing in Northern Virginia. Northern Virginia is defined as the following cities and counties: Fairfax County, Loudoun County, Prince William County, Arlington County, and Alexandria. All participants were above 21 years of age.

A demographic summary of survey participants is provided in Table 1. Survey participants were about evenly split between women (50.0%) and men (49.6%), with 0.4% identifying as non-binary or gender non-conforming. All participants were above 21 years of age. The most common age groups were between ages 35 and 44 (22.8%) and ages 25 to 34 (21.2%). Ages 75 and older were the least common, at 7.2% of participants. White respondents make up over 50%

of the sample and African American or Black respondents comprised just over one-quarter of the sample.

The locality with the most survey respondents is Fairfax County (not Fairfax City, Herndon, or Vienna) at 17.6% followed by Loudoun County (not Leesburg) at 13.2% with Falls Church (2.4%) and Manassas Park (1.2%) having the smallest rates in the sample. Household income is fairly evenly split amongst participants, with most participants living in a household with an income between $50,000 and $124,999.

About three-fourths of the sample have lived in their residence between 1 and 9 years, while 22.2% have lived in their current residence for 10 to 19 years and 25.8% have for 20 or more years. A majority of participants (62.2%) own their residence. Most participants also have a lawn or garden in their home (80.2%) and a majority also own or lease a vehicle (86.0%). Slightly less than half of participants (42.8%) own at least one dog.

Almost all participants report that English is their primary language (90.6%); the remaining 9.4% of respondents report a variety of languages as their primary language. The survey was administered in English only, and therefore all respondents are fluent in English.

Respondents report working in a wide variety of occupations, though the largest occupation category reported is “retired”.

Table 1. Survey participant demographic characteristics.

Demographic	Subcategory	Percentage
Gender	Female	50.0%
	Male	49.6%
	Non-binary/non-conforming	0.4%
Age	21 to 24	8.4%
	25 to 34	21.2%
	35 to 44	22.8%
	45 to 54	14.8%
	55 to 64	13.8%
	65 to 74	11.8%
	75 or older	7.2%
Residence Type	Owned	62.2%
	Rented	35.0%
	Military housing	0.6%
	Transitional housing	0.4%
	Other	1.8%

Demographic	Subcategory	Percentage
Locality	Alexandria	13.0%
	Arlington	11.8%
	Fairfax County, but not one of the cities/towns listed	17.6%
	Fairfax County: Fairfax City	9.8%
	Fairfax County: Herndon	4.0%
	Fairfax County: Vienna	3.2%
	Falls Church	2.4%
	Loudoun County, but not Leesburg	13.2%
	Loudoun County: Leesburg	5.6%
	Prince William County, but not one of the cities/towns listed	8.8%
	Prince William County: Dumfries	4.4%
	Prince William County: Manassas	5.0%
	Prince William County: Manassas Park	1.2%
Occupation	Accommodation/hospitality and food services	0.8%
	Administrative	3.6%
	Agriculture, forestry, fishing and hunting, and mining	1.6%
	Arts, entertainment, and recreation	1.4%
	Construction	4.0%
	Currently unemployed	8.4%
	Educational services	3.8%
	Finance and insurance	5.4%
	Health care and/or social assistance	5.0%
	Information or information technology	7.6%
	Manufacturing	3.0%
	Other - Write In (Required)	6.4%
	Other services	6.8%
	Professional and/or scientific	4.4%
	Public administration	2.2%
	Real estate and/or rental and leasing	1.8%
	Retail trade	8.2%
	Retired	17.0%
	Student only (no other occupation)	3.4%
	Transportation and warehousing	1.6%
	Utilities	1.2%
	Waste management services	0.4%
	Wholesale trade	2.0%
Income	Less than $35,000	12.6%
	$35,000 to $49,999	11.2%
	$50,000 to $74,999	13.0%
	$75,000 to $99,999	21.2%

Demographic	Subcategory	Percentage
	$100,000 to $124,999	14.2%
	$125,000 to $149,999	9.0%
	$150,000 to $174,999	4.4%
	$175,000 to $199,999	5.4%
	$200,000 or greater	9.0%
Race	African American/Black	25.0%
	American Indian/Native Alaskan	2.0%
	Asian	16.0%
	Hispanic/Latino	10.4%
	Native Hawaiian/Pacific Islander	0.2%
	White/Caucasian	52.2%
	Other - Write In	1.4%
Language	Amharic or Somali	0.2%
	Arabic	0.6%
	Chinese	0.8%
	English	90.6%
	Korean	1.4%
	Other - Write In (Required)	1.2%
	Spanish	3.4%
	Tagalog (including Filipino)	0.6%
	Urdu	0.2%
	Vietnamese	1.0%
Residence Years	Less than 1 year	7.2%
	1 to 3 years	21.8%
	4 to 9 years	23.0%
	10 to 19 years	22.2%
	20 or more years	25.8%
Lawn or Garden at Residence	Yes	80.2%
	No	19.4%
Own or Lease a Vehicle	Yes	86.0%
	No	13.2%
Dog Ownership	Yes	42.8%
	No	56.6%

2.3 Behaviors and Behavioral Drivers

2.3.3 Lawn/Garden Fertilization

Respondents were asked about their behavior regarding lawns or gardens and if their residence has a lawn or garden of any size. Results are summarized in Table 2 and displayed in

Figure 1. Most of those surveyed (80.2%) report having a lawn or garden, no matter how small. Of those with a lawn or garden, 65.8% report using a lawn care service at least once per year and almost all (93.0%) are familiar with how their lawn is cared for. Respondents with lawns were asked how often their lawns were fertilized, regardless of whether fertilization was done by someone in the household or an outside service. The response options were "1 time a year", "2 times a year", "3 times a year", "4+ times a year", "Only if/when a soil test indicates the grass needs fertilizer", "Never", or "Not sure". Far fewer (11.1%) fertilize only when a soil test indicates the grass needs fertilizer, and 15.2% never fertilize their lawn or garden.

Lawn and garden fertilization behaviors generally did not differ between demographic subgroups, with the exception that home owners more frequently report being familiar with their lawn care than do renters.

Table 2. Lawn and garden fertilization behaviors by demographic group.

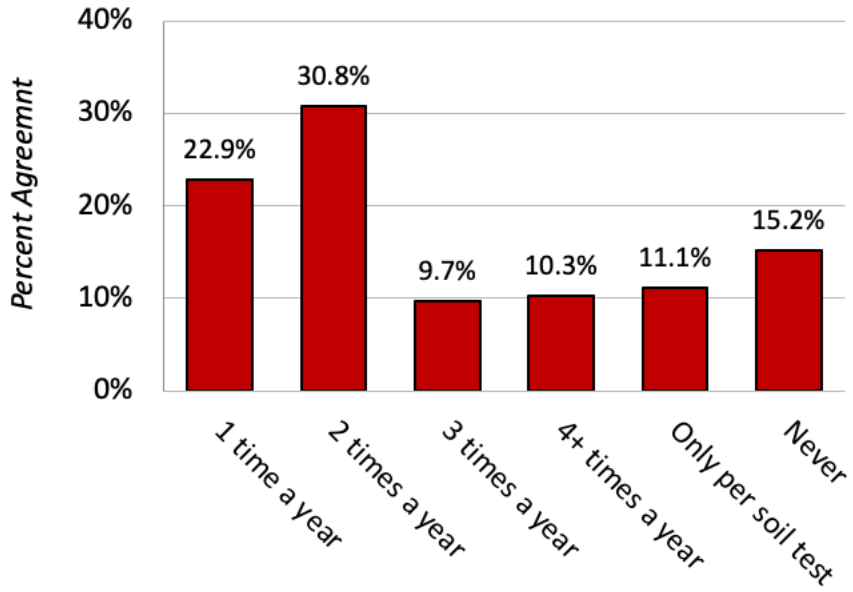
Demographic	Sub-category	Familiar with Lawn/ Garden Care	Lawn Care Service Used 1+ times a Year	Frequency of Lawn Fertilization					
				1x per year	2x per year	3x per year	4x per year	Only per soil test	Never
	All Respondents	**93.0%**	**65.8%**	**22.9%**	**30.8%**	**9.7%**	**10.3%**	**11.1%**	**15.2%**
Gender	Male	95.3%	64.2%	24.9%	28.0%	8.8%	9.8%	11.9%	16.6%
	Female	90.8%	68.0%	20.4%	34.7%	10.9%	10.9%	10.2%	12.9%
Age	21 to 24	87.5%	59.4%	20.8%	33.3%	12.5%	4.2%	16.7%	12.5%
	25 to 34	89.9%	77.2%	19.7%	34.8%	13.6%	12.1%	12.1%	7.6%
	35 to 44	93.9%	75.5%	16.7%	30.0%	14.4%	17.8%	11.1%	10.0%
	45 to 54	95.4%	65.6%	39.3%	25.0%	3.6%	7.1%	12.5%	12.5%
	55 to 64	92.0%	41.2%	20.5%	38.5%	2.6%	5.1%	5.1%	28.2%
	65 to 74	97.9%	58.3%	26.1%	26.1%	6.5%	4.3%	8.7%	28.3%
	75 or older	92.6%	65.4%	15.0%	30.0%	10.0%	10.0%	15.0%	20.0%
Locality	Alexandria	85.0%	72.5%	24.1%	31.0%	6.9%	13.8%	10.3%	13.8%
	Arlington	86.0%	72.7%	31.4%	22.9%	8.6%	20.0%	2.9%	14.3%
	Fairfax - Inclusive	92.1%	64.5%	24.8%	28.7%	10.1%	7.0%	12.4%	17.1%
	Prince William - Inclusive	98.8%	57.8%	23.3%	31.5%	5.5%	8.2%	15.1%	16.4%

Demographic	Sub-category	Familiar with Lawn/ Garden Care	Lawn Care Service Used 1+ times a Year	Frequency of Lawn Fertilization					
				1x per year	2x per year	3x per year	4x per year	Only per soil test	Never
	Leesburg/Loudon	96.3%	69.6%	14.7%	37.3%	14.7%	12.0%	9.3%	12.0%
Ethnicity	Not Hispanic/Latino	92.3%	66.1%	23.6%	30.1%	9.7%	10.0%	11.3%	15.2%
	Hispanic/Latino	**	63.2%	15.6%	37.5%	9.4%	12.5%	9.4%	15.6%
Years of Residence	Less than 1 year	83.3%	55.6%	30.8%	30.8%	7.7%	23.1%	**	7.7%
	1 to 3 years	94.5%	54.2%	27.0%	31.7%	6.3%	6.3%	11.1%	17.5%
	4 to 9 years	87.4%	77.0%	15.9%	33.3%	10.1%	11.6%	15.9%	13.0%
	10 to 19 years	92.9%	71.4%	21.4%	27.4%	15.5%	11.9%	13.1%	10.7%
	20 or more years	97.6%	61.8%	25.0%	31.3%	7.1%	8.9%	8.0%	19.6%
Home Ownership	Owned	95.9%	68.5%	21.1%	31.3%	10.6%	11.3%	10.2%	15.5%
	Rented	86.9%	59.6%	27.1%	28.6%	7.1%	7.1%	15.7%	14.3%
Household Income	Less than $35,000	90.7%	47.6%	21.2%	30.3%	6.1%	9.1%	12.1%	21.2%
	$35,000 to $49,999	88.6%	60.0%	25.0%	29.2%	**	8.3%	25.0%	12.5%
	$50,000 to $74,999	93.5%	50.0%	40.0%	20.0%	2.5%	2.5%	15.0%	20.0%
	$75,000 to $99,999	93.5%	71.7%	23.8%	32.5%	6.3%	11.3%	8.8%	17.5%
	$100,000 to $124,999	93.2%	74.1%	22.2%	27.8%	16.7%	11.1%	11.1%	11.1%
	$125,000 to $149,999	92.9%	76.2%	22.2%	27.8%	16.7%	8.3%	11.1%	13.9%
	$150,000 to $174,999	**	73.7%	5.0%	50.0%	5.0%	10.0%	15.0%	15.0%
	$175,000 to $199,999	95.8%	70.8%	4.3%	34.8%	30.4%	21.7%	8.7%	**
	$200,000 or greater	92.3%	65.0%	25.8%	35.5%	6.5%	12.9%	**	19.4%

** Red font indicates significant differences within a demographic subgroup.*

*** Insufficient data for between-group comparison.*

Figure 1. Frequency of lawn fertilization.



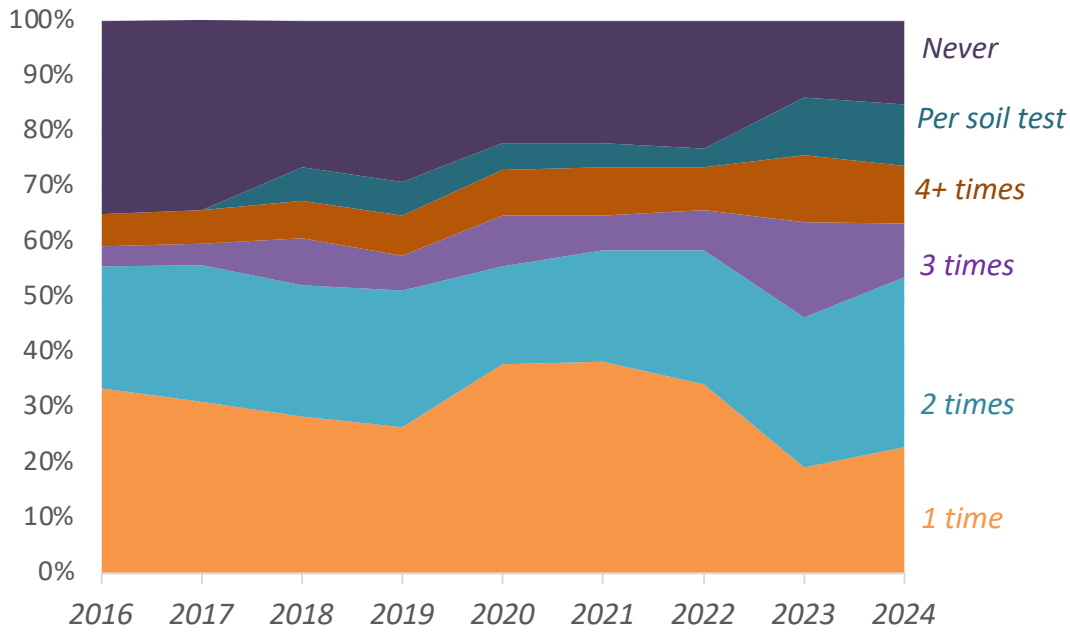
Reported frequency of lawn fertilization from 2016-2024 can be seen in Table 3. Respondents in 2020 and 2021 reported fertilizing their lawn *once per year* at higher rates than 2024 respondents. Additionally, respondents in 2020 reported lower rates of fertilizing *two* times per year than 2024 respondents. In 2022, the frequency of fertilizing per a soil test was less than in 2024 and from 2016-2019 the frequency of respondents never fertilizing their lawn was greater than in 2024.

Table 3. Lawn fertilization frequency across years.

Year of Survey									
Frequency of Lawn Fertilization	2016	2017	2018	2019	2020	2021	2022	2023	2024
1 time	33.6%	31.0%	28.4%	26.4%	37.8%	38.3%	34.3%	19.3%	22.9%
2 times	22.0%	24.8%	23.9%	24.8%	17.7%	20.3%	24.1%	27.1%	30.8%
3 times	3.6%	3.8%	8.3%	6.4%	9.2%	6.2%	7.3%	17.3%	9.7%
4+ times	5.8%	6.2%	6.8%	7.2%	8.4%	8.6%	7.7%	12.0%	10.3%
Per soil test	*	*	6.1%	6.0%	4.8%	4.5%	3.5%	10.5%	11.1%
Never	35.0%	34.3%	26.5%	29.2%	22.1%	22.1%	23.1%	13.8%	15.2%

** Red font indicates that the value significantly differs from the current 2024 value.*
Asterisks (*) indicate that the question did not appear in the survey that year.

Figure 2. Lawn fertilization frequency across years.



2.3.4 Grass Clipping Disposal

Respondents that reported having a lawn or garden were asked how they dispose of their grass clippings. The provided response options were “Bagged and put in the regular trash”, “Bagged and put in compost/recycling bags for pick up”, “Left on the lawn/garden”, “Put in a compost

pile/bin", "Not sure", "Other", and "Not applicable/don't have grass clippings". As shown in Table 4 and Figure 3, the most common response is bagging the grass and putting it in compost or recycling for pickup, with 35.6% providing this response. The next most common response (32.2%) is leaving the grass on their lawn/garden, while 21.3% of respondents bag it and put it in the regular trash. Finally, 10.9% report putting their grass in a compost pile or bin. Older age groups had higher rates of leaving their grass clippings on the lawn, as did people from Fairfax.

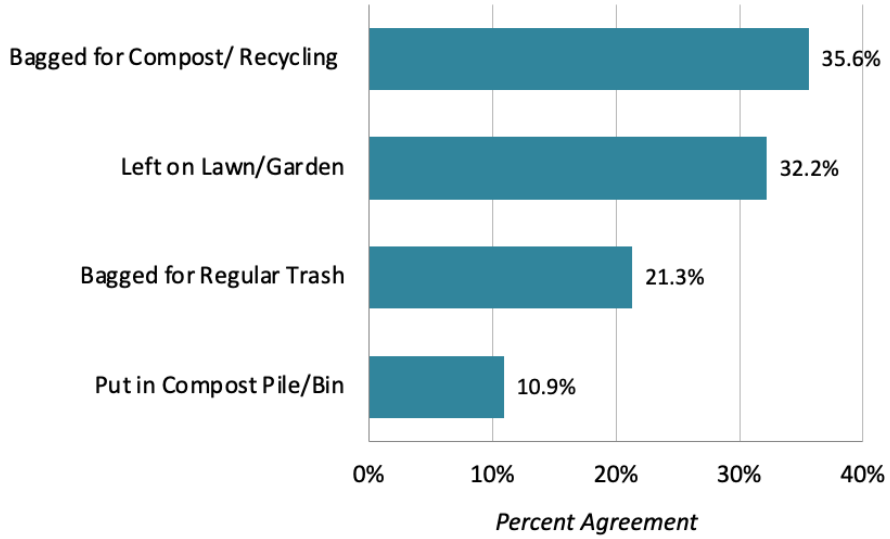
Table 4. Disposal of grass clippings by demographic group.

Demographic	Sub-category	Grass Clippings Handling			
		Bagged and put in Regular Trash	Bagged and put in Compost/ Recycling for Pickup	Left on Lawn/Garden	Put in Compost Pile/Bin
	All Respondents	**21.3%**	**35.6%**	**32.2%**	**10.9%**
Gender	Male	20.3%	33.2%	34.8%	11.8%
	Female	22.7%	39.0%	28.4%	9.9%
Age	21 to 24	31.8%	27.3%	27.3%	13.6%
	25 to 34	36.4%	27.3%	18.2%	18.2%
	35 to 44	25.9%	42.4%	21.2%	10.6%
	45 to 54	14.3%	41.1%	33.9%	10.7%
	55 to 64	10.5%	34.2%	55.3%	0.0%
	65 to 74	7.7%	41.0%	38.5%	12.8%
	75 or older	8.7%	21.7%	65.2%	4.3%
Locality	Alexandria	32.1%	32.1%	17.9%	17.9%
	Arlington	18.2%	54.5%	12.1%	15.2%
	Fairfax - Inclusive	16.0%	33.6%	42.0%	8.4%
	Prince William - Inclusive	29.5%	29.5%	33.3%	7.7%
	Leesburg/Loudon	18.3%	38.0%	29.6%	14.1%
Ethnicity	Not Hispanic/Latino	20.3%	35.9%	32.5%	11.2%
	Hispanic/Latino	29.4%	32.4%	29.4%	8.8%
Years of Residence	Less than 1 year	25.0%	25.0%	33.3%	16.7%
	1 to 3 years	25.0%	31.7%	31.7%	11.7%
	4 to 9 years	22.4%	35.8%	25.4%	16.4%
	10 to 19 years	31.7%	31.7%	28.0%	8.5%
	20 or more years	10.2%	41.7%	39.8%	8.3%
Home Ownership	Owned	19.4%	36.4%	34.4%	9.9%
	Rented	27.1%	34.3%	22.9%	15.7%
Household Income	Less than $35,000	29.0%	25.8%	38.7%	6.5%

Demographic	Sub-category	Grass Clippings Handling			
		Bagged and put in Regular Trash	Bagged and put in Compost/ Recycling for Pickup	Left on Lawn/Garden	Put in Compost Pile/Bin
	$35,000 to $49,999	28.0%	32.0%	36.0%	4.0%
	$50,000 to $74,999	13.9%	33.3%	41.7%	11.1%
	$75,000 to $99,999	20.3%	30.4%	36.7%	12.7%
	$100,000 to $124,999	22.0%	40.0%	20.0%	18.0%
	$125,000 to $149,999	24.3%	48.6%	16.2%	10.8%
	$150,000 to $174,999	13.3%	40.0%	33.3%	13.3%
	$175,000 to $199,999	27.3%	40.9%	22.7%	9.1%
	$200,000 or greater	14.7%	35.3%	44.1%	5.9%

** Red font indicates significant differences within a demographic subgroup.*

Figure 3. Disposal of grass clippings.



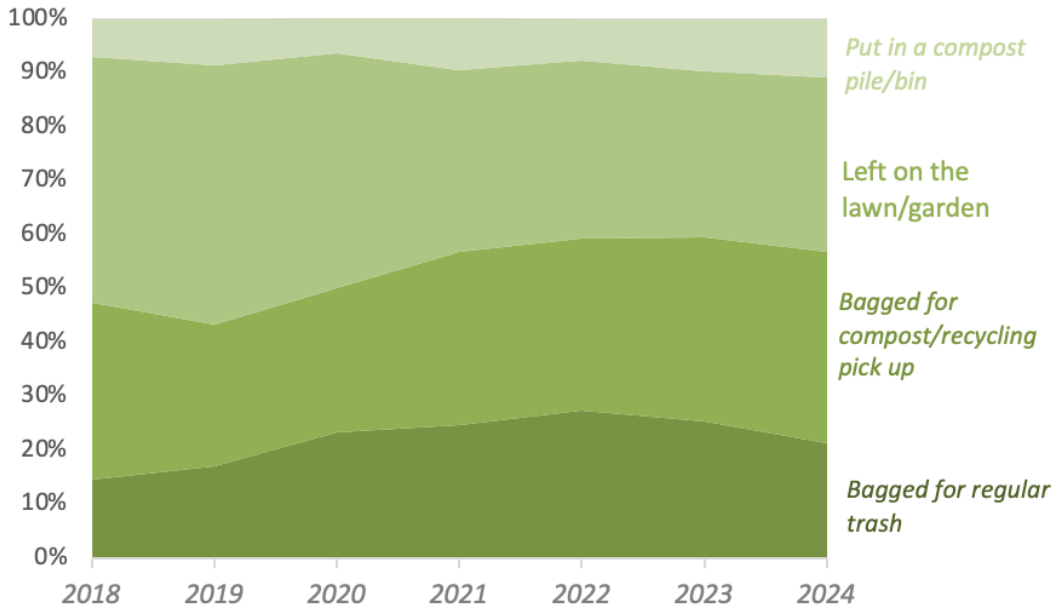
As can be seen in Table 5, respondents in 2018 and 2019 reported leaving grass clippings on their lawn or garden at higher rates than do 2024 respondents. Otherwise, there were no significant differences between this year's survey responses to this question and previous years.

Table 5. Disposal of grass clippings across years.

Year of Survey									
Grass clipping disposal	2016	2017	2018	2019	2020	2021	2022	2023	2024
Bagged for regular trash	*	*	14.5%	17.0%	23.3%	24.6%	27.3%	25.4%	21.3%
Bagged for compost/recycling pick up	*	*	32.8%	26.4%	26.7%	32.3%	32.0%	34.1%	35.6%
Left on the lawn/garden	*	*	45.7%	48.1%	43.8%	33.7%	33.1%	30.8%	32.2%
Put in a compost pile/bin	5.8%	6.2%	7.0%	8.5%	6.3%	9.5%	7.6%	9.7%	10.9%

** Red font indicates that the value significantly differs from the current 2024 value.*
Asterisks (*) indicate that the question did not appear in the survey that year.

Figure 4. Disposal of grass clippings across years.



Participants were also asked what is done with grass clippings if they end up in the street, if anything. The response options were "They are left there", "They are swept or blown back into the lawn", or "They are swept or blown into the storm drain". Of those with a lawn or garden, 65.5% report sweeping or blowing them back into their lawn, while 18.1% report sweeping or blowing them into the storm drain, as can be seen in Table 6 and Figure 5. Lastly, 16.5% report leaving their grass clippings in the street. Men report higher rates of leaving their grass clippings in the street, at 20.9% compared to 10.2% of women.

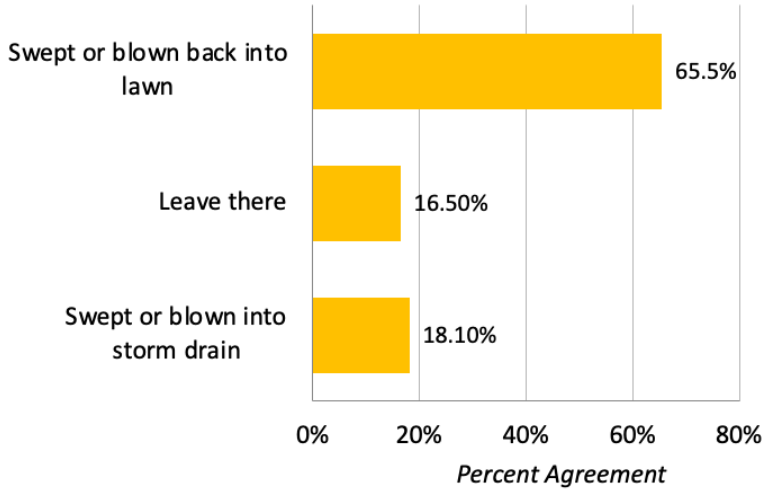
Table 6. Handling of grass clippings in street by demographic group.

Demographic	Sub-category	Grass Clippings on Street Handling		
		Leave There	Swept or Blown Back into the Lawn	Swept or Blown into Storm Drain
	All Respondents	**16.5%**	**65.5%**	**18.1%**
Gender	Male	20.9%	62.8%	16.3%
	Female	10.2%	69.3%	20.4%
Age	21 to 24	18.2%	45.5%	36.4%
	25 to 34	12.9%	61.3%	25.8%

Demographic	Sub-category	Grass Clippings on Street Handling		
		Leave There	Swept or Blown Back into the Lawn	Swept or Blown into Storm Drain
	35 to 44	17.2%	62.1%	20.7%
	45 to 54	15.4%	76.9%	7.7%
	55 to 64	22.9%	65.7%	11.4%
	65 to 74	14.3%	71.4%	14.3%
	75 or older	17.6%	76.5%	5.9%
Locality	Alexandria	21.4%	60.7%	17.9%
	Arlington	0.0%[2]	75.8%	24.2%
	Fairfax - Inclusive	17.4%	65.2%	17.4%
	Prince William - Inclusive	17.6%	66.2%	16.2%
	Leesburg/Loudon	19.7%	62.1%	18.2%
Ethnicity	Not Hispanic/Latino	17.2%	65.2%	17.6%
	Hispanic/Latino	9.7%	67.7%	22.6%
Years of Residence	Less than 1 year	7.7%	76.9%	15.4%
	1 to 3 years	12.3%	64.9%	22.8%
	4 to 9 years	12.3%	63.1%	24.6%
	10 to 19 years	22.5%	63.8%	13.8%
	20 or more years	17.9%	67.4%	14.7%
Home Ownership	Owned	19.1%	64.4%	16.5%
	Rented	7.4%	69.1%	23.5%
Household Income	Less than $35,000	12.0%	68.0%	20.0%
	$35,000 to $49,999	14.8%	59.3%	25.9%
	$50,000 to $74,999	11.4%	68.6%	20.0%
	$75,000 to $99,999	18.4%	60.5%	21.1%
	$100,000 to $124,999	16.7%	58.3%	25.0%
	$125,000 to $149,999	3.1%	90.6%	6.3%
	$150,000 to $174,999	29.4%	58.8%	11.8%
	$175,000 to $199,999	22.7%	63.6%	13.6%
	$200,000 or greater	25.0%	67.9%	7.1%

** Red font indicates significant differences within a demographic subgroup.*

Figure 5. Handling of grass clippings in the street.



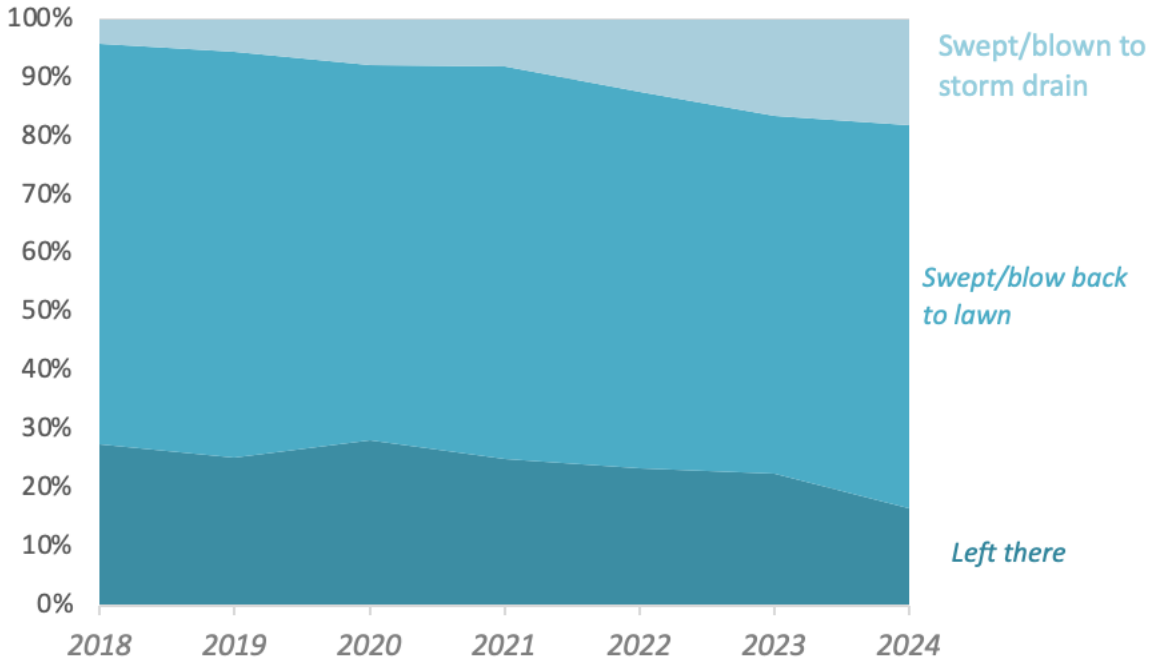
Survey respondents in 2018-2021 reported lower rates of sweeping or blowing grass clippings from the street into the storm drain than 2024 respondents. Otherwise, as shown in Table 7, there were no significant differences between previous years response rates when compared to 2024 survey response rates regarding handling of grass clippings in the street.

Table 7. Handling of grass clippings in the street across years.

	Year of Survey								
Grass clippings in street	2016	2017	2018	2019	2020	2021	2022	2023	2024
Left there	*	*	27.5%	25.3%	28.3%	25.1%	23.4%	22.6%	16.5%
Swept/blow back to lawn	*	*	68.4%	69.3%	63.9%	67.0%	64.2%	60.9%	65.5%
Swept/blown to storm drain	*	*	4.1%	5.3%	7.8%	7.9%	12.4%	16.6%	18.1%

** Red font indicates that the value significantly differs from the current 2024 value.*
Asterisks (*) indicate that the question did not appear in the survey that year.

Figure 6. Handling of grass clippings in the street across years.



2.3.5 Pet Waste Pickup

Respondents who indicated they are responsible or partially responsible for at least one dog were asked how often they pick up after their dog(s) while on a walk. The response options were "Always", "Usually", "Sometimes", "Rarely", "Never", or "Not applicable/I don't take the dog(s) on walks". These respondents were also asked how often they picked up after their dog(s) in their yard, where the response options ranged from "Daily" to "Never". The responses are summarized in Table 8 and displayed in Figure 7. Of all respondents, 43.1% report having one or more dog(s) in their household for which they are at least partially responsible. Most dog owners (87.1%) report they always or usually pick up after their dog(s) on walks. Most also report picking up after their dog(s) in the yard on a daily basis (58.9%) and fewer report picking up after their dog(s) on a weekly basis (23.9%).

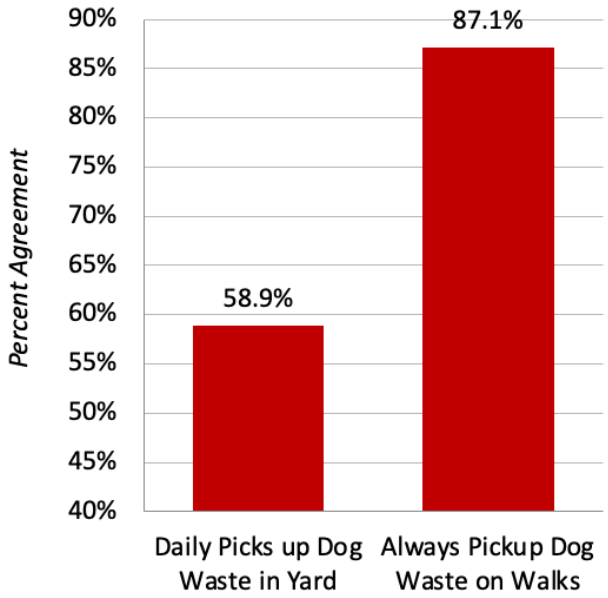
Generally, younger people reported owning dogs at a higher rate than older people. People aged 25 to 34 reported owning dogs at the highest rate (55.2%).

Table 8. Frequency of picking up dog waste by demographic group.

Demographic	Sub-category	Own a Dog	Always Pickup Dog Waste on Walks	Daily Picks up Dog Waste in Yard	Weekly Picks up Dog Waste in Yard
	All Respondents	**43.1%**	**87.1%**	**58.9%**	**23.9%**
Gender	Male	42.9%	83.7%	56.4%	26.6%
	Female	43.5%	90.6%	61.6%	20.9%
Age	21 to 24	46.3%	89.5%	58.8%	11.8%
	25 to 34	55.2%	79.3%	50.0%	36.0%
	35 to 44	51.3%	84.5%	61.2%	28.6%
	45 to 54	50.0%	94.4%	81.3%	3.1%
	55 to 64	36.2%	91.3%	47.1%	35.3%
	65 to 74	22.0%	100.0%	54.5%	18.2%
	75 or older	11.1%	100.0%	25.0%	0.0%
Locality	Alexandria	34.4%	86.4%	62.5%	25.0%
	Arlington	39.0%	78.3%	63.6%	22.7%
	Fairfax - Inclusive	41.8%	89.5%	61.9%	20.6%
	Prince William - Inclusive	47.4%	93.3%	56.4%	23.1%
	Leesburg/Loudon	49.5%	81.8%	52.5%	30.0%
Ethnicity	Not Hispanic/Latino	42.0%	88.0%	57.9%	25.8%
	Hispanic/Latino	51.9%	81.5%	66.7%	9.5%
Years of Residence	Less than 1 year	25.0%	77.8%	50.0%	25.0%
	1 to 3 years	38.0%	95.1%	58.1%	29.0%
	4 to 9 years	44.7%	86.0%	45.2%	28.6%
	10 to 19 years	57.3%	82.5%	62.7%	23.5%
	20 or more years	38.8%	89.4%	68.8%	16.7%
Home Ownership	Owned	50.5%	87.6%	60.4%	24.5%
	Rented	29.3%	90.2%	58.3%	19.4%
Household Income	Less than $35,000	30.2%	94.4%	66.7%	13.3%
	$35,000 to $49,999	29.1%	87.5%	38.5%	30.8%
	$50,000 to $74,999	39.1%	92.0%	68.8%	18.8%
	$75,000 to $99,999	48.1%	80.0%	57.8%	24.4%
	$100,000 to $124,999	46.5%	87.9%	50.0%	36.7%
	$125,000 to $149,999	54.5%	87.5%	76.2%	14.3%
	$150,000 to $174,999	45.5%	90.0%	57.1%	14.3%
	$175,000 to $199,999	48.1%	75.0%	38.5%	30.8%
	$200,000 or greater	51.1%	95.5%	70.0%	20.0%

** Red font indicates significant differences within a demographic subgroup.*

Figure 7.Frequency of picking up dog waste.



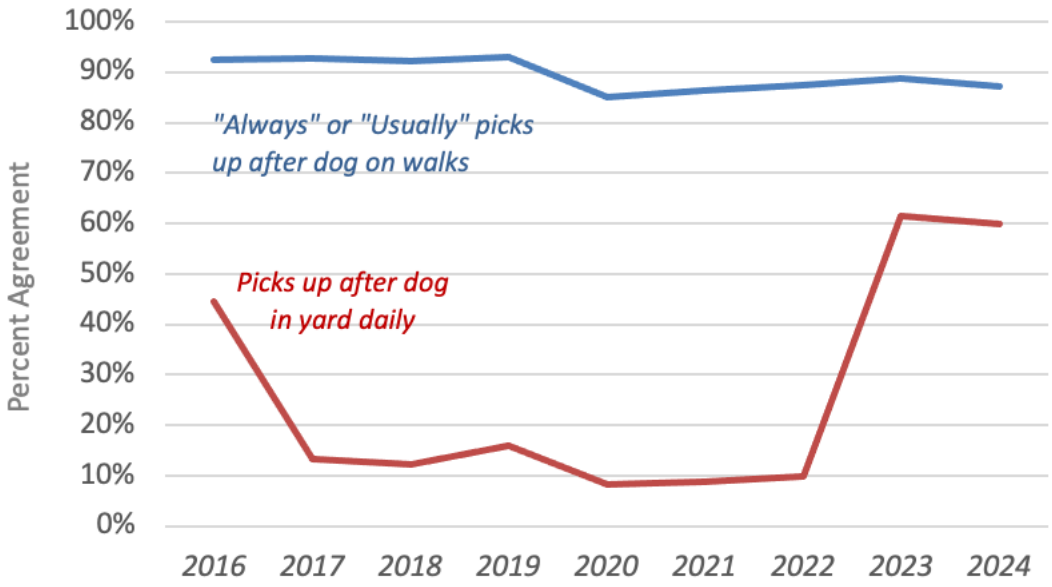
Rates of respondents reporting they “always” or “usually” pick up after their dog(s) on walks and pick after their dog(s) in the yard “daily” from 2016-2024 can be seen below in Table 9. From 2017-2022, reported rates of picking up from the yard daily were lower than in 2024. While "daily" is the most common response regarding frequency of picking in the yard in 2023 and 2024, "weekly" was the most common response in 2017-2022.

Table 9. Frequency of picking up dog waste across years.

	Year of Survey								
Survey Question Response	2016	2017	2018	2019	2020	2021	2022	2023	2024
"Always" or "Usually" picks up after dog on walks	92.4%	92.7%	92.1%	93.0%	85.0%	86.4%	87.5%	88.7%	87.1%
Picks up after dog in yard daily	44.6%	13.3%	12.2%	16.0%	8.3%	8.7%	9.9%	61.5%	59.9%

** Red font indicates that the value significantly differs from the current 2024 value.*

Figure 8. Frequency of picking up dog waste across years.



Participants who indicated that they pick up dog waste with any frequency either on walks or in their own yard were asked the most important reason for doing so, the results of which can be seen in Table 10 and Figure 9. The response options were “City/county ordinance”, “Don’t want to step in it”, “It causes water pollution”, “It is gross”, “It’s what good neighbors do”, “Odor”, or “Other reason”. In response to this question, 22.4% of dog owners report their most important reason being that it causes water pollution. Additionally, 18.6% report their most important reason being that it is required by city or county ordinances and 18.0% report doing so because it is what good neighbors do. Finally, 16.1% report doing so because it is gross, 14.9% don’t want to step in it, and 5.0% do so because of the odor. Hispanic/Latino respondents report higher rates of picking up dog waste because of a city/county ordinance.

Table 10. Most important reason for picking up dog waste by demographic group.

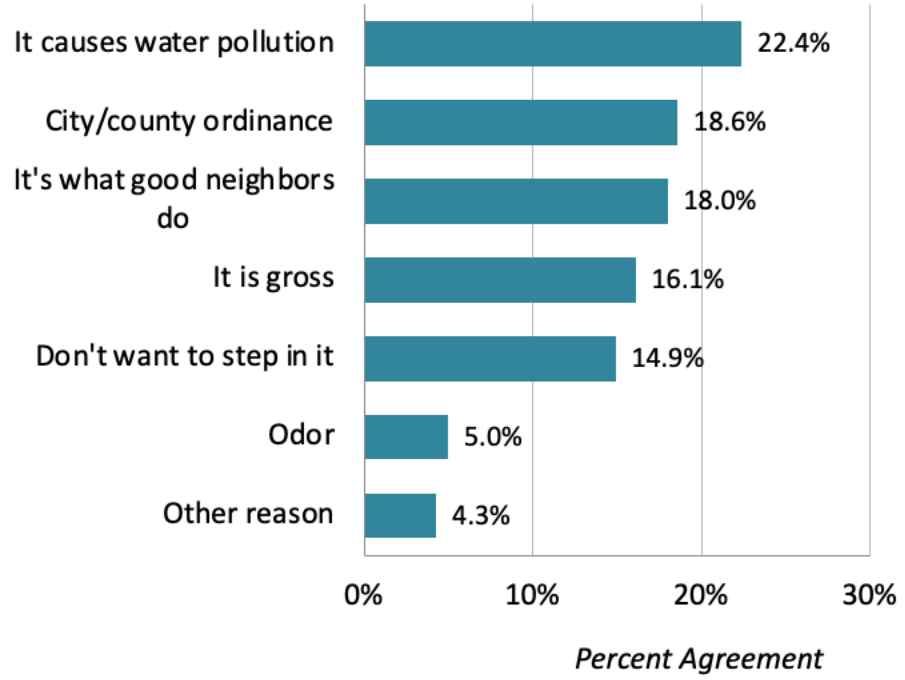
Demographic	Sub-category	Reason for Picking Up Dog Waste						
		City/county ordinance	Don't want to step in it	It causes water pollution	It is gross	It's what good neighbors do	Odor	Other reason
	All Respondents	**18.6%**	**14.9%**	**22.4%**	**16.1%**	**18.0%**	**5.0%**	**4.3%**

Demographic	Sub-category	Reason for Picking Up Dog Waste						
		City/county ordinance	Don't want to step in it	It causes water pollution	It is gross	It's what good neighbors do	Odor	Other reason
Gender	Male	21.2%	16.5%	23.5%	15.3%	18.8%	3.5%	1.2%
	Female	15.8%	13.2%	21.1%	17.1%	17.1%	6.6%	7.9%
Age	21 to 24	0.0%	21.4%	14.3%	42.9%	21.4%	0.0%	0.0%
	25 to 34	20.8%	14.6%	20.8%	16.7%	10.4%	12.5%	2.1%
	35 to 44	29.8%	12.8%	21.3%	10.6%	21.3%	2.1%	2.1%
	45 to 54	10.3%	17.2%	27.6%	13.8%	20.7%	3.4%	6.9%
	55 to 64	7.7%	7.7%	30.8%	15.4%	23.1%	0.0%	15.4%
	65 to 74	12.5%	25.0%	25.0%	12.5%	12.5%	0.0%	12.5%
	75 or older	50.0%	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%
Locality	Alexandria	33.3%	13.3%	13.3%	13.3%	13.3%	6.7%	6.7%
	Arlington	31.8%	4.5%	45.5%	9.1%	9.1%	0.0%	0.0%
	Fairfax - Inclusive	15.5%	20.7%	17.2%	17.2%	22.4%	3.4%	3.4%
	Prince William - Inclusive	18.8%	21.9%	18.8%	18.8%	15.6%	**	6.3%
	Leesburg/Loudon	8.8%	5.9%	23.5%	17.6%	20.6%	14.7%	5.9%
Ethnicity	Not Hispanic/Latino	16.3%	14.9%	23.4%	15.6%	18.4%	5.7%	5.0%
	Hispanic/Latino	35.0%	15.0%	15.0%	20.0%	15.0%	0.0%	**
Years of Residence	Less than 1 year	14.3%	28.6%	28.6%	14.3%	0.0%	0.0%	14.3%
	1 to 3 years	14.3%	28.6%	21.4%	14.3%	17.9%	3.6%	**
	4 to 9 years	24.3%	13.5%	16.2%	18.9%	18.9%	5.4%	2.7%
	10 to 19 years	22.9%	8.3%	18.8%	14.6%	27.1%	4.2%	2.1%
	20 or more years	12.2%	12.2%	31.7%	17.1%	9.8%	7.3%	9.8%
Home Ownership	Owned	18.4%	13.6%	22.4%	17.6%	19.2%	4.8%	4.0%
	Rented	15.6%	21.9%	25.0%	12.5%	9.4%	6.3%	6.3%
Household Income	Less than $35,000	7.7%	30.8%	23.1%	15.4%	23.1%	0.0%	**
	$35,000 to $49,999	27.3%	18.2%	36.4%	18.2%	0.0%	0.0%	0.0%
	$50,000 to $74,999	35.7%	14.3%	14.3%	14.3%	14.3%	7.1%	0.0%
	$75,000 to $99,999	20.5%	12.8%	15.4%	23.1%	12.8%	7.7%	7.7%
	$100,000 to $124,999	14.3%	10.7%	35.7%	10.7%	21.4%	7.1%	0.0%
	$125,000 to $149,999	25.0%	0.0%	20.0%	20.0%	15.0%	5.0%	10.0%
	$150,000 to $174,999	**	42.9%	0.0%	28.6%	14.3%	14.3%	**

Demographic	Sub-category	Reason for Picking Up Dog Waste						
		City/county ordinance	Don't want to step in it	It causes water pollution	It is gross	It's what good neighbors do	Odor	Other reason
	$175,000 to $199,999	40.0%	10.0%	20.0%	0.0%	30.0%	**	**
	$200,000 or greater	**	21.1%	26.3%	10.5%	31.6%	**	10.5%

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for between-group comparison.*

Figure 9. Reason for picking up dog waste.



Below, in Table 11, survey responses from 2016-2024 regarding reasons for picking up dog waste can be seen. In 2016, fewer respondents reported their reason for picking up dog waste as a city or county ordinance, compared to 2024 respondents. Survey respondents in 2020 reported lower rates of picking up dog waste because it causes water pollution, compared to 2024 respondents. Finally, respondents to this survey question in the years 2016, 2017, 2019, and 2020

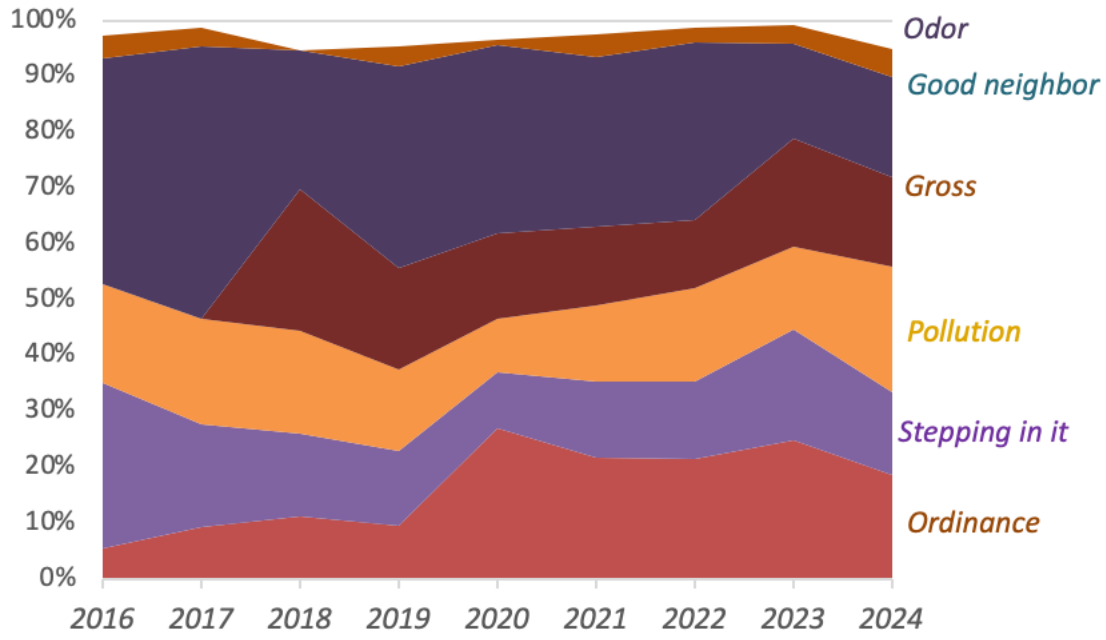
reported higher rates of picking up dog waste because it's what good neighbors do, compared to 2024 respondents.

Table 11. Reason for picking up dog waste across years.

Year of Survey									
Reason	2016	2017	2018	2019	2020	2021	2022	2023	2024
City/county ordinance	5.5%	9.2%	11.1%	9.4%	27.0%	21.6%	21.4%	24.9%	18.6%
Don't want to step in it	29.5%	18.4%	15.0%	13.5%	10.1%	13.7%	13.9%	19.8%	14.9%
It causes water pollution	17.8%	19.1%	18.3%	14.6%	9.6%	13.7%	16.8%	14.8%	22.4%
It is gross	*	*	25.5%	18.1%	15.2%	14.1%	12.2%	19.4%	16.1%
It's what good neighbors do	40.4%	48.7%	24.8%	36.3%	33.7%	30.3%	31.9%	16.9%	18.0%
Odor	4.1%	3.3%	*	3.5%	1.1%	4.1%	2.5%	3.4%	5.0%
Other reason	2.7%	1.3%	5.2%	4.7%	3.4%	2.5%	1.3%	0.8%	4.3%

** Red font indicates that the value significantly differs from the current 2024 value.*
Asterisks (*) indicate that the question did not appear in the survey that year.

Figure 10. Reason for picking up pet waste across years.



2.3.6 Behaviors Related to Vehicles

Respondents were next asked about their behavior regarding changing motor oil and how the used motor oil is disposed. Because the survey queries knowledge and behaviors regarding changing the motor oil of their personal vehicles, respondents were first asked if they own a personal vehicle. The majority of respondents (86.7%) report having a personal vehicle that they own or lease, as seen in Table 12. Alexandria and Arlington had lower rates of owning or leasing a personal vehicle while Leesburg/Loudon had the highest rates. People who own their home have higher rates of owning or leasing a vehicle and rates of vehicle ownership tended to increase with higher household incomes.

2.3.6.1 Disposing of Motor Oil

Those who own or lease a personal vehicle were then asked how they dispose of motor oil when their vehicle oil is changed (Table 12 and Figure 11). Response options were “I don’t change the oil myself/I take it to a garage/oil change service”, “Take the motor oil to a gas station or hazmat facility for recycling”, “Store it in my garage”, “Put it in the trash”, “Dump it in the gutter or down the storm sewer”, “Dump it down the sink”, “Dump it on the ground”, and an option to

write-in another method not listed. Most of these respondents (59.8%) report taking their vehicle to a garage or oil changing service when the oil needs to be changed. Additionally, 23.5% report taking the old motor oil to a gas station or hazmat facility, 7.0% store it in their garage, 5.6% put it in the trash, 1.6% dump it in the gutter or storm drain, 1.2% dump it on the ground, and no respondents report dumping it down the sink.

Men reported using a gas station or hazmat facility at higher rates than women. Older respondents reported higher rates of using an oil change service, as did Hispanic/Latino respondents and renters. Hispanic/Latino respondents also reported higher rates of putting their motor oil in the trash. Finally, home owners reported higher rates of using a gas station or hazmat facility.

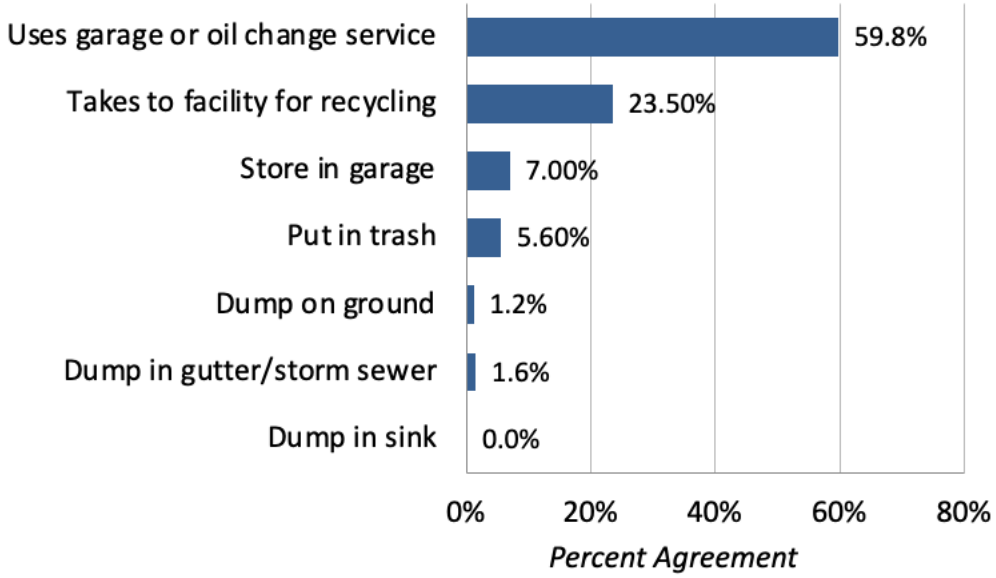
Table 12. Vehicle possession and motor oil disposal by demographic group.

Demographic	Sub-category	Own or Lease Vehicle	Motor Oil Disposal						
		Yes, own/ lease vehicle	Uses a Garage or Oil Change Service	Gas Station or Hazmat Facility	Store in Garage	Put in the Trash	Dump in Gutter or Storm Sewer	Dump in Sink	Dump on Ground
	All Respondents	**86.7%**	**59.8%**	**23.5%**	**7.0%**	**5.6%**	**1.6%**	**0.0%**	**1.2%**
Gender	Male	87.1%	56.0%	28.2%	6.0%	6.0%	0.5%	1.4%	1.9%
	Female	87.0%	63.6%	18.7%	7.9%	5.1%	2.8%	0.9%	0.9%
Age	21 to 24	85.4%	51.4%	31.4%	8.6%	5.7%	2.9%	0.0%	0.0%
	25 to 34	89.5%	47.9%	26.6%	10.6%	10.6%	2.1%	1.1%	1.1%
	35 to 44	88.5%	40.0%	28.0%	15.0%	11.0%	3.0%	3.0%	0.0%
	45 to 54	83.8%	71.0%	22.6%	1.6%	1.6%	0.0%	0.0%	3.2%
	55 to 64	88.4%	70.5%	27.9%	1.6%	0.0%	0.0%	0.0%	0.0%
	65 to 74	83.1%	87.8%	8.2%	0.0%	0.0%	2.0%	2.0%	0.0%
	75 or older	82.9%	82.8%	6.9%	0.0%	0.0%	0.0%	0.0%	10.3%
Locality	Alexandria	80.0%	71.2%	15.4%	3.8%	9.6%	0.0%	0.0%	0.0%
	Arlington	78.0%	50.0%	28.3%	10.9%	8.7%	0.0%	0.0%	2.2%
	Fairfax - Inclusive	89.1%	64.4%	22.1%	6.1%	4.9%	1.8%	0.0%	0.6%
	Prince William - Inclusive	84.5%	56.1%	24.4%	4.9%	4.9%	2.4%	4.9%	2.4%
	Leesburg/Loudon	94.6%	52.9%	27.6%	10.3%	3.4%	2.3%	1.1%	2.3%
Ethnicity	Not Hispanic/Latino	86.9%	61.4%	22.8%	6.5%	4.7%	1.8%	1.3%	1.6%
	Hispanic/Latino	84.6%	45.5%	29.5%	11.4%	13.6%	**	**	**
	Less than 1 year	75.0%	70.4%	7.4%	11.1%	7.4%	3.7%	0.0%	0.0%

Demographic	Sub-category	Own or Lease Vehicle	Motor Oil Disposal						
		Yes, own/ lease vehicle	Uses a Garage or Oil Change Service	Gas Station or Hazmat Facility	Store in Garage	Put in the Trash	Dump in Gutter or Storm Sewer	Dump in Sink	Dump on Ground
Years of Residence	1 to 3 years	83.5%	67.0%	22.0%	4.4%	3.3%	2.2%	1.1%	0.0%
	4 to 9 years	85.8%	57.7%	21.6%	8.2%	7.2%	3.1%	1.0%	1.0%
	10 to 19 years	90.0%	43.4%	27.3%	13.1%	9.1%	0.0%	3.0%	4.0%
	20 or more years	90.6%	67.2%	26.7%	1.7%	2.6%	0.9%	0.0%	0.9%
Home Ownership	Owned	94.5%	55.7%	27.1%	7.2%	5.5%	1.7%	1.0%	1.7%
	Rented	74.7%	67.7%	16.9%	6.9%	4.6%	1.5%	1.5%	0.8%
Household Income	Less than $35,000	60.3%	60.5%	26.3%	0.0%	2.6%	5.3%	2.6%	2.6%
	$35,000 to $49,999	76.4%	57.1%	23.8%	7.1%	7.1%	2.4%	0.0%	2.4%
	$50,000 to $74,999	95.3%	67.2%	19.7%	6.6%	4.9%	0.0%	0.0%	1.6%
	$75,000 to $99,999	89.6%	63.2%	17.9%	9.5%	7.4%	1.1%	1.1%	0.0%
	$100,000 to $124,999	90.0%	50.8%	28.6%	7.9%	4.8%	3.2%	1.6%	3.2%
	$125,000 to $149,999	91.1%	56.1%	22.0%	14.6%	4.9%	2.4%	**	**
	$150,000 to $174,999	95.5%	66.7%	14.3%	4.8%	14.3%	**	**	**
	$175,000 to $199,999	96.2%	56.0%	28.0%	4.0%	4.0%	**	8.0%	0.0%
	$200,000 or greater	97.8%	59.1%	34.1%	2.3%	2.3%	**	**	2.3%

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for between-group comparison.*

Figure 11. Motor oil handling behaviors.



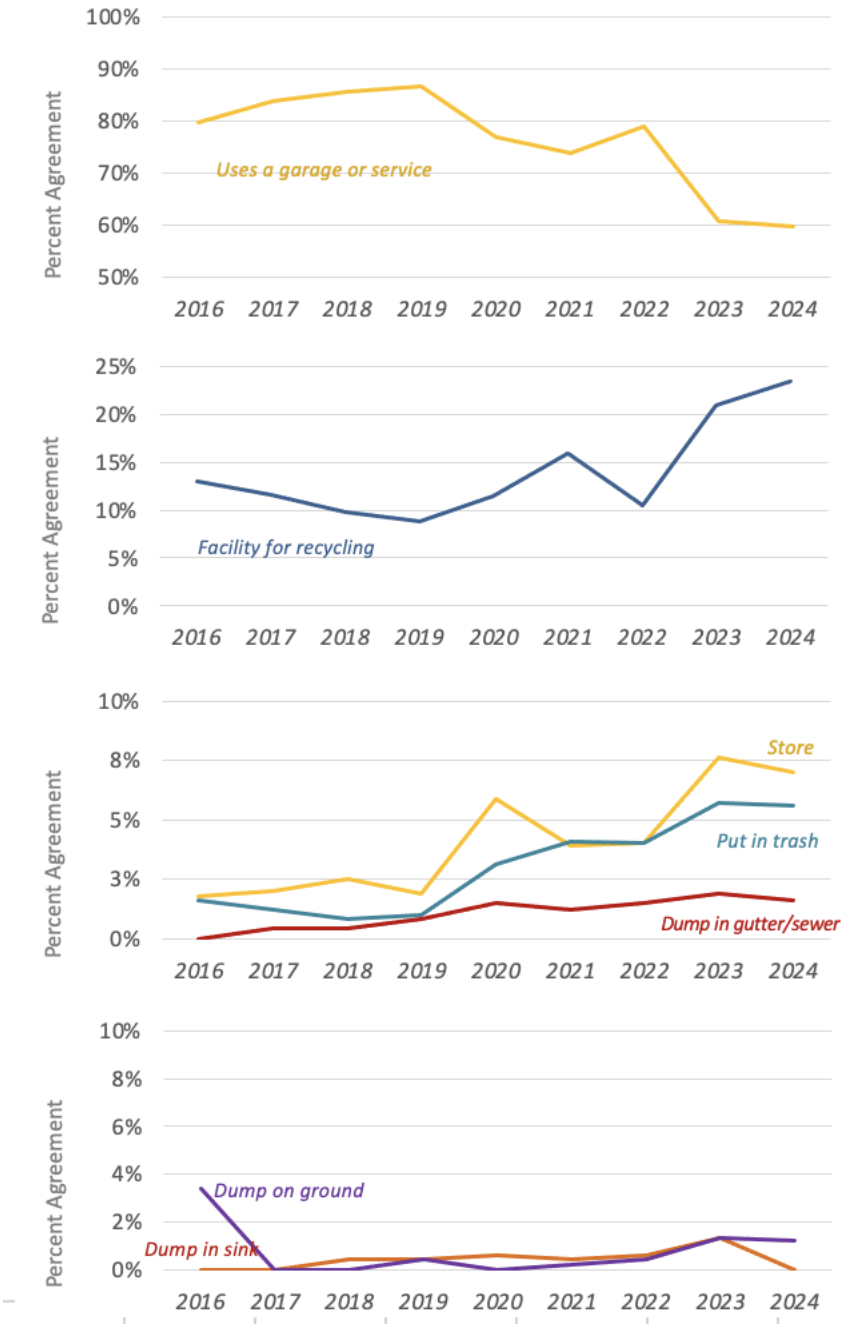
Reported motor oil handling behaviors from years 2016-2024 can be seen below in Table 13. First, reported use of using a garage or oil change service were higher from years 2016-2022 than in 2024. Survey respondents from years 2016-2020 along with 2022 report less frequent use of recycling facilities than 2024 respondents. Additionally, respondents in 2016-2021 reported less frequent oil storage, and respondents in 2016-2019 reported putting their motor oil in the trash less frequently than 2024 respondents.

Table 13. Motor oil handling behaviors across years.

Year of Survey									
Motor oil disposal	2016	2017	2018	2019	2020	2021	2022	2023	2024
Uses a Garage or Oil Change Service	79.8%	83.7%	85.7%	86.5%	76.8%	73.7%	78.9%	60.7%	59.8%
Facility for Recycling	13.0%	11.6%	9.8%	8.8%	11.5%	16.0%	10.5%	21.0%	23.5%
Store	1.8%	2.0%	2.5%	1.9%	5.9%	3.9%	4.0%	7.6%	7.0%
Put in the Trash	1.6%	1.2%	0.8%	1.0%	3.1%	4.1%	4.0%	5.7%	5.6%
Dump in Gutter/Sewer	0.0%	0.4%	0.4%	0.8%	1.5%	1.2%	1.5%	1.9%	1.6%
Dump in Sink	0.0%	0.0%	0.4%	0.4%	0.6%	0.4%	0.6%	1.3%	0.0%
Dump on Ground	3.4%	0.0%	0.0%	0.4%	0.0%	0.2%	0.4%	1.3%	1.2%

** Red font indicates that the value significantly differs from the current 2024 value.*

Figure 12. Motor oil handling behaviors across years.



2.3.6.2 Vehicle Washing

Participants who reported owning or leasing a vehicle were also asked about their vehicle washing behaviors. Respondents were asked where they have washed their personal vehicle in the past year, with response options being “At my home or someone else’s home”, “At a

commercial car wash", "I haven't washed my vehicle", and the option to write in another response not listed. Of those who own or lease a personal vehicle, 37.4% said they wash their car/truck at home, as shown in Table 14 and Figure 13. Home owners report washing their vehicle at home at higher rates than renters.

Table 14. Vehicle washing behaviors by demographic group.

Demographic	Sub-category	Wash Car at Home	Wash Car in Grass, Gravel, or Dirt	Wash Car using Enviro-Friendly Detergent	Wash Car using only Water (No Soap)	Wash Car at Commercial Location	Have not Washed Car in Past Year
	All Respondents	**37.4%**	**52.7%**	**51.6%**	**21.6%**	**64.0%**	**7.2%**
Gender	Male	41.5%	46.1%	51.0%	26.7%	66.5%	6.0%
	Female	33.6%	60.7%	52.4%	15.5%	62.0%	8.4%
Age	21 to 24	40.5%	75.0%	37.5%	29.4%	69.0%	4.8%
	25 to 34	43.4%	58.7%	65.2%	22.7%	72.6%	11.3%
	35 to 44	45.6%	61.5%	53.8%	28.8%	65.8%	3.5%
	45 to 54	43.2%	59.4%	43.8%	12.5%	56.8%	6.8%
	55 to 64	24.6%	17.6%	41.2%	11.8%	60.9%	10.1%
	65 to 74	28.8%	29.4%	52.9%	11.8%	54.2%	5.1%
	75 or older	16.7%	**	33.3%	33.3%	63.9%	8.3%
Locality	Alexandria	33.8%	45.5%	54.5%	36.4%	61.5%	10.8%
	Arlington	40.7%	66.7%	75.0%	9.1%	64.4%	5.1%
	Fairfax - Inclusive	36.8%	50.0%	36.8%	20.6%	61.1%	10.8%
	Prince William - Inclusive	33.0%	37.5%	40.6%	28.1%	67.0%	2.1%
	Leesburg/Loudoun	43.6%	65.0%	70.0%	17.1%	68.1%	4.3%
Ethnicity	Not Hispanic/Latino	38.2%	51.2%	52.9%	21.9%	63.2%	7.1%
	Hispanic/Latino	30.8%	68.8%	37.5%	18.8%	71.2%	7.7%
Years of Residence	Less than 1 year	19.4%	42.9%	42.9%	14.3%	52.8%	8.3%
	1 to 3 years	31.2%	44.1%	32.4%	15.2%	67.0%	5.5%
	4 to 9 years	38.3%	46.5%	60.5%	27.9%	60.0%	8.7%
	10 to 19 years	44.1%	65.3%	57.1%	30.6%	70.3%	5.4%
	20 or more years	41.1%	52.8%	52.8%	13.2%	62.8%	8.5%
Home Ownership	Owned	45.0%	54.0%	54.0%	21.0%	70.1%	7.7%
	Rented	25.1%	50.0%	45.5%	25.0%	54.3%	6.9%
Household Income	Less than $35,000	28.6%	50.0%	44.4%	16.7%	36.5%	3.2%
	$35,000 to $49,999	17.9%	60.0%	50.0%	30.0%	58.9%	5.4%
	$50,000 to $74,999	38.5%	58.3%	37.5%	29.2%	64.6%	7.7%

Demographic	Sub-category	Wash Car at Home	Wash Car in Grass, Gravel, or Dirt	Wash Car using Enviro-Friendly Detergent	Wash Car using only Water (No Soap)	Wash Car at Commercial Location	Have not Washed Car in Past Year
	$75,000 to $99,999	41.5%	40.9%	43.2%	20.9%	74.5%	5.7%
	$100,000 to $124,999	47.9%	50.0%	55.9%	14.7%	62.0%	14.1%
	$125,000 to $149,999	51.1%	52.2%	82.6%	21.7%	71.1%	4.4%
	$150,000 to $174,999	40.9%	66.7%	55.6%	22.2%	68.2%	4.5%
	$175,000 to $199,999	33.3%	88.9%	66.7%	44.4%	74.1%	11.1%
	$200,000 or greater	33.3%	53.3%	40.0%	13.3%	71.1%	8.9%

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for between-group comparison.*

Figure 13. Vehicle washing locations.

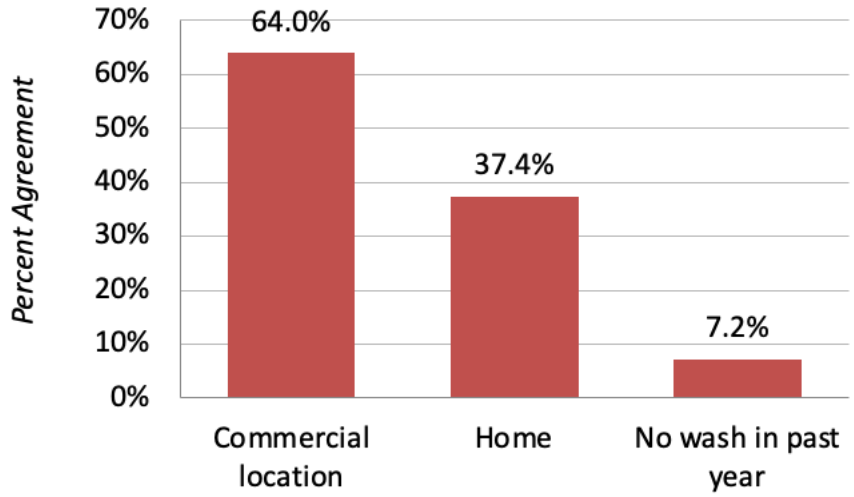
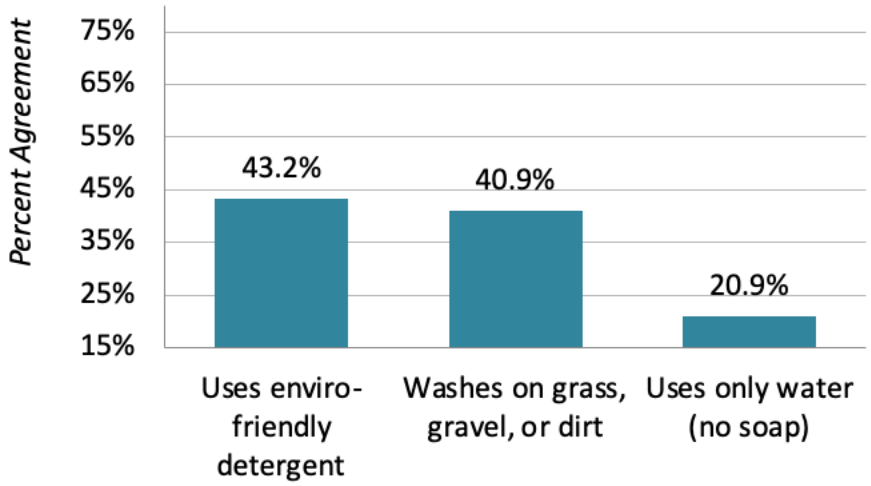


Figure 14. Desirable behaviors associated with vehicle washing.



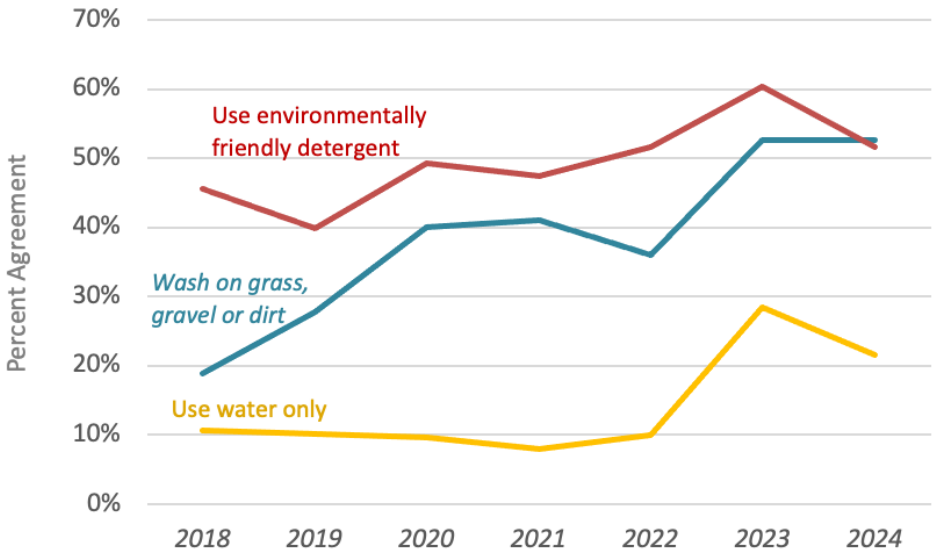
Below, Table 15 displays reported rates of vehicle washing behaviors from 2018-2024. Notably, reported rates of washing vehicles on grass, gravel or dirt were lower in 2018, 2019 and 2022 than in 2024. Additionally, reported use of only water to wash vehicles was lower in years 2018-2022 than in 2024.

Table 15. Vehicle washing behaviors across years.

	Year of Survey						
Vehicle washing behavior	2018	2019	2020	2021	2022	2023	2024
Wash on grass, gravel or dirt	18.8%	27.7%	40.1%	41.0%	36.0%	52.6%	52.7%
Use environmentally friendly detergent	45.6%	39.9%	49.2%	47.5%	51.7%	60.3%	51.6%
Use water only	10.7%	10.1%	9.6%	8.0%	10.0%	28.5%	21.6%

** Red font indicates that the value significantly differs from the current 2024 value.*

Figure 15. Vehicle washing behaviors across years.



Those who reported washing their vehicle at home were asked about their water quality-related behaviors when washing their car. Response options were "Yes", "No", and "Not sure" for the following statements:

- I wash it on the grass, gravel, or dirt
- I use environmentally friendly detergent
- I use water only (no soap or detergent)

Of the 21.0% of respondents that wash their vehicle at home, 52.7% report washing it on the grass, gravel, or dirt (Table 14 and Figure 14). Additionally, 51.6% report using environmentally friendly detergent. Respondents from Fairfax reported using environmentally friendly detergent at lower rates than respondents in other areas. Finally, 21.6% report only using water. A majority, 64.0%, report washing their vehicle at a commercial car wash. Home owners report washing their vehicle at commercial locations at higher rates than renters.

Next, those who report washing their vehicle at home were asked how many times per year they do so, with response options being "Less than once a year", "1-2 times per year", "3-4 times per year", "5-6 times per year", "7-12 times per year", "12+ times per year". These response rates can be seen in Table 16 and Figure 16. The most common response, at 27.3%, was 3-4 times per

year. Next, 23.5% report washing their vehicle at home 1-2 times per year, and 19.8% do so 5-6 times per year. Less commonly, 13.9% of those who wash their personal vehicle at home report doing so 7-12 times per year, 12.8% report doing so 12+ times per year, and 2.7% do so less than once per year. Hispanic participants reported washing vehicles 3-4 times per year at a lower rate than non-Latinos, 14.0% compared to 28.1% respectively. There are otherwise no demographic trends among frequency of home car washing.

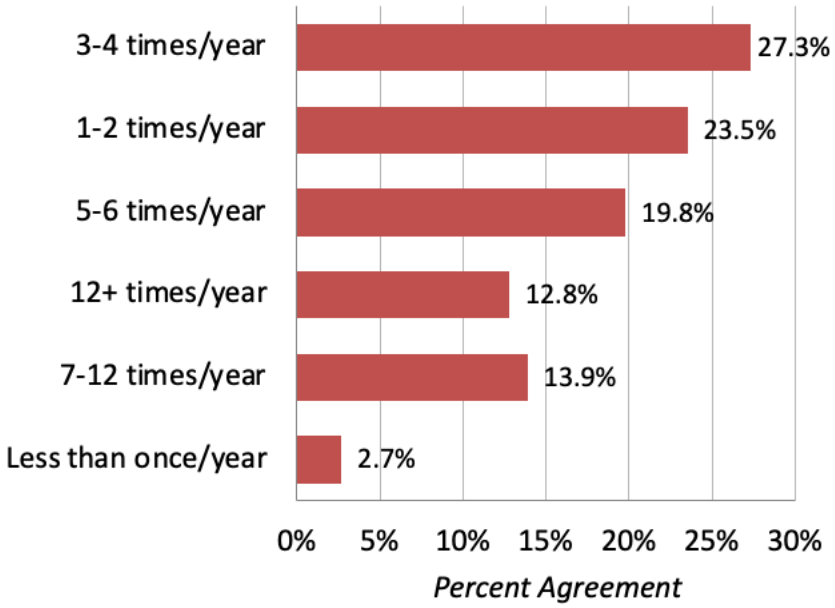
Table 16. Frequency of car washing at home by demographic group.

Demographic	Sub-category	Frequency of Car Washing at Home					
		Less than once a year	1-2 times per year	3-4 times per year	5-6 times per year	7-12 times per year	12+ times per year
	All Respondents	**2.7%**	**23.5%**	**27.3%**	**19.8%**	**13.9%**	**12.8%**
Gender	Male	4.0%	21.4%	24.6%	20.6%	13.3%	16.1%
	Female	4.2%	25.7%	29.9%	16.2%	11.4%	12.6%
Age	21 to 24	6.1%	31.8%	28.8%	10.6%	10.6%	12.1%
	25 to 34	2.7%	20.0%	23.6%	20.0%	14.5%	19.1%
	35 to 44	4.9%	14.8%	19.7%	26.2%	14.8%	19.7%
	45 to 54	5.9%	29.4%	33.3%	13.7%	11.8%	5.9%
	55 to 64	3.3%	23.3%	33.3%	13.3%	13.3%	13.3%
	65 to 74	0.0%	30.0%	43.3%	13.3%	6.7%	6.7%
	75 or older	0.0%	50.0%	25.0%	25.0%	0.0%	0.0%
Locality	Alexandria	5.4%	23.2%	21.4%	10.7%	16.1%	23.2%
	Arlington	4.8%	21.4%	33.3%	19.0%	4.8%	16.7%
	Fairfax - Inclusive	4.7%	27.6%	22.4%	18.8%	11.8%	14.7%
	Prince William - Inclusive	3.9%	24.7%	32.5%	14.3%	11.7%	13.0%
	Leesburg/Loudon	1.4%	11.1%	30.6%	29.2%	18.1%	9.7%
Ethnicity	Not Hispanic/Latino	4.0%	23.5%	28.1%	18.2%	12.8%	13.4%
	Hispanic/Latino	4.7%	18.6%	14.0%	23.3%	11.6%	27.9%
Years of Residence	Less than 1 year	13.0%	21.7%	21.7%	4.3%	26.1%	13.0%
	1 to 3 years	4.1%	27.8%	26.8%	13.4%	9.3%	18.6%
	4 to 9 years	2.8%	23.9%	26.6%	16.5%	11.0%	19.3%
	10 to 19 years	4.2%	17.7%	24.0%	27.1%	18.8%	8.3%
	20 or more years	3.3%	22.8%	30.4%	21.7%	8.7%	13.0%
Home Ownership	Owned	3.7%	22.6%	26.9%	22.3%	11.3%	13.3%
	Rented	4.6%	24.8%	26.6%	7.3%	16.5%	20.2%
	Less than $35,000	6.3%	37.5%	28.1%	3.1%	15.6%	9.4%

Demographic	Sub-category	Frequency of Car Washing at Home					
		Less than once a year	1-2 times per year	3-4 times per year	5-6 times per year	7-12 times per year	12+ times per year
Household Income	$35,000 to $49,999	3.1%	25.0%	25.0%	9.4%	18.8%	18.8%
	$50,000 to $74,999	4.3%	25.7%	14.3%	22.9%	17.1%	15.7%
	$75,000 to $99,999	2.3%	24.1%	19.5%	18.4%	16.1%	19.5%
	$100,000 to $124,999	5.2%	13.8%	43.1%	19.0%	8.6%	10.3%
	$125,000 to $149,999	3.6%	27.3%	29.1%	23.6%	3.6%	12.7%
	$150,000 to $174,999	3.8%	7.7%	38.5%	19.2%	11.5%	19.2%
	$175,000 to $199,999	10.5%	21.1%	21.1%	26.3%	15.8%	5.3%
	$200,000 or greater	2.6%	21.1%	31.6%	21.1%	7.9%	15.8%

** Red font indicates significant differences within a demographic subgroup.*

Figure 16. Frequency of car washing at home.



2.3.7 Home Landscaping Water Conservation

Respondents were asked about their familiarity with and possession of various water conservation methods including rain barrels, rain gardens, and conservation landscaping. Results are summarized in Table 17 and displayed in Figure 17. Survey participants were given a definition of each conservation method and asked "Which of the following statements are true for you?" with response options "Yes", "No", and "Don't know" for the listed statements (using rain barrels as an example):

- I have a rain barrel.
- I am familiar with rain barrels.
- I don't have a rain barrel but I'm interested in getting one.

When asked about rain barrels, 25.0% report having one, 70.4% report being familiar with them, and 38.2% are interested in getting one. Regarding rain gardens, 21.6% have one, 43.8% are familiar with them and 33.3% are interested in getting one. Finally, when asked about their familiarity with conservation landscaping, 28.6% report having it, 50.8% report being familiar with it and 33.3% report being interested in installing it.

Table 17. Familiarity with home water conservation methods by demographic group.

Demographic	Sub-category	Have Rain Barrel	Familiar with Rain Barrel	Want a Rain Barrel	Have Rain Garden	Familiar with Rain Garden	Want a Rain Garden	Have Cons. Landscape	Familiar with Cons. Landscape	Want Cons. Landscape
	All Respondents	**25.0%**	**70.4%**	**38.2%**	**21.6%**	**43.8%**	**33.3%**	**28.6%**	**50.8%**	**33.3%**
Gender	Male	22.6%	74.6%	42.3%	22.5%	48.5%	36.8%	33.1%	56.8%	34.6%
	Female	27.5%	66.0%	34.6%	20.9%	39.1%	30.2%	24.4%	45.1%	32.0%
Age	21 to 24	17.1%	48.7%	52.6%	17.5%	46.3%	30.8%	32.5%	51.2%	31.6%
	25 to 34	39.8%	62.1%	37.1%	32.3%	53.0%	40.4%	34.6%	49.5%	36.9%
	35 to 44	40.2%	70.9%	43.9%	35.1%	53.1%	37.6%	36.6%	58.0%	38.9%
	45 to 54	24.7%	75.7%	40.3%	16.9%	44.4%	32.9%	27.8%	55.6%	38.0%
	55 to 64	10.4%	79.7%	36.9%	7.5%	30.9%	33.8%	14.9%	37.3%	30.8%
	65 to 74	5.4%	74.1%	28.6%	12.3%	32.7%	23.6%	25.0%	51.9%	25.5%
	75 or older	**	82.4%	21.2%	3.1%	24.2%	15.2%	12.5%	45.5%	14.7%
Locality	Alexandria	12.3%	65.6%	39.1%	15.9%	50.0%	34.4%	12.3%	46.9%	32.8%
	Arlington	42.1%	80.4%	29.8%	33.3%	52.7%	29.1%	32.1%	52.7%	37.7%

Demographic	Sub-category	Have Rain Barrel	Familiar with Rain Barrel	Want a Rain Barrel	Have Rain Garden	Familiar with Rain Garden	Want a Rain Garden	Have Cons. Landscape	Familiar with Cons. Landscape	Want Cons. Landscape
	Fairfax - Inclusive	16.8%	64.0%	42.0%	16.4%	39.1%	31.6%	27.0%	49.2%	30.9%
	Prince William - Inclusive	21.1%	70.2%	40.0%	15.6%	37.9%	31.3%	22.9%	41.5%	38.7%
	Leesburg/ Loudon	44.3%	80.2%	33.3%	35.6%	49.5%	40.7%	47.7%	65.6%	30.2%
Ethnicity	Not Hispanic/Latino	24.6%	71.7%	37.3%	22.3%	43.3%	32.1%	29.9%	50.3%	32.2%
	Hispanic/Latino	28.6%	59.2%	46.8%	14.9%	48.0%	43.8%	16.7%	54.9%	43.5%
Years of Residence	Less than 1 year	13.9%	54.3%	45.7%	8.8%	37.1%	37.1%	14.7%	40.0%	44.1%
	1 to 3 years	13.0%	62.3%	42.1%	13.6%	39.0%	33.3%	19.6%	40.2%	38.1%
	4 to 9 years	24.1%	67.3%	46.7%	20.7%	45.9%	38.3%	19.6%	56.8%	34.6%
	10 to 19 years	34.6%	73.8%	45.8%	26.4%	46.3%	39.6%	41.5%	54.2%	38.3%
	20 or more years	31.4%	81.6%	18.3%	28.5%	45.5%	22.1%	37.1%	54.9%	20.7%
Home Ownership	Owned	32.8%	75.7%	36.9%	26.8%	47.2%	33.2%	35.9%	57.2%	33.7%
	Rented	11.0%	62.0%	40.1%	10.8%	37.1%	33.9%	15.9%	40.1%	32.9%
Household Income	Less than $35,000	14.5%	54.8%	36.1%	9.8%	36.1%	29.5%	16.1%	40.3%	30.0%
	$35,000 to $49,999	16.7%	67.9%	44.2%	15.1%	38.2%	35.3%	16.4%	37.7%	30.8%
	$50,000 to $74,999	16.1%	65.0%	38.1%	17.7%	36.1%	27.4%	23.8%	46.8%	27.9%
	$75,000 to $99,999	26.0%	68.0%	43.7%	19.6%	38.2%	33.3%	25.5%	45.6%	37.5%
	$100,000 to $124,999	36.2%	63.8%	38.6%	33.3%	52.9%	45.6%	38.2%	64.7%	42.9%
	$125,000 to $149,999	38.6%	81.8%	30.2%	35.6%	53.3%	25.0%	40.0%	62.2%	25.0%
	$150,000 to $174,999	33.3%	90.5%	30.0%	23.8%	57.1%	35.0%	52.4%	66.7%	21.1%
	$175,000 to $199,999	42.3%	85.2%	31.8%	40.0%	72.0%	36.4%	45.8%	73.1%	45.5%
	$200,000 or greater	14.3%	88.6%	35.7%	11.9%	38.6%	31.0%	27.9%	45.2%	31.0%

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for between-group comparison*

There were no significant differences in response rates regarding home water conservation methods from 2023 to 2024. These can be seen below in Table 18.

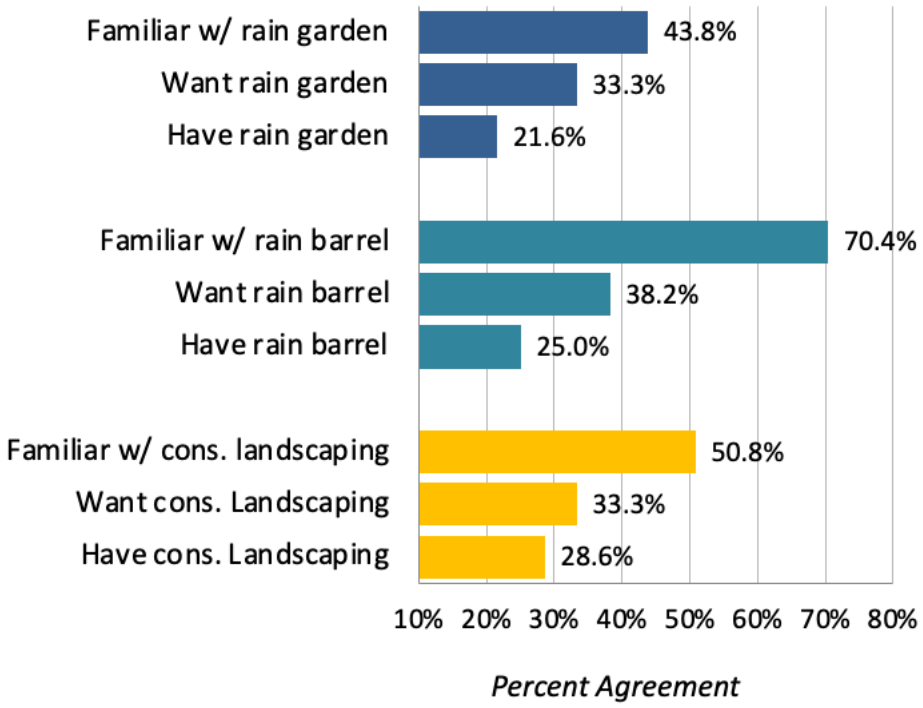
Table 18. Familiarity with home water conservation methods across years.

Year of Survey							
Survey Question Response	2018	2019	2020	2021	2022	2023	2024
Have Rain Barrel	*	*	*	*	*	27.7%	25.0%
Familiar Rain Barrel	*	*	*	*	*	70.7%	70.4%
Want Rain Barrel	*	*	*	*	*	44.9%	38.2%
Have Rain Garden	*	*	*	*	*	25.5%	21.6%
Familiar Rain Garden	*	*	*	*	*	50.5%	43.8%
Want Rain Garden	*	*	*	*	*	41.6%	33.3%
Have Conservation Landscaping	*	*	*	*	*	37.1%	28.6%
Familiar Conservation Landscaping	*	*	*	*	*	59.1%	50.8%
Want Conservation Landscaping	*	*	*	*	*	42.0%	33.3%

** Red font indicates that the value significantly differs from the current 2024 value. There are no significant differences from the 2024 value in this table.*

** Question did not appear on survey.*

Figure 17. Familiarity with home water conservation methods.



Men show greater familiarity with rain barrels and conservation landscaping as well as higher rates of currently having conservation landscaping, as shown in Table 17. Respondents aged 35 to 44 report the greatest frequency of having a rain barrel and having a rain garden. Leesburg/Loudon residents reported the highest frequency of having a rain barrel, a rain garden, and conservation landscaping, compared to other localities. Additionally, they also exhibit the highest rates of being familiar with conservation landscaping. Respondents who have lived in their homes for longer periods of time tended to report having rain barrels and conservation landscaping at higher rates than those who have lived in their residences for shorter periods of times. They also reported higher rates of being familiar with rain barrels. Home owners reported higher rates of having rain barrels, rain gardens, and conservation landscaping than renters. They also reported higher rates of familiarity with rain barrels and conservation landscaping. Finally, people with higher household incomes tended to report higher rates of familiarity with rain barrels.

2.3.8 Engagement in Water Quality Improvement Activities

Respondents were asked about their awareness of and engagement in community activities that promote better water quality in the past 12 months. Results are summarized in Table 19 and displayed in Figure 18. When asked about their familiarity with water quality activities, 25.9% report being aware of a water quality activity in the past 12 months. Respondents in Arlington reported the highest rates of awareness, as did home owners. Of those who were aware of an event in the past 12 months, 53.5% report participating in the event. Men reported higher rates of participation compared to women. People who have lived in their residence for only 1 to 3 years reported the lowest rates of participation.

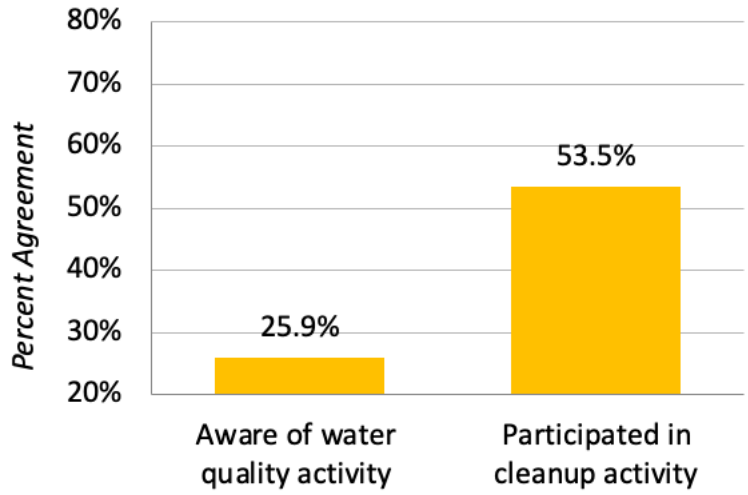
Table 19. Cleanup engagement behaviors by demographic group.

Demographic	Sub-category	Aware of Water Quality Activity in Last 12 Months	Participated in Cleanup Activity in Last 12 Months
	All Respondents	**25.9%**	**53.5%**
Gender	Male	27.0%	62.7%
	Female	24.9%	43.5%
Age	21 to 24	19.0%	62.5%
	25 to 34	36.8%	61.5%
	35 to 44	35.4%	65.0%
	45 to 54	18.9%	42.9%
	55 to 64	15.9%	45.5%
	65 to 74	15.3%	22.2%
	75 or older	22.2%	12.5%
Locality	Alexandria	21.5%	35.7%
	Arlington	40.7%	58.3%
	Fairfax - Inclusive	23.8%	38.6%
	Prince William - Inclusive	19.6%	68.4%
	Leesburg/Loudon	30.1%	71.4%
Ethnicity	Not Hispanic/Latino	26.0%	52.6%
	Hispanic/Latino	25.0%	61.5%
Years of Residence	Less than 1 year	19.4%	42.9%
	1 to 3 years	18.3%	25.0%
	4 to 9 years	26.1%	70.0%
	10 to 19 years	33.6%	59.5%
	20 or more years	27.1%	51.4%
Home Ownership	Owned	30.6%	56.8%
	Rented	17.1%	46.7%

Demographic	Sub-category	Aware of Water Quality Activity in Last 12 Months	Participated in Cleanup Activity in Last 12 Months
Household Income	Less than $35,000	23.8%	26.7%
	$35,000 to $49,999	19.6%	63.6%
	$50,000 to $74,999	10.8%	57.1%
	$75,000 to $99,999	29.2%	45.2%
	$100,000 to $124,999	39.4%	50.0%
	$125,000 to $149,999	35.6%	81.3%
	$150,000 to $174,999	27.3%	33.3%
	$175,000 to $199,999	34.6%	77.8%
	$200,000 or greater	13.3%	66.7%

** Red font indicates significant differences within a demographic subgroup.*

Figure 18. Cleanup activity engagement.



Response rates regarding cleanup engagement behaviors from years 2018-2024 can be seen below in Table 20. Respondents in 2018 and 2019 reported lower rates of participating in activities than 2024 respondents. Otherwise, there were no significant differences in previous years responses when compared to 2024.

Table 20. Cleanup engagement behaviors across years.

Year of Survey							
Survey Question Response	2018	2019	2020	2021	2022	2023	2024
Heard about activities	24.6%	21.0%	25.2%	30.4%	24.4%	33.2%	25.9%
Participated in activities	26.0%	29.5%	60.3%	53.9%	59.8%	68.5%	53.5%

** Red font indicates that the value significantly differs from the current 2024 value. There are no significant differences from the 2024 value in this table.*

2.3.9 Roadway Materials

Four new questions were added to the 2024 survey instrument to measure residents' behaviors and perceptions related to roadway materials for icy conditions. The new questions are:

- **During snowy and icy conditions, how often (if at all) do you (or a family member) apply deicer (e.g., salt) at your residence?** [*always or most of the time, frequently, sometimes, occasionally, rarely, never, don't know*]
- [skipped if the "rarely" or "never" was given in the previous question] **Do you (or a family member) typically apply deicer (e.g., salt) at your residence before, during, or after a winter storm event?** [Select all that apply: Before, During. After Depends / varies too much to say, Other, Don't know]
- **During snowy and icy conditions, how often (if at all) do you (or a family member) apply an abrasive for traction (e.g., sand) at your residence? [**always or most of the time, frequently, sometimes, occasionally, rarely, never, don't know]
- **In general, how would you rate the impact (if any) on each of the following from using salt for winter storm events?** [5-point scale from "very positive" to "ery negative", and "don't know/not sure"]: Tap/Drinking water, local waterways, emergency vehicle safety, motorist safety, pedestrian safety, economic and civic activity.

Respondents varied in frequency of applying deicer at their residences, with about one third reporting "always or frequently", one-third reporting "Sometimes or occasionally" and one third reporting "rarely or never". Deicer use varies by location, with fewer respondents in Arlington and Leesburg/Loudon reporting the use of deicer "always or frequently".

Table 21. Frequency of applying a deicer at one's residence, by demographic group.

Demographic	Sub-category	Always or frequently	Sometimes or Occasionally	Rarely or never
	All Respondents	**33.7%**	**37.2%**	**29.2%**
Gender	Male	31.6%	38.9%	29.5%
	Female	35.7%	35.7%	28.6%
Age	21 to 24	45.0%	27.5%	27.5%
	25 to 34	46.6%	41.7%	11.7%
	35 to 44	34.9%	47.7%	17.4%
	45 to 54	31.5%	38.4%	30.1%
	55 to 64	20.3%	31.9%	47.8%
	65 to 74	20.3%	27.1%	52.5%
	75 or older	32.4%	26.5%	41.2%
Locality	Alexandria	34.9%	33.3%	31.7%
	Arlington	19.6%	44.6%	35.7%
	Fairfax - Inclusive	33.3%	38.3%	28.3%
	Prince William - Inclusive	46.3%	26.3%	27.4%
	Leesburg/Loudon	29.0%	44.1%	26.9%
Ethnicity	Not Hispanic/Latino	33.0%	37.1%	30.0%
	Hispanic/Latino	40.0%	38.0%	22.0%
Years of Residence	Less than 1 year	44.1%	38.2%	17.6%
	1 to 3 years	38.5%	29.8%	31.7%
	4 to 9 years	34.2%	39.6%	26.1%
	10 to 19 years	38.5%	38.5%	22.9%
	20 or more years	22.5%	39.5%	38.0%
Home Ownership	Owned	30.8%	39.3%	29.9%
	Rented	38.9%	33.5%	27.5%
Household Income	Less than $35,000	43.1%	29.3%	27.6%
	$35,000 to $49,999	45.3%	26.4%	28.3%
	$50,000 to $74,999	32.3%	52.3%	15.4%
	$75,000 to $99,999	32.7%	34.6%	32.7%
	$100,000 to $124,999	22.9%	47.1%	30.0%
	$125,000 to $149,999	40.0%	35.6%	24.4%
	$150,000 to $174,999	14.3%	47.6%	38.1%
	$175,000 to $199,999	29.6%	33.3%	37.0%
	$200,000 or greater	34.1%	27.3%	38.6%

** Red font indicates significant differences within a demographic subgroup. Because the frequency categories are correlated (i.e., the sum to 100%), statistical tests were only run for the "Always or frequently" category.*

Responses also varied in terms of when a deicer is used, if used at all. Among those reporting deicer use, approximately one third used them before and after a storm. Fewer (21.8%) use deicers during a storm, and 15.4% responded that it depends on the circumstances/it varies. Older adults are less likely than younger adults to use deicer before and during a storm. Further, fewer low-income respondents use deicer before or during a storm compared to middle- and middle-to-higher income respondents; however, the highest income respondents also report less frequent use before and during storms, relative to middle- and middle-to-higher income respondents.

Table 22. When respondents apply deicers, by demographic group.

Demographic	Sub-category	Before Storm	During Storm	After Storm	Depends
	All Respondents	**31.2%**	**21.8%**	**31.6%**	**15.4%**
Gender	Male	33.9%	23.8%	34.7%	13.7%
	Female	28.4%	20.0%	28.8%	17.2%
Age	21 to 24	45.2%	16.7%	28.6%	14.3%
	25 to 34	34.9%	30.2%	38.7%	20.8%
	35 to 44	33.3%	26.3%	40.4%	16.7%
	45 to 54	41.9%	32.4%	28.4%	13.5%
	55 to 64	17.4%	15.9%	20.3%	14.5%
	65 to 74	18.6%	1.7%	23.7%	15.3%
	75 or older	22.2%	11.1%	27.8%	2.8%
Locality	Alexandria	29.2%	20.0%	29.2%	20.0%
	Arlington	25.4%	25.4%	27.1%	11.9%
	Fairfax - Inclusive	33.0%	19.5%	28.6%	14.6%
	Prince William - Inclusive	41.2%	18.6%	34.0%	14.4%
	Leesburg/Loudon	22.3%	28.7%	39.4%	17.0%
Ethnicity	Not Hispanic/Latino	29.9%	21.4%	30.1%	16.3%
	Hispanic/Latino	42.3%	25.0%	44.2%	7.7%
Years of Residence	Less than 1 year	25.0%	19.4%	22.2%	27.8%
	1 to 3 years	33.9%	14.7%	25.7%	13.8%
	4 to 9 years	36.5%	23.5%	27.0%	18.3%

Demographic	Sub-category	Before Storm	During Storm	After Storm	Depends
	10 to 19 years	36.0%	31.5%	44.1%	13.5%
	20 or more years	21.7%	18.6%	32.6%	12.4%
Home Ownership	Owned	29.3%	24.8%	35.7%	14.5%
	Rented	35.4%	17.1%	23.4%	17.1%
Household Income	Less than $35,000	23.8%	17.5%	19.0%	15.9%
	$35,000 to $49,999	41.1%	5.4%	25.0%	16.1%
	$50,000 to $74,999	41.5%	24.6%	49.2%	10.8%
	$75,000 to $99,999	25.5%	19.8%	35.8%	17.0%
	$100,000 to $124,999	26.8%	32.4%	35.2%	16.9%
	$125,000 to $149,999	44.4%	24.4%	35.6%	8.9%
	$150,000 to $174,999	27.3%	22.7%	22.7%	13.6%
	$175,000 to $199,999	29.6%	33.3%	29.6%	18.5%
	$200,000 or greater	24.4%	22.2%	17.8%	20.0%

** Red font indicates significant differences within a demographic subgroup.*

The use of roadway abrasives is less common than salt use: 17.2% or respondents use abrasives "always or frequently", and slightly more than half use them "rarely or never". Older adults report using abrasives "always or frequently" less commonly than younger adults.

Table 23. Frequency of applying an abrasive at one's residence, by demographic group.

Demographic	Sub-category	Always or frequently	Sometimes or Occasionally	Rarely or never
	All Respondents	**17.2%**	**27.7%**	**55.1%**
Gender	Male	19.4%	27.0%	53.6%
	Female	14.7%	28.1%	57.1%
Age	21 to 24	18.4%	15.8%	65.8%
	25 to 34	24.7%	42.3%	33.0%
	35 to 44	28.7%	32.4%	38.9%
	45 to 54	10.3%	27.9%	61.8%
	55 to 64	10.3%	17.6%	72.1%

Demographic	Sub-category	Always or frequently	Sometimes or Occasionally	Rarely or never
	65 to 74	5.2%	19.0%	75.9%
	75 or older	6.1%	18.2%	75.8%
Locality	Alexandria	18.0%	21.3%	60.7%
	Arlington	17.3%	30.8%	51.9%
	Fairfax - Inclusive	14.7%	27.1%	58.2%
	Prince William - Inclusive	26.6%	13.8%	59.6%
	Leesburg/Loudon	11.8%	45.2%	43.0%
Ethnicity	Not Hispanic/Latino	17.3%	26.8%	55.8%
	Hispanic/Latino	16.3%	34.7%	49.0%
Years of Residence	Less than 1 year	18.2%	18.2%	63.6%
	1 to 3 years	15.8%	20.0%	64.2%
	4 to 9 years	19.4%	29.6%	50.9%
	10 to 19 years	24.3%	32.7%	43.0%
	20 or more years	10.2%	29.9%	59.8%
Home Ownership	Owned	18.4%	29.5%	52.1%
	Rented	14.5%	23.7%	61.8%
Household Income	Less than $35,000	18.9%	22.6%	58.5%
	$35,000 to $49,999	18.8%	27.1%	54.2%
	$50,000 to $74,999	11.1%	28.6%	60.3%
	$75,000 to $99,999	15.7%	30.4%	53.9%
	$100,000 to $124,999	17.4%	34.8%	47.8%
	$125,000 to $149,999	25.6%	30.2%	44.2%
	$150,000 to $174,999	9.1%	27.3%	63.6%
	$175,000 to $199,999	29.6%	18.5%	51.9%
	$200,000 or greater	14.0%	18.6%	67.4%

** Red font indicates significant differences within a demographic subgroup. Because the frequency categories are correlated (i.e., the sum to 100%), statistical tests were only run for the "Always or frequently" category.*

Finally, respondents were asked about their perceptions, positive and negative, of the impact of roadway salt use on varies factors. The majority of respondents feel that roadway salt use has a positive impact on emergency vehicle safety (61.8%), motorist safety (65.1%), and pedestrian safety (68.8%), as see in Table 24. Less than one third view the impact on tap/drinking water

(31.1%) and local waterways as positive (30.5%). Perceptions of the positive impact of salt use on tap water and local waterways varied by age and by tenure in one's residence.

Table 24. Perceived impact of roadway salting as "very positive" or "somewhat positive", by demographic group.

Demographic	Sub-category	Tap water	Local water-ways	Emerg. vehicles	Motorist safety	Ped. safety	Eco. and civic act.
	All Respondents	**31.1%**	**30.5%**	**61.8%**	**65.1%**	**68.8%**	**45.5%**
Gender	Male	31.4%	32.4%	63.9%	66.5%	69.6%	49.5%
	Female	31.0%	28.8%	59.9%	63.9%	68.2%	41.5%
Age	21 to 24	29.3%	28.1%	58.1%	53.1%	59.4%	28.1%
	25 to 34	53.4%	51.7%	73.6%	69.0%	72.1%	52.9%
	35 to 44	44.7%	42.6%	67.6%	65.0%	66.3%	56.4%
	45 to 54	23.0%	20.6%	64.7%	72.1%	80.9%	52.9%
	55 to 64	13.0%	17.7%	53.2%	62.3%	72.6%	37.7%
	65 to 74	10.2%	13.7%	47.1%	64.7%	60.8%	39.2%
	75 or older	11.4%	9.1%	50.0%	58.8%	57.6%	18.2%
Locality	Alexandria	25.0%	25.5%	57.9%	68.4%	66.7%	55.4%
	Arlington	39.7%	40.7%	74.5%	69.1%	70.9%	56.4%
	Fairfax - Inclusive	28.1%	25.0%	62.7%	63.9%	66.7%	38.0%
	Prince William - Inclusive	30.2%	26.3%	53.2%	64.6%	73.8%	48.1%
	Leesburg/Loudon	37.0%	41.4%	62.8%	63.2%	68.2%	43.5%
Ethnicity	Not Hispanic/Latino	29.7%	29.9%	61.3%	64.9%	69.2%	45.2%
	Hispanic/Latino	44.0%	35.7%	67.5%	67.5%	65.0%	48.7%
Years of Residence	Less than 1 year	28.6%	40.0%	51.6%	51.6%	54.8%	45.2%
	1 to 3 years	32.4%	23.9%	63.0%	66.3%	73.1%	43.0%
	4 to 9 years	33.9%	35.0%	62.2%	70.0%	71.4%	45.9%
	10 to 19 years	38.7%	40.4%	67.7%	70.1%	73.7%	58.2%
	20 or more years	21.7%	20.9%	58.3%	59.3%	62.5%	36.3%
Home Ownership	Owned	33.8%	31.8%	64.1%	66.2%	70.5%	44.5%
	Rented	25.9%	27.5%	57.2%	64.2%	65.8%	46.4%
Household Income	Less than $35,000	27.9%	24.0%	46.0%	52.0%	54.9%	32.0%
	$35,000 to $49,999	20.4%	28.0%	56.0%	64.0%	69.4%	50.0%

Demographic	Sub-category	Tap water	Local water-ways	Emerg. vehicles	Motorist safety	Ped. safety	Eco. and civic act.
	$50,000 to $74,999	35.9%	29.6%	61.1%	72.7%	76.4%	56.4%
	$75,000 to $99,999	34.0%	35.6%	63.3%	66.3%	66.7%	43.3%
	$100,000 to $124,999	36.6%	31.7%	69.8%	64.5%	73.0%	46.8%
	$125,000 to $149,999	37.8%	40.9%	75.0%	74.4%	69.8%	53.5%
	$150,000 to $174,999	31.8%	22.2%	64.7%	64.7%	76.5%	52.9%
	$175,000 to $199,999	44.4%	44.0%	80.0%	80.0%	69.6%	62.5%
	$200,000 or greater	11.1%	14.3%	47.6%	52.4%	69.0%	23.8%

** Red font indicates significant differences within a demographic subgroup.*

Respondents more frequently perceive the impact of salting on local waterways as negative, as seen in Table 25. Additionally, older adults more frequently perceive the impact of salt as on tap water and local waterways as negative, compared to other age groups.

Table 25. Perceived impact of roadway salting as "very negative" or "somewhat negative", by demographic group.

Demographic	Sub-category	Tap water	Local water-ways	Emerg. vehicles	Motorist safety	Ped. safety	Eco. and civic act.
	All Respondents	**33.1%**	**41.3%**	**10.6%**	**12.2%**	**9.5%**	**10.2%**
Gender	Male	32.2%	41.1%	10.2%	10.7%	7.9%	9.3%
	Female	33.5%	40.9%	10.6%	13.4%	10.6%	10.6%
Age	21 to 24	19.5%	40.6%	6.5%	18.8%	18.8%	15.6%
	25 to 34	16.5%	21.3%	8.0%	12.6%	8.1%	6.9%
	35 to 44	26.3%	24.8%	11.8%	16.0%	11.9%	10.9%
	45 to 54	40.5%	47.1%	8.8%	7.4%	5.9%	8.8%
	55 to 64	39.1%	59.7%	12.9%	11.5%	6.5%	11.5%
	65 to 74	59.3%	62.7%	15.7%	7.8%	9.8%	11.8%
	75 or older	48.6%	66.7%	8.8%	11.8%	9.1%	9.1%
Locality	Alexandria	32.8%	40.0%	10.5%	8.8%	10.5%	12.5%
	Arlington	36.2%	37.0%	5.5%	9.1%	10.9%	7.3%
	Fairfax - Inclusive	33.5%	47.5%	10.8%	12.3%	9.0%	8.9%

Demographic	Sub-category	Tap water	Local water-ways	Emerg. vehicles	Motorist safety	Ped. safety	Eco. and civic act.
	Prince William - Inclusive	32.3%	45.0%	16.5%	13.9%	8.8%	13.9%
	Leesburg/Loudon	31.5%	29.9%	8.1%	14.9%	9.4%	9.4%
Ethnicity	Not Hispanic/Latino	33.9%	42.6%	10.9%	13.0%	9.7%	10.9%
	Hispanic/Latino	26.0%	28.6%	7.5%	5.0%	7.5%	2.6%
Years of Residence	Less than 1 year	22.9%	33.3%	16.1%	22.6%	16.1%	16.1%
	1 to 3 years	26.9%	42.4%	9.8%	12.0%	7.5%	8.6%
	4 to 9 years	33.9%	36.0%	13.3%	15.0%	12.2%	9.2%
	10 to 19 years	28.8%	36.4%	7.1%	6.2%	8.1%	9.2%
	20 or more years	44.2%	51.3%	10.4%	12.4%	8.0%	11.5%
Home Ownership	Owned	34.7%	42.7%	9.9%	12.1%	9.2%	11.0%
	Rented	30.6%	39.9%	12.5%	12.6%	10.5%	9.3%
Household Income	Less than $35,000	34.4%	48.0%	20.0%	22.0%	17.6%	20.0%
	$35,000 to $49,999	29.6%	34.0%	6.0%	10.0%	6.1%	4.0%
	$50,000 to $74,999	23.4%	25.9%	7.4%	7.3%	5.5%	3.6%
	$75,000 to $99,999	33.0%	40.0%	10.0%	12.4%	12.2%	11.1%
	$100,000 to $124,999	28.2%	33.3%	9.5%	8.1%	7.9%	11.3%
	$125,000 to $149,999	35.6%	38.6%	11.4%	9.3%	7.0%	7.0%
	$150,000 to $174,999	50.0%	66.7%	11.8%	17.6%	11.8%	17.6%
	$175,000 to $199,999	29.6%	32.0%	4.0%	12.0%	4.3%	8.3%
	$200,000 or greater	48.9%	73.8%	14.3%	16.7%	9.5%	11.9%

2.4 Knowledge

2.4.3 Awareness of "Watersheds" and Household Hazardous Waste Disposal

Respondents were asked a series of questions in order to assess their knowledge about local water systems and stormwater drainage. Participants were asked if they were familiar with the term "watershed". Regardless of the response (yes or no), all respondents were then shown this definition of the term:

A watershed is an area of land that channels rainfall and snowmelt to creeks, streams, and rivers, and eventually to outflow points such as reservoirs, bays, and the ocean.

Next, participants were asked where they believe stormwater goes, given the option "a wastewater treatment facility", "the Potomac River or Chesapeake Bay", "All of the above", "None of the above", and "Other".

Of all respondents, 71.3% report that they are familiar with the term "watershed", as can be seen in Table 26 and Figure 19. Men are more likely to be familiar with the term (78.5%) compared to women (64.6%). Otherwise, there are no strong demographic trends amongst respondents.

Table 26. Awareness of watersheds and knowledge of stormwater drainage by demographic group.

			Stormwater goes…					
Demographic	**Sub-category**	**Know term "water shed"**	**WW Treat-ment**	**Potom. or Chespk.**	**All above**	**None**	**Other**	**Know HHW Droo-off**
	All Respondents	**71.3%**	**20.2%**	**31.5%**	**40.9%**	**7.0%**	**0.4%**	**60.1%**
Gender	Male	78.5%	20.2%	33.1%	41.9%	4.8%	**	64.5%
	Female	64.6%	20.1%	30.1%	39.8%	9.2%	0.8%	56.2%
Age	21 to 24	75.0%	19.0%	35.7%	40.5%	4.8%	**	40.5%
	25 to 34	67.9%	27.4%	27.4%	37.7%	7.5%	**	60.4%
	35 to 44	71.4%	19.3%	28.1%	44.7%	7.9%	**	61.9%
	45 to 54	76.7%	25.7%	23.0%	50.0%	1.4%	**	62.2%
	55 to 64	66.2%	15.9%	31.9%	40.6%	11.6%	**	65.2%
	65 to 74	66.1%	13.8%	39.7%	36.2%	8.6%	1.7%	54.2%
	75 or older	83.3%	11.1%	52.8%	27.8%	5.6%	2.8%	72.2%
Locality	Alexandria	65.1%	18.5%	35.4%	36.9%	7.7%	1.5%	49.2%
	Arlington	82.8%	15.3%	32.2%	47.5%	5.1%	**	69.5%
	Fairfax - Inclusive	70.7%	22.3%	27.7%	44.0%	6.0%	**	58.7%
	Prince William - Inclusive	74.2%	22.7%	34.0%	35.1%	8.2%	**	58.8%
	Leesburg/Loudon	66.3%	18.1%	33.0%	39.4%	8.5%	1.1%	66.0%
Ethnicity	Not Hispanic/Latino	72.9%	19.7%	31.3%	41.6%	6.9%	0.4%	60.2%
	Hispanic/Latino	57.7%	25.0%	32.7%	34.6%	7.7%	**	59.6%
Years of Residence	Less than 1 year	69.4%	22.2%	36.1%	36.1%	5.6%	**	20.0%
	1 to 3 years	63.9%	22.9%	35.8%	33.0%	7.3%	0.9%	48.6%
	4 to 9 years	75.0%	20.0%	25.2%	47.0%	7.0%	0.9%	64.3%
	10 to 19 years	71.6%	22.5%	29.7%	41.4%	6.3%	**	64.0%

			Stormwater goes…					
Demographic	Sub-category	Know term "water shed"	WW Treat-ment	Potom. or Chespk.	All above	None	Other	Know HHW Droo-off
	20 or more years	74.4%	15.6%	33.6%	43.0%	7.8%	**	73.6%
Home Ownership	Owned	77.7%	21.3%	32.9%	41.3%	4.5%	**	71.0%
	Rented	60.8%	18.3%	28.0%	42.9%	10.3%	0.6%	41.7%
Household Income	Less than $35,000	54.8%	17.5%	25.4%	44.4%	11.1%	1.6%	32.3%
	$35,000 to $49,999	68.5%	23.2%	23.2%	44.6%	8.9%	**	46.4%
	$50,000 to $74,999	55.4%	15.6%	39.1%	40.6%	4.7%	**	63.1%
	$75,000 to $99,999	77.4%	29.2%	33.0%	32.1%	5.7%	**	58.5%
	$100,000 to $124,999	75.4%	15.5%	32.4%	46.5%	5.6%	**	69.0%
	$125,000 to $149,999	84.4%	13.3%	33.3%	51.1%	2.2%	**	73.3%
	$150,000 to $174,999	77.3%	31.8%	40.9%	18.2%	9.1%	**	77.3%
	$175,000 to $199,999	88.5%	22.2%	22.2%	33.3%	22.2%	**	70.4%
	$200,000 or greater	73.3%	13.3%	33.3%	48.9%	2.2%	2.2%	73.3%

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for between-group comparison.*

As seen in Table 26, 61.1% of respondents report believing it goes to a wastewater treatment facility (the sum of "wastewater treatment facility", 20.2% and "all of the above", 40.9%) and 72.3% report believing it goes into the Chesapeake Bay or Potomac River (the sum of "the Potomac River or Chesapeake Bay", 31.5% and "all of the above", 40.9%). Finally, 7.0% report believing it does not go to any of the listed locations and 0.4% report believing it goes to another place. There are no demographic trends. There is a significant increase, however, in the percentage of respondents who believe that stormwater goes to a wastewater treatment facility and either the Potomac River or Chesapeake Bay, as seen in the table below across years.

Figure 19. Knowledge of watersheds and HHW.

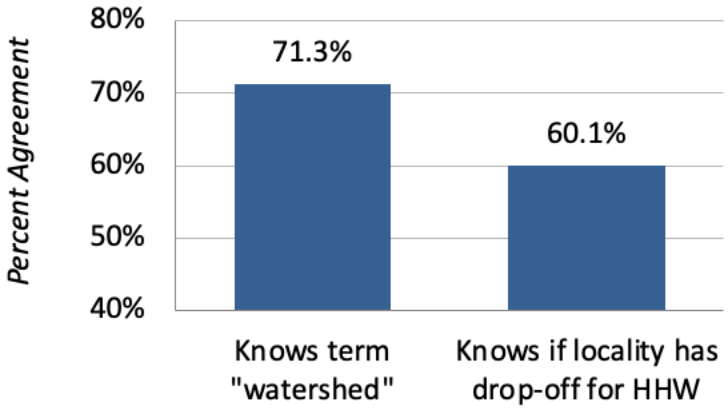


Figure 20. Stormwater destination beliefs.

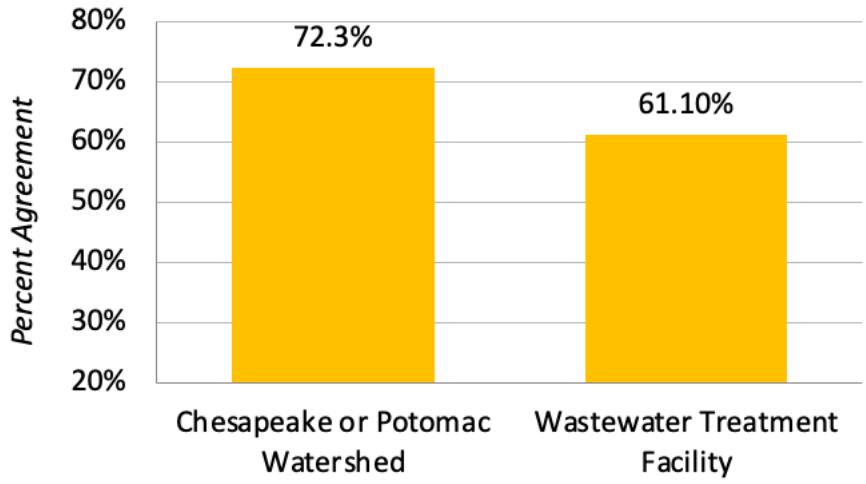
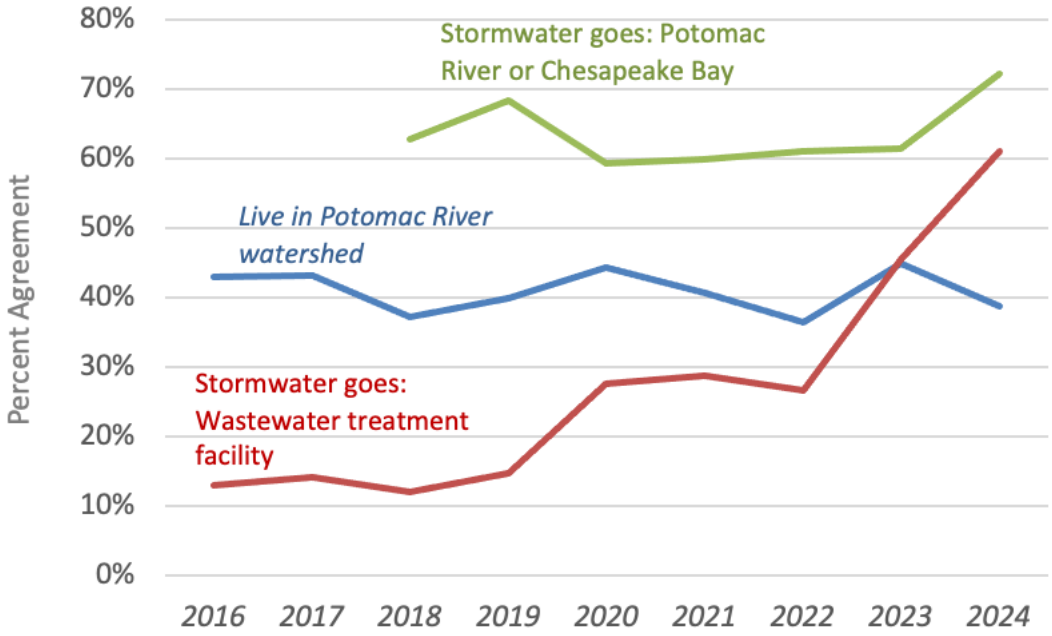


Table 27. Stormwater destination beliefs across years.

Year of Survey									
Survey Questions Response	2016	2017	2018	2019	2020	2021	2022	2023	2024
"Yes" to *Do you live in the Potomac River watershed?*	43.0%	43.2%	37.2%	40.0%	44.4%	40.8%	36.6%	44.9%	38.9%
"A wastewater treatment facility" to *[Where does] storm water eventually end up?*	13.0%	14.2%	12.0%	14.8%	27.6%	28.8%	26.8%	45.6%	61.1%
"Potomac River or Chesapeake Bay" to *[Where does] storm water eventually end up?*	*	*	62.8%	68.4%	59.4%	60.0%	61.2%	61.6%	72.3%

** Red font indicates that the value significantly differs from the current 2024 value.*
Asterisks (*) indicate that the question did not appear in the survey that year.

Figure 21. Storm water destination beliefs across years.



Participants were also asked whether they knew if their locality has a specific place for residents to drop off Household Hazardous Waste (HHW), with response options being "Yes, I know whether we have a location for drop-offs" and "No, I'm not sure whether we have a location for drop-offs"; refer to Table 26. When asked about HHW 60.1% of respondents report knowing if their locality has a specific drop off location for it, which can be seen in Table 26 and Figure 19.

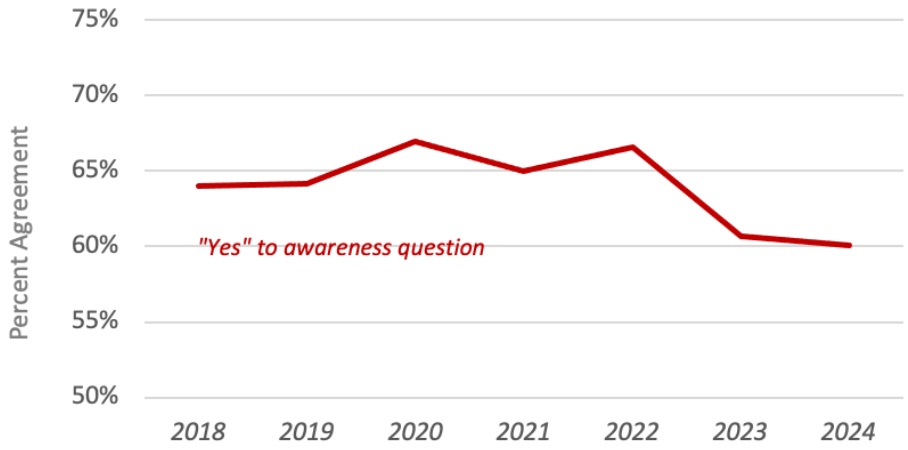
There were no significant differences in reports of being aware of an HHW drop-off facility in 2024 when compared to responses from surveys in 2018-2023. These rates can be seen below in Table 28.

Table 28. Awareness of HHW across years.

Year of Survey									
Survey Question Response	2016	2017	2018	2019	2020	2021	2022	2023	2024
"Yes" to awareness question	*	*	64.0%	64.2%	67.0%	65.0%	66.6%	60.7%	60.1%

** Red font indicates that the value significantly differs from the current 2024 value.*
Asterisks (*) indicate that the question did not appear in the survey that year.

Figure 22. Awareness of HHW across years.



2.4.4 Identifying the Local Watershed

Survey participants were asked "Do live in the…" and given a list of three watershed areas. Response options were "Yes", "No", and "Don't know" for the listed areas:

- Chesapeake Bay watershed?
- Potomac River watershed?
- Another watershed not listed?

For reference, a map of the Chesapeake Bay watershed and the Potomac River watershed can be seen below in Figure 24. As can be seen in Table 29 and Figure 23, 27.1% report that they live in the Chesapeake Bay watershed, 38.9% report that they live in the Potomac River watershed, and 7.5% report that they live in another watershed that was not listed in the survey. Men report higher rates of living in the Chesapeake Bay watershed or another watershed. Leesburg/Loudon

residents reported the Potomac River watershed as their local watershed at higher rates than residents of other localities. People who have lived in their residence for 10 to 19 years report the highest rates of living in the Chesapeake Bay watershed. Generally, people with higher incomes reported living in both the Chesapeake Bay watershed and Potomac River watershed at higher rates than those with lower incomes.

Table 29. Identifying the local watershed by demographic.

Demographic	Sub-category	Chesapeake Bay watershed	Potomac River watershed	Another watershed
	All Respondents	**27.1%**	**38.9%**	**7.5%**
Gender	Male	37.0%	43.3%	11.9%
	Female	17.8%	34.9%	3.4%
Age	21 to 24	34.2%	36.8%	5.7%
	25 to 34	23.5%	33.3%	11.1%
	35 to 44	33.9%	41.2%	11.5%
	45 to 54	23.6%	40.8%	5.6%
	55 to 64	22.7%	35.3%	4.5%
	65 to 74	28.6%	45.3%	2.1%
	75 or older	21.2%	42.9%	3.1%
Locality	Alexandria	29.7%	33.3%	4.8%
	Arlington	35.7%	36.2%	3.8%
	Fairfax - Inclusive	28.5%	34.5%	6.5%
	Prince William - Inclusive	22.8%	37.0%	14.1%
	Leesburg/Loudon	21.6%	54.9%	6.4%
Ethnicity	Not Hispanic/Latino	27.5%	38.7%	7.3%
	Hispanic/Latino	23.9%	40.4%	9.5%
Years of Residence	Less than 1 year	22.9%	31.4%	5.9%
	1 to 3 years	16.7%	35.6%	4.0%
	4 to 9 years	25.9%	38.4%	10.5%
	10 to 19 years	42.2%	36.5%	10.9%
	20 or more years	24.8%	46.0%	5.2%
Home Ownership	Owned	33.9%	40.4%	8.9%
	Rented	15.0%	35.5%	4.3%
Household Income	Less than $35,000	11.7%	24.1%	3.5%
	$35,000 to $49,999	12.7%	31.5%	3.8%
	$50,000 to $74,999	19.4%	37.5%	3.4%

Demographic	Sub-category	Chesapeake Bay watershed	Potomac River watershed	Another watershed
	$75,000 to $99,999	33.0%	39.6%	8.2%
	$100,000 to $124,999	25.7%	36.2%	7.4%
	$125,000 to $149,999	31.0%	37.2%	9.8%
	$150,000 to $174,999	45.5%	66.7%	15.8%
	$175,000 to $199,999	60.0%	63.0%	20.0%
	$200,000 or greater	34.9%	45.5%	9.5%

** Red font indicates significant differences within a demographic subgroup.*

Figure 23. Local watershed identification.

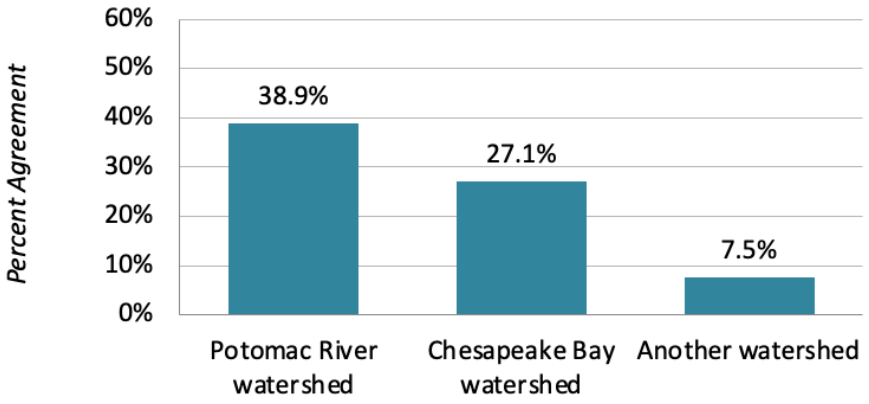
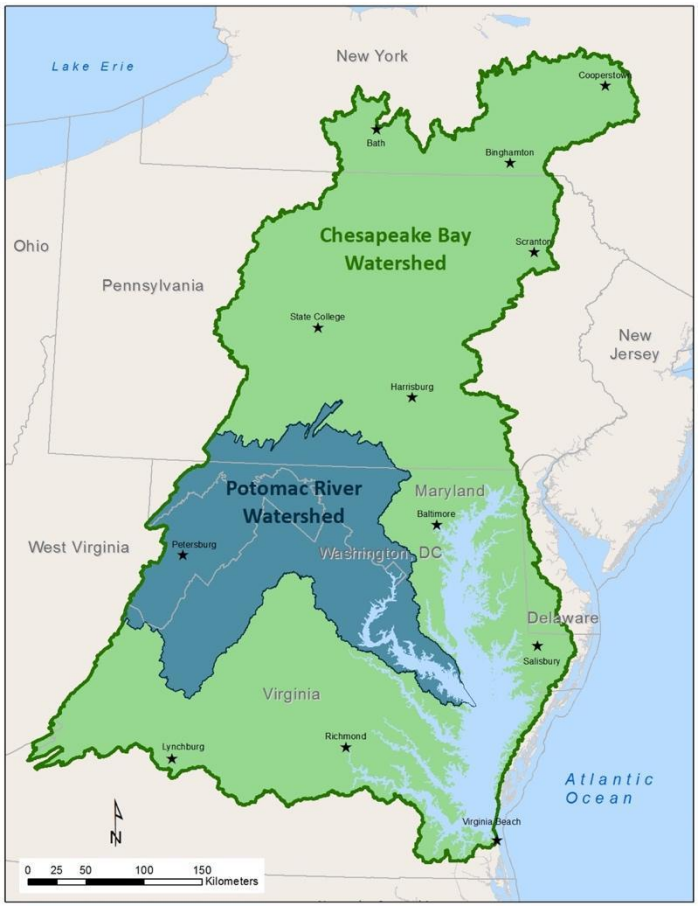


Figure 24. Map of Chesapeake Bay and Potomac River watersheds.[1]



2.4.5 Identification of Pollution

Participants were provided with two images, as seen below (Figure 25), and asked if either photo contains a potential source of water pollution, with response options being “Yes”, “No”, “Not sure”, and “Cannot see image”. The results are summarized in Table 30 and displayed in Figure 26. When asked about the provided images, 80.8% report that yes, they would consider the images to be a potential source of water pollution. There were no demographic trends.

[1] Interstate Commission on the Potomac River Basin. (n.d.). *Potomac River Basin Atlas*. Potomac River Basin Atlas - Subwatersheds. https://www.potomacriver.org/Atlas-Maps/Subwatersheds/

2.4.6 Reporting Pollution and Barriers to Reporting Pollution

Participants were asked if they knew who to contact to report potential water pollution with the response options "I definitely know", "I think I know", "I don't think I know", and "I definitely don't know". They were also asked the likelihood that they would call officials to report potential pollution so it could be investigated with the response options being "I definitely would", "I probably would", "I'm equally likely to call and to not call", "I probably would not", and "I definitely would not". The responses are summarized in Table 30 and Figure 25.

Table 30. Water pollution knowledge and behaviors by demographic group.

Demographic	Sub-category	ID Water Pollution	Know Who to Contact	Would Call Officials
	All Respondents	**80.8%**	**49.0%**	**66.6%**
Gender	Male	81.8%	54.0%	68.3%
	Female	80.0%	44.4%	65.1%
Age	21 to 24	85.4%	45.2%	52.4%

Demographic	Sub-category	ID Water Pollution	Know Who to Contact	Would Call Officials
	All Respondents	**80.8%**	**49.0%**	**66.6%**
	25 to 34	81.1%	53.8%	65.7%
	35 to 44	83.3%	53.5%	67.3%
	45 to 54	86.3%	48.6%	68.9%
	55 to 64	73.5%	46.4%	60.9%
	65 to 74	76.8%	42.4%	71.2%
	75 or older	75.0%	41.7%	82.9%
Locality	Alexandria	79.0%	38.5%	66.2%
	Arlington	89.7%	57.6%	71.2%
	Fairfax - Inclusive	79.8%	46.5%	61.7%
	Prince William - Inclusive	79.4%	51.5%	75.3%
	Leesburg/Loudon	79.8%	53.2%	64.5%
Ethnicity	Not Hispanic/Latino	80.5%	48.4%	65.4%
	Hispanic/Latino	82.7%	53.8%	76.9%
Years of Residence	Less than 1 year	80.0%	38.9%	69.4%
	1 to 3 years	81.7%	37.6%	62.4%
	4 to 9 years	86.7%	55.7%	68.7%
	10 to 19 years	83.5%	53.2%	70.9%
	20 or more years	72.7%	51.9%	63.8%
Home Ownership	Owned	79.6%	54.7%	69.3%
	Rented	83.1%	37.7%	60.0%
Household Income	Less than $35,000	77.8%	41.3%	71.4%
	$35,000 to $49,999	71.4%	39.3%	62.5%
	$50,000 to $74,999	68.8%	52.3%	56.9%
	$75,000 to $99,999	81.7%	46.2%	62.9%
	$100,000 to $124,999	84.3%	59.2%	77.1%
	$125,000 to $149,999	90.9%	62.2%	71.1%
	$150,000 to $174,999	90.9%	40.9%	63.6%
	$175,000 to $199,999	96.3%	66.7%	76.9%
	$200,000 or greater	81.8%	37.8%	62.2%

** Red font indicates significant differences within a demographic subgroup*

When asked about who to contact for reporting potential water pollution, 49.0% report knowing who to contact. Men (54.0%) reported higher rates of knowing who to contact in the case of suspected water pollution than women (44.4%). Of all respondents, 66.6% report that they would contact someone to report a potential source of water pollution. There were no demographic trends in responses to these questions.

Those who reported being equally likely to call and not to call and who reported that they would probably or definitely not call were asked what their primary reason is for not calling. These results are summarized in Table 31 and displayed in Figure 26. Response options given were "I'm too busy", "It's not my responsibility", "It's none of my business", "I prefer not to communicate with officials or authorities", and an option to write-in another reason not listed. Of these respondents, 25.3% report their reason for not calling being that they'd prefer not to communicate with officials or authorities. Additionally, 21.7% report being too busy, 20.5% report it being none of their business, and 16.3% report that it is not their responsibility. Men reported their reason being that it's not their responsibility at higher rates than women, at 23.1% and 10.3% respectively.

Table 31. Barriers to reporting pollution by demographic group.

Demographic	Sub-category	Too Busy	Not my Responsibility	None of my Business	Don't Want to Communicate with Authorities	Other
	All Respondents	**21.7%**	**16.3%**	**20.5%**	**25.3%**	**16.3%**
Gender	Male	20.5%	23.1%	25.6%	19.2%	11.5%
	Female	23.0%	10.3%	16.1%	29.9%	20.7%
Age	21 to 24	35.0%	30.0%	5.0%	30.0%	0.0%[2]
	25 to 34	27.8%	11.1%	19.4%	30.6%	11.1%
	35 to 44	27.0%	16.2%	29.7%	18.9%	8.1%
	45 to 54	17.4%	8.7%	26.1%	13.0%	34.8%
	55 to 64	18.5%	11.1%	7.4%	33.3%	29.6%
	65 to 74	0.0%[2]	29.4%	29.4%	23.5%	17.6%
	75 or older	0.0%[2]	16.7%	33.3%	33.3%	16.7%
Locality	Alexandria	9.1%	27.3%	18.2%	36.4%	9.1%
	Arlington	35.3%	11.8%	17.6%	29.4%	5.9%
	Fairfax - Inclusive	18.6%	14.3%	21.4%	22.9%	22.9%
	Prince William - Inclusive	20.8%	8.3%	20.8%	29.2%	20.8%
	Leesburg/Loudon	30.3%	21.2%	21.2%	18.2%	9.1%
Ethnicity	Not Hispanic/Latino	21.4%	15.6%	22.1%	24.7%	16.2%
	Hispanic/Latino	25.0%	25.0%	0.0%[2]	33.3%	16.7%

Demographic	Sub-category	Too Busy	Not my Responsibility	None of my Business	Don't Want to Communicate with Authorities	Other
Years of Residence	Less than 1 year	18.2%	9.1%	27.3%	36.4%	9.1%
	1 to 3 years	26.8%	14.6%	12.2%	29.3%	17.1%
	4 to 9 years	19.4%	16.7%	22.2%	33.3%	8.3%
	10 to 19 years	28.1%	15.6%	18.8%	18.8%	18.8%
	20 or more years	15.2%	19.6%	26.1%	17.4%	21.7%
Home Ownership	Owned	25.3%	21.1%	21.1%	17.9%	14.7%
	Rented	17.1%	8.6%	20.0%	35.7%	18.6%
Household Income	Less than $35,000	16.7%	11.1%	16.7%	38.9%	16.7%
	$35,000 to $49,999	28.6%	23.8%	4.8%	38.1%	4.8%
	$50,000 to $74,999	10.7%	17.9%	17.9%	35.7%	17.9%
	$75,000 to $99,999	23.1%	15.4%	30.8%	25.6%	5.1%
	$100,000 to $124,999	12.5%	18.8%	31.3%	6.3%	31.3%
	$125,000 to $149,999	23.1%	15.4%	15.4%	23.1%	23.1%
	$150,000 to $174,999	25.0%	25.0%	25.0%	12.5%	12.5%
	$175,000 to $199,999	33.3%	0.0%[2]	50.0%	0.0%[2]	16.7%
	$200,000 or greater	35.3%	11.8%	5.9%	11.8%	35.3%

** Red font indicates significant differences within a demographic subgroup.*

Figure 25. Water pollution identification and knowledge.

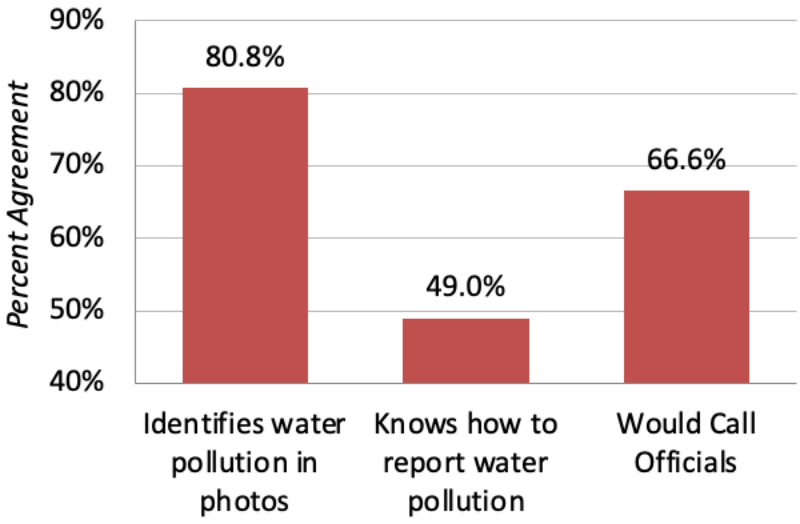
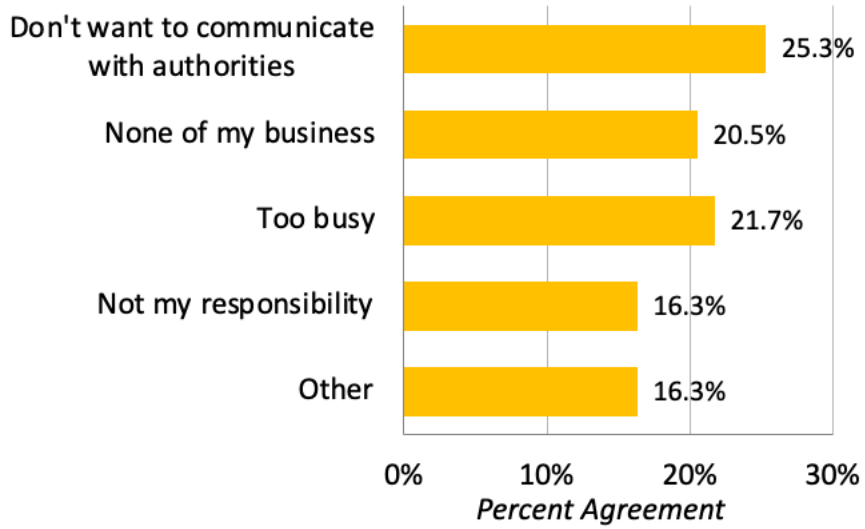


Figure 26. Barriers to reporting water pollution.



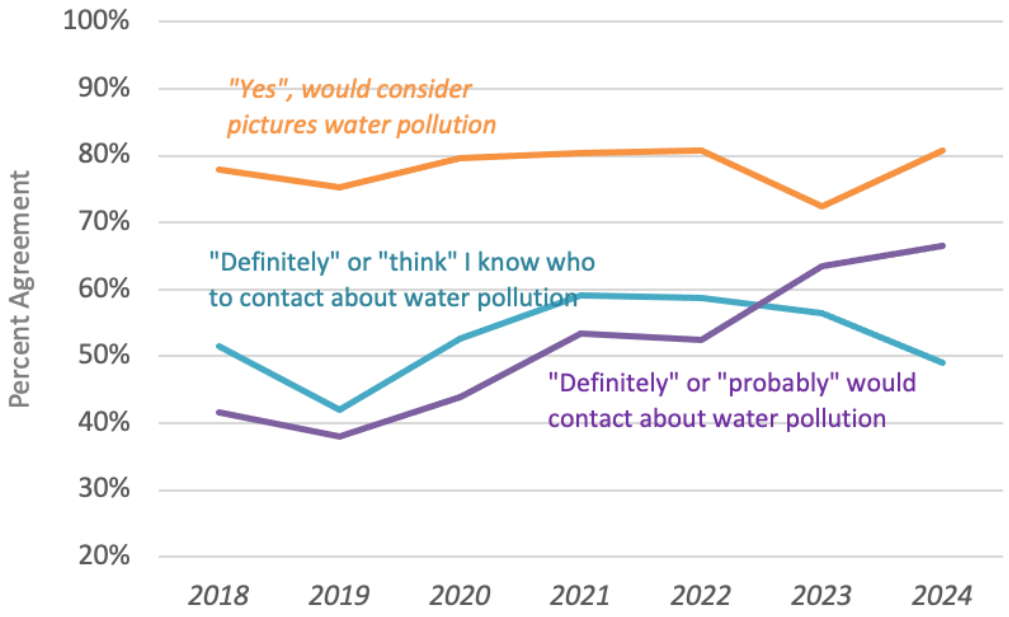
Response rates regarding water pollution knowledge from years 2018-2024 can be seen below in Table 32 and Figure 27. Notably, reports of definitely knowing or thinking they know who to contact about water pollution were higher in years 2021 and 2022 than in 2024. Additionally, respondents to surveys in 2018-2022 exhibit lower rates of indicating that they would "definitely" or "probably" report potential water pollution, compared to 2024 respondents.

Table 32. Water pollution knowledge across years.

Year of Survey							
Survey Questions Response	2018	2019	2020	2021	2022	2023	2024
"Yes", would consider pictures water pollution	78.0%	75.2%	79.6%	80.4%	80.8%	72.4%	80.8%
"Definitely" or "think" I know who to contact about water pollution	51.6%	42.0%	52.6%	59.2%	58.8%	56.5%	49.0%
"Definitely" or "probably" would contact about water pollution	41.6%	38.0%	44.0%	53.4%	52.4%	63.4%	66.6%

** Red font indicates that the value significantly differs from the current 2024 value.*

Figure 27. Water pollution knowledge across years.



Response rates of primary reasons for not calling to report water pollution in 2023 and 2024 can be seen below in Table 33. There were no significant differences in response rates between 2023 and 2024.

Table 33. Barriers to reporting water pollution across years.

Year of Survey							
Survey Questions Response	2018	2019	2020	2021	2022	2023	2024
Too busy	*	*	*	*	*	17.6%	21.7%
Not my responsibility	*	*	*	*	*	17.6%	16.3%
None of my business	*	*	*	*	*	23.1%	20.5%
Prefer not to communicate with officials or authorities	*	*	*	*	*	31.5%	25.3%
Other	*	*	*	*	*	10.2%	16.3%

** Red font indicates that the value significantly differs from the current 2024 value.*
Asterisks (*) indicate that the question did not appear in the survey that year.

2.5 Campaign Perceptions

2.5.3 Campaign Awareness

Figure 28. Logo for the 'Only Rain Down the Drain' Campaign.

Survey participants were asked questions to better understand their level of awareness of water pollution campaigns; their responses are below in Table 34 and Figure 29. Respondents were provided with the logo depicted in Figure 28 and asked if they had seen the logo before. Of respondents, 54.2% report having previously seen the provided logo. Men reported having seen the logo at higher rates than women, at 61.1% compared to 47.1%. Generally, reported recognition of the logo decreases as age increases. Finally, residents of Arlington report having seen the logo at higher rates than residents of other localities at 70.7%. Residents of Prince William reported having seen the logo at lower rates than residents of other localities at 38.5%.

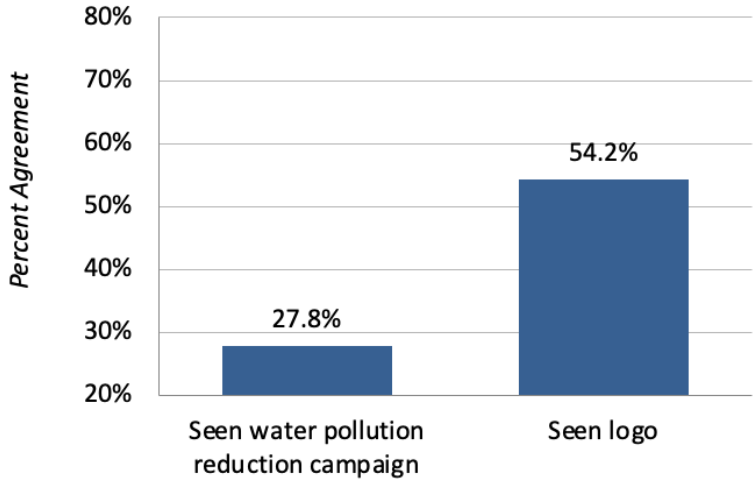
Table 34. Percentage of respondents who have seen campaigns by demographic group.

Demographic	Sub-category	Seen the Logo Previously	Seen Water Pollution Reduction Campaign
	All Respondents	**54.2%**	**27.8%**
Gender	Male	61.1%	35.9%
	Female	47.1%	20.0%
Age	21 to 24	73.8%	26.2%
	25 to 34	56.2%	35.8%
	35 to 44	56.4%	43.9%
	45 to 54	64.9%	20.3%
	55 to 64	41.2%	13.0%
	65 to 74	39.7%	18.6%
	75 or older	44.4%	13.9%
Locality	Alexandria	54.7%	26.2%
	Arlington	70.7%	40.7%
	Fairfax - Inclusive	58.2%	23.2%
	Prince William - Inclusive	38.5%	23.7%
	Leesburg/Loudon	51.6%	34.0%

Demographic	Sub-category	Seen the Logo Previously	Seen Water Pollution Reduction Campaign
Ethnicity	Not Hispanic/Latino	53.8%	28.1%
	Hispanic/Latino	57.1%	25.0%
Years of Residence	Less than 1 year	48.5%	16.7%
	1 to 3 years	47.2%	22.0%
	4 to 9 years	59.6%	28.7%
	10 to 19 years	59.6%	37.8%
	20 or more years	51.9%	26.4%
Home Ownership	Owned	55.9%	33.4%
	Rented	52.0%	19.4%
Household Income	Less than $35,000	50.0%	22.2%
	$35,000 to $49,999	57.1%	17.9%
	$50,000 to $74,999	49.2%	18.5%
	$75,000 to $99,999	43.4%	26.4%
	$100,000 to $124,999	68.6%	38.0%
	$125,000 to $149,999	55.6%	42.2%
	$150,000 to $174,999	66.7%	36.4%
	$175,000 to $199,999	57.7%	48.1%
	$200,000 or greater	56.8%	17.8%

** Red font indicates significant differences within a demographic subgroup.*

Figure 29. Water pollution reduction campaign awareness.



Reported recognition of the provided logo from years 2016-2024 can be seen below in Table 35. Reported familiarity with the campaign from years 2018-2024 can also be seen in this table. In

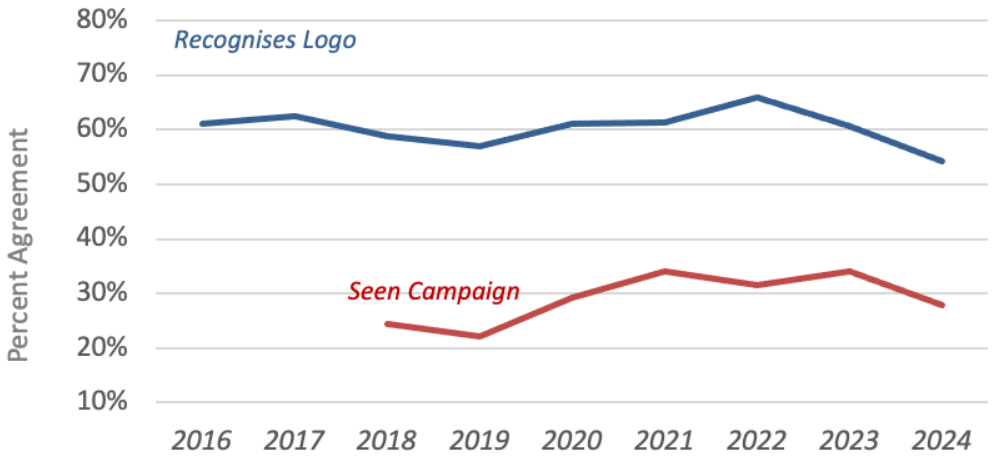
2022, reported recognition of the logo were significantly higher than in 2024. Otherwise, there were no significant differences in response rates between previous years and 2024.

Table 35. Logo and campaign recognition across years.

Year of Survey									
Survey Question Response	2016	2017	2018	2019	2020	2021	2022	2023	2024
Recognizes Logo	61.2%	62.4%	58.8%	57.0%	61.0%	61.4%	65.8%	60.7%	54.2%
Seen Campaign	*	*	24.4%	22.2%	29.2%	34.0%	31.6%	34.1%	27.8%

** Red font indicates that the value significantly differs from the current 2024 value.*
Asterisk (*) indicates that the survey question did not appear that year.

Figure 30. Logo and campaign recognition across years.



Additionally, as described previously, 25.9% report being aware of a water quality activity in the past 12 months. Lastly, respondents were asked if they have seen or received information about reducing water pollution from any source in the past 12 months, with 27.8% of respondents reporting yes, they have seen or received this kind of information. Men reported higher rates of seeing or receiving this information at higher rates than women, at 35.9% compared to 20.0%. Generally, reports of seeing or receiving this information decreased with age. Finally, owners reported seeing or receiving this information at a rate of 33.4% compared to 19.4% of renters, as can be seen in Table 34.

Survey participants were shown both the "Only Rain Down the Drain" and "Pollution Solutions" advertisements in a random order and asked questions about recognition and perceptions of both. Some participants report not being able to see one or both of the videos, in which case their data was excluded from analysis for these questions.

2.5.3.1 Only Rain Down the Drain (ORDD)

Participants were shown the advertisement "Only Rain Down the Drain" (ORDD) and asked a series of questions about it. First, participants were asked if they had seen the ad or a similar one on TV, Facebook, or Twitter and given the response options "Yes", "No", "Not sure", and "Video did not play". After seeing the ORDD advertisement, 19.2% of respondents report having seen the ad previously, as can be seen in Table 36 and Figure 31. Participants were then asked about their perceptions of the ad by listing a series of statements with the option to "Strongly disagree", "Disagree", "Neither disagree nor agree", "Agree", and "Strongly Agree". The statements were:

- I understand the information in the ad.
- The ad is relevant to me.
- I trust the information in the ad.
- The ad's message is important.
- The ad is persuasive.
- I think the ad would be effective.

In response to these statements, 83.3% report understanding the information in the ad, 78.8% report believing that the ad is relevant, 80.1% report trusting the information in the ad, 83.7% report thinking the information in the ad is important, 70.5% report believing the ad is persuasive, and 71.9% think the ad is effective. The ad perception results for both ads are shown in Figure 32.

Table 36. Perceptions of 'Only Rain Down the Drain' (ORDD) advertisement by demographics.

Demographic	Sub-category	Recog.	Underst.	Relevnt.	Trust	Import.	Persuas.	Effect.
	All Respondents	**19.2%**	**83.3%**	**78.8%**	**80.1%**	**83.7%**	**70.5%**	**71.9%**
Gender	Male	19.6%	83.4%	79.6%	82.3%	83.9%	70.5%	70.8%
	Female	19.0%	83.0%	78.2%	77.8%	83.3%	70.8%	73.3%
Age	21 to 24	24.3%	86.5%	80.6%	88.2%	84.8%	76.5%	73.5%
	25 to 34	27.7%	78.2%	75.5%	74.5%	80.6%	64.9%	70.2%

Demographic	Sub-category	Recog.	Underst.	Relevnt.	Trust	Import.	Persuas.	Effect.
	35 to 44	26.2%	79.2%	81.0%	80.6%	79.6%	67.3%	71.2%
	45 to 54	18.2%	85.1%	85.2%	82.0%	86.9%	72.1%	73.8%
	55 to 64	6.2%	92.3%	74.6%	79.0%	87.1%	75.4%	74.2%
	65 to 74	10.3%	81.0%	78.4%	82.4%	86.3%	78.4%	74.0%
	75 or older	8.8%	90.9%	75.8%	81.8%	87.5%	66.7%	66.7%
Locality	Alexandria	21.7%	80.0%	74.5%	76.4%	81.5%	68.5%	69.1%
	Arlington	20.0%	78.2%	84.6%	82.4%	76.9%	67.3%	65.4%
	Fairfax - Inclusive	20.0%	84.6%	79.2%	84.3%	86.7%	71.1%	70.3%
	Prince William - Inclusive	18.9%	84.1%	73.8%	73.2%	84.0%	69.5%	74.4%
	Leesburg/Loudon	15.9%	85.4%	82.1%	79.8%	82.9%	73.8%	78.6%
Ethnicity	Not Hispanic/Latino	19.1%	83.7%	77.6%	79.7%	83.1%	69.4%	70.8%
	Hispanic/Latino	20.4%	79.6%	89.1%	84.1%	88.6%	81.4%	81.8%
Years of Residence	Less than 1 year	20.6%	76.5%	68.8%	90.3%	86.7%	74.2%	80.6%
	1 to 3 years	13.3%	81.6%	83.3%	83.0%	86.4%	70.8%	75.3%
	4 to 9 years	20.0%	84.8%	77.2%	75.8%	80.8%	66.3%	67.7%
	10 to 19 years	26.9%	83.7%	77.2%	79.2%	83.0%	73.3%	70.3%
	20 or more years	16.5%	84.9%	80.7%	79.8%	83.9%	70.6%	72.0%
Home Ownership	Owned	19.9%	84.7%	81.0%	81.3%	83.9%	71.9%	72.5%
	Rented	16.8%	80.8%	75.4%	76.4%	82.1%	67.9%	70.2%
Household Income	Less than $35,000	19.0%	77.2%	70.0%	72.9%	81.6%	63.3%	65.3%
	$35,000 to $49,999	21.2%	78.4%	68.8%	83.3%	78.7%	68.8%	77.1%
	$50,000 to $74,999	21.2%	78.8%	72.5%	78.4%	78.4%	64.7%	66.7%
	$75,000 to $99,999	13.7%	84.3%	81.4%	78.9%	81.7%	76.8%	72.3%
	$100,000 to $124,999	18.8%	78.6%	80.9%	79.1%	84.8%	76.1%	80.6%
	$125,000 to $149,999	33.3%	90.5%	87.8%	87.8%	90.2%	68.3%	78.0%
	$150,000 to $174,999	9.1%	90.9%	75.0%	80.0%	80.0%	65.0%	60.0%
	$175,000 to $199,999	22.2%	92.6%	92.3%	88.5%	92.3%	73.1%	69.2%
	$200,000 or greater	18.2%	90.9%	83.3%	78.6%	90.5%	68.3%	66.7%

** Red font indicates significant differences within a demographic subgroup.*

Figure 31. Recognition of ' 'Only Rain Down the Drain' and 'Pollution Solution's *advertisements.*

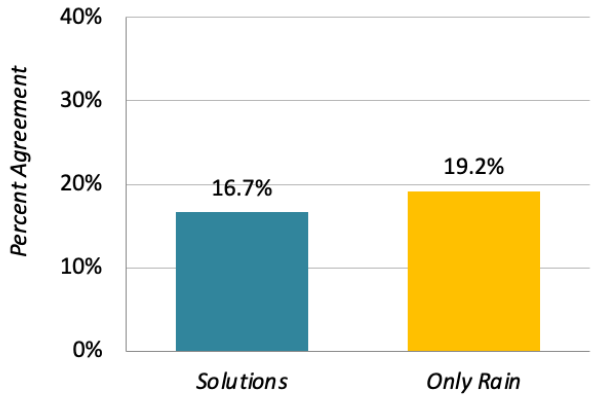
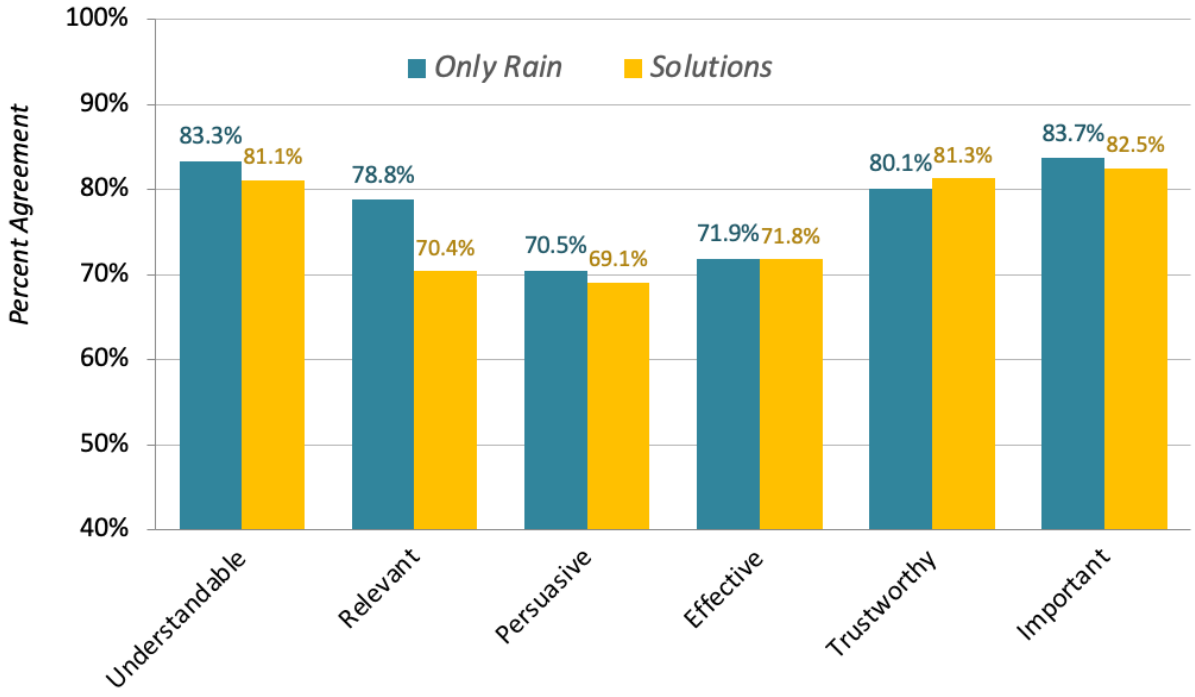


*Figure 32. Perceptions of 'Only Rain Down the Drain' and '*Pollution Solutions' *advertisement.*



Rates of reported recognition of the ad "Only Rain Down the Drain" from 2016 to 2024 can be seen below in Table 39. Notably, respondents to the 2021 survey reported higher rates of recognition when compared to 2024. Additionally, in Table 38, rates of reported perception of

the ad in 2023 and 2024 can be seen. In 2023, the rate of seeing the ad as relevant were lower than in 2024. Otherwise, there were no significant differences in response rates regarding this ad.

Table 37. Recognition of 'Only Rain Down the Drain' across years.

	Year of Survey								
Response to Survey Question	2016	2017	2018	2019	2020	2021	2022	2023	2024
Recognize "Only Rain"	15.6%	23.6%	14.8%	15.4%	22.0%	29.0%	27.8%	23.3%	19.2%

Table 38. Perceptions of 'Only Rain Down the Drain' across years.

	Year of Survey	
Response to Survey Question	2023	2024
Understand	79.4%	83.3%
Relevant	70.7%	78.8%
Trust	78.9%	80.1%
Important	84.2%	83.7%
Persuasive	68.5%	70.5%
Effective	73.0%	71.9%

2.5.3.2 Pollution Solutions

Participants were shown the ad "Pollution Solutions" and asked a series of questions about it. First, participants were asked if they had seen the ad or a similar one on TV, Facebook, or Twitter and given the response options "Yes", "No", "Not sure", and "Video did not play". After seeing the 'Pollution Solutions' ad, 16.7% of respondents report having seen the ad previously, as shown in Table 39 and Figure 31. Generally, older people reported having seen the ad previously at lower rates. Participants were then asked about their perceptions of the ad by listing a series of statements with the option to "Strongly disagree", "Disagree", "Neither disagree nor agree", "Agree", and "Strongly Agree". The statements were:

- I understand the information in the ad.
- The ad is relevant to me.
- I trust the information in the ad.
- The ad's message is important.
- The ad is persuasive.

- I think the ad would be effective.

In response to these statements, 81.1% of respondents report understanding the ad, 70.4% report believing the ad is relevant, 81.3% report trusting the information in the ad, 82.5% report thinking the information in the ad is important, 69.1% report believing the ad is persuasive and 71.8% report thinking the ad is effective. The results of both ads are shown in Figure 32.

Because this campaign is new is 2024, there is recognition or perceptions data from previous years.

Table 39. Perceptions of 'Pollution Solutions' advertisement by demographic group.

	Sub-category	Recog.	Underst.	Relevnt.	Trust	Import.	Persuas.	Effect.
	All Respondents	**16.7%**	**81.1%**	**70.4%**	**81.3%**	**82.5%**	**69.1%**	**71.8%**
Gender	Male	18.5%	80.9%	73.2%	82.0%	85.7%	71.3%	74.1%
	Female	15.0%	81.6%	67.9%	80.9%	79.5%	67.1%	69.7%
Age	21 to 24	18.9%	83.8%	65.7%	87.9%	90.9%	72.7%	71.9%
	25 to 34	23.8%	71.6%	67.0%	78.1%	73.2%	64.3%	64.3%
	35 to 44	25.9%	83.2%	67.6%	80.0%	79.0%	68.6%	72.4%
	45 to 54	18.6%	77.1%	76.9%	78.1%	84.4%	67.2%	74.6%
	55 to 64	6.0%	90.9%	76.9%	79.7%	87.5%	67.2%	73.4%
	65 to 74	5.3%	82.5%	76.5%	90.0%	90.0%	84.0%	80.0%
	75 or older	**	87.9%	59.4%	84.4%	87.5%	66.7%	71.9%
Locality	Alexandria	16.4%	73.8%	68.4%	71.9%	73.2%	63.2%	70.2%
	Arlington	23.6%	81.8%	78.4%	76.9%	80.8%	72.5%	70.6%
	Fairfax - Inclusive	16.4%	84.1%	73.7%	85.8%	86.5%	66.9%	71.0%
	Prince William - Inclusive	15.4%	81.3%	59.8%	77.1%	78.3%	72.3%	72.3%
	Leesburg/Loudon	14.4%	79.8%	71.4%	85.5%	85.7%	72.6%	75.0%
Ethnicity	Not Hispanic/Latino	16.5%	81.6%	71.3%	81.4%	82.5%	68.8%	71.9%
	Hispanic/Latino	18.4%	77.6%	63.0%	80.4%	82.6%	71.7%	71.7%
Years of Residence	Less than 1 year	18.8%	78.8%	54.8%	77.4%	80.6%	67.7%	60.0%
	1 to 3 years	8.9%	74.3%	72.3%	77.4%	76.3%	64.5%	73.1%
	4 to 9 years	21.7%	84.8%	75.0%	86.6%	85.9%	70.7%	71.7%
	10 to 19 years	25.0%	82.2%	73.5%	80.4%	82.2%	67.6%	72.5%
	20 or more years	11.0%	83.3%	66.7%	81.8%	85.1%	73.1%	73.3%
Home Ownership	Owned	19.1%	84.2%	72.0%	84.5%	86.7%	73.2%	75.4%
	Rented	11.7%	75.3%	68.2%	75.0%	74.3%	62.2%	66.0%
Household Income	Less than $35,000	12.1%	69.0%	61.2%	70.8%	70.8%	64.6%	68.8%

	Sub-category	Recog.	Underst.	Relevnt.	Trust	Import.	Persuas.	Effect.
	$35,000 to $49,999	15.1%	83.0%	63.3%	77.6%	76.0%	64.0%	63.3%
	$50,000 to $74,999	15.5%	75.9%	62.5%	80.4%	76.8%	55.4%	69.6%
	$75,000 to $99,999	16.8%	81.2%	70.7%	82.1%	82.3%	70.5%	72.6%
	$100,000 to $124,999	21.7%	81.2%	64.7%	80.9%	85.1%	76.5%	73.5%
	$125,000 to $149,999	30.2%	85.7%	90.7%	86.0%	90.7%	78.6%	86.0%
	$150,000 to $174,999	9.5%	81.0%	70.0%	84.2%	89.5%	78.9%	78.9%
	$175,000 to $199,999	14.8%	92.3%	84.0%	92.0%	88.0%	76.0%	68.0%
	$200,000 or greater	9.1%	90.9%	80.5%	85.4%	92.7%	65.9%	68.3%

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for comparison to other subgroups.*

2.5.4 Campaign Impact

Survey participants who reported recognizing one or both advertisements were asked a series of questions about the potential impact of the ad(s) on their behaviors.

2.5.4.1 Impact of advertisements on pet waste clean-up

Respondents were asked how certain behaviors have changed since they first saw the ad(s), if they had seen the advertisements prior to the current survey. The first set of questions asked about their current pet waste disposal behaviors, the results of which can be seen in Table 40 and Figure 33. Participants were provided the following statements with response options being "Yes", "No", or "Does not apply":

- I understand more about the impact of pet waste on water quality.
- I'd like to pick up pet waste more often, though I haven't made any changes yet.
- I now pick up pet waste more often.
- I was already doing what is recommended to reduce water pollution from pet waste.

Of those respondents who had seen the ad prior to completing the current survey, 82.9% report understanding more about pet waste, 70.3% report wanting to pick up pet waste more often despite not having made any changes yet, 73.3% report now picking pet waste up more often and

84.9% report already doing what is recommended. Non-Hispanic/Latino respondents report understanding more about pet waste at higher rates than Hispanic/Latino respondents, at 85.3% compared to 60.0%.

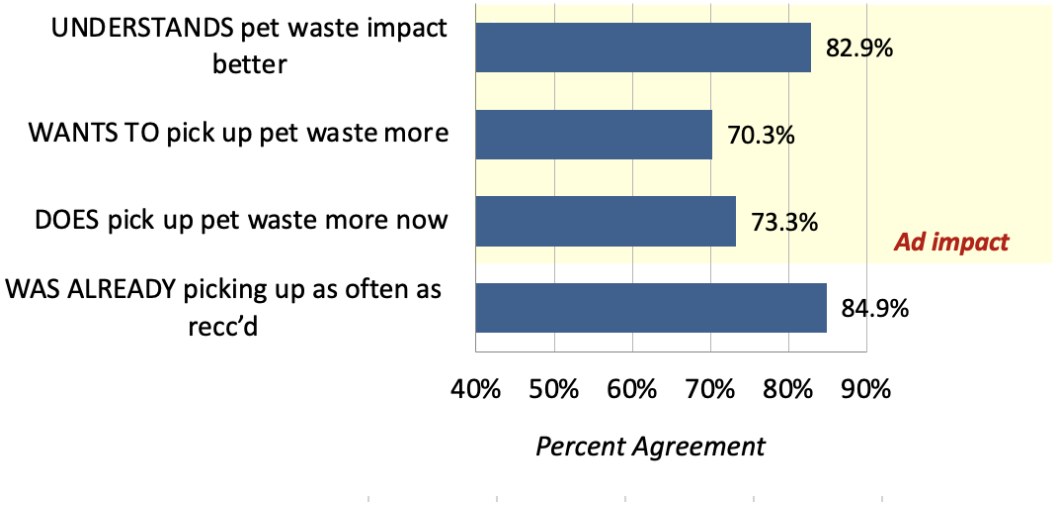
Table 40. Ad impact on pet waste clean-up behavior by demographic group among participants who had seen the advertisement prior to completing the current survey.

Demographic	Sub-category	Understands Pet Waste	Want to Pick Up More	More Pick-up Now	Pet Waste Already
	All Respondents	**82.9%**	**70.3%**	**73.3%**	**84.9%**
Gender	Male	87.3%	72.0%	80.0%	88.0%
	Female	78.0%	68.3%	65.0%	81.4%
Age	21 to 24	**	71.4%	83.3%	83.3%
	25 to 34	78.1%	81.5%	71.4%	80.6%
	35 to 44	78.4%	75.0%	66.7%	81.8%
	45 to 54	92.9%	50.0%	92.9%	92.9%
	55 to 64	71.4%	25.0%	50.0%	**
	65 to 74	**	100.0%	**	**
	75 or older	**	50.0%	0.0%	100.0%
Locality	Alexandria	81.3%	91.7%	76.9%	84.6%
	Arlington	80.0%	40.0%	78.6%	86.7%
	Fairfax - Inclusive	87.5%	75.0%	71.9%	84.8%
	Prince William - Inclusive	81.3%	80.0%	85.7%	78.6%
	Leesburg/Loudon	77.8%	64.7%	58.8%	88.9%
Ethnicity	Not Hispanic/Latino	85.3%	69.5%	76.8%	86.9%
	Hispanic/Latino	60.0%	77.8%	37.5%	66.7%
Years of Residence	Less than 1 year	77.8%	**	50.0%	83.3%
	1 to 3 years	75.0%	70.0%	80.0%	90.9%
	4 to 9 years	86.2%	75.0%	60.9%	72.0%
	10 to 19 years	84.8%	80.0%	80.6%	84.4%
	20 or more years	81.8%	40.0%	83.3%	**
Home Ownership	Owned	82.4%	66.2%	75.4%	87.7%
	Rented	80.8%	77.8%	76.2%	83.3%
Household Income	Less than $35,000	84.6%	91.7%	53.8%	81.8%
	$35,000 to $49,999	83.3%	87.5%	88.9%	83.3%

Demographic	Sub-category	Understands Pet Waste	Want to Pick Up More	More Pick-up Now	Pet Waste Already
	$50,000 to $74,999	70.0%	62.5%	33.3%	55.6%
	$75,000 to $99,999	73.7%	60.0%	85.7%	71.4%
	$100,000 to $124,999	85.0%	57.9%	68.4%	94.7%
	$125,000 to $149,999	85.7%	61.5%	85.7%	**
	$150,000 to $174,999	**	66.7%	**	50.0%
	$175,000 to $199,999	**	83.3%	66.7%	**
	$200,000 or greater	87.5%	85.7%	83.3%	**

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for between-group comparison.*

Figure 33. Ad impact on pet waste behaviors.



2.5.4.2 Impact of advertisements on lawn/garden fertilization

Next, respondents were asked about their fertilizer behaviors. Participants were provided with the following statements with the response options being "Yes", "No", or "Does not apply":

- I understand more about the impact of fertilizer on water quality.
- I'd like to fertilize fewer time during the year.

- I now plan to fertilize fewer times during the year.
- I was already doing what is recommended to reduce water pollution from fertilizer.

Of respondents who reported seeing the ad(s) previously, 81.6% report understanding more about the impact of fertilizer on water quality, 78.2% report wanted to fertilize fewer times despite not making any changes yet, 81.6% report now fertilizing less frequently and 78.1% report that they were already doing what is recommended as can be seen in Table 41 and Figure 34.

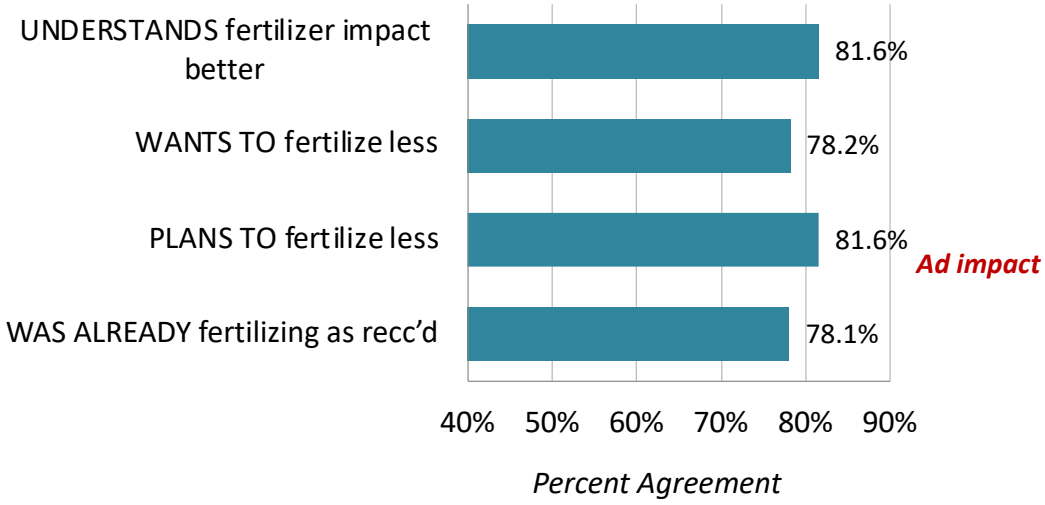
Table 41. Ad impact on fertilizing behavior by demographic group of those who had seen the advertisement prior to completing the survey.

Demographic	Sub-category	Understand Fertilizer	Want to Fertilizer Less	Fertilizes Less Now	Was Fertilizing Less Already
	All Respondents	**81.6%**	**78.2%**	**81.6%**	**78.1%**
Gender	Male	83.0%	85.1%	78.3%	77.4%
	Female	80.0%	70.0%	85.4%	79.1%
Age	21 to 24	**	66.7%	83.3%	83.3%
	25 to 34	93.8%	75.9%	82.1%	71.0%
	35 to 44	69.7%	75.0%	78.1%	85.7%
	45 to 54	85.7%	92.3%	92.3%	78.6%
	55 to 64	50.0%	75.0%	50.0%	80.0%
	65 to 74	**	**	**	75.0%
	75 or older	66.7%	100.0%	100.0%	0.0%
Locality	Alexandria	80.0%	90.9%	76.9%	84.6%
	Arlington	60.0%	76.9%	75.0%	93.3%
	Fairfax - Inclusive	82.9%	74.2%	83.9%	72.2%
	Prince William - Inclusive	86.7%	85.7%	92.3%	80.0%
	Leesburg/Loudon	94.4%	72.2%	77.8%	70.6%
Ethnicity	Not Hispanic/Latino	80.7%	78.2%	82.1%	79.1%
	Hispanic/Latino	90.0%	77.8%	77.8%	70.0%
Years of Residence	Less than 1 year	85.7%	83.3%	83.3%	85.7%
	1 to 3 years	83.3%	80.0%	**	83.3%
	4 to 9 years	88.5%	70.8%	70.8%	72.0%
	10 to 19 years	78.1%	80.0%	83.9%	80.6%
	20 or more years	76.2%	82.4%	81.3%	76.2%
	Owned	79.7%	75.0%	77.8%	76.8%

Demographic	Sub-category	Understand Fertilizer	Want to Fertilizer Less	Fertilizes Less Now	Was Fertilizing Less Already
Home Ownership	Rented	88.0%	89.5%	90.0%	79.2%
Household Income	Less than $35,000	**	**	81.8%	81.8%
	$35,000 to $49,999	90.9%	80.0%	81.8%	66.7%
	$50,000 to $74,999	90.0%	77.8%	66.7%	77.8%
	$75,000 to $99,999	62.5%	50.0%	91.7%	66.7%
	$100,000 to $124,999	73.7%	66.7%	83.3%	84.2%
	$125,000 to $149,999	78.6%	84.6%	84.6%	85.7%
	$150,000 to $174,999	66.7%	66.7%	33.3%	**
	$175,000 to $199,999	**	**	80.0%	66.7%
	$200,000 or greater	85.7%	**	**	85.7%

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for between-group comparison.*

Figure 34. Ad impact on fertilization behaviors.



2.5.4.3 Impact of advertisements on motor oil disposal

Finally, survey participants were asked about their behaviors regarding disposing of motor oil after watching the advertisements. Respondents were provided the following statements with the option to respond "Yes", "No", or "Does not apply":

- I understand more about the impact of motor oil on water quality.
- I'd like to dispose of motor oil properly, though I haven't made any changes yet.
- I now properly dispose of motor oil.
- I was already doing what is recommended to reduce water pollution from motor oil.

Of the respondents, 87.8% report understanding more about the impact of motor oil on water quality, 73.3% report wanting to dispose of motor oil properly despite not making any changes yet, 80.9% report now properly disposing of motor oil and 87.8% of respondents were already doing what is recommended as shown in Table 42 and Figure 35. Respondents who have lived in their residence for 20 or more years report the lowest rates of wanting to dispose of motor oil properly despite not making any changes yet compared to respondents who have lived in their residences for fewer years.

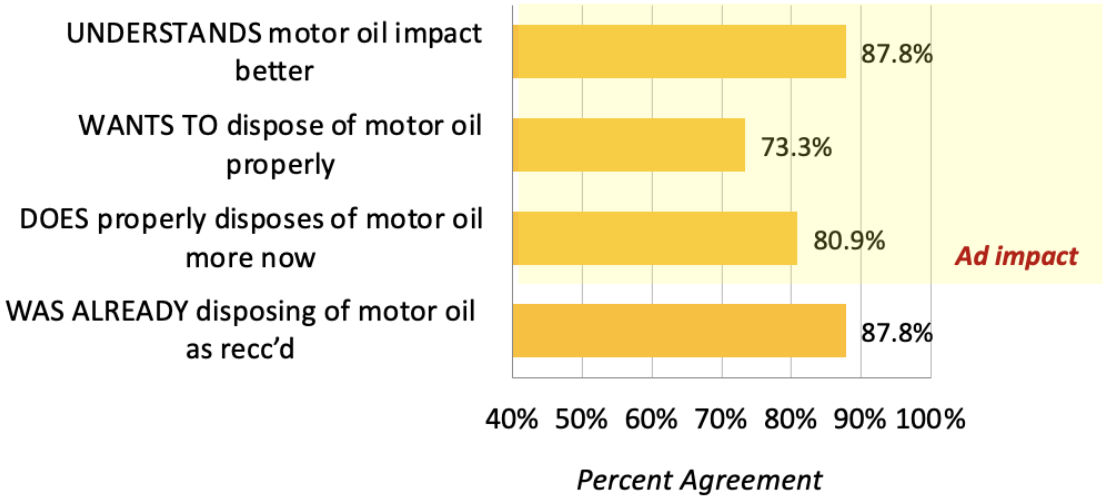
Table 42. Ad impact on motor oil (MO) disposal by demographic group among respondents who had seen the advertisement prior to completing the survey.

Demographic	Sub-category	MO Understand	Wants to Dispose Properly	Now Disposes Properly	Was Already Disposing Properly
	All Respondents	**87.8%**	**73.3%**	**80.9%**	**87.8%**
Gender	Male	88.9%	72.3%	80.0%	90.6%
	Female	86.4%	74.4%	82.1%	84.4%
Age	21 to 24	100.0%	83.3%	83.3%	100.0%
	25 to 34	86.7%	73.1%	85.7%	80.6%
	35 to 44	83.3%	82.9%	65.6%	86.1%
	45 to 54	92.9%	50.0%	92.3%	92.3%
	55 to 64	80.0%	33.3%	100.0%	100.0%
	65 to 74	100.0%	100.0%	100.0%	100.0%
	75 or older	100.0%	100.0%	100.0%	100.0%
Locality	Alexandria	92.9%	84.6%	93.3%	93.3%
	Arlington	92.9%	41.7%	66.7%	93.3%
	Fairfax - Inclusive	83.8%	72.4%	80.0%	88.2%
	Prince William - Inclusive	93.8%	80.0%	86.7%	87.5%
	Leesburg/Loudon	82.4%	82.4%	76.5%	77.8%
Ethnicity	Not Hispanic/Latino	89.8%	74.0%	82.5%	89.8%
	Hispanic/Latino	70.0%	66.7%	66.7%	70.0%

Demographic	Sub-category	MO Understand	Wants to Dispose Properly	Now Disposes Properly	Was Already Disposing Properly
Years of Residence	Less than 1 year	100.0%	100.0%	66.7%	75.0%
	1 to 3 years	90.9%	66.7%	90.0%	100.0%
	4 to 9 years	95.8%	72.7%	66.7%	76.9%
	10 to 19 years	82.4%	87.9%	86.7%	91.2%
	20 or more years	81.8%	44.4%	89.5%	94.7%
Home Ownership	Owned	84.7%	71.2%	78.8%	87.1%
	Rented	95.5%	76.5%	85.7%	91.7%
Household Income	Less than $35,000	90.9%	80.0%	80.0%	83.3%
	$35,000 to $49,999	100.0%	77.8%	90.9%	100.0%
	$50,000 to $74,999	88.9%	85.7%	75.0%	70.0%
	$75,000 to $99,999	82.4%	71.4%	70.6%	83.3%
	$100,000 to $124,999	88.9%	52.9%	93.8%	89.5%
	$125,000 to $149,999	78.6%	71.4%	85.7%	100.0%
	$150,000 to $174,999	66.7%	100.0%	33.3%	66.7%
	$175,000 to $199,999	100.0%	83.3%	50.0%	80.0%
	$200,000 or greater	87.5%	83.3%	100.0%	100.0%

* *Red font indicates significant differences within a demographic subgroup.*

Figure 35. Ad impact on motor oil behaviors.



2.5.4.4 Impact of ads across years

Reported impact of the ads on behaviors regarding pet waste, fertilizer, and motor oil in 2023 and 2024 can be seen below in Table 43. There were no significant differences between 2023 and 2024.

Table 43. Ad impact across years.

		Year of Survey	
Survey Questions Response		2023	2024
Pet Waste	Understands	85.5%	82.9%
	Wants to change	77.6%	70.3%
	Has picked up more	76.6%	73.3%
	Was already picking up	83.0%	84.9%
Fertilizer	Understands	85.0%	81.6%
	Wants to change	74.7%	78.2%
	Plans on fertilizing less	76.3%	81.6%
	Was already fertilizing less	71.4%	78.1%
Motor Oil	Understands	84.4%	87.8%
	Wants to change	75.7%	73.3%
	Now disposes of motor oil properly	79.3%	80.9%
	Was already disposing properly	82.0%	87.8%

** Red font indicates that the value significantly differs from the current 2024 value.*

2.5.5 Perceptions of the Campaign Sponsor (NVCWP)

Survey participants were asked about their perceptions of the campaign sponsor, the Northern Virginia Clean Water Partners, as perceptions of the campaign sponsor are known to impact consumer perceptions of the campaign. Table 44 and Figure 36 shows the percentage of respondents that indicate that they "Agree" or "Strongly Agree" with statements about NVCWP, on a 5-point scale of "Strongly Disagree", "Disagree", "Neither agree nor Disagree", "Agree" and "Strongly Agree". The statements were:

- I was familiar with the NVCWP before this survey
- I trust information from the NVCWP
- I would contact the NVCWP if I had a question or concern about water quality
- The NVCWP shares my values when it comes to water quality

Approximately one-third, 33.3%, indicate they are familiar with NVCWP. In addition, 71.2% of participants reported they trust information from NVCWP. Next, 69.7% of participants reported believing that they share values about water quality with NVCWP. Finally, 66.8% of respondents stated that they would contact NVCWP if they had questions about water with consistent results across subgroup demographics. Men report the greatest familiarity with NVCWP, at 39.4% compared to 27.4% among women. Generally, reported familiarity with NVCWP decreased as age increased.

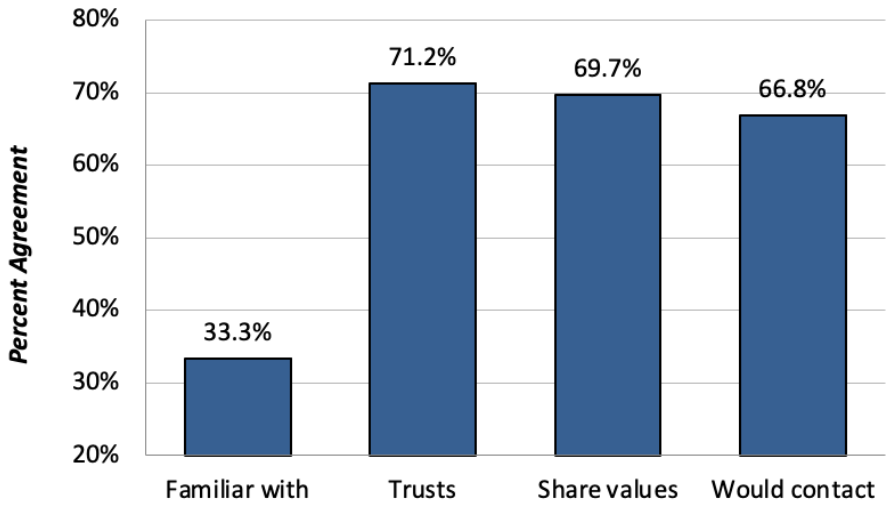
Table 44. Perceptions of the campaign sponsor, NVCWP, by demographic group.

Demographic	Sub-category	Familiar with NVCWP	Trusts NVCWP	Share Values with NVCWP	Would Contact NVCWP
		Agree or Strongly Agree	Agree or Strongly Agree	Agree or Strongly Agree	Agree or Strongly Agree
	All Respondents	**33.3%**	**71.2%**	**69.7%**	**66.8%**
Gender	Male	39.4%	74.8%	73.5%	71.3%
	Female	27.4%	67.9%	66.1%	62.6%
Age	21 to 24	42.9%	76.9%	71.1%	60.5%
	25 to 34	41.9%	71.7%	68.4%	67.7%
	35 to 44	39.8%	70.5%	66.7%	70.8%
	45 to 54	36.5%	72.1%	70.6%	70.6%
	55 to 64	17.6%	67.2%	69.2%	58.5%
	65 to 74	15.5%	73.6%	73.6%	69.2%

Demographic	Sub-category	Familiar with NVCWP	Trusts NVCWP	Share Values with NVCWP	Would Contact NVCWP
		Agree or Strongly Agree	Agree or Strongly Agree	Agree or Strongly Agree	Agree or Strongly Agree
	75 or older	27.8%	67.6%	74.3%	62.9%
Locality	Alexandria	35.4%	69.8%	67.7%	61.9%
	Arlington	37.9%	74.5%	72.7%	70.9%
	Fairfax - Inclusive	27.6%	75.4%	70.3%	65.5%
	Prince William - Inclusive	29.2%	60.2%	63.6%	64.0%
	Leesburg/Loudon	44.6%	72.7%	73.9%	73.0%
Ethnicity	Not Hispanic/Latino	33.0%	71.4%	68.8%	65.4%
	Hispanic/Latino	35.3%	69.4%	77.1%	79.2%
Years of Residence	Less than 1 year	27.8%	64.7%	70.6%	61.8%
	1 to 3 years	23.9%	69.3%	65.0%	67.3%
	4 to 9 years	38.9%	71.0%	73.1%	71.3%
	10 to 19 years	41.8%	81.0%	75.5%	71.0%
	20 or more years	30.5%	66.4%	65.0%	60.0%
Home Ownership	Owned	36.0%	74.5%	72.6%	69.4%
	Rented	28.2%	66.0%	65.0%	61.5%
Household Income	Less than $35,000	27.0%	70.9%	67.9%	62.5%
	$35,000 to $49,999	34.5%	68.6%	55.1%	58.8%
	$50,000 to $74,999	37.5%	66.7%	68.9%	63.9%
	$75,000 to $99,999	25.5%	66.3%	67.3%	64.4%
	$100,000 to $124,999	40.0%	76.1%	80.6%	76.1%
	$125,000 to $149,999	44.4%	84.4%	82.2%	84.4%
	$150,000 to $174,999	27.3%	85.7%	71.4%	71.4%
	$175,000 to $199,999	63.0%	76.0%	66.7%	72.0%
	$200,000 or greater	15.9%	61.4%	65.9%	53.5%

* *Red font indicates significant differences within a demographic subgroup.*

Figure 36. Perceptions of NVCWP.



Changes in perceptions of NVCWP across between 2023 and 2024 are shown in the table below. Familiarity with the organization decreased from 2023, from 42.2% to 33.3%. Trust, sentiment of shared values with NVCWP, and reported likelihood to contact NVCWP if needed remained the same.

Table 45. Perceptions of NVCWP across years.

	Survey Year	
	2023	2024
Familiar with NVCWP	42.2%	33.3%
Trusts NVCWP	73.5%	71.2%
Share Values with NVCWP	74.5%	69.7%
Would Contact NVCWP	70.9%	66.8%

* *Red font indicates that the value significantly differs from the current 2024 value.*

2.6 Message Sources

Survey participants were asked about their TV service provider and which channels they watch in order to get a better understanding of their sources of messaging. Provided options for TV service provider were "Verizon", "Comcast", "Cox", "Xfinity", "Do not have cable TV", "Do not watch TV", "I don't know", and the option to write-in another provider not listed. As shown in Table 46 and Figure 37, 40.8% of participants report using Verizon as their TV service

provider, 9.0 % report using Comcast, 11.8% report using Cox and 15.6% report using Xfinity. Additionally, 15.8 % report not having cable, 2.0% report not watching TV, 0.2% report using some other service not listed, and 4.8% of respondents report not knowing which TV service provider they use.

Women reported using Xfinity at a higher rate than men, at 19.2% compared to 12.1%. Reported Verizon use is highest amongst Leesburg/Loudon, Arlington, and Fairfax residents. Additionally, reported Cox use is higher in Fairfax and Alexandria. Reported use of Verizon as a TV service provider also tends to increases with age. Additionally, home owners reported using Verizon at a higher rate (48.9%) compared to renters (27.4%). Younger people report using Xfinity as a TV service provider at higher rates than older people. Renters also report using Xfinity at a rate of 24.6% compared to 10.0% of owners. Finally, renters report not having cable TV at higher rates than home owners, at 22.3% and 12.5% respectively.

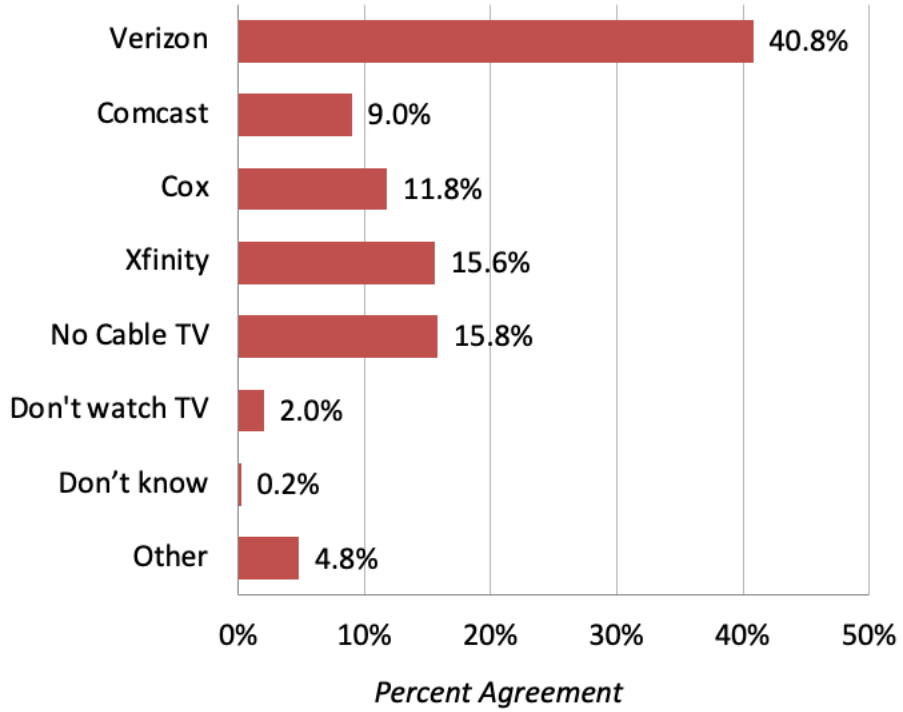
Table 46. TV service providers among respondents by demographic group.

Demographic	Sub-category	TV Service Provider							
		Verizon	Com-cast	Cox	Xfinity	No Cable TV	Don't watch TV	Don't know	Other
	All Respondents	**40.8%**	**9.0%**	**11.8%**	**15.6%**	**15.8%**	**2.0%**	**0.2%**	**4.8%**
Gender	Male	44.4%	7.7%	12.9%	12.1%	16.5%	1.2%	0.4%	4.8%
	Female	37.2%	10.4%	10.8%	19.2%	14.8%	2.8%	0.0%	4.8%
Age	21 to 24	42.9%	11.9%	16.7%	14.3%	11.9%	2.4%	0.0%	0.0%
	25 to 34	42.5%	6.6%	9.4%	19.8%	17.0%	1.9%	0.0%	2.8%
	35 to 44	43.0%	14.0%	13.2%	11.4%	14.0%	3.5%	0.0%	0.9%
	45 to 54	36.5%	10.8%	10.8%	14.9%	23.0%	0.0%	1.4%	2.7%
	55 to 64	36.2%	5.8%	5.8%	15.9%	15.9%	4.3%	0.0%	15.9%
	65 to 74	44.1%	0.0%	13.6%	15.3%	15.3%	0.0%	0.0%	11.9%
	75 or older	38.9%	13.9%	19.4%	19.4%	8.3%	0.0%	0.0%	0.0%
Locality	Alexandria	24.6%	15.4%	15.4%	24.6%	10.8%	1.5%	0.0%	7.7%
	Arlington	45.8%	11.9%	6.8%	23.7%	10.2%	0.0%	0.0%	1.7%
	Fairfax - Inclusive	42.7%	5.4%	20.5%	3.8%	21.6%	3.2%	0.5%	2.2%
	Prince William - Inclusive	36.1%	10.3%	1.0%	28.9%	13.4%	2.1%	0.0%	8.2%
	Leesburg/Loudon	50.0%	8.5%	6.4%	13.8%	13.8%	1.1%	0.0%	6.4%
Ethnicity	Not Hispanic/Latino	41.1%	8.9%	11.6%	15.8%	15.4%	1.8%	0.2%	5.1%
	Hispanic/Latino	38.5%	9.6%	13.5%	13.5%	19.2%	3.8%	0.0%	1.9%
	Less than 1 year	13.9%	2.8%	16.7%	30.6%	25.0%	8.3%	0.0%	2.8%

Demographic	Sub-category	TV Service Provider							
		Verizon	Com-cast	Cox	Xfinity	No Cable TV	Don't watch TV	Don't know	Other
Years of Residence	1 to 3 years	36.7%	5.5%	6.4%	22.9%	21.1%	2.8%	0.0%	4.6%
	4 to 9 years	44.3%	13.0%	13.9%	14.8%	12.2%	0.0%	0.0%	1.7%
	10 to 19 years	45.0%	9.9%	10.8%	7.2%	18.0%	1.8%	0.9%	6.3%
	20 or more years	45.0%	9.3%	14.0%	13.2%	10.1%	1.6%	0.0%	7.0%
Home Ownership	Owned	48.9%	10.0%	12.2%	10.0%	12.5%	1.0%	0.3%	5.1%
	Rented	27.4%	7.4%	10.9%	24.6%	22.3%	2.9%	0.0%	4.6%
Household Income	Less than $35,000	25.4%	9.5%	15.9%	17.5%	23.8%	4.8%	0.0%	3.2%
	$35,000 to $49,999	30.4%	8.9%	8.9%	25.0%	17.9%	3.6%	0.0%	5.4%
	$50,000 to $74,999	44.6%	7.7%	9.2%	10.8%	18.5%	3.1%	0.0%	6.2%
	$75,000 to $99,999	42.5%	7.5%	13.2%	21.7%	10.4%	0.9%	0.9%	2.8%
	$100,000 to $124,999	45.1%	14.1%	9.9%	14.1%	12.7%	0.0%	0.0%	4.2%
	$125,000 to $149,999	42.2%	4.4%	20.0%	11.1%	15.6%	0.0%	0.0%	6.7%
	$150,000 to $174,999	59.1%	4.5%	22.7%	4.5%	4.5%	4.5%	0.0%	0.0%
	$175,000 to $199,999	55.6%	14.8%	3.7%	7.4%	14.8%	3.7%	0.0%	0.0%
	$200,000 or greater	40.0%	8.9%	4.4%	11.1%	22.2%	0.0%	0.0%	13.3%

** Red font indicates significant differences within a demographic subgroup.*

Figure 37. TV service providers.



TV channel options provided in the survey were "HLN TV", "Oxygen", "Toon", "ENT", "Animal Planet", "CNN", "ESPN", "History", "National Geographic", "Lifetime", "The CW", "Home and Garden", and "None of the above". When asked which TV channels they watched (see Table 47 and Figure 38), 45.8% of respondents report watching CNN, 40.6% report watching ESPN, 36.8% report watching National Geographic, 27.2% report watching Animal Planet, 21.8% report watching Lifetime and 21.0% report watching Home and Garden. Additionally, 17.0% report not watching any of the listed channels, 13.4% reporting watching The CW, 9.8% report watching Oxygen, 7.0% report watching HLN TV, 6.0% report watching Toon and 3.8% report watching ENT.

Men report watching CNN, ESPN, History Channel, and National Geographic at higher rates than women. Younger people tend to report watching Animal Planet at higher rates than older people. Residents of Leesburg/Loudon report watching CNN at higher rates than residents of other localities. Additionally, Prince William residents report watching Lifetime at the highest rates and Arlington residents report watching Home and Garden at the highest rates.

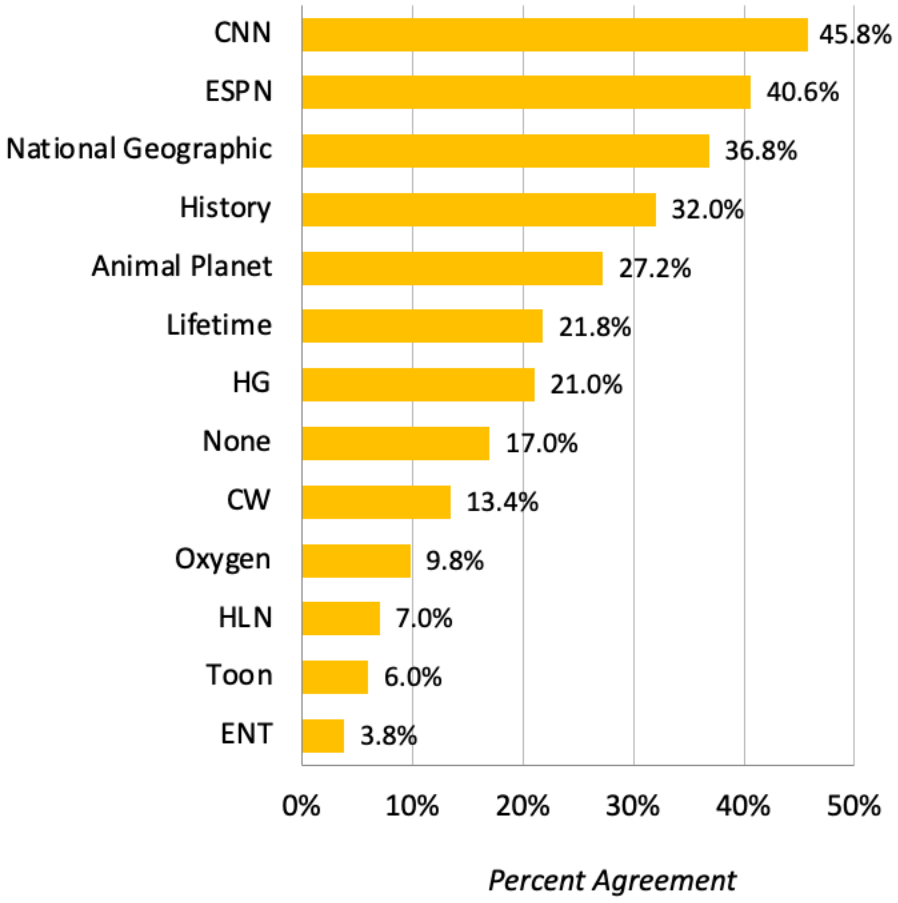
Table 47. TV channels that respondents report watching by demographic group.

Demographic	Sub-category	TV Channels Watched												
		HLN	Oxygen	Toon	ENT	AP	CNN	ESPN	History	National Geographic	Lifetime	CW	HG	None
	All Respondents	**7.0%**	**9.8%**	**6.0%**	**3.8%**	**27.2%**	**45.8%**	**40.6%**	**32.0%**	**36.8%**	**21.8%**	**13.4%**	**21.0%**	**17.0%**
Gender	Male	8.1%	7.3%	6.9%	4.0%	26.6%	50.4%	51.2%	39.1%	41.9%	19.4%	14.5%	20.6%	15.3%
	Female	6.0%	12.4%	5.2%	3.6%	28.0%	41.6%	30.0%	25.2%	32.0%	24.4%	12.4%	21.6%	18.4%
Age	21 to 24	2.4%	4.8%	11.9%	7.1%	23.8%	40.5%	45.2%	19.0%	33.3%	9.5%	9.5%	11.9%	21.4%
	25 to 34	7.5%	14.2%	7.5%	5.7%	38.7%	49.1%	46.2%	26.4%	42.5%	23.6%	10.4%	27.4%	13.2%
	35 to 44	12.3%	8.8%	6.1%	6.1%	30.7%	50.0%	43.9%	27.2%	36.0%	22.8%	14.9%	21.9%	14.9%
	45 to 54	9.5%	12.2%	12.2%	2.7%	33.8%	41.9%	44.6%	39.2%	35.1%	21.6%	21.6%	23.0%	18.9%
	55 to 64	2.9%	5.8%	0.0%	1.4%	18.8%	49.3%	34.8%	34.8%	31.9%	24.6%	11.6%	14.5%	20.3%
	65 to 74	3.4%	11.9%	1.7%	0.0%	11.9%	39.0%	32.2%	42.4%	35.6%	23.7%	10.2%	23.7%	13.6%
	75 or older	2.8%	5.6%	0.0%	0.0%	13.9%	41.7%	25.0%	41.7%	41.7%	19.4%	13.9%	13.9%	25.0%
Locality	Alexandria	4.6%	9.2%	4.6%	4.6%	30.8%	53.8%	50.8%	27.7%	40.0%	20.0%	9.2%	24.6%	15.4%
	Arlington	13.6%	10.2%	10.2%	0.0%	32.2%	47.5%	39.0%	35.6%	44.1%	18.6%	11.9%	30.5%	15.3%
	Fairfax - Inclusive	4.3%	7.0%	4.3%	3.8%	24.9%	41.1%	38.9%	33.0%	34.6%	20.5%	13.0%	14.1%	23.8%
	Prince William - Inclusive	9.3%	17.5%	8.2%	6.2%	24.7%	36.1%	38.1%	26.8%	32.0%	34.0%	17.5%	18.6%	14.4%
	Leesburg/Loudon	7.4%	7.4%	5.3%	3.2%	28.7%	58.5%	40.4%	36.2%	39.4%	14.9%	13.8%	28.7%	8.5%
Ethnicity	Not Hispanic/Latino	7.4%	9.8%	5.8%	3.8%	27.5%	46.0%	40.4%	32.8%	36.2%	21.7%	14.1%	21.4%	17.2%
	Hispanic/Latino	3.8%	9.6%	7.7%	3.8%	25.0%	44.2%	42.3%	25.0%	42.3%	23.1%	7.7%	17.3%	15.4%
Years of Residence	Less than 1 year	11.1%	11.1%	11.1%	2.8%	30.6%	30.6%	38.9%	27.8%	36.1%	16.7%	2.8%	11.1%	27.8%
	1 to 3 years	1.8%	13.8%	6.4%	0.9%	21.1%	41.3%	41.3%	27.5%	31.2%	18.3%	7.3%	14.7%	20.2%

Demographic	Sub-category	TV Channels Watched												
		HLN	Oxygen	Toon	ENT	AP	CNN	ESPN	History	National Geographic	Lifetime	CW	HG	None
	4 to 9 years	5.2%	9.6%	7.0%	6.1%	31.3%	49.6%	43.5%	34.8%	35.7%	22.6%	15.7%	19.1%	13.0%
	10 to 19 years	9.0%	7.2%	5.4%	4.5%	29.7%	47.7%	35.1%	33.3%	40.5%	23.4%	17.1%	27.0%	18.0%
	20 or more years	10.1%	8.5%	3.9%	3.9%	25.6%	48.8%	42.6%	33.3%	39.5%	24.0%	16.3%	25.6%	14.0%
Home Ownership	Owned	8.4%	8.7%	5.1%	4.5%	28.9%	50.5%	43.7%	33.4%	41.5%	21.5%	14.8%	23.8%	14.8%
	Rented	5.1%	12.0%	8.0%	2.3%	25.7%	40.0%	38.3%	31.4%	29.7%	22.3%	10.9%	17.1%	19.4%
Household Income	Less than $35,000	7.9%	19.0%	11.1%	6.3%	27.0%	42.9%	30.2%	31.7%	34.9%	27.0%	14.3%	15.9%	23.8%
	$35,000 to $49,999	0.0%	5.4%	5.4%	0.0%	23.2%	30.4%	35.7%	25.0%	25.0%	17.9%	10.7%	16.1%	21.4%
	$50,000 to $74,999	4.6%	9.2%	6.2%	3.1%	20.0%	36.9%	41.5%	20.0%	26.2%	21.5%	12.3%	13.8%	20.0%
	$75,000 to $99,999	6.6%	12.3%	3.8%	2.8%	33.0%	48.1%	38.7%	31.1%	37.7%	20.8%	9.4%	22.6%	15.1%
	$100,000 to $124,999	11.3%	11.3%	7.0%	4.2%	31.0%	56.3%	42.3%	28.2%	40.8%	18.3%	16.9%	21.1%	9.9%
	$125,000 to $149,999	11.1%	2.2%	2.2%	0.0%	28.9%	40.0%	44.4%	42.2%	60.0%	33.3%	22.2%	24.4%	13.3%
	$150,000 to $174,999	9.1%	4.5%	0.0%	0.0%	27.3%	45.5%	50.0%	40.9%	54.5%	9.1%	9.1%	22.7%	13.6%
	$175,000 to $199,999	7.4%	7.4%	7.4%	14.8 %	29.6%	55.6%	40.7%	51.9%	25.9%	22.2%	22.2%	40.7%	18.5%
	$200,000 or greater	6.7%	6.7%	8.9%	6.7%	20.0%	60.0%	53.3%	40.0%	35.6%	22.2%	8.9%	24.4%	17.8%

** Red font indicates significant differences within a demographic subgroup.*

Figure 38. TV channels watched.



3 APPENDIX

3.2 Survey Instrument

2024 Stormwater Survey

Survey Instrument

Programming instructions

- Programming instructions are in [SQUARE BRACKETS].
- Skip/branch logic is in [RED SQUARE BRACKETS].
- All items are single-select unless otherwise noted.
- Retain response option order unless noted.
- Retain grid item order unless noted.
- Allow respondents to go back/forward.
- Respondents may skip any question, but give one prompt if they move forward without a response. Terminate if a screener question is skipped.

Consent and screening

We're conducting this survey to understand opinions related to storm water. Everything you say will be anonymous. You'll watch a couple short videos, so please make sure your sound is on. The survey should take about 10 minutes.

Do you want to proceed?
Yes
No [END SURVEY]

Section	Construct	Q #	Question
Demographics	Sex	S1	First, we'll ask a few questions about you. What is your gender identity? Male Female Non-binary/non-conforming Prefer not to answer
Demographics	Age	S2	Which of the following categories includes your age? Under 18 [END SURVEY] 18 to 20 [END SURVEY] 21 to 24 25 to 34 35 to 44 45 to 54 55 to 64 65 to 74 75 or older
Demographics	Residence Type	S3	Is your home…? Owned Rented Military housing Transitional housing Other (Please specify): None of the above [END SURVEY]
Demographics	VA Residency	S4	Do you live in the state of Virginia? Yes No [END SURVEY]

Demographics	NoVA Residency	S5	Do you live in one of the following towns, cities, or counties? Please select only one location. Alexandria Arlington Fairfax County: Fairfax City Fairfax County: Herndon Fairfax County: Vienna Fairfax County, but not one of the cities/towns listed Falls Church Henrico County [END SURVEY] Loudoun County: Leesburg Loudoun County, but not Leesburg Prince William County: Dumfries Prince William County: Manassas Prince William County: Manassas Park Prince William County, but not one of the cities/towns listed Richmond [END SURVEY] Virginia Beach [END SURVEY] None of the above [END SURVEY]
Demographics	Occupation	S6	What is your occupation/sector of work? [RETAIN ORDER, DO NOT RANDOMIZE] a. Student only (no other occupation) b. Retired c. Currently unemployed d. Agriculture, forestry, fishing and hunting, and mining e. Construction f. Manufacturing g. Wholesale trade h. Retail trade i. Transportation and warehousing j. Utilities k. Information or information technology l. Finance and insurance, m. Real estate and/or rental and leasing n. Professional and/or scientific o. Administrative p. Waste management services q. Educational services r. Health care and/or social assistance s. Arts, entertainment, and recreation t. Accommodation/hospitality and food services u. Public administration v. Other services w. Other: _____

Demographics	HH Income	S7	What is your household's annual income? Less than $35,000 $35,000 to $49,999 $50,000 to $74,999 $75,000 to $99,999 $100,000 to $124,999 $125,000 to $149,999 $150,000 to $174,999 $175,000 to $199,999 $200,000 or greater
Demographics	Ethnicity	S8	Which of the following describes your ethnicity? (Please select all that apply) African American/Black American Indian/Native Alaskan Asian Hispanic/Latino Native Hawaiian/Pacific Islander White/Caucasian Other: _____
Demographics	Language	S9	What is the main language spoken in your home? a. English b. Spanish c. Chinese d. Vietnamese e. Arabic f. Korean g. Tagalog (including Filipino) h. Urdu i. Amharic or Somali j. French (including Cajun) k. Persian (including Farsi, Dari) l. Other: _____
Demographics	Years in residence	Q1	How many years have you lived in your current residence? Less than 1 year 1 to 3 years 4 to 9 years 10 to 19 years 20 or more years

<table>
<tr><td>Behavior</td><td>Lawn or garden at residence</td><td>Q2</td><td>Does your home have a lawn or garden, no matter how small?

Yes
No</td></tr>
<tr><td>Behavior</td><td>Lawn care familiarity</td><td>Q3</td><td>[IF Q2 = YES] Are you familiar with how your garden or lawn is cared for (e.g., fertilizer use, mowing)?
Yes
No</td></tr>
<tr><td>Behavior</td><td>Lawn care use</td><td>Q4</td><td>[IF Q2 = YES] Do you use a lawn care service at least once a year?
Yes
No</td></tr>
<tr><td>Behavior</td><td>Vehicle owner</td><td>Q5</td><td>Do you own or lease a personal vehicle?
Yes
No</td></tr>
<tr><td>Demographics</td><td>Own a dog</td><td>Q6</td><td>Is there one or more dogs in your home that you are at least partially responsible for?

Yes
No</td></tr>
<tr><td>Knowledge</td><td>Watershed</td><td>Q7</td><td>Are you familiar with the term “watershed”?

Yes
No

[DISPLAY TEXT ON NEXT PAGE AFTER RESPONSE HAS BEEN ENTERED.]
A watershed is an area of land that channels rainfall and snowmelt to creeks, streams, and rivers, and eventually to outflow points such as reservoirs, bays, and the ocean.</td></tr>
<tr><td>Demographics</td><td>Reside within watershed</td><td>Q8</td><td>Do you live in the….

<table><tr><td></td><td>YES</td><td>NO</td><td>Don’t Know</td></tr><tr><td>Chesapeake Bay watershed?</td><td></td><td></td><td></td></tr><tr><td>Potomac River watershed?</td><td></td><td></td><td></td></tr><tr><td>Another watershed not listed?</td><td></td><td></td><td></td></tr></table></td></tr>
</table>

Perceptions	Storm water final destination	Q9	"Stormwater" is rainwater that flows into the street, along the gutter and into the storm drain. To the best of your knowledge, where does stormwater go? A wastewater treatment facility Potomac River and Chesapeake Bay All of the above None of the above Other: _____
Behavior	Dog walk cleanup frequency	Q10	[IF Q6= YES] When taking your dog(s) for a walk, how often do you pick up after your dog(s)? Always Usually Sometimes Rarely Never Not applicable/I don't take the dog(s) on walks
Behavior	Dog yard clean up frequency	Q11	[IF Q6 = YES AND Q2 = YES] How often do you (or someone else from your household) remove your dog's waste from your yard? Not applicable – dog not allowed to go in the home's yard Daily Weekly Monthly Less often than once a month Never Not sure

Belief	Reason for dog clean up	Q12	[IF Q10 = (Always, Usually, Sometimes, Rarely) AND Q11 = (Daily, Weekly, Monthly, Less often than once a month)] What is the most important reason to pick up after your dog(s)? (Please select only one) City/county ordinance Don't want to step in it It causes water pollution It is gross It's what good neighbors do Odor Other reason None/no reason to
Behavior	Grass clippings handling	Q13	[IF Q3 = YES] How are grass clippings from your lawn disposed of? Bagged and put in the regular trash Bagged and put in compost/recycling bags for pick up Left on the lawn/garden Put in a compost pile/bin Not sure Other Not applicable/don't have grass clippings
Behavior	Grass clippings on street handling	Q14	[IF Q3 = YES] After your grass has been mown, what is done if grass clippings end up in the street? They are left there. They are swept or blown back into the lawn. They are swept or blown into the storm drain Not applicable/don't have grass clippings Other: _____ Not sure
Behavior	Lawn fertilization frequency	Q15	[IF Q3 = YES] Which of the following best describes how often your lawn is fertilized? 1 time a year 2 times a year 3 times a year 4+ times a year Only if/when if a soil test indicates the grass needs fertilizer Never Not sure

<table>
<tr><td>Knowledge</td><td>Rain barrel familiarity</td><td>Q16</td><td>A rain barrel is a barrel you put under your downspout to collect rain water that you can use around your yard. Which of the following statements are true for you?

<table><tr><td></td><td>YES</td><td>NO</td></tr><tr><td>I have a rain barrel.</td><td></td><td></td></tr><tr><td>I am familiar with rain barrels.</td><td></td><td></td></tr><tr><td>I don’t have a rain barrel but I’m interested in getting one.</td><td></td><td></td></tr></table></td></tr>
<tr><td>Knowledge</td><td>Rain garden familiarity</td><td>Q17</td><td>A rain garden is a bowl-shaped garden area where runoff can collect and soak into the ground. Which of the following statements are true for you?

<table><tr><td></td><td>YES</td><td>NO</td></tr><tr><td>I have a rain garden.</td><td></td><td></td></tr><tr><td>I am familiar with rain gardens.</td><td></td><td></td></tr><tr><td>I don’t have a rain garden but I’m interested in installing one.</td><td></td><td></td></tr></table></td></tr>
<tr><td>Knowledge</td><td>Conservation landscaping familiarity</td><td>Q18</td><td>Conservation landscaping is replacing an area of lawn or bare soil in your yard with native plants. Which of the following statements are true for you?

<table><tr><td></td><td>YES</td><td>NO</td></tr><tr><td>I have conservation landscaping in my yard.</td><td></td><td></td></tr><tr><td>I am familiar with conservation landscaping.</td><td></td><td></td></tr><tr><td>I don’t have conservation landscaping but I’m interested in installing it.</td><td></td><td></td></tr></table></td></tr>
<tr><td>Behavior</td><td>Vehicle oil handling</td><td>Q19</td><td>[IF Q5 = YES]
When you need to change the oil in your car or truck, what do you do with the old motor oil?

I don’t change the oil myself/I take it to a garage/oil change service
Take the old motor oil to a gas station or hazmat facility for recycling
Store it in my garage
Put it in the trash
Dump it in the gutter or down the storm sewer
Dump it down the sink
Dump it on the ground
Other: _____ [please specify]</td></tr>
</table>

<table>
<tr><td>Knowledge</td><td>HHW drop off knowledge</td><td>Q20</td><td>Do you know whether or not your locality has a specific place for residents to drop off household hazardous waste (HHW)? HHW includes items like automobile fluids, pesticides and herbicides, oil-based paint and paint thinners, etc.

Yes, I know whether we have a location for drop-offs.
No, I’m not sure whether we have a location for drop-offs.</td></tr>
<tr><td>Behavior</td><td>Wash vehicle at home</td><td>Q21</td><td>[IF Q5 = YES]
In the past year, where have you washed your personal vehicle? Check all that apply. [MULTISELECT]

At my home or someone else’s home
At a commercial car wash
I haven’t washed my vehicle
Other: _____ [please specify]</td></tr>
<tr><td>Behavior</td><td>Wash vehicle at home frequency</td><td>Q22</td><td>[IF Q21 = At my/someone else’s home]
How often do you typically wash your car/truck at home?

Less than once a year
1- 2 times per year
3-4 times per year
5-6 times per year
7-12 times per year
12+ times per year</td></tr>
<tr><td>Behavior</td><td>Wash vehicle method</td><td>Q23</td><td>[IF Q21 = At my/someone else’s home]
When you wash your car/truck at home, which of the following apply?

<table><tr><th></th><th>YES</th><th>NO</th><th>NOT SURE</th></tr><tr><td>I wash it on the grass, gravel or dirt</td><td></td><td></td><td></td></tr><tr><td>I use environmentally friendly detergent</td><td></td><td></td><td></td></tr><tr><td>I use water only (no soap or detergent)</td><td></td><td></td><td></td></tr></table></td></tr>
</table>

Knowledge	Pollution identification	Q24	Looking at the picture below, would you consider either to be a potential source of water pollution? [MEDIA: SurveyImage_POLLUTION.png] Yes No Not sure Cannot see image
Knowledge	Pollution reporting knowledge	Q25	Do you feel that you know who to contact to report potential water pollution? I definitely know I think I know I don't think I know I definitely don't know
Behavior	Likelihood to report pollution	Q26	What is the likelihood that you would call county or town officials to report potential pollution so they could investigate the cause? I definitely would I probably would I'm equally likely to call and to not call I probably would NOT I definitely would NOT
Behavior	Reason for not reporting pollution	Q27	[IF Q26 = Equally likely, Probably not or Definitely not] What is the primary reason that you would **not** call county or town officials to report potential pollution? I'm too busy It's not my responsibility It's none of my business I prefer not to communicate with officials or authorities Other: _____
Behavior	Salt/abrasive	Q28	During snowy and icy conditions, how often (if at all) do you (or a family member) apply **deicer** (e.g., salt) at your residence? Always or most of the time Frequently Sometimes Occasionally Rarely Never Don't know

<table>
<tr><td>Behavior</td><td>Salt/abrasive</td><td>Q29</td><td>[SKIP IF Q28 = “RARELY” OR “NEVER”]

Do you (or a family member) typically apply deicer (e.g., salt) at your residence before, during, or after a winter storm event?
(Select all that apply.)

Before
During
After
Depends / varies too much to say
Other:_____ [please specify]
Don’t know</td></tr>
<tr><td>Behavior</td><td>Salt/abrasive</td><td>Q30</td><td>During snowy and icy conditions, how often (if at all) do you (or a family member) apply <u>an abrasive for traction</u> (e.g., sand) at your residence?

Always or most of the time
Frequently
Sometimes
Occasionally
Rarely
Never
Don’t know</td></tr>
<tr><td>Perception</td><td>Salt/abrasive</td><td>Q31</td><td>In general, how would you rate the impact (if any) on each of the following from using salt for winter storm events? That is, for each item, please indicate if you feel that applying salt for winter storm events has a very positive, somewhat positive, somewhat negative, very negative, or little or no impact on that item.
[RANDOMIZE]

<table>
<tr><th></th><th>Very positive</th><th>Some-what positive</th><th>No or little impact</th><th>Some-what negative</th><th>Very negative</th><th>Don’t know/ not sure</th></tr>
<tr><td>Tap/Drinking water</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Local waterways</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Emergency vehicle safety</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Motorist safety</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Pedestrian safety</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Economic and civic activity</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
</table>

Sources	TV service provider	Q32	What TV service provider do you use? [RANDOMIZE FIRST FOUR OPTIONS] Verizon Comcast Cox Xfinity Do not have cable TV Do not watch TV Other: _____ I don't know
Sources	TV channels	Q33	White of the following channels, if any, do you watch? [RANDOMIZE ALL BUT LAST] HLN TV Oxygen Toon ENT Animal Planet CNN ESPN History National Geographic Lifetime CW Home and Garden None of the above
Knowledge	Clean up activity awareness in past 12 months	Q34	Thinking about the last 12 months, have you ***heard about*** any opportunities to participate in a water quality activity, such as a stream clean up, helping to install storm drain labels, etc.? Yes No Not sure
Behavior	Cleanup activity participation in the past 12 months	Q35	[IF Q34 = YES] Thinking about the last 12 months, have you ***participated in*** a water quality activity, such as a stream clean up, helping to install storm drain labels, etc.? Yes No

<table>
<tr><td>Instruction</td><td></td><td></td><td>Please watch the video below, then we'll ask you a couple questions about it.
[VIDEO ORDER RANDOMIZED: “Only Rain Down the Drain!”, “Pollution Solutions””]</td></tr>
<tr><td>Awareness</td><td>Ad familiarity</td><td>Q36</td><td>Before this survey, had you seen this ad, or a similar one on TV, Facebook, or Twitter?

Yes
No
Not sure
Video did not play</td></tr>
<tr><td>Perception</td><td>Ad perceptions</td><td>Q37</td><td>[IF Q36 NOT = ‘Video did not play”]
Thinking of the ad video you just saw, indicate whether you agree or disagree with the following statements about it.

<table>
<tr><th></th><th>Strongly Disagree</th><th>Disagree</th><th>Neither disagree or agree</th><th>Agree</th><th>Strongly Agree</th></tr>
<tr><td>I understand the information in the ad.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The ad is relevant to me.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I trust the information in the ad.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The ad’s message is important.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The ad is persuasive.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I think the ad would be effective.</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Instruction</td><td></td><td></td><td>Please watch the video below, then we'll ask you a couple questions about it.
[VIDEO ORDER COUNTERBALANCED: “Only Rain Down the Drain!”, “Pollution Solutions”]</td></tr>
</table>

<table>
<tr><td>Awareness</td><td>Ad familiarity</td><td>Q38</td><td>Before this survey, had you seen this ad, or a similar one on TV, Facebook, or Twitter?

Yes
No
Not sure
Video did not play</td></tr>
<tr><td>Perception</td><td>Ad perceptions</td><td>Q39</td><td>[IF Q38 NOT ‘Video did not play”]
Thinking of the ad video you just saw, indicate whether you agree or disagree with the following statements about it.

<table><tr><td></td><td>Strongly Disagree</td><td>Disagree</td><td>Neither disagree or agree</td><td>Agree</td><td>Strongly Agree</td></tr><tr><td>I understand the information in the ad.</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>The ad is relevant to me.</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>I trust the information in the ad.</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>The ad’s message is important.</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>The ad is persuasive.</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>I think the ad would be effective.</td><td></td><td></td><td></td><td></td><td></td></tr></table></td></tr>
</table>

Behavior	Ad impact	Q40	[IF Q38 = YES OR Q36 = YES] Thinking back to when you first saw the ad(s), please indicate if the following statements are true for you ***now*** compared to ***then***? (Select all that apply.)

	YES	NO	DOES NOT APPLY
I understand more about the impact of pet waste on water quality.			
I'd like to pick up pet waste more often, though I haven't made any changes yet.			
I now pick up pet waste more often.			
I was already doing what is recommended to reduce water pollution from pet waste			

[PAGE BREAK. KEEP QUESTION AND RESPONSE LABELS ON SCREEN

	YES	NO	DOES NOT APPLY
I understand more about the impact of fertilizer on water quality.			
I'd ***like to*** fertilize fewer times during the year.			
I now plan to fertilize fewer times during the year.			
I was already doing what is recommended to reduce water pollution from fertilizer.			

[PAGE BREAK. KEEP QUESTION AND RESPONSE LABELS ON SCREEN.]

	YES	NO	DOES NOT APPLY
I understand more about the impact of motor oil on water quality.			
I'd like to dispose of motor oil properly, though I haven't made any changes yet.			
I now properly dispose of motor oil.			
I was already doing what is recommended to reduce water pollution.			

Awareness	Received info about water pollution	Q41	Have you seen or received information about reducing water pollution from any source in the past 12 months? Yes No Not sure
Awareness	Rain logo familiarity	Q42	Have you seen the logo below before? [MEDIA: SHOW SURVEYIMAGE_LOGO] Yes No Cannot see image

<table>
<tr>
<td>Perceptions</td>
<td>Sponsor awareness and perceptions</td>
<td>Q43</td>
<td>[DISPLAY TEXT ON SEPARATE PAGE.]
The Northern Virginia Clean Water Partners is a group of local governments, drinking water and sanitation authorities, and businesses that share the common goals to keep Northern Virginia residents healthy and safe by reducing the amount of pollution from stormwater runoff that reaches local creeks and rivers, and empower individuals to take action to reduce pollution.
[PAGE BREAK.]

Indicate whether you agree or disagree with the following statements about the Northern Virginia Clean Water Partners (NVCWP).

<table>
<tr><th></th><th>Strongly Disagree</th><th>Disagree</th><th>Neither disagree or agree</th><th>Agree</th><th>Strongly Agree</th></tr>
<tr><td>I was familiar with the NVCWP before this survey.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I trust information from the NVCWP.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I would contact the NVCWP if I had a question or concern about water quality.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The NVCWP shares my values when it comes to water quality.</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td>
</tr>
</table>

[FINAL PAGE]

Thank you for completing the survey! The survey was sponsored by the Northern Virginia Clean Water Partners. To learn about the Northern Virginia Clean Water Partners, visit onlyrain.org.

Advancing Stormwater Management

in Alexandria

Learn what you can do to improve & protect water quality & mitigate flooding!

April 23, 12PM, virtual

FLOODACTION ALEXANDRIA

ECO-CITY ALEXANDRIA CLEAN WATERWAYS

Jessica Lassetter
Senior Environmental Specialist
City of Alexandria
Transportation & Environmental Services
Stormwater Management Division

Agenda

- Stormwater Management in Alexandria
- Water Resources & Water Quality
  - Opportunities for Engagement
- Flood Action Alexandria
- Financial Programs for Residents
  - Flood Mitigation Grant Program
  - Stormwater Utility Fee Credit Program

FLOODACTION ALEXANDRIA

ECO-CITY ALEXANDRIA CLEAN WATERWAYS

Stormwater Management in Alexandria

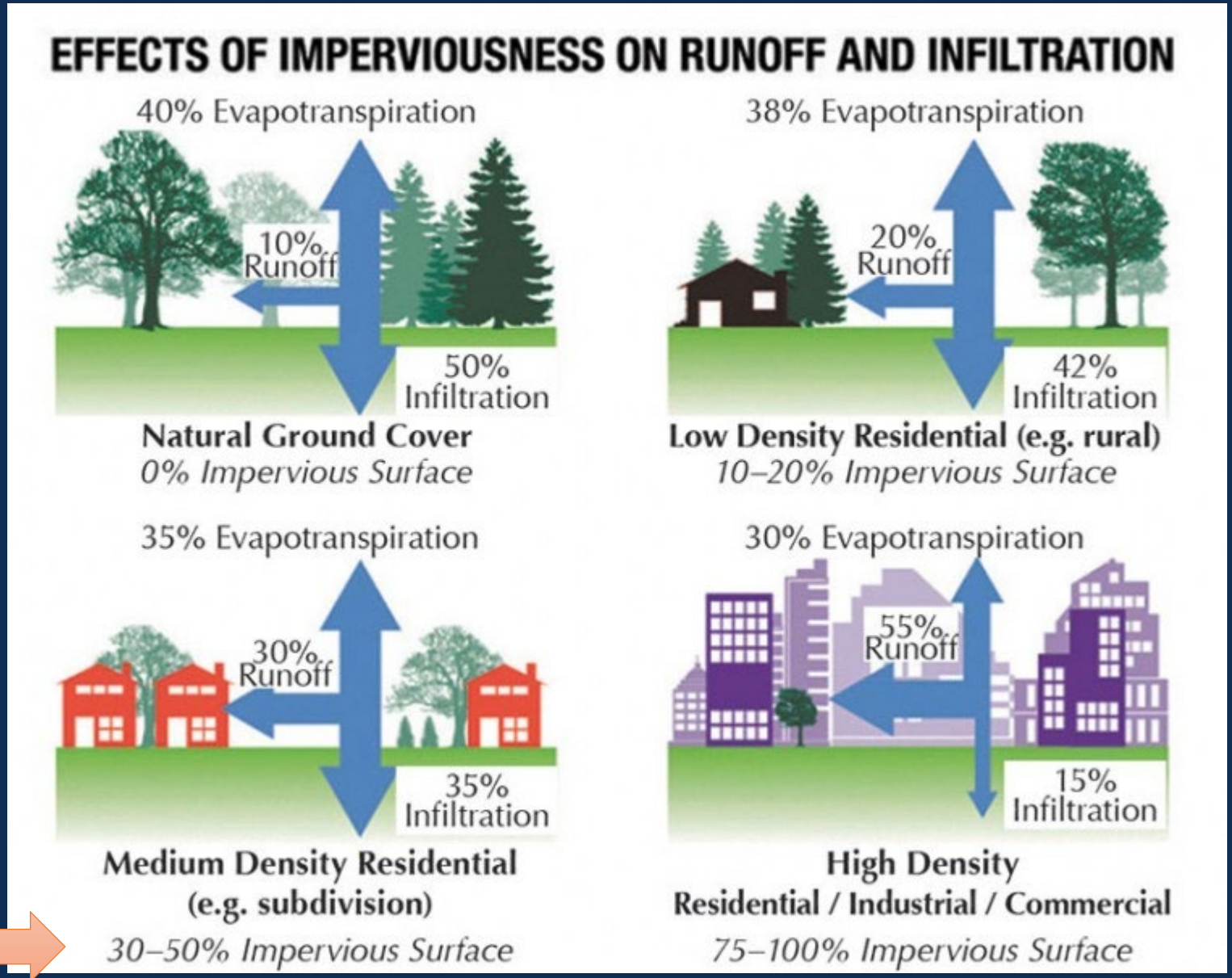
- 154,700 (2021 population)
- 15 square miles
- Over 40% impervious area
- ~500 acres in Old Town area in combined sewer (See River Renew for more info!)

ONE WATER
ALEXANDRIA

Why Care About Water Quality?

Why Does Stormwater Runoff?

During rain events, the City sees about 30% runoff because we have about 45% Impervious Surface

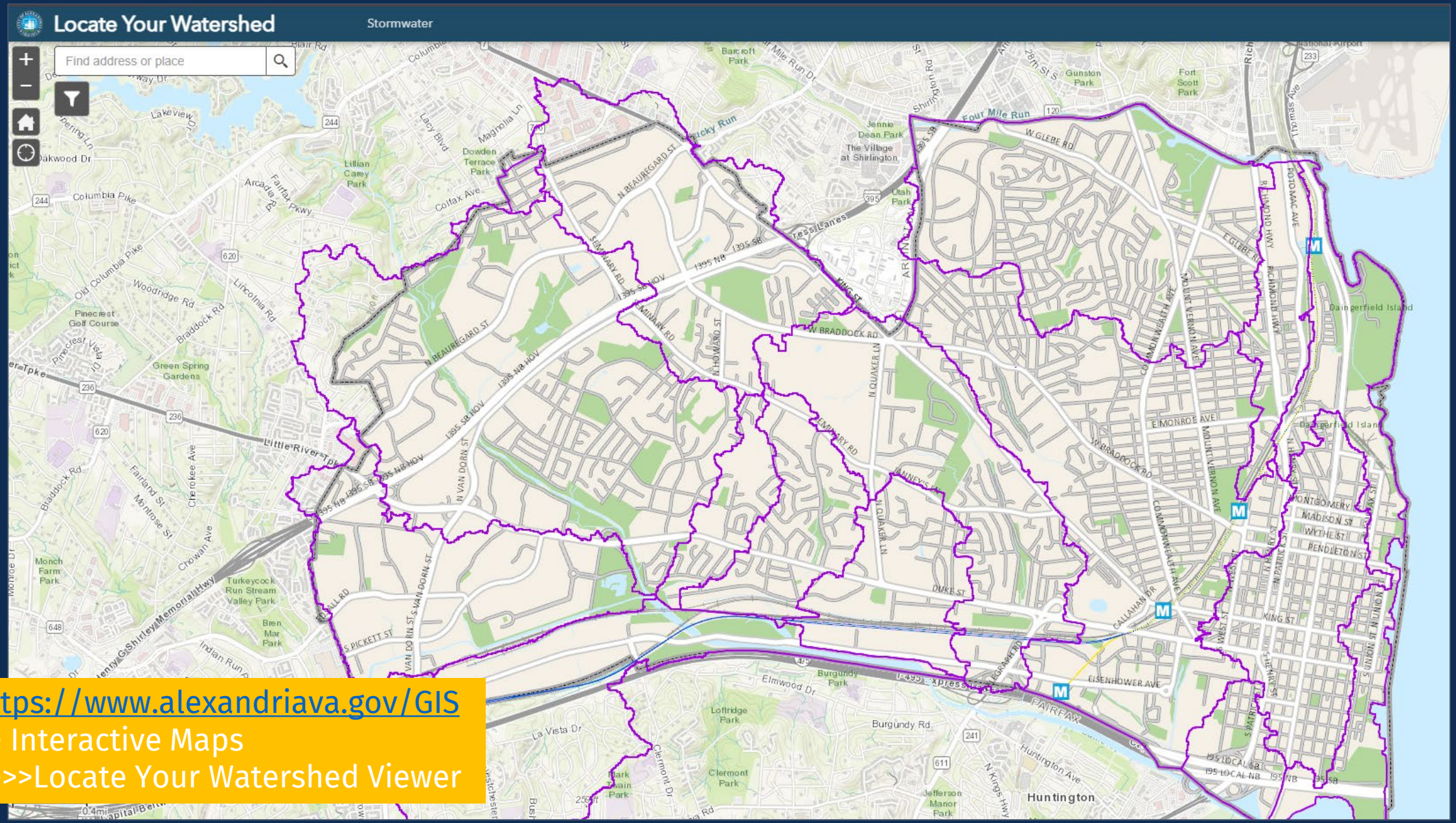


Where does all of the stormwater go?

"If it drains to the street, it drains to the creek."

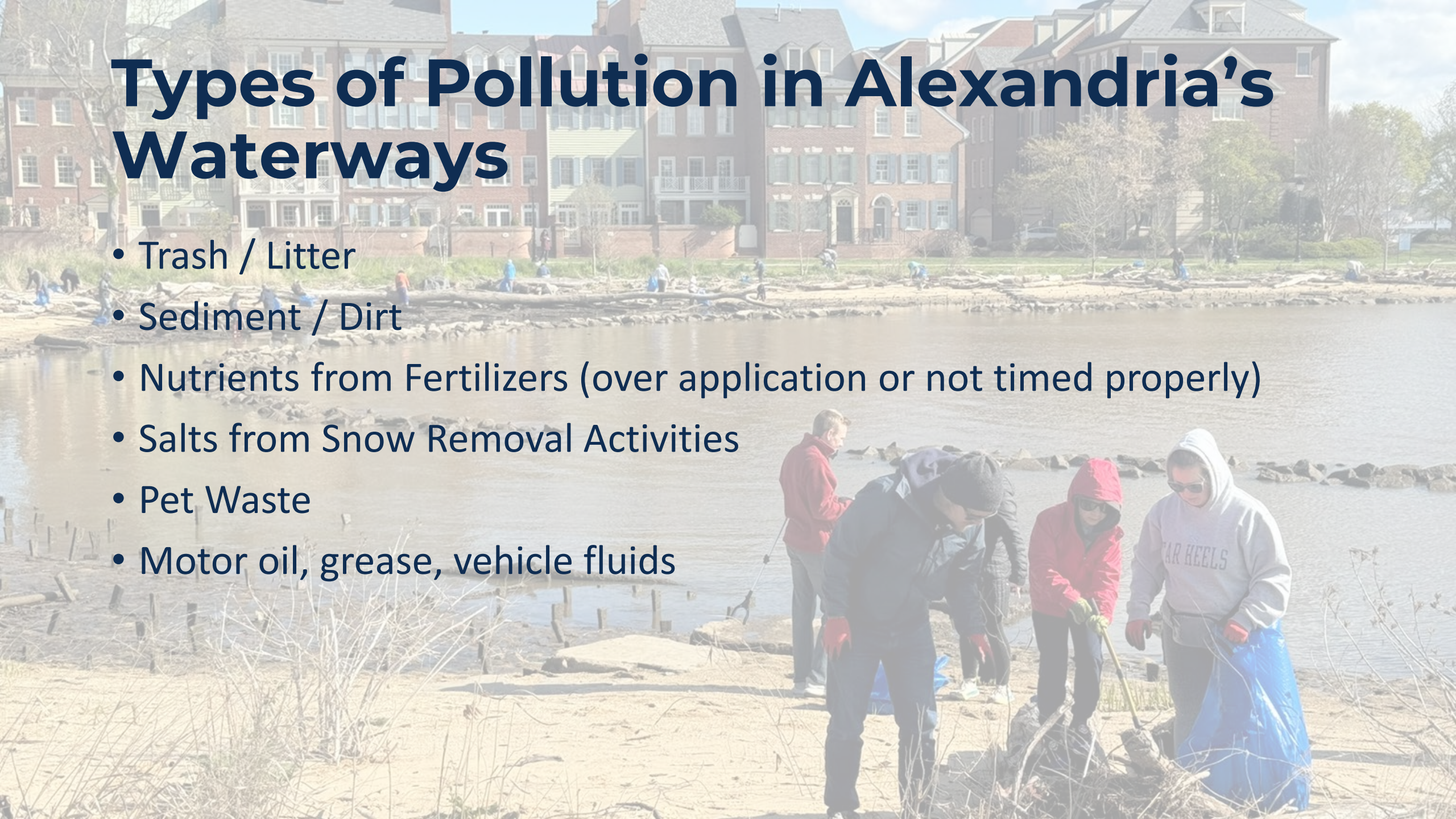
Where does all of the stormwater go?

The Potomac River drains to the Chesapeake Bay and, ultimately, to the Atlantic Ocean


Locate Your Watershed
Stormwater
Find address or place
https://www.alexandriava.gov/GIS
>> Interactive Maps
>>>>Locate Your Watershed Viewer

Types of Pollution in Alexandria's Waterways

- Trash / Litter
- Sediment / Dirt
- Nutrients from Fertilizers (over application or not timed properly)
- Salts from Snow Removal Activities
- Pet Waste
- Motor oil, grease, vehicle fluids



What You Can Do to Protect Water Quality

Report Clogged Inlets & Water Quality Concerns to Alex311
Pick Up After Your Pet | Do Not Litter
Reduce Use of Fertilizer




City of Alexandria IDDE PSA Video

(Run Time 1:28)

Financial Programs for Residents

Stormwater Utility Fee Credit Program

- Provides a % reduction off your annual Stormwater Utility Fee (SWU)
- Focus on stormwater quality practices, as well as, flood mitigation

Flood Mitigation Grant Program

- Provides 50/50 match up to $5K for SFH and $25K for HOAs
- Focus on flood mitigation practices

Stormwater Utility Fee Credit Program

- Since May 2018, the City's SWU provides a dedicated, equitable funding source for Alexandria's Stormwater Management Program
- The residential fee is based on property type and is billed twice a year with property taxes
- All property owners are eligible to receive up to 50% reduction
- Program is open annually December 1 – February 15th
- Credits are good for 2-years and most just require a picture!

Stormwater Utility Fee Credit Program

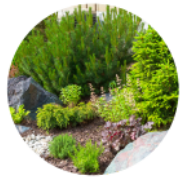
RESIDENTIAL PROPERTIES CREDIT MENU

STORMWATER MANAGEMENT PRACTICES

PRACTICE	CREDIT
RAIN BARRELS	5% EACH MAX 20% FOR 4
CISTERN	20%
DETENTION PRACTICES	20%
DRY WELL/ INFILTRATION	20%
RAIN GARDEN	20%
FLOW THRU PLANTER BOX	20%
PERMEABLE PAVEMENT	20%
VEGETATED GREEN ROOF	20%

ELIGIBLE LANDSCAPING PRACTICES

PRACTICE	CREDIT
NO FERTILIZER PLEDGE	10%
CONSERVATION LANDSCAPING	10%
NEW TREE PLANTING	UP TO 30% ONE TIME CREDIT
MATURE TREE PRESERVATION	UP TO 20%



*APPROVED STORMWATER PRACTICES IN THE BMP CLEARINGHOUSE MAY BE ELIGIBLE FOR CREDITS ON A CASE-BY-CASE BASES. SEE 2011 DESIGN SPECIFICATIONS FOR APPROVED PRACTICES AT HTTPS://SWBMP.VWRRC.VT.EDU

DRY FLOODPROOFING PRACTICES

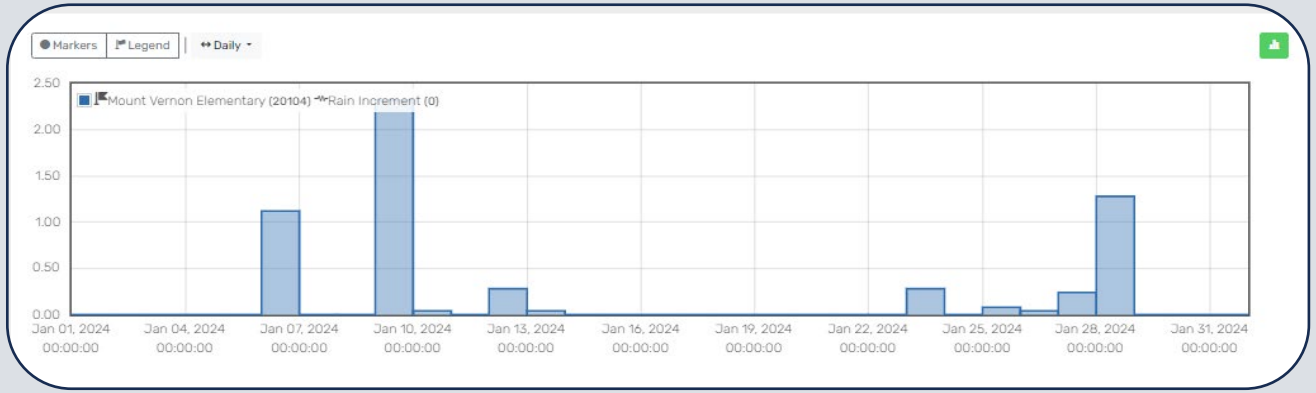
PRACTICE	CREDIT
PROTECTIVE BARRIERS/ WALLS	10%
PROTECTIVE DOORWAY FLOOD GATE OR PANEL	10%
PASSIVE FLOOD GATES	10%
FLOODPROOF WINDOWS	10%
BASEMENT WINDOW PROTECTION	10%
GROUND FLOOR/ BASEMENT CUSTOM WINDOW WELLS	10%
FRENCH DRAIN AROUND BASEMENT	10%
IMPERMEABLE MATERIAL AROUND FOUNDATION	10%
CONCRETE SEALER	5%
CONSTRUCT WITH FLOOD RESISTENT BUILDING MATERIAL	5%
ELEVATE EXTERIOR UTILITIES/ SERVICE EQUIPMENT	5%

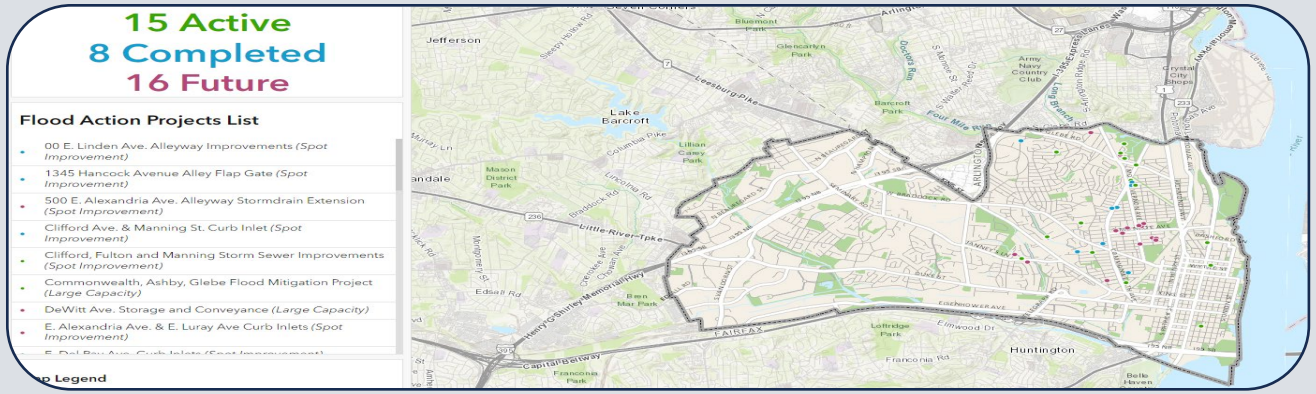
FLOODACTION

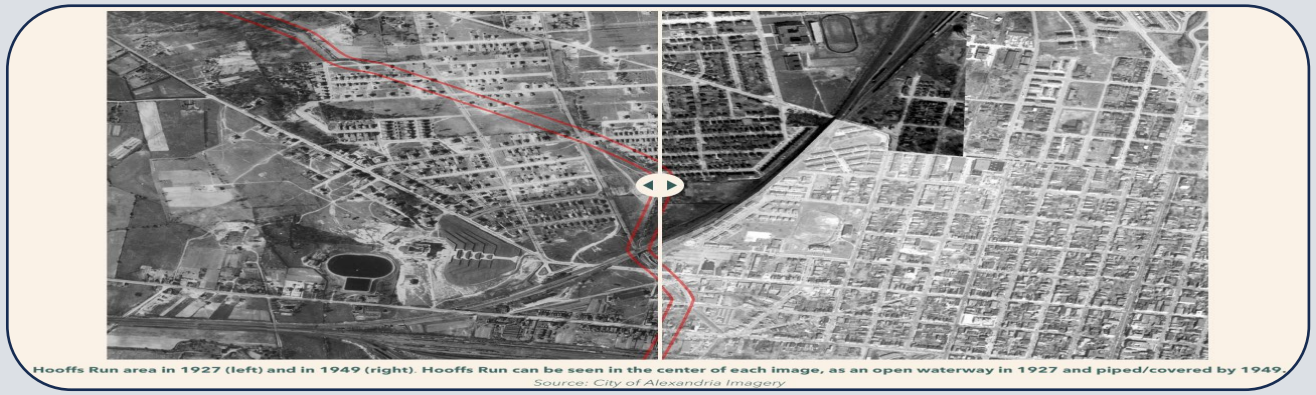
ALEXANDRIA

Alexandriava.gov/FloodAction

- Rain Gauge Info
- Project Dashboard of Current & Future Projects
- Story Map on the History of Flooding in Alexandria







Flood Mitigation Grant Program Objectives

- Financially reimburse homeowners for flood mitigation efforts
- Designed so both the City and homeowners achieve beneficial outcomes:
  - City delivers grant funds to homeowners who made efforts to help mitigate flooding
  - Homeowners are ***reimbursed*** for products and/or services that provide a return on their own investments

The "old" way

The "new" way

Practices Covered by Flood Mitigation Grant Program

Windows and Doors

- Permanent glass protection
- Basement window protection
- Ground floor or basement window wells and drains
- Temporary or permanent doorway flood gate or panel
- Flood socks
- Temporary quick dams

Basement and Utilities

- Sump pump battery backups
- Drain tiles below basement floors
- Flood vents
- Utility flood covers
- Interior concrete or masonry walls
- Elevated electrical outlets and switches
- Quick Connect system
- Elevated utilities and service equipment

Exterior and Topography

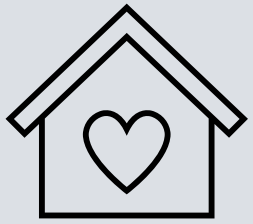
- Surface grading
- Protective walls
- Impermeable soil materials
- Flood walls
- French drain systems
- Earthen berm construction
- Sandless or traditional sandbags
- Flood resistant building materials

For questions about your flood mitigation efforts, contact City staff at FloodGrant@alexandriava.gov

Flood Mitigation Grant as of October 2023

Individual Homeowner

- $5K grant, 50/50 match
- Must be an eligible flood mitigation practice
- Use by owner within boundary of real estate property.



Associations

- $25K grant, 50/50 match
- Must be an eligible flood mitigation practice
- Use by association to protect common area and/or multiple properties from flood hazard.

Before We Go…

- Developing a **Flood Resilience Plan** (forthcoming) to address needs into the future
- Participate in **Earth Day Bingo** through the end of April!
- **Eco-City Festival**
  - Saturday, May 11, 2024
  - 10:00 a.m. – 1:00 p.m.
  - NOVA Community College (NVCC), 5000 Dawes Avenue

Scan to get to the Bingo Card!

Thank You!

FLOODACTION ALEXANDRIA

ECO-CITY ALEXANDRIA
CLEAN WATERWAYS

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 1 Annual Report

July 1, 2023 – June 30, 2024

Appendix B

Minimum Control Measure #2, Public Involvement and Participation

1. City's Webpage for Alex311
2. City's Webpage with MS4 Program Plan and Annual Report
3. City's Webpage for the One Water Partnership
4. City's Webpage for Earth Day

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 1 Annual Report

July 1, 2023 – June 30, 2024

Appendix C

Minimum Control Measure #3, Illegal Discharge Detection and Elimination

1. MS4 Outfalls Map, Sept. 2024
2. MS4 Outfalls Table
3. Notice of Potential Interconnections (2009) and Resent 2020
4. Illicit Discharges to the MS4
5. Illicit Discharge Complaints
6. Outfall Inspections
7. EnerGov Code Case Search
8. Alex311 Web-based Form
9. CityWorks
10. City's Household Hazardous Waste webpage
11. State Permitted Discharges Map
12. State Permitted Discharges Table
13. Conditions Regarding Cooking Residue

City of Alexandria

Storm Sewer System Outfall Map

PL25

PL26

PL28

Legend

- Outfall Points
- City Boundary Line
- MS4_Area

VA_HUC12

HUC

- PL25
- PL26
- PL28

September 2024

City of Alexandria
Outfall and Point of Discharge Table

Outfall ID	Estimated MS4 Acreage Served (acres)	Receiving Water	Ultimate Receiving Water	Ultimate Receiving Water Impairment	TMDLs	Type	HUC	Latitude Decimal Degrees	Longitude Decimal Degrees
000001IO	7.89	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11886440.46	6984163.82
000002IO	13.11	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887433.77	6985111.699
000003IO	7.70	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11886723.66	6983909.517
000004IO	6.82	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11886768.19	6983959.464
000005IO	9.26	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11886527.7	6983494.552
000008IO	5.16	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885959.42	6984253.376
000010IO	28.90	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11884893.22	6983957.149
000015IO	260.86	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11886772.62	6985948.308
000016IO	10.53	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887114.73	6985732.021
000017IO	6.29	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887237.89	6985607.025
000041IO	31.67	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888852.69	6981534.963
000042IO	0.61	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888839.71	6981576.72
000043IO	2.93	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888978.05	6981101.434
000044IO	22.51	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889063.01	6981533.091
000045IO	6.09	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888946.51	6980279.499
000048IO	26.41	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889082.33	6980591.082
000050IO	13.52	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888159.24	6983592.744
000051IO	6.27	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888369.04	6983123.82
000052IO	2.35	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888399.7	6982932.266
000053IO	0.71	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888415.94	6982864.731
000054IO	0.94	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888419.47	6982706.854
000055IO	21.02	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888460.54	6982655.803
000056IO	17.93	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888447.75	6982658.441
000057IO	2.06	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888681.1	6982256.677
000058IO	2.47	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888674.7	6982076.896
000059IO	4.38	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888760.68	6981795.462
000060IO	4.15	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888738.67	6982030.953
000061IO	0.96	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888613.22	6982314.863
000062IO	3.21	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888098.71	6983638.702
000063IO	0.13	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888118.97	6983622.493
000064IO	3.77	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888245.47	6983276.601
000065IO	1.32	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888285.14	6983309.497
000067IO	1.74	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888375.89	6982913.114
000068IO	3.26	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887349.24	6983366.923
000069IO	0.74	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887298.84	6983388.581
000070IO	2.71	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887704.72	6982949.739
000074IO	83.60	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885800.97	6984307.115
000075IO	0.06	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885834.11	6984309.427
000076IO	3.17	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887379.89	6984905.205
000077IO	3.78	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887269.74	6985371.613
000100IO	3.27	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887473.68	6983140.415
000101IO	2.47	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887067.13	6983467.829
000105IO	2.88	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11871772.65	6988871.466
000106IO	1.34	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872351.47	6988913.388

City of Alexandria
Outfall and Point of Discharge Table

Outfall ID	Estimated MS4 Acreage Served (acres)	Receiving Water	Ultimate Receiving Water	Ultimate Receiving Water Impairment	TMDLs	Type	HUC	Latitude Decimal Degrees	Longitude Decimal Degrees
000107IO	0.54	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11871868.81	6988632.407
000108IO	0.18	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11871717.05	6988957.849
000109IO	21.82	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11871709.92	6988392.875
000111IO	6.81	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872121.4	6987563.654
000112IO	12.47	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873633.7	6989781.374
000116IO	24.22	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11875459.07	6989850.611
000137IO	2.90	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11875428.37	6989580.595
000138IO	54.02	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873477.22	6989249.213
000139IO	13.28	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11876210.96	6989363.584
000140IO	36.50	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876260.94	6988957.362
000141IO	7.02	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876271.96	6988924.012
000144IO	39.79	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875529	6989042.071
000145IO	23.06	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11876612.34	6989189.499
000148IO	2.62	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11878443.82	6980994.703
000149IO	174.66	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11878439.43	6981085.436
000150IO	1.08	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11878394.06	6981111.526
000160IO	10.72	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11878082.06	6981564.146
000167IO	19.08	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11877911.78	6981936.063
000168IO	6.11	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11877136.98	6982486.439
000187IO	33.71	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872480.58	6986519.899
000188IO	0.14	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872719.14	6986432.001
000189IO	53.32	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872727.84	6986390.825
000190IO	0.20	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872609.86	6986480.859
000191IO	18.63	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872162.41	6987222.227
000192IO	3.49	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872157.94	6987385.018
000193IO	9.44	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872820.91	6986465.417
000194IO	5.16	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872716.75	6986195.981
000196IO	26.43	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873082.39	6986343.762
000199IO	19.72	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874431.35	6986442.873
000205IO	2.79	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874958.15	6983625.44
000206IO	17.30	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874658.4	6983959.895
000207IO	37.93	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873856.13	6984375.101
000208IO	1.33	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873960.35	6984405.523
000209IO	15.08	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874220.58	6984243.16
000210IO	2.83	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874028.17	6984111.987
000211IO	54.30	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874299.01	6983950.406
000261IO	25.97	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875441.23	6983386.159
000262IO	139.25	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875796.74	6983158.759
000263IO	10.01	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876249.98	6983015.281
000264IO	119.20	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876474.07	6982840.734
000266IO	31.26	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876489.67	6983233.711
000267IO	0.29	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876482.58	6983243.472
000268IO	85.06	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876603.31	6983160.824
000269IO	43.19	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875185.9	6983294.572

City of Alexandria
Outfall and Point of Discharge Table

Outfall ID	Estimated MS4 Acreage Served (acres)	Receiving Water	Ultimate Receiving Water	Ultimate Receiving Water Impairment	TMDLs	Type	HUC	Latitude Decimal Degrees	Longitude Decimal Degrees
000270IO	8.66	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875394.33	6983279.187
000271IO	7.08	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874773.85	6983567.035
000274IO	0.95	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875664.7	6983084.295
000275IO	0.89	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875749.91	6983031.874
000276IO	5.38	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876040.87	6982862.205
000277IO	17.22	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876358.23	6982198.8
000278IO	3.14	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876731.02	6982030.494
000299IO	1.45	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11892314.2	6976838.147
000300IO	2.08	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11892091.22	6977100.812
000301IO	0.03	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11892488.42	6976728.197
000302IO	7.41	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11892373.97	6976944.812
000303IO	0.10	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11891237.48	6977672.186
000305IO	0.19	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11891328.29	6977688.155
000306IO	24.47	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11891627.92	6977488.735
000307IO	2.03	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11891596.3	6977417.922
000308IO	1.80	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893291.47	6977448.84
000309IO	0.00	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893279.27	6976636.308
000311IO	0.00	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893358.07	6977170.991
000312IO	0.00	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893321.63	6976970.877
000313IO	0.00	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893377.67	6977385.415
000314IO	0.00	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893216.82	6976125.102
000315IO	0.88	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11892427.5	6976535.047
000329IO	13.88	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873089.95	6985731.367
000330IO	45.37	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873471.42	6985145.152
000332IO	3.19	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889021.66	6977964.611
000333IO	2.47	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888756.38	6978667.449
000339IO	31.53	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893835.8	6979007.152
000340IO	1.10	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893771.36	6978878.931
000341IO	9.18	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893770.71	6978765.68
000342IO	22.90	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893687.46	6978645.541
000343IO	1.16	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11891144.8	6977778.141
000345IO	3.97	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893347.93	6977952.632
000477IO	6.17	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899425.95	6980856.343
000499IO	115.43	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887957.9	6987122.845
000500IO	13.08	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887977.39	6987119.421
000501IO	0.02	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887985.29	6987106.255
000503IO	0.16	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887961.33	6987104.763
000509IO	0.07	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888189.54	6986745.918
000510IO	14.54	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888289.4	6986308.817
000511IO	6.78	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888524.98	6985738.758
000512IO	1.76	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888635.96	6985228.64
000513IO	4.14	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888607.65	6985390.952
000514IO and 000516IO	1.94	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888733.03	6985216.088
000517IO	1.80	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888852.75	6985058.527

City of Alexandria
Outfall and Point of Discharge Table

Outfall ID	Estimated MS4 Acreage Served (acres)	Receiving Water	Ultimate Receiving Water	Ultimate Receiving Water Impairment	TMDLs	Type	HUC	Latitude Decimal Degrees	Longitude Decimal Degrees
000518IO	13.55	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889036.06	6984809.284
000519IO	3.38	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889194.24	6984492.096
000520IO	2.29	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889264.36	6984339.698
000521IO	10.49	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888973.7	6984889.746
000522IO	3.85	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888592.34	6985576.612
000527IO	35.68	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889265.48	6984379.21
000528IO	4.07	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11890503.11	6983766.34
000529IO	0.22	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887734.92	6984458.919
000530IO	5.78	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887900.99	6984281.077
000535IO	2.15	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11890630.67	6983613.107
000536IO	1.78	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11890625.82	6983589.708
000575IO	61.89	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11890841.65	6977825.425
000153IO	0.09	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11878002.88	6981297.641
000154IO	2.22	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11878024.15	6980434.469
000155IO	2.41	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11877378.05	6980380.58
000156IO	83.18	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11877308.78	6980532.431
000158IO	45.24	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11877375.12	6980585.74
000162IO	48.37	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11877978.71	6981527.501
000213IO	13.49	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873099.89	6978734.989
000214IO	0.22	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873553.67	6979339.892
000216IO	36.07	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11871219.53	6978269.913
000218IO	0.53	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872192.49	6978410.296
000219IO	0.32	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872310.74	6978543.623
000220IO	0.31	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872625.8	6978511.084
000279IO	21.82	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873428.97	6979692.276
000608IO and 000609IO	152.21	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11871233.5	6979481.27
000580IO	5.39	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11870862.82	6977900.473
000146IO	143.54	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880028.61	6980493.867
000147IO	9.96	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11878503.95	6980523.88
000159IO	23.57	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11879694.56	6980577.07
000098IO	77.58	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11886181.22	6981682.23
000099IO	4.21	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11886160.13	6981666.553
000151IO	0.00	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11879169.15	6979988.369
000171IO	1.13	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11886177.99	6981349.272
000175IO	5.45	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885280.29	6979647.181
000177IO	9.62	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11886138.29	6981566.832
000222IO	13.74	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875007.37	6978513.511
000223IO	4.80	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875712.95	6978751.43
000225IO	28.11	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876049.89	6978885.445
000230IO	10.54	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876542.26	6979011.289
000232IO	18.68	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874274.07	6978307.225
000233IO	15.55	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11877981.82	6979339.378
000234IO	0.29	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880444.26	6979011.491
000235IO	2.06	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880161.03	6978883.289

City of Alexandria
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Outfall ID	Estimated MS4 Acreage Served (acres)	Receiving Water	Ultimate Receiving Water	Ultimate Receiving Water Impairment	TMDLs	Type	HUC	Latitude Decimal Degrees	Longitude Decimal Degrees
000236IO	2.68	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880066.59	6978921.541
000237IO	5.60	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11879597.06	6979186.565
000239IO	18.36	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11879399.17	6979351.053
000242IO	15.37	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11877266.2	6979195.948
000243IO	0.61	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880835.6	6978979.844
000244IO	0.55	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11881283.49	6978950.336
000245IO	14.37	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11881322.96	6979451.111
000247IO	1.61	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883173.19	6978796.949
000248IO	3.90	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11882964.55	6978815.446
000249IO	1.14	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11881661.07	6978924.296
000250IO	1.65	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11882117.72	6978880.28
000251IO	4.70	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883525.38	6978752.362
000257IO	0.02	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885199.34	6978557.125
000258IO	9.15	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885013.64	6978565.314
000259IO	2.07	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11884485.44	6978625.494
000260IO	0.73	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885358.9	6978545.929
000611IO and 000612IO	183.43	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11886156.54	6978395.62
000614IO and 000615IO	22.16	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885351.2	6979617.37
000613IO	50.79	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11884484.87	6979664.457
000023IO	21.09	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall - Pond	PL25	11881862.88	6989104.991
000024IO	1.83	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall - Pond	PL25	11881871.58	6989023.44
000025IO	27.84	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall - Pond	PL25	11881734.63	6988996.356
000294IO	28.57	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11879517.26	6989272.799
000295IO and 000603IO	165.48	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11879527.29	6989274.32
000414IO	0.44	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11892303.12	6993182.401
000415IO	5.16	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11892632.15	6993149.696
000416IO	12.84	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893091.67	6992445.754
000417IO	129.85	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11891391.27	6993589.596
000418IO	0.87	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11891536.69	6993657.921
000419IO	0.89	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11891232.3	6993525.851
000420IO	2.37	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11890977.69	6993440.809
000422IO	44.02	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11892133.87	6993252.545
000423IO	0.93	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893066.17	6991568.178
000424IO	49.26	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11890056.31	6989201.547
000426IO	14.14	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893722.17	6992206.379
000427IO	1.93	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893389.3	6991573.821
000428IO	4.76	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893386.94	6991574.315
000429IO, 000605IO, 000606IO	283.02	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893493.05	6991573.139
000430IO	0.58	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893527.94	6991655.21
000431IO and 000432IO	175.22	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11892922.94	6991532.446
000450IO	8.16	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11895169.35	6992340.963
000451IO	5.87	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11895361.1	6992393.396
000452IO and 000600IO	18.22	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11894838.04	6992290.594

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000454IO	130.45	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11887681.57	6993316.229
000456IO	55.69	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11890367.89	6993456.194
000457IO	0.11	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11889812.16	6993494.613
000458IO	0.47	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11889878.84	6993519.764
000459IO	0.57	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11889767.66	6993458.942
000460IO	1.74	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11889087.66	6993356.607
000461IO	2.05	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11888131.58	6993375.136
000462IO	3.33	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11888229.8	6993334.763
000463IO	18.86	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11888959.42	6993335.478
000464IO	0.51	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11887016.52	6993114.02
000465IO	51.04	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11887236.44	6993171.464
000466IO	0.70	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11887363.62	6993154.696
000079IO	0.23	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11878392.77	6991456.818
000011IO	3.70	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11878084.23	6991300.581
000084IO	34.44	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11877732.58	6990995.936
000087IO	28.12	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11877733.56	6990992.406
000353IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897269.55	6991045.02
000361IO	210.26	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11896259.78	6992413.289
000379IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898226.43	6989274.819
000381IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898173.26	6989458.104
000382IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898387.87	6989880.871
000396IO	0.01	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897918.7	6986205.557
000397IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897899.31	6986492.831
000398IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897905	6986765.268
000402IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897936.5	6987212.757
000403IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897929.62	6987038.286
000404IO	0.75	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897735.5	6987146.48
000405IO	46.32	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897635.48	6987281.737
000406IO	4.50	Potomac River	Potomac River	Yes	PCBs	Outfall - Pond	PL28	11897538.98	6987335.751
000407IO	45.04	Potomac River	Potomac River	Yes	PCBs	Outfall - Pond	PL28	11897493.34	6987153.774
000447IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11896671.66	6992411.516
000448IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897034.41	6991838.966
000469IO	6.73	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899598.7	6982537.477
000470IO	7.17	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899274.57	6982030.579
000471IO	14.14	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899346.02	6983582.765
000472IO	3.32	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898724.86	6985681.776
000473IO	0.14	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898729.15	6985674.047
000475IO	0.26	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899632.92	6982943.543
000476IO	0.73	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899447.45	6982756.021
000478IO	0.54	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899164.11	6981353.557
000479IO	8.44	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899211.91	6980033.524
000480IO	3.50	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899106.9	6981429.171
000481IO	3.24	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899090.24	6981596.498
000482IO	1.16	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899118.54	6977767.156

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000483IO	3.70	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899107	6977958.021
000484IO	4.21	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899161.83	6978365.66
000485IO	0.09	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899176.78	6978428.621
000486IO	5.22	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899253.3	6978787.148
000487IO	17.16	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899201.25	6979183.219
000489IO	8.53	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899232.88	6979594.487
000491IO	6.02	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899003.88	6976613.722
000493IO	1.46	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898260.33	6976296.936
000494IO	2.06	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898120.95	6975913.388
000495IO	16.77	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898622.46	6977129.506
000495IO and 000496IO	5.25	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898722.45	6977560.075
000092IO	96.39	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883287.15	6982366.915
000093IO	7.97	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883326.8	6982117.109
000094IO	17.66	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883116.46	6982186.014
000095IO	2.77	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883467.54	6981784.938
000104IO	39.49	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883709.61	6982971.088
000119IO	56.24	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11882579.12	6980036.325
000120IO	3.64	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11882545.18	6980074.069
000124IO	2.60	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883256.09	6981387.195
000127IO	5.10	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883313.69	6981285.708
000128IO	1.17	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11881967.95	6980192.612
000130IO	7.41	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11881517.46	6980244.8
000133IO	9.57	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880744.71	6980158.563
000134IO	23.40	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11881196.01	6980229.609
000135IO	8.69	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11881936.87	6980148.008
000610IO	3.93	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880163.71	6980062.784
000586IO	1.44	Potomac River	Potomac River	Yes	PCBs	Outfall - Pond	PL28	11895991.98	6985357.602
000588IO	30.32	Potomac River	Potomac River	Yes	PCBs	Outfall - Pond	PL28	11896057.16	6985376.432
000589IO	35.57	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897592.62	6988200.249
000591IO	19.13	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897701.93	6987397.715
000592IO	5.47	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899348.09	6980443.038
000121IO	13.49	Strawberry Run				Outfall	PL26	11883394.31	6981652.8
000621IO and 000622IO	1247.79	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893852.18	6979004.593
000624IO	10.25	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883917.66	6978699.662
000628IO	94.16	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872259.35	6978466.72
000642IO	47.22	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall - Pond	PL25	11880117.33	6990035.114
000647IO	51.29	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873876.92	6984802.006
000647IO	51.29	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11890149.55	6983954.071
000660IO	0.02	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873868.37	6984516.587
000661IO	52.35	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873534	6979431.994
000662IO	7.11	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873518.87	6979455.317
000668IO	4.62	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889255.88	6981334.995
000668IO	4.62	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888200.33	6986790.098
000669IO	48.69	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11891191.4	6977728.452

City of Alexandria
Outfall and Point of Discharge Table

Outfall ID	Estimated MS4 Acreage Served (acres)	Receiving Water	Ultimate Receiving Water	Ultimate Receiving Water Impairment	TMDLs	Type	HUC	Latitude Decimal Degrees	Longitude Decimal Degrees
000670IO	0.31	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888943.74	6979086.277
000675IO	0.00	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876609.36	6982136.583
000676IO	0.00	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876545.07	6982158.99

City of Alexandria

Department of Transportation and Environmental Services
Office of Environmental Quality
301 King Street
City Hall, Room 3000
Alexandria, VA 22314
www.alexandriava.gov/Environment

July 15, 2009

Gayle England
Stormwater Specialist
Department of Environmental Services
Arlington County, Virginia

DELIVERED VIA EMAIL: Gengland@arlingtonva.us

Subject: Notice of Potentially Interconnected Municipal Separate Storm Sewer System (MS4)

Attention: MS4 Permit Manager

The City of Alexandria operates as a Phase II MS4 community with coverage under the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (No. VAR 040057).

Pursuant to Section II.B.3.g of this permit, the City must "Notify, in writing, any downstream regulated MS4 to which the small regulated MS4 is physically interconnected of the small regulated MS4's connection to that system." This letter is to notify you of the potential for interconnections between the City's MS4 and the permitted stormwater system operated by Arlington County. Currently, we have not identified any points where the City's MS4 discharges stormwater into Arlington's regulated MS4; however, it is likely that interconnections exist.

As mentioned in our previous email correspondences and pursuant to Section II.B.3.b, the City is currently working on a mapping effort that will verify the "location of all known outfalls …including those physically interconnected to a regulated MS4…" City GIS Staff will be contacting you very soon to share information in order to identify and map any interconnections that may exist between our regulated stormwater systems. The City is scheduled to provide this map with its Annual Report due no later than October 1, 2010 to DCR.

Best Regards,

Jesse E. Maines
Water Quality Compliance Specialist
703-746-4071
Jesse.maines@alexandriva.gov

Cc: Mary Beth Fletcher, GIS Mapping Center Bureau Chief, mfletcher@arlingtonva.us

Jessica Lassetter

From: Jessica Lassetter
Sent: Thursday, July 30, 2020 9:42 AM
To: 'Jason Papacosma (Jpapacosma@arlingtonva.us)'
Subject: City of Alexandria Physical Interconnection
Attachments: Arlington County 071509.pdf

Hi Jason –

I hope you are doing well.

The City of provided a letter on July 15, 2009, to Ms. Gayle England, to satisfy the requirements indicated in the MS4 General Permit pertaining to physical interconnections (see attached). This letter referenced a regional stormwater flow map which was produced in September 2010 and included in the City's 2010-2011 MS4 Annual Report. This letter also satisfies the requirements outlined in the 2018-2023 MS4 General Permit, Part I. E.3.a.(5).

Please maintain this email and attached document in your MS4 program files and let me know if you have any questions.

Thank you,

Jessica

Jessica E. B. Lassetter
Senior Environmental Specialist/CE III
City of Alexandria, Virginia
T&ES Stormwater Management
Office: 703.746.4127
Cell: 703.915.5695
alexandriava.gov

City of Alexandria

Department of Transportation and Environmental Services
Office of Environmental Quality
301 King Street
City Hall, Room 3000
Alexandria, VA 22314
www.alexandriava.gov/Environment

July 15, 2009

Kate Bennett, MS4 Permit Coordinator
Fairfax County Stormwater Planning Division
10255 Fairfax County Parkway
Fairfax, Virginia 22035

DELIVERED VIA EMAIL:

Subject: Notice of Potentially Interconnected Municipal Separate Storm Sewer System (MS4)

Attention: MS4 Permit Manager

The City of Alexandria operates as a Phase II MS4 community with coverage under the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (No. VAR 040057).

Pursuant to Section II.B.3.g of this permit, the City must "Notify, in writing, any downstream regulated MS4 to which the small regulated MS4 is physically interconnected of the small regulated MS4's connection to that system." This letter is to notify you of the potential for interconnections between the City's MS4 and the permitted stormwater system operated by Arlington County. Currently, we have not identified any points where the City's MS4 discharges stormwater into Arlington's regulated MS4; however, it is likely that interconnections exist.

As mentioned in our previous email correspondences and pursuant to Section II.B.3.b, the City is currently working on a mapping effort that will verify the "location of all known outfalls …including those physically interconnected to a regulated MS4…" City GIS Staff will be contacting you very soon to share information in order to identify and map any interconnections that may exist between our regulated stormwater systems. The City is scheduled to provide this map with its Annual Report due no later than October 1, 2010 to DCR.

Best Regards,

Jesse E. Maines
Water Quality Compliance Specialist
703-746-4071
Jesse.maines@alexandriva.gov

Cc: Mary Beth Fletcher, GIS Mapping Center Bureau Chief, mfletcher@arlingtonva.us

Jessica Lassetter

From: Jessica Lassetter
Sent: Thursday, July 30, 2020 9:41 AM
To: Ambrose, Heather
Subject: City of Alexandria Physical Interconnection
Attachments: Fairfax County 071509.pdf

Hi Heather –

I hope you are doing well.

The City of provided a letter on July 15, 2009, to Ms. Kate Bennett, MS4 Permit Coordinator, Fairfax County Stormwater Planning Division, to satisfy the requirements indicated in the MS4 General Permit pertaining to physical interconnections (see attached). This letter referenced a regional stormwater flow map which was produced in September 2010 and included in the City's 2010-2011 MS4 Annual Report. This letter also satisfies the requirements outlined in the 2018-2023 MS4 General Permit, Part I. E.3.a.(5).

Please maintain this email and attached document in your MS4 program files and let me know if you have any questions.

Thank you,

Jessica

Jessica E. B. Lassetter
Senior Environmental Specialist/CE III
City of Alexandria, Virginia
T&ES Stormwater Management
Office: 703.746.4127
Cell: 703.915.5695
alexandriava.gov

City of Alexandria

Department of Transportation and Environmental Services
Stormwater Management Division
2900-B Business Center Drive
Alexandria, VA 22314

May 24, 2018

Brenda Wasler
Environmental Protection Specialist
National Park Service
George Washington Memorial Parkway
700 George Washington Memorial Parkway
McLean, VA 22101

DELIVERED VIA EMAIL: brenda_wasler@nps.gov

Subject: Notice of Interconnected Municipal Separate Storm Sewer System (MS4)

Attention: MS4 Permit Manager

The City of Alexandria operates as a Phase II MS4 community with coverage under the Virginia Stormwater Management Program (VSMP) General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (No. VAR 040057).

Pursuant to Section II.B.3.a of this permit, the City shall "notify in writing the downstream MS4 of any known physical interconnection." This letter is to notify you of the interconnection between the City's MS4 and the permitted stormwater system operated by the National Park Service, George Washington Memorial Parkway.

Thank you for providing your MS4 boundaries in April 2018. We confirmed that the City does operate outfalls that discharge into Jones Point Park in the southeast portion of the City and into the area east of the George Washington Memorial Parkway in the northeast portion of the City. We will review and update the City's MS4 boundaries as needed to ensure consistency between the data sets. After this is completed, the City's boundaries will be sent for your reference.

Sincerely,

Jesse E. Maines
Division Chief
Transportation and Environmental Services
Stormwater Management Division
Jesse.maines@alexandriva.gov

Cc: Hannah Dean via email – Hannah_Dean@nps.gov

Jessica Lassetter

From: Jessica Lassetter
Sent: Thursday, July 30, 2020 9:45 AM
To: robert_mocko@nps.gov
Subject: City of Alexandria Physical Interconnection
Attachments: GW Parkway.pdf

Mr. Mocko,

The City of provided a letter on May 24, 2018, to Ms. Brenda Wasler, to satisfy the requirements indicated in the MS4 General Permit pertaining to physical interconnections (see attached).

Please maintain this email and attached document in your MS4 program files and let me know if you have any questions.

Thank you,

Jessica

Jessica E. B. Lassetter
Senior Environmental Specialist/CE III
City of Alexandria, Virginia
T&ES Stormwater Management
Office: 703.746.4127
Cell: 703.915.5695
alexandriava.gov

City of Alexandria

Department of Transportation and Environmental Services
Office of Environmental Quality
301 King Street
City Hall, Room 3000
Alexandria, VA 22314
www.alexandriava.gov/Environment

July 15, 2009

Roy T. Mills
Location and Design Division
State Stormwater Program Administrator
Virginia Department of Transportation

DELIVERED VIA EMAIL: Roy.Mills@VDOT.Virginia.gov

Subject: Notice of Potentially Interconnected Municipal Separate Storm Sewer System (MS4)

Attention: MS4 Permit Manager

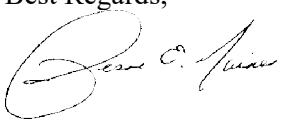
The City of Alexandria operates as a Phase II MS4 community with coverage under the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (No. VAR 040057).

Pursuant to Section II.B.3.g of this permit, the City must "Notify, in writing, any downstream regulated MS4 to which the small regulated MS4 is physically interconnected of the small regulated MS4's connection to that system." This letter is to notify you of the potential for interconnections between the City's MS4 and the permitted stormwater system operated by the Virginia Department of Transportation (VDOT). Currently, we have not identified any points where the City's MS4 discharges stormwater into VDOT's regulated MS4; however, it is likely that interconnections exist.

As mentioned in my July 15, 2010 email and pursuant to Section II.B.3.b, the City is currently working on a mapping effort that will verify the "location of all known outfalls …including those physically interconnected to a regulated MS4…" We would like to work together and share information so that each party may have adequate information to identify any interconnections that may exist between our regulated stormwater systems. The City is scheduled to provide this map with its Annual Report due no later than October 1, 2010 to DCR.

Please contact me at your earliest convenience to work together on the mapping effort.

Best Regards,



Jesse E. Maines
Water Quality Compliance Specialist
703-746-4071
Jesse.maines@alexandriva.gov

Cc: Morris Z. Walton via email – Morris.Walton@VDOT.Virginia.gov

Jessica Lassetter

From: Jessica Lassetter
Sent: Thursday, July 30, 2020 3:56 PM
To: alex.foraste@vdot.virginia.gov
Subject: City of Alexandria Physical Interconnection
Attachments: VDOT 071509.pdf

Hi Alex,

The City of provided a letter on July 15, 2009, to Mr. Roy Mills, to satisfy the requirements indicated in the MS4 General Permit pertaining to physical interconnections (see attached). This letter referenced a regional stormwater flow map which was produced in September 2010 and included in the City's 2010-2011 MS4 Annual Report. This letter also satisfies the requirements outlined in the 2018-2023 MS4 General Permit, Part I. E.3.a.(5).

Please maintain this email and attached document in your MS4 program files and let me know if you have any questions.

Thank you,

Jessica

Jessica E. B. Lassetter
Senior Environmental Specialist/CE III
City of Alexandria, Virginia
T&ES Stormwater Management
Office: 703.746.4127
Cell: 703.915.5695
alexandriava.gov

FY2024 Illicit Discharge Complaints
REACH MS4

Tracking ID	Method of Discovery	Date Initiated	Date Closed	Problem Address	Incident	Narrative & Result	Reach MS4?
23-00015164	Reported by public	6/5/2023	6/6/2023	725 E Timber Branch Pwy	Possible Illicit Discharge	Report of a strong odor for several weeks and new growth on the creek bed could be seen at Timber Branch Creek. T&ES Staff spoke with the resident and discussed whether or not Timber Branch is "safe" to recreate in. Staff indicated that given the duration of time that has passed and precipitation events, the risk of exposure to raw sewage is low. Staff indicated that if residents smell sewage in or around Timber Branch, they should immediately notify T&ES staff.	Yes
23-00032409	Reported by public	8/8/2023	8/8/2023	HOLMES RUN PKWY & N PAXTON ST	Water Main Break	Report of discolored water on Holmes Run Parkway. City SWM Staff investigated and discovered the source of sediment within Holmes Run was caused by a water main break at London Park Towers on N Paxton Street. Contracting crews are on site and working to halt the break.	Yes
23-00033876	Reported by public	8/18/2023	8/18/2023	5000 POLK AVE	Possible Illicit Discharge	Report of a unknown liquid solution being dumped into a storm drain in front of school. City T&ES staff investigated and determined the source to be desiccated grout-like material from contracting work done at Polk Elementary School. T&ES staff will be reviewing the contractor list in conjunction with ACPS staff to determine the contractor responsible for the discharge.	Yes
9/2/2024	Reported by Public	9/2/2023	9/2/2023	CRESTWOOD DR & OLD DOMINION BLVD	Possible Illicit Discharge	Report of unknown substance in the water at Monticello Park. On 9/2/2023, AFD and Hazmat investigation determined the source of the substance originated from a storm drain inlet at the intersection of Crestwood Drive and Old Dominion Blvd. The hazardous materials team tested the water and storm drain for the presence of oil based product containing hydrocarbons, which was negative. The source material was determined to be a latex primer paint being used during construction work at 2804 Old Dominion Blvd. The area neighborhood was canvassed for witnesses and additional information. The FMO interviewed the painting staff and the general contractor for the construction work. The general contractor was determined to be the responsible party. During a paint delivery on 9/1/23 by the general contractor, one of the containers of paint was reported to have been dropped and spilled onto the street, which then further migrated into the storm drain. There were no notifications made at the time of the spill. Due to the nature of the substance being a latex product, there is not much that can be done at this point for remediation due to the mixture with the water in the creek, until natural flushing of waterway can occur. The contractor was ordered to remove residual paint on the storm gutter and clean up and dispose of paint particles to prevent further migration of any product into the storm drain. Caution tape was applied around the creek area where the product is most visible to alert people and pets to keep away from contact with the water and will work with Office of Communications to get a message out to the community about the visible white cloudy water.	Yes
23-00038634	Reported by public	10/2/2023	10/10/2023	3110 COLVIN ST	Possible Illicit Discharge	Report of foaming discharge to storm drain. City T&ES staff visited the location on the morning of 10/2/2023 and discovered the source of soapy water related to illicit car washing activity at a local business. T&ES staff discussed illicit vehicle washing activity with business management, provided guidance on allowable car washing activity, and provided verbal warning to management. Estimated loss of material to MS4 ~2 gallons	Yes
23-00041125	Reported by public	10/25/2023	10/26/2023	5005 DUKE ST	Water Main Break	Report of a milky-white subsance going down-stream towards Beasley Library. T&ES SWM Staff investigated the morning of 10/26/2023 and discovered the source to be a large water main break on N Paxton St. VA American Water is on site and working to repair the broken line. Holmes Run may remain turbid/cloudy for the remainder of the day.	Yes
23-00041155	Reported by public	10/26/2023	10/26/2023	N VAN DORN ST & N PICKETT ST	Water Main Break	Report of cloudy green water in thehe creek at Holmes Run Trail. T&ES SWM Staff investigated the morning of 10/26/2023 and discovered the source to be a large water main break on N Paxton St. VA American Water is on site and working to repair the broken line. Holmes Run may remain turbid / cloudy for the remainder of the day.	Yes
23-00041181	Reported by public	10/26/2023	10/26/2023	201 N LATHAM ST	Water Main Break	Report of a white film in the creek and is concerned about water quality. T&ES SWM Staff investigated the morning of 10/26/2023 and discovered the source to be a large water main break on N Paxton St. VA American Water is on site and working to repair the broken line. Holmes Run may remain turbid / cloudy for the remainder of the day.	Yes
3/13/2024	Reported by Arlington County	3/13/2024	3/13/2024	FOUR MILE RUN (MT. VERNON AVE & ROUTE 1)	Possible Illicit Discharge	Report of a fish kill. At approximately 9:45 AM on the morning of 3/13/2024 City of Alexandria T&ES staff were notified by Arlington County environmental staff of a fish kill event in Four Mile Run between Mt. Vernon Avenue and Route 1. According to Arlington County staff, early indications suggest that there was an exceedance of sodium hypochlorite solution (chlorine) at the Arlington Wastewater Control Plant that entered Four Mile Run via the Plant discharge at Four Mile Run, but that is not yet confirmed. City T&ES and Arlington County staff observed numerous dead fish during the investigation but also observed live fish, reptiles, and waterfowl within Four Mile Run, indicating a pulse-like toxicity event that has since subsided. City T&ES staff will continue to correspond other City, Arlington County, and DEQ Northern Regional Office staff to ensure there is no further risk posed to wildlife and human health. City T&ES staff will share updates as the investigation continues.	Yes

FY2024 Illicit Discharge Complaints
REACH MS4

Tracking ID	Method of Discovery	Date Initiated	Date Closed	Problem Address	Incident	Narrative & Result	Reach MS4?
24-00011471	Reported by public	4/24/2024	4/24/2024	819 PRINCE ST	Possible Illicit Discharge	Report of residual paint in the storm inlet at the northwest corner of the intersection of Prince and S. Alfred streets. 4/24/2024, TES Stormwater Division staff conducted a site investigation at the intersection of Prince and S. Alfred street. Dried paint was observed on stormwater inlet, however an immiediate responsible party was not identified. T&ES staff spoke with the a construction manager of a home renovation project that appeared to also be in the process of painting. A verbal warning of an illicit discharge violation was discussed and the proper methods of disposing of paint.	Yes
24-00018477	Reported by public	6/22/2024	6/25/2024	4324 VERMONT AVE	Water Main Break	Report of Murky milky water. On 6/25/2024, T&ES SWM staff identified recent water main break in the area.	Yes

FY2024 Illicit Discharge Complaints

Tracking ID	Method of Discovery	Date Initiated	Date Closed	Problem Address	Incident	Narrative & Result	Reach MS4?
23-00015164	Reported by public	6/5/2023	6/6/2023	725 E Timber Branch Pwy	Possible Illicit Discharge	Report of a strong odor for several weeks and new growth on the creek bed could be seen at Timber Branch Creek. T&ES Staff spoke with the resident and discussed whether or not Timber Branch is "safe" to recreate in. Staff indicated that given the duration of time that has passed and precipitation events, the risk of exposure to raw sewage is low. Staff indicated that if residents smell sewage in or around Timber Branch, they should immediately notify T&ES staff.	Yes
23-00016548	Reported by public	6/16/2023	6/16/2023	701 Seaton Ave.	Water Quality Concern	Report of strange smell in drinking water. Customer is concerned the smell might be algal activity in the Potomac River. T&ES directed customer that municipal drinking water questions should be brought to Virginia American Water.	No
23-00031002	Reported by public	7/30/2023	7/31/2023	1532 PRINCESS ST	Possible Illicit Discharge	Report of wash water dumped into a storm inlet, sidewalk, or in the street. City staff contacted the apartment manager to discuss recent resident report of illegal dumping in the community.	No
23-00032409	Reported by public	8/8/2023	8/8/2023	HOLMES RUN PKWY & N PAXTON ST	Water Main Break	Report of discolored water on Holmes Run Parkway. City SWM Staff investigated and discovered the source of sediment within Holmes Run was caused by a water main break at London Park Towers on N Paxton Street. Contracting crews are on site and working to halt the break.	Yes
23-00033375	Reported by public	8/15/2023	8/15/2023	N RIPLEY ST & HOLMES RUN PKWY	Water Quality Concern	Report of sighting green and cloudy water in the Holmes Run. City staff observed turbid water discharging from the outfall due to the previous day's significant storm event.	No
23-00033876	Reported by public	8/18/2023	8/18/2023	5000 POLK AVE	Possible Illicit Discharge	Report of a unknown liquid solution being dumped into a storm drain in front of school. City T&ES staff investigated and determined the source to be desiccated grout-like material from contracting work done at Polk Elementary School. T&ES staff will be reviewing the contractor list in conjunction with ACPS staff to determine the contractor responsible for the discharge.	Yes
23-00034705	Reported by public	8/25/2023	8/25/2023	4644 DUKE ST	Possible Illicit Discharge	Report of a milky substance in the stream that filters into Holmes Run. City T&ES staff investigated the outfall channel, downstream Holmes Run, and the upstream contributing drainage area and found no persistent material that was seen earlier this morning. There was no evidence of a fishkill or other aquatic wildlife.	No
9/2/2024	Reported by Public	9/2/2023	9/2/2023	CRESTWOOD DR & OLD DOMINION BLVD	Possible Illicit Discharge	Report of unknown substance in the water at Monticello Park. On 9/2/2023, AFD and Hazmat investigation determined the source of the substance originated from a storm drain inlet at the intersection of Crestwood Drive and Old Dominion Blvd. The hazardous materials team tested the water and storm drain for the presence of oil based product containing hydrocarbons, which was negative. The source material was determined to be a latex primer paint being used during construction work at 2804 Old Dominion Blvd. The area neighborhood was canvassed for witnesses and additional information. The FMO interviewed the painting staff and the general contractor for the construction work. The general contractor was determined to be the responsible party. During a paint delivery on 9/1/23 by the general contractor, one of the containers of paint was reported to have been dropped and spilled onto the street, which then further migrated into the storm drain. There were no notifications made at the time of the spill. Due to the nature of the substance being a latex product, there is not much that can be done at this point for remediation due to the mixture with the water in the creek, until natural flushing of waterway can occur. The contractor was ordered to remove residual paint on the storm gutter and clean up and dispose of paint particles to prevent further migration of any product into the storm drain. Caution tape was applied around the creek area where the product is most visible to alert people and pets to keep away from contact with the water and will work with Office of Communications to get a message out to the community about the visible white cloudy water.	Yes
23-00038634	Reported by public	10/2/2023	10/10/2023	3110 COLVIN ST	Possible Illicit Discharge	Report of foaming discharge to storm drain. City T&ES staff visited the location on the morning of 10/2/2023 and discovered the source of soapy water related to illicit car washing activity at a local business. T&ES staff discussed illicit vehicle washing activity with business management, provided guidance on allowable car washing activity, and provided verbal warning to management. Estimated loss of material to MS4 ~2 gallons	Yes
23-00039469	Reported by public	10/10/2023	10/10/2023	4644 DUKE ST	Possible Illicit Discharge	Report of milky or cloudy water substance that appeared to be soap. City T&ES staff visited location around 9:30 AM on 10/10/2023. There was no indication of illicit material within the outfall channel, no indication of sources, and no evidence of fishkills/death of wildlife. City T&ES staff will revisit the location 3 times in the next 30 days to see if a source can be determined.	No
23-00040011	Reported by public	10/13/2023	10/16/2023	1300 KEY DR	Possible Illicit Discharge	Report of milky water in the stream. City T&ES staff visited the location on the morning of 10/16/2023. A source of "white cloudy water" was not discovered, likely due to the preceding rain following the submission. Because the source could not be found, T&ES staff will revisit the location 3 times in the next 30 days to see if a source can be determined.	No

FY2024 Illicit Discharge Complaints

Tracking ID	Method of Discovery	Date Initiated	Date Closed	Problem Address	Incident	Narrative & Result	Reach MS4?
23-00040205	Reported by public	10/16/2023	10/17/2023	411 TIMBER BRANCH PWY	Possible Illicit Discharge	Report of deceased fish in the creek near 411 E Timber Branch Pkwy. On the morning of 10/17/2023 T&ES SWM staff responded to a 311 submission concerning dead fish in Timber Branch near the 400 block of E Timber Branch Pkwy. Staff identified several black nosed dace that died as a result of unknown causes during the investigation. Water quality parameters taken during the investigation did not indicate the presence of hazardous materials. T&ES SWM will be visiting the site 3 times in the next 30 days to see if a source can be determined.	No
23-00040593	Reported by public	10/20/2023	10/20/2023	124 E RAYMOND AVE	Possible Illicit Discharge	Report of a discharge coming from a green downspot at 124 E. Raymond. Strong smell of sewage reported from citizen. City T&ES staff visited this location on the morning of 10/20/2023 and discovered the source of the green hose to be attached to a sump pump discharge pipe. There was no observable material discharging from the hose, nor was there an indication of any non-groundwater discharge. This is an exempted activity per the City Code of Ordinances.	No
23-00040627	Reported by public	10/20/2023	10/20/2023	1004 COLONIAL AVE	Water Quality Concern	Report of black water discoloration in residents toilet. This submission knowledge base is designed for reporting Water Quality concerns for surface waters (i.e. pollution going to creeks, rivers, and streams). If this is an issue concerning a private residence's plumbing system, a plumber should be notified.	No
23-00041125	Reported by public	10/25/2023	10/26/2023	5005 DUKE ST	Water Main Break	Report of a milky-white subsance going down-stream towards Beasley Library. T&ES SWM Staff investigated the morning of 10/26/2023 and discovered the source to be a large water main break on N Paxton St. VA American Water is on site and working to repair the broken line. Holmes Run may remain turbid/cloudy for the remainder of the day.	Yes
23-00041155	Reported by public	10/26/2023	10/26/2023	N VAN DORN ST & N PICKETT ST	Water Main Break	Report of cloudy green water in thehe creek at Holmes Run Trail. T&ES SWM Staff investigated the morning of 10/26/2023 and discovered the source to be a large water main break on N Paxton St. VA American Water is on site and working to repair the broken line. Holmes Run may remain turbid / cloudy for the remainder of the day.	Yes
23-00041181	Reported by public	10/26/2023	10/26/2023	201 N LATHAM ST	Water Main Break	Report of a white film in the creek and is concerned about water quality. T&ES SWM Staff investigated the morning of 10/26/2023 and discovered the source to be a large water main break on N Paxton St. VA American Water is on site and working to repair the broken line. Holmes Run may remain turbid / cloudy for the remainder of the day.	Yes
23-00042630	Reported by public	11/9/2023	11/13/2023	HOLMES RUN PKWY & N PICKETT ST	Water Quality Concern	Report of green/murky water in Holmes Run at the Piclett St. Bridge. City T&ES staff are aware of water main breaks in the Holmes Run drainage area last week that caused a cloudy / greenish-looking plume within Holmes Run. Repairs have since been made, but staff will visit the reaches of Holmes Run where the cloudy water was seen to ensure there are no ongoing issues related to the water main breaks.	No
23-00044138	Reported by public	11/28/2023	12/1/2023	3120 COLVIN ST	Possible Illicit Discharge	Report of soapy water in ROW. City SWM staff visited this site on the morning of 11/28/2023 and issued a Civil Penalty warning to the business for illegal dumping of soapy water into the ROW.	No
23-00044441	Reported by public	11/30/2023	12/8/2023	VALLEY DR & W BRADDOCK RD	Possible Illicit Discharge	Report of someone dumping a large piece of car in the creek.City SWM Staff visited the location described and did not observe car parts within the stream as reported.	No
23-00045110	Reported by public	12/8/2023	12/11/2023	218 E ALEXANDRIA AVE	Possible Illicit Discharge	Report of liquid substance being dumped from a sub pump into the inlets drains in the street. City SWM staff visited the location on Friday 12/8/2023 and found an allowable discharge of groundwater from a sump pump entering the ROW. There is no concern for water quality issues at this time.	No
23-00045194	Reported by public	12/9/2023	12/13/2023	100 ROSS ALY	Possible Illicit Discharge	Report of restaurant cooking oil leaking from a waste bin into alley and into storm drain. On Monday, December 11, 2023, TE&S Stormwater Management Division responded to a complaint of a leaking waste cooking oil bin (grease trap) in the alley and storm drain. An approximate 55-gallon grease trap was observed on Ross Alley with evidence of grease residual on the ground and in a stormwater inlet. The grease trap was empty, however, residual grease was observed on top of the trap. Staff directed the restaurant that owns the grease trap to cleanup the residual grease, educated the staff on proper grease disposal, and reiterated the importance of good pollution prevention practices. The restaurant is located in the combined sewage system, so no grease entered a local waterway.	No
23-00046189	Reported by public	12/19/2023	12/20/2023	400 ORONOCO ST	Possible Illicit Discharge	Report of a strong odor of diesel/petroleum coming from storm drains . SWM staff visited the location in question, investigated nearby catch basins and associated storm sewer systems, and determined no petroleum products entered the storm sewer or surface water.	No

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Tracking ID	Method of Discovery	Date Initiated	Date Closed	Problem Address	Incident	Narrative & Result	Reach MS4?
23-00046899	Reported by public	12/29/2023	1/25/2024	3049 MANNING ST	Possible Illicit Discharge	Report of paint dumped on curb and inlet. On 1/25/2024, T&ES staff conducted a site visit and observed dried paint on the curb and inlet. SWM staff did not observe construction crews actively pouring non-water-soluble paint in the inlet. TES SWM staff will continue with follow up inspections to monitor this location for prohibited non-stormwater discharges. Additional site visits were conducted on 1/30/2024, 2/1/2024, and 2/5/2024.	No
24-00000542	Reported by public	1/6/2024	1/8/2024	910 JUNIOR ST	Water Quality Concern	Report of sediment leaving a home building and into ROW. On 1/8/2024 T&ES staff conducted a site visit and located the home in question with visible sediment on the sidewalk. Staff spoke with construction crew and manager to address street sweeping and refreshing construction entrance stone.	No
24-00001234	Reported by public	1/13/2024	1/16/2023	5500 HOLMES RUN PWY	Water Quality Concern	Report of green discharge flowing from pipe into creek. On 1/16/23, City TES - SWM Staff investigate the area of 5500 Holmes Run Pkwy and the nearby outfall. Green discharge was not observed at the outfall pipe or in the surrounding area. TES - SWM staff will continue to conducted follow up inspections this location. Construction projects within the vicinity of this outfall are actively inspected by TES - C&I to ensure ESC are functioning properly.	No
24-00002458	Reported by public	1/25/2024	1/26/2024	100 MADISON ST	Water Quality Concern	Report of foam on the Potomac River. T&ES staff investigated the area, however no foam was visible at the areas of the Potomac as reported. 3 Additional site visits conducted to try and determine source on 1/30/2024, 2/1/2024, 2/5/2024.	No
1/25/2024	Reported by public	1/25/2024	1/25/2024	FOUR MILE RUN	Possible Illicit Discharge	Report of sheen in Four Mile Run. On 1/25/2024, T&ES staff investigated the reported area and was unable to locate the source of the sheen. The sheen is most likely runoff (multiple sources) from the surrounding roadways after the recent rain even and snow thaw. 3 additional site visits conducted to try and determine source on 1/30/2024, 2/1/2024, and 2/5/2024.	No
24-00002828	Reported by public	1/29/2024	1/30/2024	2605 DEWITT AVE	Possible Illicit Discharge	Report of water discharging from hose from resident's backyard and into the street. TES - SWM staff responded to complaint on 1/30/24. No active discharge was observed, however a garden hose was seen laying in the yard and appear to be connected to the house hose bib. Be advised, landscape irrigation, discharges from potable water sources, foundation drains, irrigation waters, springs, or water from crawl spaces or foot drains, and lawn watering, are exceptions to the City of Alexandria, Code of Ordinances, Section 11-13-2. Illegal dumping prohibited.	No
24-00003944	Reported by public	2/8/2024	2/9/2024	2 ASHBY ST	Possible Illicit Discharge	Report of large amount of sediment laden water running down from residential lot. Workers were hosing down the lot with a hose to remove and move sediment off of lot. TES- SWM and I&E staff conducted a site inspection at 2 Ashby Street on 2/9/2024. TES - I&E staff spoke with worker crew on site and reiterated the need to sweep and pick up any dirt debris and not to use water to wash down parking lot. The work crew cleaned the gutter plan at the time of the site visit.	No
3/13/2024	Reported by Arlington County	3/13/2024	3/13/2024	FOUR MILE RUN (MT. VERNON AVE & ROUTE 1)	Possible Illicit Discharge	Report of a fish kill. At approximately 9:45 AM on the morning of 3/13/2024 City of Alexandria T&ES staff were notified by Arlington County environmental staff of a fish kill event in Four Mile Run between Mt. Vernon Avenue and Route 1. According to Arlington County staff, early indications suggest that there was an exceedance of sodium hypochlorite solution (chlorine) at the Arlington Wastewater Control Plant that entered Four Mile Run via the Plant discharge at Four Mile Run, but that is not yet confirmed. City T&ES and Arlington County staff observed numerous dead fish during the investigation but also observed live fish, reptiles, and waterfowl within Four Mile Run, indicating a pulse-like toxicity event that has since subsided. City T&ES staff will continue to correspond other City, Arlington County, and DEQ Northern Regional Office staff to ensure there is no further risk posed to wildlife and human health. City T&ES staff will share updates as the investigation continues.	Yes
24-00007171	Reported by public	3/14/2024	3/15/2024	W GLEBE RD & MOUNT VERNON AVE	Water Quality Concern	Report of a bag on the bank of the creek at Four Mile Run Creek with white powdery substance spreading on the surface of the water on Four Mile Creek. Arlington HazMat, in coordination with City Of Alexandria T&ES staff, determined the source of surface discoloration in Four Mile Run to be seasonal pollen persisting on top of the water column. HazMat officials conducted water quality sampling and found no evidence of hazardous materials.	No
24-00007602	Reported by public	3/18/2024	3/22/2024	N. BEAUREGARD ST.	Water Quality Concern	Report of trash and debris is the drainage ditch along N. Beauregard St (between W. Braddock Road and Branch Ave.). On 3/22/24, T&ES staff and City Contractor, Atomos Solutions Inc, performed a clean up along the drainage ditch to remove all trash and debris. The City scheduled this are as well as adjacent areas to be frequently cleaned up via the City's Green Team.	No

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Tracking ID	Method of Discovery	Date Initiated	Date Closed	Problem Address	Incident	Narrative & Result	Reach MS4?
24-00007788	Reported by public	3/20/2024	3/21/2024	636 S PICKETT ST	Water Quality Concern	Report of possible sewage runoff behind Pickett Street Plaza. On 3/21/24, TE&S staff conducted a site investigation at 636 S Pickett St. The outfall/pipe in question was located with the GPS coordinates provided. The water from the pipe did not have a sewage smell or appeared to be murky at the time of the investigation. TE&S staff will continue to monitor this area and conduct follow up site visits.	No
3/26/2024	Reported by business	3/26/2024	3/26/2024	Winkler Preserve	Possible Illicit Discharge	Report of possible cooling tower water discharged to the storm system. On 3/26/2024 T&ES staff conducted a site visit and veritifed there was no evidence a release to the storm sewer from the cooling tower. No evidence of stressed or dead vegetation and wildlife, and no discolorations or odors were detected in the vicinity of the waterways. Flow coming from the outfall pipe was minimal, confirming that cooling tower blowdown was not being routed to the storm sewer.	No
24-00009048	Reported by public	4/3/2024	4/4/2024	209 LA VERNE AVE	Possible Illicit Discharge	Report of sediment laden water being discharged from a hose into the street from construction activity. On 4/3/2024, TES SWM staff conducted a site visit at 209 La Verne Ave and discovered a hose being used to dewater a foundation. The construction crew and site manager were contacted and made aware of the proper way to dewater to mitigate sediment laden water from discharging offsite. A verbal warning notice of a illicit discharge was provided to the construction crew manager.	No
24-00009270	Reported by public	4/5/2024	4/8/2024	3700 COMMONWEALTH AVE	Water Quality Concern	Citizen concerned of water flowing into four mile run park may be contaminated by a nearby construction site. 4/8/2024, T&ES Stormwater investigated the area around 3700 Commonwealth Ave and identified a nearby active construction site that maybe the source of sediment in the outfall/paved channel entering Four Mile Run. Sediment was not observed in the paved channel/outfall at the time of the investigation, however the Construction and Inspections (C&I) assigned inspector for this construction project has been notified and will follow up with the construction site.	No
4/9/2024	Reported by AFD	4/9/2024	4/9/2024	FRANKLIN ST & ALFRED ST	Possible Illicit Discharge	Report of a vehicle fire and possible oil/gas release. On 4/9/2024, T&ES Stormwater staff investigated the intersection of Franklin St. and Alfred St. following a vehicle fire that occurred the night of 4/8. No puddles of fuel were observed along the street curb or nearby inlet (located on S. Patrick St.). Absorbent was deployed the night of the incident to catch leaking fuel from a car fire, however used absorbent remains along the street curb as of 10:00am. Used absorbent will be swept and disposed of properly.	No
24-00010071	Reported by public	4/12/2024	4/15/2024	3290 MOUNT VERNON AVE	Possible Illicit Discharge	Report of landscaper blowing mulch and trash into curb inlets near northern entrance to Del Ray Tower apartments. 4/15/2024 - TES SWM staff conducted a site investigation at 3290 Mount Vernon Ave. Inlets were inspected for mulch and/or trash, however no debris was observed. Landscapers were no longer on-site at the time of the investigation.	No
24-00010322	Reported by City Employee	4/15/2024	4/16/2024	511 FOUR MILE RD	Possible Illicit Discharge	Report of orange/rust colored foamy substance on surface of water in Four Mile Run at flood wall bottom seen along 511 For Mile Road. TES SWM investigated area on the morning of 4/16. No orange/rust colored foam was observed on the water surface in 4MR at the location reported.	No
24-00010929	Reported by public	4/19/2024	4/26/2024	301 KING ST	Water Quality Concern	Resident would like to know if there are regulations regarding leaf blowers blowing grass clippings down the storm drain. Sweeping, blowing, or dumping grass climbing into stormwater drains is prohibited per the City of Alexandria Code of Ordinances, Sec. 11-13-2. TES Stormwater staff contacted citizen, but was unable to leave a voice message. A text message was sent to the citizen for additional information and clarification.	No
24-00011137	Reported by public	4/21/2024	4/22/2024	2903 MOUNT VERNON AVE	Possible Illicit Discharge	Report of runoff from power washing a old painted brick building. On 4/22/2024, T&ES Stormwater conducted a site investigation at 2903 Mount Vernon Ave and spoke with the construction crew and project superintendent. The project's superintendent stopped power washing the building brick until appropriate controls were in place, i.e., plastic covering to mitigate offsite runoff.	No
4/24/2024	Reported by public	4/23/2024	4/24/2024	Commonwealth Ave	Water Quality Concern	Text message report of a professional car wash service washing a car in the street on Commonwealth Ave. Suds were observed along curb gutter from car washing activity. On the morning of 4/24/2024, TES SWM responded to the report and identified the vehicle the was washed the previous day, however the mobile car washing van was not on scene. The curb gutter was still saturated from the day prior, but no suds were observed. The citizen was contacted for additional information and provided a description of the mobile car wash; a minivan (not commercial) that had a single worker using equipment from the van to wash a customers car.	No

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Tracking ID	Method of Discovery	Date Initiated	Date Closed	Problem Address	Incident	Narrative & Result	Reach MS4?
24-00011471	Reported by public	4/24/2024	4/24/2024	819 PRINCE ST	Possible Illicit Discharge	Report of residual paint in the storm inlet at the northwest corner of the intersection of Prince and S. Alfred streets. 4/24/2024, TES Stormwater Division staff conducted a site investigation at the intersection of Prince and S. Alfred street. Dried paint was observed on stormwater inlet, however an immiediate responsible party was not identified. T&ES staff spoke with the a construction manager of a home renovation project that appeared to also be in the process of painting. A verbal warning of an illicit discharge violation was discussed and the proper methods of disposing of paint.	Yes
24-00011503	Reported by public	4/24/2024	4/26/2024	801 N PITT ST	Water Quality Concern	Report received of a resident concerned about their drinking water odor; They have a filter and can see the particles. T&ES SWM contacted resident and provided Virginia Americans contact for drinking water concerns.	No
24-00012797	Reported by public	5/6/2024	5/6/2024	501 S UNION ST	Possible Illicit Discharge	Report of a deceased fish in the water at Windmill Hill Park right at the river. 5/6/24, T&ES Stormwater Management Division conducted a site investigation along the waterfront of Windmill Hill park. Two dead fish species were observed, a catfish and carp. Water samples were collected near the Fish and adjacent outlet, however water quality did not exceed the Action Level.	No
24-00014218	Reported by public	5/20/2024	5/20/2024	1113 N HOWARD ST	Water Quality Concern	Report of a metalic liquid leaching from a conduit box adjacent to the sidewalk. 5/20/24, TE&S staff and Hazmat responded to the concern. The liquid was tested with PH paper, wastewater strips, 6-gas meter (LEL, PID, H2S, HCN, O2, CO), rad, FTIR and raman and found no evidence of any obvious hazards. The liquid appears to be iron eating bacteria, not an illicit discharge.	No
24-00014330	Reported by public	5/20/2024	5/22/2024	N ROSSER ST & FILLMORE AVE	Possible Illicit Discharge	Report of a truck dumping granulated fertilizer down the storm drain. 5/21/2024, T&ES, Stormwater Management Division received notice of fertilizer being dumped into a storm drain, located at 5453 Fillmore Ave. T&ES staff conducted a site investigation on 5/21/2024 and observed granulated fertilizer in the storm drain. T&ES staff contacted TruGreen management to provide notice of their employees illicit discharge. On 5/23/2024, TruGreen's General Manager followed up with T&ES staff and removed all fertilizer from the storm drain. TruGreen will provide additional training to staff regarding Stormwater compliance.	No
24-00014521	Reported by public	5/21/2024	5/22/2024	3124 COLVIN ST	Possible Illicit Discharge	Report of a concerning liquid in the public ROW. On 5/22, T&ES staff conducted a site visit and verified the business at 3124 Colvin St. is using potable water for their plants. No issues observed.	No
24-00015714	Reported by public	5/31/2024	6/3/2024	1121 N GAILLARD ST	Possible Illicit Discharge	Report of paint dumped onto residents property and pond. T&ES Stormwater conducted a site investigation on 6/3/2024. T&ES Stormwater staff observed dried concrete and gray staining along the street curb and storm drain, which appeared to be related to pool maintenance at 4112 Orleans Pl. T&ES staff was unable to contact homeowner, however a follow up visit will be made to speak with home owner/resident. No active discharge was observed.	No
24-00015717	Reported by public	5/31/2024	6/3/2024	640 W TIMBER BRANCH PWY	Possible Illicit Discharge	Report of white and murkey water exiting the storm drain near a home under construction between Timberbranch Pkwy east and west. 6/3/2024 - T&ES SWM staff conducted a site investigation. Staff identified potential source of discharge originating from a hose at 605 E. Timber Branch Pkwy. TES staff spoke with homeowner and advised them of the discharge observed. Home owners were not aware of the issue, however they spoke with their home contractors to advise them that paint or other construction debris should never be dumped or discharged into the storm drain or creek (Timber Branch). TES staff also collected water quality samples at the discharge location, however no action levels were exceeded.	No
24-00016126	Reported by public	6/4/2024	6/4/2024	725 E TIMBER BRANCH PWY	Possible Illicit Discharge	Report of a white liquid in the creek. 6/3/2024 - T&ES SWM staff conducted a site investigation. Staff identified potential source of discharge originating from a hose at 605 E. Timber Branch Pkwy. TES staff spoke with homeowner and advised them of the discharge observed. Home owners were not aware of the issue, however they spoke with their home contractors to advise them that paint or other construction debris should never be dumped or discharged into the storm drain or creek (Timber Branch). TES staff also collected water quality samples at the discharge location, however no action levels were exceeded.	No
24-00016130	Reported by public	6/4/2024	6/5/2024	500 CANTERBURY LN	Water Quality Concern	Report of puddling water that appeared to be mixed with oil. 6/5/2025 T&ES Stormwater staff conducted a site investigation. Puddling water was sampled using HACH water quality test strips, however no action levels were exceeded. Staining and sheen observed does not appear to be related to an illicit discharge. The orange color water and sheen appears to be iron-oxidizing bacteria. This type of bacteria is found in soil and water and can produce rust colored slimy deposits or oily sheen.	No

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Tracking ID	Method of Discovery	Date Initiated	Date Closed	Problem Address	Incident	Narrative & Result	Reach MS4?
24-00017727	Reported by public	6/17/2024	6/17/2024	2011 RICHMOND HWY	Water Quality Concern	Report of water pressure issue within a residents home. On 6/17/2025 - T&ES Stormwater Management Division contacted customer regarding concern. The manhole in question is located at the end of customer's driveway and is labeled Virginia American. The customer wasn't sure if the person they saw doing work was a City employee. The customer mentioned a blue device was installed in the manhole that is labeled "Neptune" (Neptune makes water meters, so it may be a meter replacement). No illicit discharges were observed; however, the customer is experiencing a lack of water pressure from her faucets after the Neptune device was installed. Customer was provided the contact information for Virginia American Water for additional information.	No
24-00018477	Reported by public	6/22/2024	6/25/2024	4324 VERMONT AVE	Water Main Break	Report of Murky milky water. On 6/25/2024, T&ES SWM staff identified recent water main break in the area.	Yes
24-00019334	Reported by public	6/29/2024	7/1/2024	5500 HOLMES RUN PWY	Water Quality Concern	Resident requesting recent chemical analysis of City's water. On 7/1, T&ES SWM staff referred resident to Virginia American for information on their drinking water.	No
24-00022209	Reported by public	7/25/2024	7/26/2024	102 E DEL RAY AVE	Water Quality Concern	Report of leaking/discharge from wastewater sewer manhole. Public Works staff visited the location on 7/25/2024 at approximately 8 PM and determined the source to be a leaking municipal water line owned by VA American Water. City staff have notified VAMW about the leak.	No
24-00023347	Reported by City Employee	8/5/2024	8/5/2024	10 THOMPSONS ALY	Possible Illicit Discharge	Report of oil leaking from a private owned vehicle. On 8/5/2024, City T&ES staff investigated and determined the source to be a spilled bucket of oil from the back of a private vehicle. The responsible party was on site recovering the oil at the time of the investigation. No oil entered a storm drain or surface water.	No
24-00024520	Reported by public	8/15/2024	8/15/2024	4510 DUKE ST	Possible Illicit Discharge	Report of oily wash water from a business entering the ROW. T&ES Stormwater Staff conducted a site investigation on 8/15. Staff did not observe any active oil or grease leaving the property (oil staining was visible in ROW). Road sediment was observed adjacent the bike station on S. Jordan Street. Stormwater staff talked to Valvoline's manager to discuss proper disposal of oil and cleaning of service bays. Valvoline utilizes sump drain when cleaning.	No

City of Alexandria
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FY2024 Outfall Inspections

No.	Outfall ID	Date Inspected	Flow Description	ILLICIT DISCHARGE CHARACTERIZATION	OBSERVATIONS AND FOLLOW-UP ACTIVITIES	FOLLOW-UP NEEDED?	COMMENTS
1	000003IO	4/19/2024	TRICKLE	1. NONE	Groundwater flow. Orange staining likely due to iron eating bacteria. No follow up needed.	FALSE	HACH water quality strips used to sample trickle. No AL exceeded.
2	000004IO	4/19/2024	TRICKLE	1. NONE		FALSE	**HACH test strips used to sample trickle of water. No action level exceeded. Trickle appears to be ground water. No follow up needed.
3	000005IO	4/19/2024	TRICKLE	1. NONE		FALSE	Due to lack of flow for sample size, HACH water strips were used to test water quality of trickle. No action levels exceeded. Trickle appears to be ground water. No action levels exceeded.
4	000016IO	4/26/2024	TRICKLE	1. NONE		FALSE	*Not enough flow to collect complete sample. HACH Water Quality Test Strips used to sample water. No AL exceeded. Water observed appears to be naturally occuring ground water.
5	000017IO	4/26/2024	NONE	1. NONE		FALSE	
6	000068IO	4/19/2024	TRICKLE	1. NONE		FALSE	HACH water test strips utilized for water quality determination. No Action Levels exceeded. Trickle observed to be ground water.
7	000077IO	4/26/2024	NONE	1. NONE		FALSE	
8	000093IO	4/19/2024	TRICKLE	2. UNLIKELY		FALSE	Due to low flow the trickle of water was sample using HACH water quality test strips. No AL were exceeded. Normal ground water flow in this area. No follow up needed.
9	000120IO	3/26/2024	TRICKLE	1. NONE		FALSE	*Not enough flow for water quality sample. Hach WQ strips used for testing. No parameters exceeded action level.
10	000121IO	4/26/2024	TRICKLE	2. UNLIKELY		FALSE	Not enough flow to collect sample, so HACH water quality strips were used. No AL exceeded. Trickle observed appears to be ground water, which is common in this area. No follow up needed.
11	000124IO	4/26/2024	NONE	1. NONE		FALSE	
12	000127IO	4/26/2024	NONE	1. NONE		FALSE	
13	000147IO	3/26/2024	NONE	1. NONE		FALSE	
14	000148IO	4/30/2024	NONE	1. NONE		FALSE	
15	000149IO	4/30/2024	MODERATE	1. NONE	No follow up needed. Water flow from piped stream.	FALSE	Water flow consistent year round at this location. WQ sample tested with HACH water quality test strips, however no AL exceeded. No follow up needed.
16	000152IO	4/30/2024	NONE	1. NONE		FALSE	
17	000159IO	3/26/2024	TRICKLE	1. NONE	Observed ground water discharge. No follow up necessary.	FALSE	*Not enough flow for WQ sampling equipment. Used Hach WQ strips. No parameters exceeded action level.
18	000160IO	4/30/2024	TRICKLE	1. NONE	No follow up needed. Natural flow from ground water.	FALSE	HACH water quality test strips utilized to sample trickle. No AL exceeded.
19	000163IO	4/30/2024	NONE	1. NONE		FALSE	
20	000164IO	4/30/2024	NONE	1. NONE		FALSE	No follow up needed.
21	000167IO	4/30/2024	TRICKLE	1. NONE	No follow up needed.	FALSE	Due to low flow of trickle, HACH water quality test strips were utilized. No AL exceeded. Trickle appears to be ground water.
22	000168IO	4/30/2024	NONE	1. NONE		FALSE	No follow up needed.
23	000205IO	4/18/2024	NONE	1. NONE		FALSE	
24	000206IO	6/18/2024	TRICKLE	1. NONE	No follow up needed.	FALSE	Due to low flow of trickle, HACH water quality test strips were used. No AL exceeded. Trickle appears to be natural ground water.
25	000207IO	6/18/2024	MODERATE	1. NONE	No follow up needed	FALSE	Known ground water source. HACH water quality test strips used to verify no action levels exceeded.
26	000208IO	6/18/2024	NONE	1. NONE		FALSE	
27	000209IO	6/18/2024	TRICKLE	1. NONE	No follow up needed. Known groundwater flow.	FALSE	HACH WQ test strips used to sample trickle. No AL exceeded. Known groundwater flow.
28	000210IO	6/18/2024	NONE	1. NONE		FALSE	
29	000211IO	6/10/2024	MODERATE	1. NONE	Normal groundwater flow. No follow up needed.	FALSE	HACH WQ test strips used to sample trickle. No AL exceeded. Normal groundwater flow.
30	000261IO	5/2/2024	TRICKLE	1. NONE	Normal groundwater flow. No follow up needed.	FALSE	HACH WQ test strips used to sample trickle. No AL exceeded. Normal groundwater flow.
31	000262IO	6/18/2024	MODERATE	1. NONE	No follow up needed. Normal groundwater flow.	FALSE	HACH WQ test strips used to sample trickle. No AL exceeded. No follow-up needed.
32	000263IO	5/2/2024	NONE	1. NONE		FALSE	

FY2024 Outfall Inspections

No.	Outfall ID	Date Inspected	Flow Description	ILLICIT DISCHARGE CHARACTERIZATION	OBSERVATIONS AND FOLLOW-UP ACTIVITIES	FOLLOW-UP NEEDED?	COMMENTS
33	000264IO	5/2/2024	TRICKLE	1. NONE	No follow up needed	FALSE	HACH WQ test strips used to sample trickle. No AL exceeded. Normal groundwater flow.
34	000265IO	5/2/2024	TRICKLE	1. NONE	No follow up needed. Normal groundwater flow.	FALSE	HACH WQ test strips used to sample trickle. No AL exceeded. Normal groundwater flows.
35	000266IO	5/2/2024	MODERATE	1. NONE	No follow up needed. Normal groundwater flow.	FALSE	HACH WQ test strips used to sample trickle. No AL exceeded. Normal groundwater flow.
36	000268IO	5/2/2024	TRICKLE	1. NONE	No follow up needed. Normal groundwater flow	FALSE	HACH WQ test strips used to sample trickle. No AL exceeded. No follow up needed.
37	000269IO	6/18/2024	TRICKLE	1. NONE	Normal groundwater flow. No follow up needed.	FALSE	HACH water quality strips used to sample trickle. No AL exceeded.
38	000270	6/18/2024	NONE	1. NONE		FALSE	
39	000271IO	6/18/2024	NONE	1. NONE		FALSE	
40	000274IO	6/18/2024	TRICKLE	1. NONE	Groundwater flow. No followup needed.	FALSE	HACH water quality strip utilized to sample trickle. No AL exceeded.
41	000275IO	6/18/2024	NONE	1. NONE		FALSE	
42	000276IO	6/18/2024	NONE	1. NONE		FALSE	
43	000277IO	6/18/2024	NONE	1. NONE		FALSE	
44	000278IO	6/18/2024	NONE	1. NONE		FALSE	
45	000529IO	4/26/2024	NONE	1. NONE		FALSE	
46	000530IO	4/26/2024	NONE	1. NONE		FALSE	
47	000625IO	6/18/2024	NONE	1. NONE		FALSE	
48	000626IO	6/18/2024	NONE	1. NONE		FALSE	
49	000086IO	6/28/2024	TRICKLE	1. NONE	No follow up needed. Determinded to be groundwater	FALSE	
50	000150IO	6/28/2024	NONE	1. NONE		FALSE	

Code Case Search

Search | Export | Action

Code Case Search | Name | Shared | Note: name is only required if criteria needs to be saved. | Mail Merge Result | Map Results

Drag a column header and drop it here to group by that column

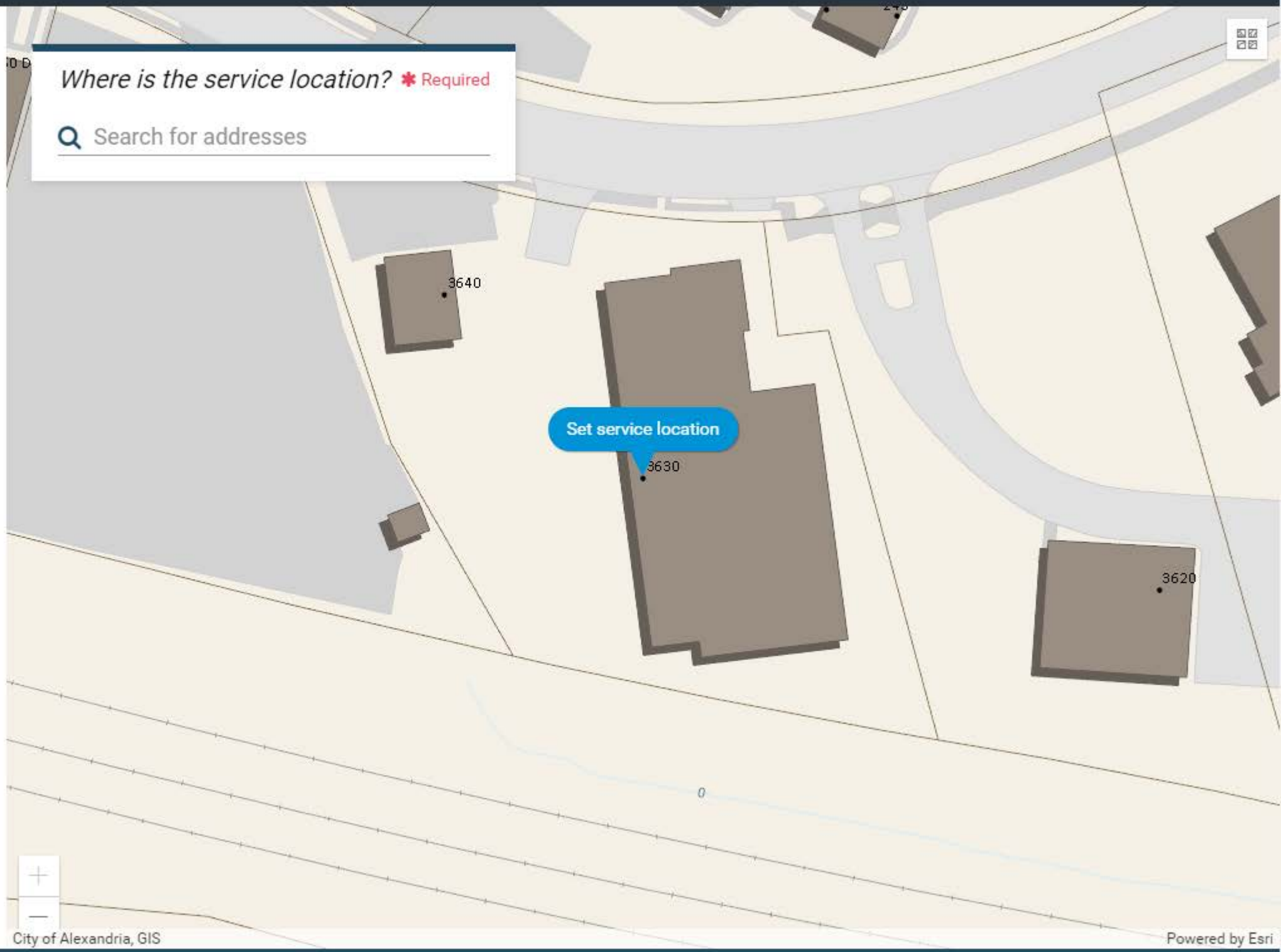
Save Layout | Clear Layout

Case Number	Main Address	Case Type	Assigned To	Case Status	Open Date
FIR2019-00172	612 S PICKETT ST C	Fire Marshal Complaints		Closed - Resolved	7/2/2019
FIR2019-00173	5405 DUKE ST	Fire Marshal Complaints		Closed - Resolved	7/2/2019
FIR2019-00174	602 NOTABENE DR	Fire Marshal Complaints		Closed - Resolved	7/2/2019
FIR2019-00175	6101 EDSALL RD 303	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00176	5219 HOLMES RUN PKWY	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00177	5951 STEVENSON AVE E	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00178	5453 SHEFFIELD CT	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00179	5733 LEVERETT CT	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00180	5797 RAYBURN AVE	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00181	5802 SANGER AVE	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00182	5611 DERBY CT	Fire Marshal Complaints		Closed - Resolved	7/5/2019

- Service
  Sewer Infrastructure Issues
- Location
- Details
- Contact
- Submit

Where is the service location? ✱ Required

Search for addresses



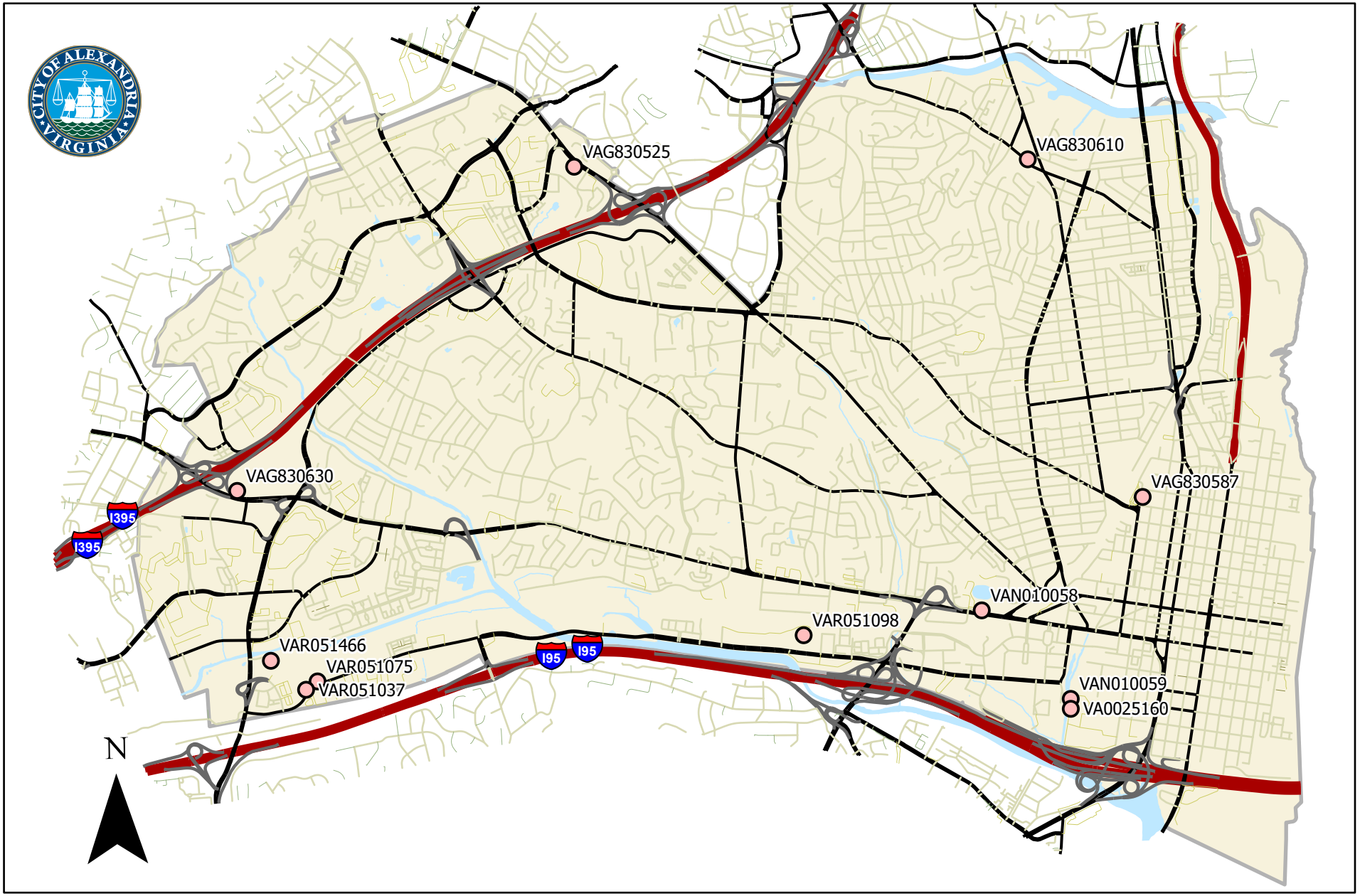
Open Cases

Salesforce Alex311 Open Cases

Open Print Expand Configure Map Search...

Sr	Date Initiated	Description	Priority	Category	Submit To	Dispatch To	Addr
206646	2020-09-24 11:19 AM	TRAFFIC SIGNS	3	TES_SIGNS	TRFSIGNS TOP TES,		4550 N PEGRAM ST
206645	2020-09-24 11:17 AM	TRAFFIC SIGNS	3	TES_SIGNS	TRFSIGNS TOP TES,		1235 N PICKETT ST
206642	2020-09-24 10:09 AM	SEWERS	2	TES_SEWERS	SEWERS PWS TES,		2 B FORREST ST
206640	2020-09-24 9:29 AM	LOW HANGING WIRE	1	TES_ROW	TES, GROUP LOW WIRE		326 E MASON AVE
206639	2020-09-24 9:17 AM	STREET CLEANING	3	TES_STCLEAN	STRTMAINT PWS TES		1600 IVANHOE CT
206638	2020-09-24 8:49 AM	PARKING METERS	2	TES_METERS	METERS TOP TES,		301 KING ST
206637	2020-09-24 8:35 AM	TREE REQUEST / PROBLEM	3	RPCA_TREES	RPCA, TREES		929 N LINDSAY PL
206636	2020-09-23 10:31 PM	TREE REQUEST / PROBLEM	3	RPCA_TREES	RPCA, TREES		922 SLATERS LN
206635	2020-09-23 8:53 PM	TREE REQUEST / PROBLEM	3	RPCA_TREES	RPCA, TREES		109 W MASONIC VIEW
206634	2020-09-23 6:27 PM	STREETS POTHOLES	2	TES_POTHOLES	STRPOTHOLE PWS TES,		220 CENTURY PL
206633	2020-09-23 5:33 PM	SEWERS	2	TES_SEWERS	SEWERS PWS TES,	Pelitteri, Gavin	707 E TIMBER BRANC
206629	2020-09-23 4:59 PM	STREET MAINTENANCE	2	TES_STMAINT	STRTMAINT PWS TES		809 CAMERON ST
206628	2020-09-23 4:33 PM	STREET CLEANING	3	TES_STCLEAN	STRTMAINT PWS TES		1218 W ABINGDON DI
206627	2020-09-23 4:17 PM	SEWERS	2	TES_SEWERS	SEWERS PWS TES,		24 E LINDEN ST
206625	2020-09-23 3:17 PM	TREE REQUEST / PROBLEM	3	RPCA_TREES	RPCA, TREES		901 SECOND ST
206624	2020-09-23 2:57 PM	TREE REQUEST / PROBLEM	3	RPCA_TREES	RPCA, TREES		611 S COLUMBUS ST
206623	2020-09-23 2:53 PM	TREE REQUEST / PROBLEM	3	RPCA_TREES	RPCA, TREES		611 S COLUMBUS ST

City of Alexandria Permitted Discharges MS4 Reporting Year 2023-2024



VPDES Permits FY24

Classification	Type	Facility Name	Permit No.	Expiration Date	Physical Location Address	Physical Location City	Physical Location State
Active	Individual Permits	Alexandria Renew Enterprises WWTP	VA0025160	6/30/2026	1500 Eisenhower Ave	Alexandria	VA
~~Active~~	~~Individual Permits~~	~~Alexandria Combined Sewer System~~	~~VA0087068~~	~~8/31/2023~~	~~Various locations~~	~~Alexandria~~	~~VA~~
Active	Stormwater Industrial GP	United Parcel Service - Alexandria	VAR051037	6/30/2029	5601 Eisenhower Ave	Alexandria	VA
Active	Stormwater Industrial GP	Covanta Alexandria Arlington Incorporated	VAR051075	6/30/2029	5301 Eisenhower Ave	Alexandria	VA
Active	Stormwater Industrial GP	WMATA - Alexandria Metro Rail Yard	VAR051098	6/30/2029	3101 Eisenhower Ave	Alexandria	VA
Active	Stormwater Industrial GP	Virginia Paving Company - Alexandria Plant	VAR051466	6/30/2029	5601 Courtney Ave	Alexandria	VA
Active	Nutrient Trading GP	Alexandria Renew Enterprises WWTP	VAN010059	12/31/2026	1500 Eisenhower Ave	Alexandria	VA
Active	Nutrient Trading GP	Virginia American Water Prince William - Aggregate	VAN010058	12/31/2026	2223 Duke St	Alexandria	VA
Active	Petroleum Discharge GP	King Street Liberty	VAG830525	2/29/2028	4368 King St	Alexandria	VA
Active	Petroleum Discharge GP	Braddock West - Alexandria	VAG830587	2/25/2028	727 N West St	Alexandria	VA
Active	Petroleum Discharge GP	Landmark INOVA Hospital Campus	VAG830630	02/29/2028	6001 Duke St	Alexandria	VA
Active	Petroleum Discharge GP	AHDC Glebe Mount Vernon	VAG830610	02/29/2028	221 W Glebe Rd	Alexandria	VA

Strikethrough = No longer indicated in the permit table; Red font = New permits for 2023-2024

Source Information: https://www.deq.virginia.gov/permits/water/surface-waters-vpdes (Pulled 9/9/2024)

Stormwater Management
SUP2024-00014

Conditions:

1. Kitchen equipment, including floor mats, shall not be cleaned outside, nor shall any cooking residue or wash water be washed into the streets, alleys or storm sewers. (T&ES)

2. All waste products including but not limited to organic compounds (solvents), shall be disposed of in accordance with all local, state and federal ordinances or regulations. (T&ES)

3. The applicant shall control cooking odors, smoke and any other air pollution from operations at the site and prevent them from leaving the property or becoming a nuisance to neighboring properties, as determined by the Department of Transportation & Environmental Services. (T&ES)

4. All loudspeakers shall be prohibited from the exterior of the building and no amplified sounds shall be audible at the property line.(T&ES)

5. Supply deliveries, loading, and unloading activities shall not occur between the hours of 11:00pm and 7:00am. (T&ES)

6. The applicant shall comply with the City of Alexandria's Noise Control Code, Title 11, Chapter 5, which sets the maximum permissible noise level as measured at the property line. (T&ES)

7. Cleaning of trailer shall not create a discharge to streets, alleys or storm sewers. (T&ES)

DATE: 4/15/2022 **SIGNATURE: Donna Ferguson**

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

December 22, 2014

Rashad M. Young, City Manager
City of Alexandria
301 King Street, Room 3500
Alexandria, Virginia 22314

Dear Mr. Young:

In accordance with §62.1-44.15:27 G of the Virginia Stormwater Management Act (Act), Department of Environmental Quality (DEQ) has completed the review of the City of Alexandria's final Virginia Stormwater Management Program (VSMP) application package submitted on November 4, 2014. Based on this review, DEQ has determined that the City of Alexandria's VSMP is consistent with the Act, the VSMP regulation and the General VPDES Permit for Discharges of Stormwater from Construction Activities.

In light of this determination, DEQ approves the City of Alexandria's VSMP and the City is authorized to operate a VSMP as of July 1, 2014. Please note that this approval is based on the content of the application package. Any changes made to the documents in the package after the approval date, including changes to the adopted ordinance, may necessitate DEQ evaluation as part of its compliance review of your approved VSMP.

Thank you for your cooperation in developing a VSMP. We look forward to continuing to assist the City with the implementation of its VSMP.

Sincerely,

David K. Paylor

cc: Melanie Davenport, Director, Water Division
Frederick Cunningham, Director, Office of Water Permits
Joan Salvati, Manager, Local Government Stormwater Programs

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 1 Annual Report

July 1, 2023 – June 30, 2024

Appendix D

Minimum Control Measure #4, Construction Site Stormwater Runoff Control

1. E&SC Ordinance; *Alexandria, Virginia - Code of Ordinances, TITLE 5 - Transportation and Environmental Services, CHAPTER 4 - Erosion and Sediment Control*

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 1 Annual Report

July 1, 2023 – June 30, 2024

Appendix E

Minimum Control Measure #5, Post-Construction Stormwater Management for New Development and Development on Prior Developed Lands

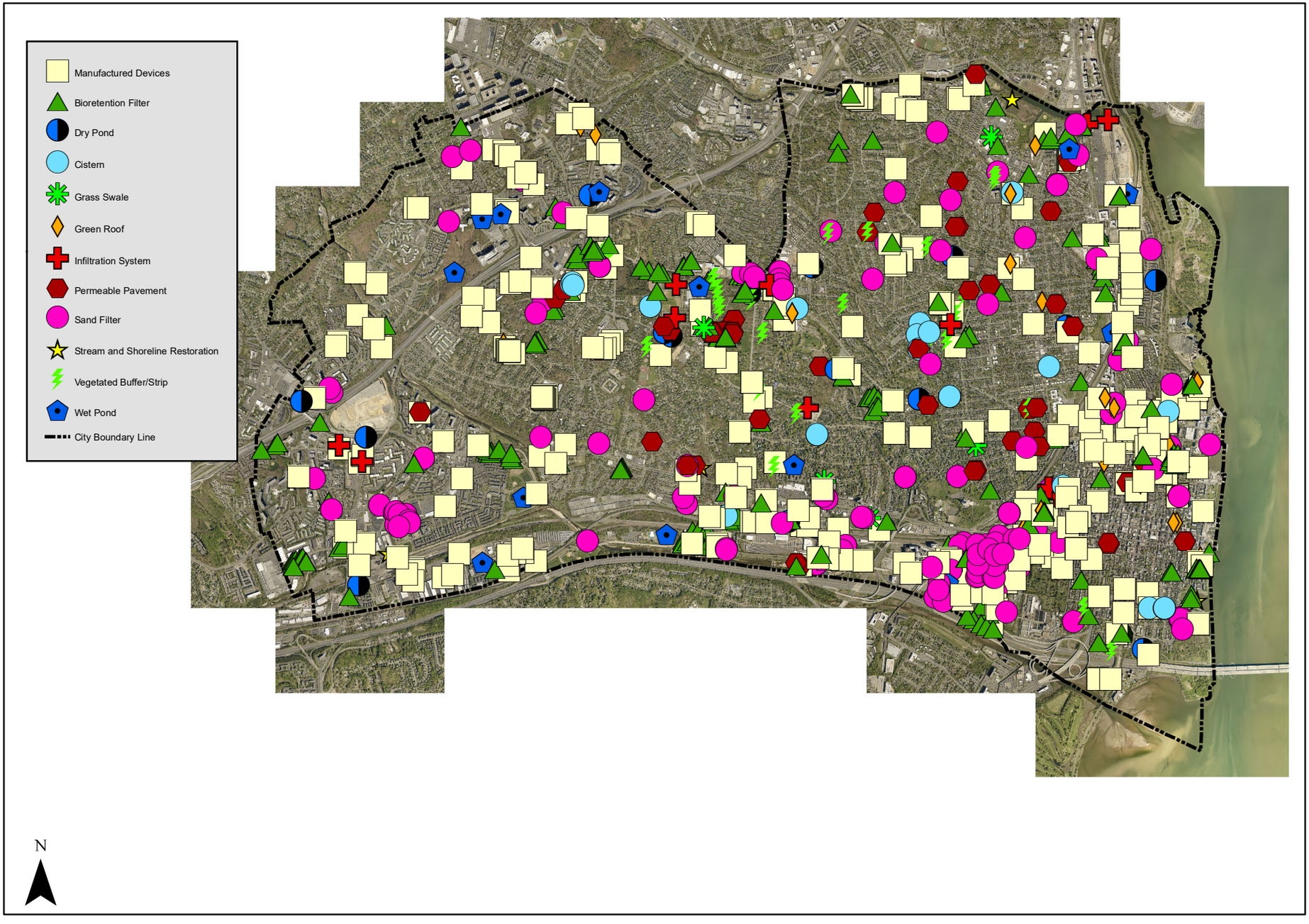
1. Local VSMP Authority Approval Letter, 2014
2. Environmental Management Ordinance
3. Stormwater Management Facilities Installed this Permit Year
4. City Stormwater BMP Location Map
5. Stormwater BMP Maintenance Agreement example
6. Letter to owners of Single-Family Lot BMPs
7. Sample Single-Family Educational Materials for Single-Lot BMPs
8. Development Forms Webpage
9. Oronoco Remediation Update

BMP ID	Reporting PY	Chesapeake Bay Program BMP Type	BMP Name (Full)	Date Installed	Acres Treated	Impervious Acres Treated	TP Load (lbs/yr)	TN Load (lbs/yr)	TSS (lbs/yr)	TP BMP Efficiency	TN Efficiency	TSS Efficiency	TP Removed (lbs/yr)	TN Removed (lbs/yr)	TSS Removed (lbs/yr)	Efficency Method
2013-0001 01	2023/2024	Green Roof	Green Roof	2/7/2024	0.26	0.26	0.42	4.38	304.54	80%	85%	90%	0.34	2.42	159.53	Chesapeake Bay Program
2013-0001 02	2023/2024	Green Roof	Green Roof	2/7/2024	0.45	0.45	0.73	7.59	527.09	80%	85%	90%	0.58	4.18	272.14	Chesapeake Bay Program
2013-0001 03	2023/2024	Filtering Practices	JellyFish Filter	2/7/2024	1.87	1.59	2.69	29.63	1911.62	50%	32%	0%	0.77	0.00	361.28	VA BMP Clearinghouse-MTD
2013-0001 04	2023/2024	Filtering Practices	JellyFish Filter	2/7/2024	1.26	1.16	1.92	20.56	1376.31	50%	32%	0%	1.26	0.00	591.19	VA BMP Clearinghouse-MTD
2013-0001 05	2023/2024	Dry Detention Ponds and Hydrodynamic Structures	CDS® Stormwater Treatment System	2/7/2024	2.07	2.04	3.32	34.70	2394.77	20%	13%	50%	1.55	0.00	727.26	VA BMP Clearinghouse-MTD
2015-0025	2023/2024	Permeable Pavement w/o Sand, Veg. C/D soils, underdrain	Permeable Pavement	2/24/2023	0.33	0.33	0.53	5.56	386.54	20%	10%	55%	0.42	3.00	197.06	Chesapeake Bay Program
2017-0014 01	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	10/14/2022	0.06	0.06	0.10	1.01	70.28	45%	25%	55%	0.06	0.55	28.15	Chesapeake Bay Program
2017-0014 02	2023/2024	Dry Detention Ponds and Hydrodynamic Structures	BaySeparator™ Stormwater Treatment System	10/14/2022	0.03	0.02	0.04	0.44	25.18	20%	13%	50%	0.03	0.30	14.08	VA BMP Clearinghouse-MTD
2017-0014 03	2023/2024	Filtering Practices	Tree Box Filter	10/14/2022	0.53	0.53	0.86	8.94	620.80	45%	25%	55%	0.23	0.00	107.92	Chesapeake Bay Program
2017-0014 04	2023/2024	Filtering Practices	Tree Box Filter	10/14/2022	0.06	0.05	0.09	0.94	60.32	45%	25%	55%	0.06	0.06	28.15	Chesapeake Bay Program
2017-0014 05	2023/2024	Dry Detention Ponds and Hydrodynamic Structures	CDS® Stormwater Treatment System	10/14/2022	0.06	0.05	0.09	0.94	60.32	20%	13%	50%	0.06	0.06	28.15	VA BMP Clearinghouse-MTD
2017-0023 01	2023/2024	Green Roof	Green Roof	7/3/2023	1.72	1.72	2.79	29.00	2014.67	80%	85%	90%	1.88	15.98	882.10	Chesapeake Bay Program
2017-0023 02	2023/2024	Dry Detention Ponds and Hydrodynamic Structures	Manufactured Treatment Device - Hydrodynamic	7/3/2023	2.09	2.08	3.37	35.17	2438.10	20%	13%	50%	1.10	0.00	516.12	VA BMP Clearinghouse-MTD
2017-0023 03	2023/2024	Filtering Practices	Tree Box Filter	7/3/2023	0.017	0.017	0.03	0.29	19.91	45%	25%	55%	0.02	0.17	9.38	Chesapeake Bay Program
2017-0023 04	2023/2024	Filtering Practices	Tree Box Filter	7/3/2023	0.017	0.017	0.03	0.29	19.91	45%	25%	55%	0.02	0.17	9.38	Chesapeake Bay Program
2017-0023 05	2023/2024	Filtering Practices	Tree Box Filter	7/3/2023	0.017	0.017	0.03	0.29	19.91	45%	25%	55%	0.02	0.17	9.38	Chesapeake Bay Program
2017-0023 06	2023/2024	Filtering Practices	Tree Box Filter	7/3/2023	0.017	0.017	0.03	0.29	19.91	45%	25%	55%	0.02	0.17	9.38	Chesapeake Bay Program
2018-0028 01	2023/2024	Green Roof	Green Roof	8/23/2023	0.48	0.48	0.78	8.09	562.23	80%	85%	90%	0.62	3.34	290.90	Chesapeake Bay Program
2018-0028 02	2023/2024	Filtering Practices	JellyFish Filter	8/23/2023	0.086	0.086	0.14	1.45	100.73	50%	32%	0%	0.09	0.00	42.23	VA BMP Clearinghouse-MTD
2018-0028 03	2023/2024	Filtering Practices	JellyFish Filter	8/23/2023	0.198	0.198	0.32	3.34	231.92	50%	32%	0%	0.21	0.00	98.53	VA BMP Clearinghouse-MTD
2019-0001 01	2023/2024	Green Roof	Green Roof	8/8/2023	0.06	0.06	0.10	1.01	70.28	80%	85%	90%	0.08	0.56	37.54	Chesapeake Bay Program
2019-0001 02	2023/2024	Dry Detention Ponds and Hydrodynamic Structures	CDS® Stormwater Treatment System	8/8/2023	0.32	0.32	0.52	5.40	374.82	20%	13%	50%	0.14	0.00	65.69	VA BMP Clearinghouse-MTD
2019-0026 01	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	4/5/2023	1.72	0.57	1.39	21.19	869.82	45%	25%	55%	1.70	12.43	797.64	Chesapeake Bay Program
2019-0026 02	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	4/5/2023	0.57	0.38	0.69	8.32	478.50	45%	25%	55%	0.51	4.26	239.29	Chesapeake Bay Program
2019-0026 03	2023/2024	Dry Detention Ponds and Hydrodynamic Structures	Barracuda BaySaver	4/5/2023	3.48	1.13	2.79	42.72	1736.72	20%	13%	50%	0.84	0.00	394.13	VA BMP Clearinghouse-MTD
2020-0001 01	2023/2024	Dry Detention Ponds and Hydrodynamic Structures	CDS® Stormwater Treatment System	1/9/2024	0.6	0.6	0.97	10.12	702.79	45%	25%	55%	0.05	0.42	23.46	Chesapeake Bay Program
2020-00001 02	2023/2024	Filtering Practices	Tree Box Filter	1/9/2024	0.04	0.04	0.07	0.71	49.08	45%	25%	55%	0.05	0.42	23.46	Chesapeake Bay Program
2020-00001 03	2023/2024	Filtering Practices	Tree Box Filter	1/9/2024	0.04	0.04	0.07	0.71	49.08	45%	25%	55%	0.05	0.42	23.46	Chesapeake Bay Program
2020-00001 04	2023/2024	Filtering Practices	Tree Box Filter	1/9/2024	0.04	0.04	0.07	0.71	49.08	45%	25%	55%	0.05	0.42	23.46	Chesapeake Bay Program
2020-00001 05	2023/2024	Filtering Practices	Tree Box Filter	1/9/2024	0.04	0.04	0.07	0.71	49.08	45%	25%	55%	0.05	0.42	23.46	Chesapeake Bay Program
2020-00001 06	2023/2024	Filtering Practices	Tree Box Filter	1/9/2024	0.04	0.04	0.07	0.71	49.08	45%	25%	55%	0.05	0.42	23.46	Chesapeake Bay Program
2020-00001 07	2023/2024	Filtering Practices	Tree Box Filter	1/9/2024	0.04	0.04	0.07	0.71	49.08	45%	25%	55%	0.05	0.42	23.46	Chesapeake Bay Program
2020-00001 08	2023/2024	Filtering Practices	Tree Box Filter	1/9/2024	0.04	0.04	0.07	0.71	49.08	45%	25%	55%	0.05	0.42	23.46	Chesapeake Bay Program

BMP ID	Reporting PY	Chesapeake Bay Program BMP Type	BMP Name (Full)	Date Installed	Acres Treated	Impervious Acres Treated	TP Load (lbs/yr)	TN Load (lbs/yr)	TSS (lbs/yr)	TP BMP Efficiency	TN Efficiency	TSS Efficiency	TP Removed (lbs/yr)	TN Removed (lbs/yr)	TSS Removed (lbs/yr)	Efficency Method
2020-00001 09	2023/2024	Filtering Practices	Tree Box Filter	1/9/2024	0.04	0.04	0.07	0.71	49.08	45%	25%	55%	0.05	0.42	23.46	Chesapeake Bay Program
2020-0015 01	2023/2024	Green Roof	Green Roof	5/13/2024	0.115	0.115	0.19	1.94	134.70	80%	85%	90%	0.11	0.80	51.61	Chesapeake Bay Program
2020-0015 02	2023/2024	Dry Detention Ponds and Hydrodynamic Structures	CDS® Stormwater Treatment System	5/13/2024	0.249	0.249	0.40	4.20	291.66	45%	25%	55%	0.14	0.00	65.69	VA BMP Clearinghouse-MTD
2018-0006 01	2023/2024	Filtering Practices	Tree Box Filter	6/27/2024	0.07	0.07	0.11	1.18	81.99	45%	25%	55%	0.07	1.31	32.84	Chesapeake Bay Program
2018-0006 02	2023/2024	Filtering Practices	Tree Box Filter	6/27/2024	0.07	0.06	0.10	1.11	72.04	45%	25%	55%	0.07	1.31	32.84	Chesapeake Bay Program
2018-0006 03	2023/2024	Filtering Practices	Tree Box Filter	6/27/2024	0.07	0.06	0.10	1.11	72.04	45%	25%	55%	0.07	1.31	32.84	Chesapeake Bay Program
2018-0006 04	2023/2024	Filtering Practices	Tree Box Filter	6/27/2024	0.07	0.06	0.10	1.11	72.04	45%	25%	55%	0.07	1.31	32.84	Chesapeake Bay Program
2018-0006 05	2023/2024	Filtering Practices	Tree Box Filter	6/27/2024	0.07	0.06	0.10	1.11	72.04	45%	25%	55%	0.07	1.31	32.84	Chesapeake Bay Program
2018-0006 06	2023/2024	Filtering Practices	Tree Box Filter	6/27/2024	0.07	0.06	0.10	1.11	72.04	45%	25%	55%	0.04	0.99	18.77	Chesapeake Bay Program
2018-0006 07	2023/2024	Filtering Practices	Tree Box Filter	6/27/2024	0.03	0.06	0.08	0.71	65.01	45%	25%	55%	0.06	1.22	28.15	Chesapeake Bay Program
2018-0006 08	2023/2024	Filtering Practices	Tree Box Filter	6/27/2024	0.06	0.03	0.06	0.81	40.41	45%	25%	55%	0.05	1.09	23.46	Chesapeake Bay Program
2018-0006 09	2023/2024	Filtering Practices	Tree Box Filter	6/27/2024	0.04	0.05	0.08	0.74	56.81	45%	25%	55%	0.08	1.34	37.54	Chesapeake Bay Program
2018-0006 10	2023/2024	Filtering Practices	Tree Box Filter	6/27/2024	0.08	0.04	0.08	1.08	53.88	45%	25%	55%	0.07	1.24	32.84	Chesapeake Bay Program
2018-0006 11	2023/2024	Filtering Practices	Tree Box Filter	6/27/2024	0.07	0.05	0.09	1.04	62.08	45%	25%	55%	0.05	1.12	23.46	Chesapeake Bay Program
2019-0003 01	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	2.2	2.1	3.44	36.41	2477.35	45%	25%	55%	0.92	0.00	431.66	Chesapeake Bay Program
2019-0003 02	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	0.057	0.057	0.09	0.96	66.77	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2019-0003 03	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	0.057	0.057	0.09	0.96	66.77	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2019-0003 04	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	0.057	0.057	0.09	0.96	66.77	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2019-0003 05	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	0.057	0.057	0.09	0.96	66.77	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2019-0003 06	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	0.057	0.057	0.09	0.96	66.77	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2019-0003 07	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	0.057	0.057	0.09	0.96	66.77	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2019-0003 08	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	0.057	0.057	0.09	0.96	66.77	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2019-0003 09	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	0.057	0.057	0.09	0.96	66.77	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2019-0003 10	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	0.057	0.057	0.09	0.96	66.77	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2019-0003 11	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	0.057	0.057	0.09	0.96	66.77	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2019-0003 12	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	0.057	0.057	0.09	0.96	66.77	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2019-0003 13	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	0.057	0.057	0.09	0.96	66.77	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2019-0003 14	2023/2024	Filtering Practices	Tree Box Filter	6/29/2024	0.34	0.24	0.43	5.05	298.70	45%	25%	55%	0.32	2.65	150.14	Chesapeake Bay Program
2019-0004 01	2023/2024	Permeable Pavement w/o Sand, Veg. C/D soils, underdrain	Permeable Pavement	2/2/2024	0.4629	0.4629	0.75	7.80	542.20	20%	10%	55%	0.59	4.21	276.83	Chesapeake Bay Program
2019-0004 02	2023/2024	Dry Detention Ponds and Hydrodynamic Structures	Manufactured Treatment Device - Hydrodynamic	2/2/2024	2.6754	2.0183	3.54	40.65	2479.59	45%	25%	55%	0.82	0.00	384.74	VA BMP Clearinghouse-MTD
2019-0004 03	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	2/2/2024	0.6273	0.4583	0.81	9.43	566.53	45%	25%	55%	0.60	5.95	281.52	Va BMP Clearinghouse-MTD
2020-1025 01	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.58	0.17	0.44	6.99	271.20	45%	25%	55%	0.33	2.75	154.84	Chesapeake Bay Program
2020-1025 02	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.08	0.02	0.06	0.94	33.97	45%	25%	55%	0.04	0.35	18.77	Chesapeake Bay Program

BMP ID	Reporting PY	Chesapeake Bay Program BMP Type	BMP Name (Full)	Date Installed	Acres Treated	Impervious Acres Treated	TP Load (lbs/yr)	TN Load (lbs/yr)	TSS (lbs/yr)	TP BMP Efficiency	TN Efficiency	TSS Efficiency	TP Removed (lbs/yr)	TN Removed (lbs/yr)	TSS Removed (lbs/yr)	Efficency Method
2020-1025 03	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.13	0.03	0.09	1.51	52.72	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2020-1025 04	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.06	0	0.02	0.60	10.55	45%	25%	55%	0.02	0.16	9.38	Chesapeake Bay Program
2020-1025 05	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.07	0	0.03	0.70	12.31	45%	25%	55%	0.03	0.18	14.08	Chesapeake Bay Program
2020-1025 06	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.06	0	0.02	0.60	10.55	45%	25%	55%	0.02	0.16	9.38	Chesapeake Bay Program
2020-1025 07	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.11	0.05	0.11	1.45	69.11	45%	25%	55%	0.08	0.65	37.54	Chesapeake Bay Program
2020-1025 08	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.07	0.02	0.05	0.84	32.22	45%	25%	55%	0.04	0.33	18.77	Chesapeake Bay Program
2020-1025 09	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.21	0.08	0.18	2.66	116.56	45%	25%	55%	0.14	1.13	65.69	Chesapeake Bay Program
2020-1025 10	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.08	0.03	0.07	1.01	43.93	45%	25%	55%	0.05	0.43	23.46	Chesapeake Bay Program
2020-1025 11	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.13	0.03	0.09	1.51	52.72	45%	25%	55%	0.07	0.56	32.84	Chesapeake Bay Program
2020-1025 12	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.14	0.02	0.08	1.55	44.52	45%	25%	55%	0.06	0.51	28.15	Chesapeake Bay Program
2020-1025 13	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.15	0.04	0.11	1.78	66.19	45%	25%	55%	0.08	0.68	37.54	Chesapeake Bay Program
2020-1025 14	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.17	0.04	0.12	1.98	69.71	45%	25%	55%	0.09	1.39	42.23	Chesapeake Bay Program
2020-1025 15	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.29	0.07	0.20	3.40	120.67	45%	25%	55%	0.15	1.27	79.76	Chesapeake Bay Program
2020-1025 16	2023/2024	Bioretention C/D Soils, underdrain	Bioretention Filter	5/3/2024	0.49	0.28	0.54	6.84	364.89	45%	25%	55%	0.49	4.05	229.91	Chesapeake Bay Program
2020-0002	2023/2024	Permeable Pavement w/o Sand, Veg. C/D soils, underdrain	Permeable Pavement	1/17/2024	0.03	0.03	0.05	0.53	35.51	20%	10%	55%	0.04	0.29	18.77	Chesapeake Bay Program
2018-0005	2023/2024	Stream Restoration	Stream Restoration	6/7/2024	225	135	---	---	---	---	---	---	257.00	658.00	489818.00	Chesapeake Bay Program
SIT82-0021	2023/2024	Green Roof	Green Roof	8/9/2023	0.01	0.01	0.02	0.17	11.71	80%	85%	90%	0.01	0.00	4.69	Chesapeake Bay Program
				Totals	**254.62**	**157.41**	**39.27**	**450.50**	**27,521.99**	---	---	---	**276.91**	**758.93**	**499,169.15**	

City of Alexandria Stormwater BMP Locations MS4 Reporting Year 2023-2024



STORMWATER MANAGEMENT / BMP FACILITIES OPERATION AND MAINTENANCE AGREEMENT

THIS AGREEMENT, made and entered into this 05 day of June, 2024, by and between, WinnCcompanies & IBF Development hereinafter called the "Landowner", and the City of Alexandria, Virginia (the "City");

WITNESSTH:

WHEREAS, the Landowner is the owner of certain real property described as tax map #065.01, block #01, parcel(s) #02 , 04 as acquired by deed in the land records of the City of Alexandria, Virginia, Deed book 838 Page # 421 (Instrument #N/A,) hereinafter called the "Property".

WHEREAS, the Landowner is proceeding to build on and develop the property; and

WHEREAS, THE LADREY HOMES, DSUP#2023-10011, hereinafter called the "Plan", which is expressly made a part hereof, as approved or to be approved by the City, provides for detention and/or on-site treatment of stormwater within the confines of the property; and

WHEREAS, the City and the Landowner, its successors and assigns agree that the health, safety and welfare of the residents of the City of Alexandria, Virginia, require that on-site stormwater management/Best Management Practices (BMP) facilities be constructed and maintained on the property; and

WHEREAS, the City requires that on-site stormwater management/BMP facilities as shown on the Plan be constructed and adequately maintained by the Landowner, its successors and assigns.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The on-site stormwater management/BMP facilities shall be constructed by the Landowner, its successors and assigns, in accordance with the plans and specifications identified in the plans.

2. The Landowner, its successors and assigns, shall maintain the stormwater management/BMP facilities in good working conditions, acceptable to the City, so that they are performing their design functions.

3. The Landowner, its successors and assigns, hereby grant permission to the City, its authorized agents and employees, to enter upon the property and to inspect the stormwater management/BMP facilities whenever the City deems necessary. The purpose of the inspection is to assure safe and proper functioning of the facilities. The inspection shall cover the entire facility including, berms, inlet and outlet structures, vegetation, infiltration media, pond areas, access roads, etc. When deficiencies are noted, the City shall notify the Landowner, its successors or assigns, and provide information about the inspection findings and evaluations.

4. The Landowner shall develop and attach to this "STORMWATER MANAGEMENT / BMP FACILITIES OPERATION AND MAINTENANCE AGREEMENT" a "BMP MAINTENANCE SCHEDULE AND GUIDELINE" that has been reviewed and approved by the City or its designee. This BMP Maintenance Schedule and Guideline shall describe the maintenance practices to be performed for the facilities and include a maintenance schedule for implementation of these practices.

5. In the event the Landowner, its successors and assigns, fail to maintain the stormwater management/BMP facilities in good working condition acceptable to the City, the City may enter upon the Property and take whatever steps it deems necessary to maintain said stormwater management/BMP facilities and to charge the costs of the repairs to the Landowner, its successors and assigns. This provision shall not be construed to allow the City of Alexandria to erect any structure of a permanent nature on the land of the Landowner, outside of an easement belonging to the City. It is expressly understood and agreed that the City is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the City.

6. The Landowner, its successors and assigns, will perform maintenance in accordance with the maintenance schedule and guidelines for the stormwater management/BMP facilities, including sediment removal, as outlined on the approved plans and the following specific requirements:

Maintenance of the following Best Management Practice(s):

Green Roof
(8) Bioretentions
Contech -CDS- Hydrodynamic

shall conform to the requirements contained in the Virginia Stormwater BMP Clearinghouse, the attached maintenance schedule and guidelines, and/or specific maintenance requirements established by the BMP manufacturer as approved by the Director of Transportation and Environmental Services (T&ES) prior to the release of the Final Site Plan. Specific manufacturer maintenance requirements for proprietary BMPs will be submitted to the City of Alexandria, T&ES.

7. In the event the City, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials and the like on account of the Landowner's or its successors' and assigns' failure to perform such work, the Landowner, its successors and assigns, shall reimburse the City, upon demand, within 30 days of receipt thereof for all costs incurred by the City hereunder. If not paid within such 30-day period, the City shall have a lien against the property in the amount of such costs, plus interest at the Judgment Rate, and may enforce it in the same manner a lien for real property taxes may be enforced.

8. The Landowner, its successors and assigns, shall indemnify and hold harmless the City and its agents and employees for any and all damages, accidents, casualties, occurrences or claims which might arise or be asserted against the City for the construction, presence, existence or maintenance of the stormwater management/BMP facilities by the Landowner, its successors and assigns.

9. In the event a claim is asserted against the City, its agents or employees, the City shall promptly notify the Landowners, their successors and assigns, and they shall defend, at their own expense, any suit based on such claim. If any judgment or claim against the City, its agents or employees shall be allowed, the Landowner, its successors and assigns shall pay all costs and expenses in connection therewith.

10. The Landowner, its successors and assigns, hereby grants permission to the city, its authorized agents, employees, guests, and consultants to enter upon the property to install, operate and maintain equipment to monitor the flow characteristics and pollutant content of the influent and effluent, and at intermediate points in the facility. The Landowner further agrees to design and construct the facility to provide access for monitoring as outlined in the Virginia Stormwater BMP Clearinghouse and/or in the manufacturer’s manual for the BMP.

11. The Landowner, its successors and assigns, hereby grants permission to the City, its authorized agents, employees and guests to enter upon the property whenever the City deems necessary, with a ten day advance notice, to conduct tours of the stormwater management/BMP facilities. The purpose of such tours is to expand the base of knowledge in the stormwater management/BMP field amongst planners, engineers, scientists and other interested parties.

12. This Agreement shall be recorded among the land records of the City of Alexandria, Virginia, and shall constitute a covenant running with the land/or equitable servitude, and shall be binding on the Landowner, its administrators, executors, assigns, heirs and other successors in interest.

WITNESS the following signatures and seals:

Landowner Signature

Christopher Jones
Print or Type Name

Senior Project Director
Title

ATTEST:

_____

COMMONWEALTH OF Maryland

CITY OF Oxon hill Prince Georges

I, Elijah Williams-Miles, a Notary Public in and for the City and Commonwealth aforesaid, whose commission expires on the 08 day of Delember, 2024 do hereby certify that Chistopher Jones, whose name(s) is/are signed to the foregoing Agreement bearing date of the 7 day of June, 2024, has acknowledged the same before me in my said City and State.

GIVEN UNDER MY HAND THIS 7 day of June, 2024.

NOTARY PUBLIC

ELIJAH CHARLES WILLIAMS-MILES
Notary Public
Prince George's County, Maryland
My Commission Expires 12/8/2027

City of Alexandria, Virginia
Department of Transportation & Environmental Services
Stormwater and Sanitary Infrastructure Division
2900-B Business Center Drive
Alexandria, VA 22314
www.alexandriava.gov

11/27/2023

Dear Facility Owner:

Your property contains a stormwater Best Management Practice (BMP) that functions to treat stormwater runoff and improve the quality of the water in and around the City of Alexandria. This letter serves as an annual reminder that routine inspection and maintenance is an essential part of the ownership of any BMP. Regular maintenance ensures that BMPs do not generate additional pollutants, become nuisances, or pose safety issues, and that they function properly. When maintenance problems do exist, they are most often less costly to correct when they are caught early. BMP maintenance is not only an integral part of BMP ownership, but is also a requirement of the City's local stormwater program. City ordinance {13-109(G)} states that all stormwater BMPs must be adequately maintained by their owners to ensure that the BMPs function as designed.

Examples of stormwater BMPs include rain barrels, bioretention filters, sand filters, and permeable pavement, to name a few. These BMPs improve the quality of stormwater runoff from a developed site by reducing pollutants such as sediment, oil, litter, and excess nutrients that may enter our streams and waterways, such as Four Mile Run, Holmes Run, the Potomac River and Chesapeake Bay.

In October 2018, City Council adopted a Credit Policy that provides opportunities for all property owners to lower their fees by implementing select practices that reduce stormwater runoff or improve stormwater quality. Each year you maintain the BMP on your property in functioning condition, you are then eligible for a reduction from your annual Stormwater Utility Fee for a combination of practices. Credits include:

- Rain barrels
- Cisterns
- Rain gardens, flow thru planter boxes, bioretention filters, sand filters, infiltration systems
- Permeable pavement
- Green roof
- and more!

The annual credit application window opens December 1st through February 15th. Visit www.alexandriava.gov/Stormwater to learn more about the City's credit policies and how to apply.

Please contact me at (703) 746-4132 or by email at *Nolan.Compton@alexandriava.gov* if you have any questions regarding your BMP. Your time and cooperation are greatly appreciated and working together will help to achieve our goal of protecting our streams, the Potomac River, and the Chesapeake Bay.

Sincerely,

Nolan Compton
Water Quality Compliance Specialist

Rain Barrel
BMP Fact Sheet

DID YOU KNOW…polluted stormwater runoff is the number one cause of water pollution in Northern Virginia? That's right; the very same rain that runs over streets, yards, and parking lots can send chemicals, dirt, and trash down the storm drains and into our local water bodies like the Potomac River and Chesapeake Bay!

Did you know your property is designed to improve water quality? Your property has a Best Management Practice (BMP) onsite that is used to treat stormwater runoff before it enters our local waterways.

What is a BMP? Stormwater runoff is water that flows over land, through drainage systems, and into our local waterways during and after rain storms or snow melts. Untreated stormwater can carry excess nutrients, sediment, and other contaminants into our waters. BMPs are structural practices that treat, store, or infiltrate runoff onsite before it can affect water bodies downstream. BMPs include structures such as ponds, sand filters, and bioretention areas to name a few. The use of stormwater BMPs helps to manage stormwater and to protect our City's lands and streams from erosion, flooding, and pollutants. When BMPs are maintained and function properly, they can help to improve water quality. When BMPs fail or cease to function, they can actually make water quality worse!

Example Rainwater Harvesting

Rain Barrels

Rain barrels intercept and store rainfall for future use. Rain barrels typically consist of a gutter system and storage tank that can be located on a land surface or underground. Water in the storage tank can be used for non-potable uses such as irrigation or exterior washing.

Maintenance of your BMP is a VITAL to keep it functioning properly and it is required by City Ordinance!

Common maintenance issues associated with rainwater harvesting:

- Leaves and debris in gutters and downspouts
- Clogging of screens
- Not using the stored water resulting in the rain barrel being unable to store additional runoff during storms

A BMP maintenance guideline is included with this document. Performing these routine maintenance tasks helps to ensure the function and performance of your BMP.

If you have any questions regarding your inspection and maintenance responsibilities, please call the City of Alexandria, Virginia Department of Transportation and Environmental Services, Stormwater and Sanitary Infrastructure Division at 703.746.4071.

Rain Barrel Maintenance Guidelines

Routine Maintenance Guidelines

Rain barrels must be inspected to ensure they operate in good working condition and in accordance with the approved design and specifications. Items in need of repair must be immediately addressed.

Routine Maintenance Tasks	Frequency
Remove leaves and debris from gutters and downspouts	Semi-annually
Remove any algae growth	Semi-annually
Inspect and clean prescreening devices and first flush diverters	Quarterly
Inspect and clean storage tank lids	Annually
Inspect and repair any clogging	Annually
Inspect and repair mosquito screens	Annually
Inspect tank and remove sediment build up	Every 3 years
Clear overhanging vegetation and trees over roof	Every 3 years
Replace damaged or defective system components	As needed

Permeable Pavement
BMP Fact Sheet

DID YOU KNOW…polluted stormwater runoff is the number one cause of water pollution in Northern Virginia? That's right; the very same rain that runs over streets, yards, and parking lots can send chemicals, dirt, and trash down the storm drains and into our local water bodies like the Potomac River and Chesapeake Bay!

Did you know your property is designed to improve water quality? Your property has a Best Management Practice (BMP) onsite that is used to treat stormwater runoff before it enters our local waterways.

What is a BMP? Stormwater runoff is water that flows over land, through drainage systems, and into our local waterways during and after rain storms or snow melts. Untreated stormwater can carry excess nutrients, sediment, and other contaminants into our waters. BMPs are structural practices that treat, store, or infiltrate runoff onsite before it can affect water bodies downstream. BMPs include structures such as ponds, sand filters, and bioretention areas to name a few. The use of stormwater BMPs helps to manage stormwater and to protect our City's lands and streams from erosion, flooding, and pollutants. When BMPs are maintained and function properly, they can help to improve water quality. When BMPs fail or cease to function, they can actually make water quality worse!

Example Permeable Pavement

Permeable Pavement

Permeable pavement is an alternative type of paving that allows stormwater to filter through voids to a stone reservoir. Water is temporarily stored in the reservoir and may be infiltrated into the ground. Permeable pavement can consist of pervious concrete, porous asphalt, or interlocking pavers. Permeable pavement works to reduce the amount of runoff and to remove nutrients during rain events.

Maintenance of your BMP is a VITAL to keep it functioning properly and it is required by City Ordinance!

Common maintenance issues associated with permeable pavement:

- Clogging of the pavement
- Organic debris and sediment accumulation on the pavement
- Structural cracking or breaking

A BMP maintenance guideline is included with this document. Performing these routine maintenance tasks helps to ensure the function and performance of your BMP.

If If you have any questions regarding your inspection and maintenance responsibilities, please call the City of Alexandria, Virginia Department of Transportation and Environmental Services, Stormwater and Sanitary Infrastructure Division at 703.746.4071.

Permeable Pavement Maintenance Schedule and Guidelines

Routine Maintenance Guidelines

Permeable pavement must be inspected to ensure that it operates in good working condition and in accordance with the approved design and specifications. Items in need of repair must be immediately addressed.

Routine Maintenance Tasks	Frequency
Remove trash and debris	As needed
Check and repair eroded areas	Annually
Inspect for and remove excess sediment	Annually
Inspect facility for clogging and repair any clogging and improper drainage	Annually
Inspect for and repair any structural damage	Annually
Inspect for repair any clogged or damaged inlets and outlets	Annually

Bioretention
BMP Fact Sheet

DID YOU KNOW…polluted stormwater runoff is the number one cause of water pollution in Northern Virginia? That's right; the very same rain that runs over streets, yards, and parking lots can send chemicals, dirt, and trash down storm the drains and into our local water bodies like the Potomac River and Chesapeake Bay!

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Example Bioretention

Bioretention

A bioretention area is a shallow landscaped depression that captures runoff. During rain events, water ponds six to twelve inches above the bottom of the depression, then filters through special media installed underground called the filter bed. A typical bioretention area consists of a filter bed, landscaping, a mulch or turf layer, an underdrain, and an outlet. Bioretention areas remove pollutants through filtration, biological uptake, and microbial activity.

Maintenance of your BMP is a VITAL to keep it functioning properly and it is required by City Ordinance!

Common maintenance issues associated with bioretention areas:

- Loss of plants
- Trash and debris accumulation
- Sediment accumulation
- Mulch layer less than 3 inches deep or over 3 years old
- Clogging
- Erosion

A BMP maintenance guideline is included with this document. Performing these routine maintenance tasks helps to ensure the function and performance of your BMP.

If you have any questions regarding your inspection and maintenance responsibilities, please call the City of Alexandria, Virginia Department of Transportation and Environmental Services, Stormwater and Sanitary Infrastructure Division at 703.746.4071.

Bioretention Area Maintenance Schedule and Guidelines

First Year Maintenance Guidelines

Successful establishment of bioretention areas requires that the following tasks be undertaken in the first year following installation:

- Initial inspections. For the first 6 months following construction, the bioretention area should be inspected at least twice after storm events that exceed 1/2 inch of rainfall.
- Spot reseeding. Inspect for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.
- Watering. Watering is needed once a week during the first 2 months, and then as needed during first growing season (April-October), depending on rainfall.
- Remove and replace dead plants.

Routine Maintenance Guidelines

Bioretention areas must be inspected to ensure that they operate in good working condition and in accordance with the approved design and specifications. Items in need of repair must be immediately addressed.

Routine Maintenance Tasks	**Frequency**
Remove trash and debris	As needed
Check and repair eroded areas	Annually
Inspect for and remove excess sediment	Annually
Mow grass filter strips and bioretention turf cover	At least four times per year
Weed and rake mulch	Twice during the growing season
Inspect plant composition for consistency with approved plans and correct any deficiencies	Annually
Remulch to maintain a three inch layer	Annually
Prune trees and shrubs	Annually
Inspect for clogging or ponding water in the filter bed	Annually
Remove invasive plants	As needed
Replace dead or damaged plant material	As needed
Repair broken pipes	As needed
Remove sediment in pretreatment cells and inflows	Every 2-3 years
Replace the mulch layer	Every 3 years

City of Alexandria, VA

Department of Transportation and Environmental Services

Oronoco Street MS4 Outfall Update

July 2023 through June 2024

Virginia Remediation Program (VRP) Site Number: 00241

The City of Alexandria (City) operated a manufacturing gas plant near the corner of North Lee and Oronoco Streets for a portion of time from 1851 to 1946, with the other owner of the site being Washington Gas. This plant produced a coal-derived gas for residents and businesses in the City. The production of manufactured gas produced coal tar wastes, some of which remain at the former site today. When the site redeveloped in the 1970s into commercial townhomes, some efforts were made to remediate the site at that time. However, after the development of the site, coal tar began migrating from the site and found its way into the surrounding soils and groundwater which led to intrusion into the storm sewer located on Oronoco Street, leading to discharges of coal tar into the Potomac River (River). The City subsequently entered the site into the VRP in 2000.

To date, several corrective actions have taken place to mitigate coal tar discharges into the River:

- Installation and operation of the floating oil containment boom around the outfall discharge area with additional oil absorbent booms installed and replaced periodically on the interior to collect contaminants.
- The ongoing operation a free product removal system that includes recovery wells installed in the source area. The removal of free product from the subsurface makes future remedial efforts more efficient.
- The successful completion of relining the Oronoco Street storm sewer in 2007 between Lee and Union Streets and in 2014 from Union Street to the outfall. The relining reduced the amount of oily substances infiltrating into the pipe and subsequently reduced the amount of impacted material being discharged to the Potomac River.
- In 2013, the City installed a groundwater treatment system beneath Oronoco Street. The system treats dissolved phase groundwater. After nearly ten years of operation, quarterly groundwater monitoring of wells located downgradient from the system continue to indicate that the system is functioning properly.
- With VDEQ approval, the City began planning additional remedial actions to address the contaminated sediments located below the Oronoco Street storm sewer outfall to the Potomac River. In 2015, VDEQ approved the City's Remedial Action Plan (RAP) to dredge and cap the residual coal tar-impacted sediments within the Potomac River. The bulk of affected sediments were removed, and a reactive cap was installed over the remaining sediments to eliminate future seepage of coal tar into the river and cut off potential exposure pathways to human and ecological populations. The dredge and cap project was completed in April 2018.
- In September 2019, the City cleaned and repaired a stormwater pipe in the 100 block of Oronoco Street to clear the residual coal tar from the pipeline floor and grout it.

- Five new coal tar recovery wells were installed along Oronoco Street in April 2021. The installation of these wells significantly increased the amount of coal tar recovery around and beneath the stormwater pipe. Coal tar is typically recovered twice a month. Historically, the amount of coal tar recovery ranged from 2-20 gallons per month. However, free product recovery significantly slowed down and the City is working to install new wells.
- Inspection of the stormwater pipe in June 2022 showed a crack in the transition of where the pipe has been lined using CIPP (cured in place pipe) and where the pipe was sprayed with shotcrete. There were also some small coal tar deposits observed downstream of this crack. Repair of the crack were completed in October of 2022
-

The City continues its remedial activities related to mitigation of coal tar infiltration into and discharges from the stormwater pipe located at the end of Oronoco Street. A summary of these activities between July 2023 and June 2024is discussed below:

- The groundwater treatment system installed in 2013 continues to perform well. Site visits are conducted twice per month with shutdowns only occurring as part of conducting routine onsite maintenance. Inspections of the permeable reactive media have shown that the media are in “like new” condition.
- The City continues to operate and maintain the boom system to prevent any potential sources of coal tar from discharging from the immediate area into the Potomac River.
- Twice per year the City submits an operations report that summarizes site remediation operations.
- An in-well heating pilot study was completed in October 2023, following the slowdown in the recovery well capture. Only a small amount of additional coal tar was removed, and the February 2024 report recommended a new TarGOST survey and new well installation versus continued in-well heating tests. A TarGOST survey was completed in November 2023. The results showed areas of free product thickness greater than 3 feet. A total of five new recovery wells are proposed. The well installation will be completed by November 2024.

For the upcoming year, additional actions are planned to assist in removing coal tar from the site and further protect contaminants from entering the pipe. In additional to installing new recovery wells, design has started on a new cured in place pipe liner system to be installed in the stormwater pipe which help to prevent any cracks to develop in the future. Lining will be installed starting at North Union Street and will continue upstream (to the west) past the extents of where coal tar is located around the pipe. The lining work is anticipated to be completed no later than March 31, 2025.

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 1 Annual Report

July 1, 2023 – June 30, 2024

Appendix F

Minimum Control Measure #6, Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee within the MS4 Service Area

1. Staff Training Documentation
2. Internal T&ES Monday Mix with Information about IDDE
3. City's Webpage for Alex311

Transportation & Environmental Services – City of Alexandria, VA

Safety Incentive Roster and Lesson Plan

DIVISION NAME	RESOURCE RECOVERY	PRESENTATION DATE	APRIL 15, 2024

	PRESENTER NAMES	PRESENTER SIGNATURE	TOPICS PRESENTED
1	Gavin Pellitteri	Christopher Chubbs	1. STORMWATER TRAINING 2. HYDRATE NOW! 3. Safety Round Table-4/3/24 4. Open Enrollment in May 5. Warm Weather Hours-5/1
2	Jessica Lassiter		
3	DAVIS McCoy		
	Angela Lynch		

EMPLOYEE	SIGNATURE
BANKS, WILLIE	Willie BANKS
BENTON, DAMIAN (T)	
BRIGGS, LEWIS	DSP
BRASH, BRANDON (T)	
BRUNDIDGE, DOMINIQUE (T)	
CHUBBS, CHRISTOPHER	
CLARK, KENNY	
CLARK, MARCUS	
COBB, DONNELL	
COLES, JANNETTE	
COLES, RYAN	
CROSS, DARYL (T)	
DARRING, SCOTT	
DIXON, CALVIN (T)	
FIELDS, JESSIE	
FINDLEY, TONY (T)	
HALL, ANTOINE	

Safety Incentive Roster and Lesson Plan

HARRIS, MAURICE	
HAWKINS, MARCUS (T)	
HAWKINS, MICHAEL	
JOHNSON, JAMES	
KIRBY, PATRICK	
KYLE, TYRONE	
LEACH, KENNETH (T)	
LEMON, EDWARD	
LYNCH, ANGELA	
MARSHALL, MAURICE	
MCCOY, DAVIS	
MURCHISON, DESIRE (T)	
NICHOLSON, ROBERT	
PETERSON, GREGORY	
PITTS, RODNEY	
QUINTANILLA, S. NELSON	
REDFEARN, JESSIE	
ROYALS, DEONTA	
SANFORD, KENNETH	
TALBERT, GREGORY	
TIMMONS, MARVIN	
TUCK, MICHAEL (T)	
WALLACE, KATHERINE	
WALLACE, KENDALL	
WATKINS, THOMAS	

Safety Incentive Roster and Lesson Plan

WILLIAMS, DWIGHT	
WILLIAMS, JERRELL	DSP
WILLIAMS, THURSTON	
WILSON, DAVID	
WOOD, DONTE	
YARBOUGH, MARCUS	

FY2024 MS4 Annual Staff Training: IDDE

May 9, 2024, 12:00 p.m.

Trainers: Jessica Lassetter, Gavin Pellitteri, Nolan Compton

Training Objectives: Prevention, recognition, and elimination of illicit discharges

Department: T&ES C&I

Name	Department	Signature
KEITH KAHLER	T+ES	
THOMAS KNIGHT	T&ES	
Megan Olegnik	T+ES	
Lance Jolly	T+ES	
Danny Rivera	TES	
Emad Gossa	TES	
RANDY MERRITT	TES	
IRFAN	TES	
RUSSELL ASTON	TES	
MUHAMMAD IRFAN	TES	
ALEX BOULDEN	TES	
AKILAH FORBES	TES	

FY2024 MS4 Annual Staff Training: IDDE

May 9, 2024, 12:00 p.m.

Trainers: Jessica Lassetter, Gavin Pellitteri, Nolan Compton

Training Objectives: Prevention, recognition, and elimination of illicit discharges

Department: T&ES PWS & Street Sweeping

Name	Department	Signature
Joe Thompson	T&ES PWS	
Raymond Monk	T&S MAINT	
Clarence Jackson	Tes maint	
Marlon Serapio	TES Maint	
Melvin Entwisle Jr.	T+ES Maint	
Tim Dodson	T+S	
Cheryl Williams	TES	
Carl Long	TES	
John Taylor	T&ES	

FY2024 MS4 Annual Staff Training: IDDE

May 9, 2024, 12:00 p.m.

Trainers: Jessica Lassetter, Gavin Pellitteri, Nolan Compton

Training Objectives: Prevention, recognition, and elimination of illicit discharges

Department: T&ES PWS & Street Sweeping

Name	Department	Signature
Richard Jones	TES Street Cleaning	
Dontae Shepard	TES Street Main.	
Tony Van Horn	TES street cleaning	
Jack Gilbert	TES street clean	
JuQuan Daniels	TES street clean	
Damone Thompson	TES street clean	
Demetrius Talbert	TES	
Jerome Greene	TES	
Jerrod Woodsen	TES	
Dale Nowar	TES	
Homayun Darwish	TES.	
Mary Alice Winston	TES/PWS	

FY2024 MS4 Annual Staff Training: IDDE

May 9, 2024, 12:00 p.m.

Trainers: Jessica Lassetter, Gavin Pellitteri, Nolan Compton

Training Objectives: Prevention, recognition, and elimination of illicit discharges

Department: T&ES PWS & Street Sweeping

Name	Department	Signature
Anthony Jones	TES	
Dante Parker	TES	
David Thas	TES	
Jeanette Barnett	TES	
Marlon Serapio	TES	
ANDREW SMITH	TES	
Matthew Lowery	TES	
Karen Giuseppe	TES	
Jerrell Williams	TES	
Michael Harmon	TES	
Terrell Joyner	TES	
Keiona Carter	TES	
Dwayne Parker	TES	
Chris Allen	TES	
OLUFEMI OMI-OLAOHIPELAIN	TES	

FY2024 MS4 Annual Staff Training: IDDE

May 9, 2024, 12:00 p.m.

Trainers: Jessica Lassetter, Gavin Pellitteri, Nolan Compton

Training Objectives: Prevention, recognition, and elimination of illicit discharges

Department: T&ES PWS & Street Sweeping

Name	Department	Signature
Harold Shaw	T&ES	
Chantel James	TES	
Rob McGuire	TES/Streets	
Jose Oliveira	TES	
Jose Gil	T&ES	
Jeremias Benavidez	T&ES.	
Steve Waller	TES	
Arthur Byrd	TES	
Greg Dunn	TES	
Lisa Saatmen	TES	
Tarik VanHorn	TES	
DAVON MELSON	TES	
Charles Carpenter	TES	
Bernard Banks	TES	
George L martin	TES	

ALEXANDRIA DEPARTMENT of CODE ADMINISTRATION
301 King Street, suite 4200 Alexandria, Virginia 22314
TRAINING ATTENDANCE ROSTER

Course: IDDE MS4 Training **Date:** 6.17.24

Instructor(s) Jessica Lassetter with T&ES

Location of Course: Virtual (301 King Street) **Length of Course**: 30 Minutes

Attendees declare by their signature that they have attended the above-described training. Illegible names will not be credited for training hours. Please **print** your name as it should appear on any certificate or legal document.

Printed Name (legal name)	Signature	Department
Chris Evans	Virtual	
Tod Belt		
Salvador QuinteroVazquez		
Andrea Scates		
Henry Hollander		
Jacob Simmon		
Adrian Mirt		
John Weeks		
Nate Green		
Sandra Kyer		
Wayne Malcolm		
Shelby Figaroore		
Lei Fei		
Jessica Lassetter		
Mike Christesen		

This roster is being submitted to the Department of Housing and Community Development as a true record of training for the above listed individuals. I have monitored this class and do hereby state that all the above listed individuals were in attendance.

Printed Name (legal name)	Signature	Department
Marcelo Pilaluisa		
Ponce Coleman		
James Proctor		
Gavin Pellitteri		
Elibel Berrios		
Tomieka Nicholson		
Million Fiseha		

This roster is being submitted to the Department of Housing and Community Development as a true record of training for the above listed individuals. I have monitored this class and do hereby state that all the above listed individuals were in attendance.

Chris Evans — Printed Name

 — Signature

Code Administration — Department

MS4 Annual Training : 1006 w Traffic Ops
June 20, 2024

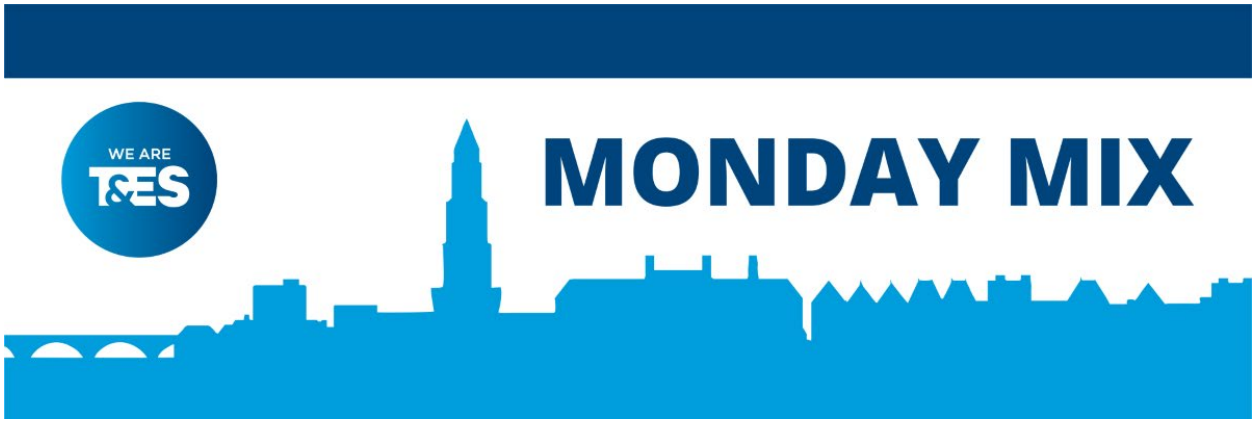
Instructors: Jessica Lasseter

Name	Signature	Dept.
Durrell Veney	Durrell Veney	TES
MIKE OTACHI		TES
Alvin Jefferson		TES
Bob Garbacz		TES
Ed Johnson JR.	Ed Johnson JR	TES Traffic Ops
David Weathers		TES Traffic
Juwon Afinni	Juwon	TES
Lewis Parker		TES
Abrahamkitee		TES
Ken Johnson		TES
Joseph Hill	Joseph Hill	TES
Rick Askanian		T+E.S.

MS4 Annual Training
June 20, 2022

Name	Signature	Dept.
Sayed Emran Mehrwarz		TES
James Ploss James E. Ploss	James E. Ploss	TES
Sheenan Brown		TES
Jonathan Carpenter	Jonathan Carpenter	Traffic
ALEX VELEZ		SIGNALS
Hailie White		TES

From: Adriana Castañeda <adriana.castaneda@alexandriava.gov>
Sent: Monday, April 22, 2024 8:17 AM
Subject: T&ES Monday Mix, April 22, 2024



pril 22, 2024

W. GLEBE ROAD BRIDGE PROJECT RECEIVES INFRASTRUCTURE AWARD

The West Glebe Road Bridge project has been recognized with an infrastructure award from the Heavy Construction Contractors Association (HCCA)!

This project reconstructed the West Glebe Road Bridge over Four Mile Run, which connects Arlington and Alexandria. The bridge project includes separate bike lanes and sidewalks, public art, design enhancements, and embellished lighting. The bridge reconstruction, which was completed in September 2023, was a successful joint partnership and collaboration between Arlington County and the City of Alexandria.

The HCCA award will be presented to Arlington, Alexandria, and project contractor Kokosing, at the Safety & Infrastructure Awards Dinner Award Ceremony on April 24.

Special thanks to **Mary Alice Winston** and **Lisa Jaatinen** who were closely involved with the project and helped make it a success!

YOU CAN PREVENT STORMWATER POLLUTION

The City operates under a Municipal Separate Storm Sewer System (MS4) general permit. This permit authorizes the discharge of stormwater into our local streams and waterways. However, pollution can easily enter our storm sewers through the storm drain inlets found throughout the City.

The TES Stormwater Management Division uses many tools to help reduce and prevent stormwater pollution. One tool is internal staff training on ways to spot and report stormwater pollution you may come across during your workday. **We encourage all TES staff to watch this short video on illicit discharges**.

We also encourage all staff to report any discharge entering the storm sewer system or irregular colors or oil sheens in our local waterways.

You may report to Alex311 and/or call the Stormwater Management Division at 703.746.6499. Call 911 if you suspect the substance is a potentially hazardous material.

Thank you for helping to prevent stormwater pollution!

ANNUAL STORMWATER TRAINING UNDERWAY

Stormwater Management Staff member Gavin Pellitteri (above) provided annual stormwater training to T&ES Resource Recovery staff on Monday, April 15.

The City's Municipal Separate Storm Sewer System (MS4) permit, issued by the Virginia Department of Environmental Quality, requires staff training in pollution prevention, good housekeeping, as well as the prevention, recognition, and elimination of illicit discharge into our stormwater system.

Employees requiring training will be notified by their supervisor, but all T&ES staff members are encouraged to learn more about stormwater and what you can do to help keep our waterways clean! Watch the illicit discharge video to learn how you can report irregularities in local waterways, and visit Stormwater Management's water quality web page for additional tips on protecting local streams, the Potomac River, and the Chesapeake Bay.

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 1 Annual Report

July 1, 2023 – June 30, 2024

Appendix G

TMDL Special Conditions

1. Phase 2 Chesapeake Bay TMDL Action Plan
2. Bacteria TMDL Action Plan, Updated April 2022
3. Tidal Potomac PCB TMDL Action Plan
4. VA DEQ Letter of Acceptance for Bacteria and PCB TMDL Action Plan Updates