

Appendix AR1 - List of agency acronyms referenced in this application

ACFD	Arlington County Fire Department
ACPD	Arlington County Police Department
APS	Arlington Public Schools
CPHD	Community Planning, Housing, and Development Department
DEQ	Department of Environmental Quality
DES	Department of Environmental Services
DTD	Division of Transportation and Development
DPR	Department of Parks and Recreation
DSB	Development Services Bureau
EB	Equipment Bureau
ENG	Engineering Bureau
FE	Facilities and Engineering Division
FMB	Facilities Management Bureau
HD	Health Department
ISD	Inspection Services Division
OSEM	Office of Sustainability and Environmental Management
SWB	Solid Waste Bureau
TEO	Transportation, Engineering and Operations Bureau
TR	Transit
WPCB	Water Pollution Control Bureau
WSS	Water Sewer Streets Bureau

Appendix AR2 – Submitted List of Prioritized Projects

List provided to DEQ as part of Program Plan submittal in June 2022

Project Type	Plan Name	Total Area Treated	Reg Impervious Area Acres	Reg Turf Area Acres	UnReg Impervious Area Acres	Other MS4 Impervious Area	Other MS4 Pervious Area	Condition of downstream channel	TN Reduction	TP Reduction	TSS Reduction	Cost	Install Date	Feasibility for Implementation	Stage
Watershed Retrofit	Kirkwood Rd @13th St N	0.4	0.24	0.16	0	0	0	N/A drains to storm sewer	3.3	0.3	226.6	125,270	08/16/2018	Completed	Completed
Outfall Repair	2707 North Nelson Street							N/A outfall repair					10/18/2018	Completed	Completed
Watershed Retrofit	Williamsburg Medians 1 - North	0.55	0.44	0.11	0	0	0	N/A drains to storm sewer	5.6	0.6	441.2	108,571	11/01/2018	Completed	Completed
Watershed Retrofit	Williamsburg Medians 1 - South	1.16	0.59	0.58	0	0	0	N/A drains to storm sewer	9.5	0.8	597.7	230,713	11/01/2018	Completed	Completed
Watershed Retrofit	Williamsburg Medians 2 - A-C	0.8	0.56	0.24	0	0	0	N/A drains to storm sewer	4.3	0.4	317.1	141,012	11/01/2018	Completed	Completed
Watershed Retrofit	Williamsburg Medians 2 - D	0.8	0.57	0.23	0	0	0	N/A drains to storm sewer	3.9	0.4	287.3	141,012	11/01/2018	Completed	Completed
Stream Restoration	Windy Run							N/A stream restoration	38.1	35.6	22982.1	1,189,543	03/18/2019	Completed	Completed
Watershed Retrofit	N. Kentucky St @ 22nd St N	0.32	0.15	0.17	0	0	0	N/A drains to storm sewer	2.8	0.2	169.7	76,500	10/18/2019	Completed	Completed
Watershed Retrofit	2nd Street S - Bioretention 1	0.38	0.17	0.21	0	0	0	N/A drains to storm sewer	3.1	0.3	182.9	94,259	11/25/2019	Completed	Completed
Watershed Retrofit	2nd Street S - Bioretention 2	0.29	0.11	0.18	0	0	0	N/A drains to storm sewer	2.5	0.2	135.5	71,107	11/25/2019	Completed	Completed
Watershed Retrofit	N. 11th Street @ George Mason (B)	0.57	0.24	0.33	0	0	0	N/A drains to storm sewer	3.9	0.3	226.7	150,640	07/01/2020	Completed	Completed
Watershed Retrofit	N. 11th Street @ Evergreen (A)	1.07	0.51	0.56	0	0	0	N/A drains to storm sewer	7.6	0.7	463.0	81,114	07/01/2020	Completed	Completed
Watershed Retrofit	N Oakland Street @ Pershing Dr	0.42	0.19	0.23	0	0	0	N/A drains to storm sewer	2.1	0.2	125.0	135,401	05/25/2021	Completed	Completed
Stream Restoration	WGCC							N/A stream restoration	986.0	291.0	21400.0	5,397,000	07/13/2021	Completed	Completed
Watershed Retrofit	Walter Reed Decal Project - 5th St S	1.13	0.54	0.59	0	0	0	N/A drains to storm sewer	9.2	0.8	566.9	154,397	12/13/2021	Completed	Completed

Appendix AR3 SWMF Retrofits Completed FY18-FY22

Project Type	Facility ID	Existing Facility Type	Project Name	Total Area Treated	Reg Impervious Area Acres	Reg Turf Area Acres	UnReg Impervious Area	Other MS4 Impervious Area	Other MS4 Pervious Area	Condition of downstream channel	TN Reduction (lbs)	TP Reduction	TSS Reduction	Cost	Install Date	Feasibility for Implementation	Stage	Lat	Long	Land Use	Source of Efficiency
Watershed Retrofit	17-0253	N/A	Kirkwood Rd @13th St N	0.4	0.24	0.16	0	0	0	N/A drains to storm sewer	3.3	0.3	226.6	\$125,270	08/16/2018	Completed	Completed	38.88747	-77.10052	Public Right of Way (ROW)	DEQ TMDL Guidance
Outfall Repair	37854	End wall	2707 North Nelson Street	*	*	*	*	*	*	N/A outfall repair	NA	NA	NA	\$400,700	10/18/2018	Completed	Completed	38.9047	-77.09856	Residential	None
Watershed Retrofit	15-2091A	N/A	Williamsburg Medians 1 - North	0.55	0.44	0.11	0	0	0	N/A drains to storm sewer	5.6	0.6	441.2	\$108,571	11/01/2018	Completed	Completed	38.91147	-77.13868	ROW	DEQ TMDL Guidance
Watershed Retrofit	15-2091B	N/A	Williamsburg Medians 1 - South	1.16	0.59	0.58	0	0	0	N/A drains to storm sewer	9.5	0.8	597.7	\$230,713	11/01/2018	Completed	Completed	38.91168	-77.13859	ROW	DEQ TMDL Guidance
Watershed Retrofit	16-0320A	N/A	Williamsburg Medians 2 - A-C	0.8	0.56	0.24	0	0	0	N/A drains to storm sewer	4.3	0.4	317.1	\$141,012	11/01/2018	Completed	Completed	38.884	-77.09033	ROW	DEQ TMDL Guidance
Watershed Retrofit	16-0320B	N/A	Williamsburg Medians 2 - D	0.8	0.57	0.23	0	0	0	N/A drains to storm sewer	3.9	0.4	287.3	\$141,012	11/01/2018	Completed	Completed	38.88405	-77.09037	ROW	DEQ TMDL Guidance
Stream Restoration	Windy Run1	Stream	Windy Run	*	*	*	*	*	*	N/A stream restoration	38.1	35.6	22982.1	\$1,189,543	03/18/2019	Completed	Completed	38.9030001	-77.0986001	Park	DEQ TMDL Guidance
Watershed Retrofit	18-0007A	N/A	N. Kentucky St @ 22nd St N	0.32	0.15	0.17	0	0	0	N/A drains to storm sewer	2.8	0.2	169.7	\$76,500	10/18/2019	Completed	Completed	38.89205	-77.14113	ROW	DEQ TMDL Guidance
Watershed Retrofit	18-0281A	N/A	2nd Street S - Bioretention 1	0.38	0.17	0.21	0	0	0	N/A drains to storm sewer	3.1	0.3	182.9	\$94,259	11/25/2019	Completed	Completed	38.87171	-77.08386	ROW	DEQ TMDL Guidance
Watershed Retrofit	18-0281B	N/A	2nd Street S - Bioretention 2	0.29	0.11	0.18	0	0	0	N/A drains to storm sewer	2.5	0.2	135.5	\$71,107	11/25/2019	Completed	Completed	38.87171	-77.08386	ROW	DEQ TMDL Guidance
Watershed Retrofit	18-0051B	N/A	N. 11th Street @ George Mason (B)	0.57	0.24	0.33	0	0	0	N/A drains to storm sewer	3.9	0.3	226.7	\$150,640	07/01/2020	Completed	Completed	38.88343	-77.12409	ROW	DEQ TMDL Guidance
Watershed Retrofit	18-0051A	N/A	N. 11th Street @ Evergreen (A)	1.07	0.51	0.56	0	0	0	N/A drains to storm sewer	7.6	0.7	463	\$81,114	07/01/2020	Completed	Completed	38.88362	-77.12333	ROW	DEQ TMDL Guidance
Watershed Retrofit	18-0152	N/A	N Oakland Street @ Pershing Dr	0.42	0.19	0.23	0	0	0	N/A drains to storm sewer	2.1	0.2	125	\$135,401	05/25/2021	Completed	Completed	38.87506	-77.10280	ROW	DEQ TMDL Guidance
Stream Restoration	DR Trib B	Stream	Donaldson Run Tributary B	*	*	*	*	*	*	N/A stream restoration	303	78	365190	~2,000,000***	06/21/2022	Completed	Completed	38.90837866	-77.12772523	Park	DEQ TMDL Guidance

*Areas not reported for stream restoration projects or outfall repairs

**WGCC is a grandfathered project – Purchase Order (PO) executed on 7/10/2018

***Cost will be updated next year when the close-out on the financials has been completed.

NA = non-applicable, credits not taken for this outfall repair work

Appendix AR5 - Status Update for Identified Retrofit Projects

Project Type	Existing Facility Type	Plan Name	Total Area Treated	Reg Impervious Area Acres	Reg Turf Area Acres	UnReg Impervious Area Acres	Other MS4 Impervious Area	Other MS4 Pervious Area	Condition of downstream channel	TN Reduction (lbs)	TP Reduction (lbs)	TSS Reduction (lbs)	Cost	Install Date	Feasibility for Implementation	Status	Source of Efficiency
Watershed Retrofit	End wall	N Oakland St - Park	1.43	0.28	1.15	0	0	0	N/A drains to storm sewer	9.4	0.6	382.6	\$ 190,730.71	02/24/2022	Completed	Construction	DEQ TMDL Guidance
Large Scale Project	Pond	Ballston Pond	467.87	201.47	206.23	6.84	4.44	21.5	N/A drains to storm sewer	1273.078	150.2062	126662.4	\$ 4,235,361.00		Under Construction	Construction	DEQ TMDL Guidance
Watershed Retrofit	N/A	N Larrimore St and 9th St N	0.81	0.29	0.52				N/A drains to storm sewer	5.8357	0.4603	311.3567	\$ 179,813.67		Under Construction	Design	DEQ TMDL Guidance
Large Scale Project	Pond	Sparrow Pond	80.5	31.8	27.3		4.07	2.4		320.4346	39.1612	33498.8			Design	Design	DEQ TMDL Guidance
Outfall Repair	End wall	Quebec Street Outfall Repair													Design	Design	DEQ TMDL Guidance
Outfall Repair	End wall	N. Utah St / Trib A repair													Design	Design	DEQ TMDL Guidance
Stream Restoration	Stream	Gulf Branch								55.27	50.12	33075			Design	Design	DEQ TMDL Guidance
Watershed Retrofit	N/A	Gulf Branch Green Street - N Piedmont St	0.76	0.38	0.38					4.7734	0.4197	298.415			Design	Design	DEQ TMDL Guidance
Watershed Retrofit	N/A	Gulf Branch Green Street - 36th Rd N	0.26	0.17	0.09					2.2761	0.2204	162.6037			Design	Design	DEQ TMDL Guidance

Appendix AR6

Summary of Procedures and Best Management Practices (BMPs) for Snow and Ice Management

Per Arlington County's MS4 Permit, the County will review *their existing procedures for snow and ice management and identify opportunities to implement enhanced best management practices that promote efficient management and application of anti-icing and deicing compounds.*

Arlington snow operations involve multiple departments plus external partners, making for a non-stop response force of several hundred people working in shifts to maintain core services. The County is responsible for clearing:

- 1,061 miles of roadway
- 350 bus shelters and stops
- 35 miles of sidewalks in shared public areas
- 21 bridges and overpasses
- 10 miles of trails
- 6 miles of protected bike lanes

Each year the County reviews its Snow Operations Plan. An annual winter coordination meeting is held to recap and review operations from the previous winter season and discuss lessons learned. Information from COG's Regional Weather Meeting is discussed including the National Weather Service winter weather outlook. The Snow Operations Plan is updated after reviewing equipment status and staffing needs and scheduling driver training.

In FY22, County crews used real-time loader scale data and improved salt spreader calibration technology for more efficient and effective road salt application. This follows recent upgrades to the County's entire brine pre-treatment program, which included replacing four aging 5000-gallon holding tanks and complete replacement of the plumbing from the brine machine to the brine tanks. Six additional electric salt spreaders were added to the fleet, and the County is in the process of updating a large portion of the tandem and single axle dump truck fleet used for snow and deicing operations.

When a winter storm has been predicted for the area, staff carefully monitor weather conditions and road surface temperatures several days in advance. Depending on the weather forecast/schedule, a mobilization level (1-5) is assigned which determines the level of response and resources anticipated to be needed.

Winter Weather Mobilization Levels											
Weather Forecast/Schedule	Mobilization Level	Response Activities (Includes all previous levels)	Response Street Priorities	Staffing Level	Material Application Rates Per Lane Mile		Expected Number of Equipment Deployed in an Event				
					Brine (gal)	Salt (lb.)	Brine	Contract Brine	County Equip't	Contract Plowing	Contract Hauling
Dry, prior to a storm between Nov 30 - Mar 15, Temp 32°+/-	Anti-ice	Brine pretreatment	Bridges, overpasses, Hills	Brine Team Only	25		14				
Precipitation: 20-49% Accumulation: Ice/Snow Possible Temp: <35°	1	Spot salting, brine pretreatment	Bridges, Overpasses, Hills	Small Skeleton Crew	25	300	14		8		
Precipitation: 50-100% Accumulation: 1-2 Inches of snow	2	Salting, Ready to plow wherever needed	Primary, Secondary & School Bus Routes, some Residential	Medium-Large Skeleton Crew		300	14		16-24		
Precipitation: 50-100% Accumulation: Up to 4 Inches of snow or up to 1/4" of ice	3	Salting, Plowing	Primary, Secondary & School Bus Routes, Residential as Needed	Full Activation 12-hr shift(s)		300			46	12 +/-	
Precipitation: 50-100% Accumulation: Up to 6 Inches of snow or up to 1/4" of ice	4	Plowing, Salting, maybe hauling, Snow Form, Mapping, Take Calls after Phase 3	Primary, Secondary & School Bus Routes. All residential streets	Full Activation, multiple 12-hr shifts and Augmented Deployment		300			46	20 +/-	Maybe 50 +/-
Precipitation: 100% Accumulation: >8 Inches of snow or >1/4" of ice	5	Plowing, Salting, Hauling, Snow Form, Mapping, Take Calls after Phase 3	Primary, Secondary & School Bus Routes. Urban Corridors. All residential streets.	Full Activation, multiple shifts and Augmented Deployment, Hauling Contractors		300			46	40 +/-	150 +/-

Notes:

1. The Chart is for general Guidelines only. Deviation from the Chart may occur due to complication of conditions.
2. The Chart does not account for any breakdown in equipment and/or missing employees operating equipment
3. Contract Equipment may not always be available, and may fluctuate between availability and storm size.

Should a winter storm event result in the need to bring in contractor support, vehicles used by contractors will carry the same wireless mobile tracking units used by County trucks to send information to the near real time storm response map. This map is available to the public.

Weather Monitoring Before and During a Winter Storm Event

The County has several subscriptions to weather forecasting services and data sources. Staying on top of forecasts allows the County to adjust mobilization and operations as needed, including timing for pretreatment and application of salt. The County also has access to the information from the two nearby VDOT stations with pavement sensors to assess pavement temperatures / roadway conditions.

The County is exploring the use of new Road Watch sensor technology that will allow data to be seen by vehicle operators as well as office staff via the online dashboard.

Calibration & Control Technology

Equipment calibration is very important to ensure that equipment functions properly. Calibrating spreaders helps to ensure the appropriate amount of deicing product is distributed during snow response operations.

The County has been exploring ways to make the calibration process more efficient to allow for more vehicles and equipment to be calibrated prior to a winter storm event.

The past few years the County has used a manufactured salt calibration scale, which has greatly improved the process.

The County has also been conducting staff training on calibration for several years. Vehicles and equipment are calibrated throughout the year. It is time intensive to calibrate 45 vehicles and associated equipment, so calibration is done as much as possible in advance of a snow event.

The County is working on replacing its snow operation fleet. In the past three years, ten new single and tandem axle dump trucks with touch screen controllers have been purchased. The touch screen controls help with the calibration process as well as improved spreader application. Seventeen additional single and tandem axle trucks are scheduled to be ordered, and once delivered represents 27 out of the 33 dump trucks in the snow fleet. It is anticipated that the remainder of the fleet will be updated within the next few years.

The new dump trucks will also have plow and spreader controls integrated into the steering wheel, which . This will allow drivers to adjust spreader output at any time without a need to look at the touch screen. The new spreaders are ground speed controlled, meaning less product is dispensed the slower the truck moves. Also, the spreader turns off when the truck is not moving - such as when it is stopped at a traffic light.

This control technology will also be available for the liquid brine applicator, which controls application volume and rate, as well as ground speed-controlled application.

Maximum and minimum application rate settings can be programmed with new touchscreen devices to better control and limit the amount of product being released by the operator. This will significantly reduce user error- neither too much product nor too little product can be distributed.

Anti-icing Operations / Pretreatment

Anti-icing is part of the pretreatment process that involves applying brine to primary, secondary, and school bus routes in the County. Brine uses a quarter of the salt contained in traditional rock salt (23.3% brine/water solution). When the County uses brine instead of rock salt on County roads, it can significantly reduce the amount of salt that ends up in our drinking water sources.

Prior to a snow event, the County pretreats roads and trails with brine. This results in the use of less salt to treat roads and trails during the event. Brine treatment is conducted when there is no rain forecasted in advance of the snow/ice event and temperatures are above 20 degrees F. Pretreatment is not conducted when forecast indicates wet (rainy) / above freezing temperatures.

The County follows an anti-icing and pre-wetting application operation flow chart. Additive products (such as calcium chloride, magnesium chloride, etc.) may also be used for pretreatment when conditions warrant them, although not used often. The County makes brine at the Trades Center. It is mixed following the manufacturer's recommendations based on storm conditions and pavement temperatures.

Vehicle / Equipment Checks

Checking trucks, plows, brine tanks, and spreaders prior to use is important to ensure there is no damage or leaks and equipment is working properly. Staff currently perform a pre- and post-inspections on all trucks to ensure there are no leaks or issues and that there is a spill kit in the vehicle to be able to respond to small spills in the field. Staff are developing pre- and post-inspection checklists for snow equipment (spreaders and plows) to use in addition to the truck checklist. The checklists will include things such as checking that the back spreader gate is in the correct position as well as checking saddle tanks, hoses, valves, and spinners, plow pins, plow wheels, etc. post events.

Monitoring / Tracking Salt and Brine Usage

The amount of salt the County receives and uses is carefully tracked. Salt forms are required to be filled out by drivers and loaders. The volume of brine used is also monitored. Brine loading forms are used to track the volume of brine dispensed to each truck and time of loading.

New technology on three loaders used for loading salt helps to track the exact volume of product being loaded into a truck. The system is capable of tracking loading weight / per truck / event / year. Data can be viewed and analyzed to know the amount of salt being used. This helps the County to have a better understanding of the amount of salt needed for certain events and annually. The information is also used to track loading and usage at the North side salt facility versus the south side Trades Center.

Employee Training

The County conducts multiple types of training to ensure staff fully understand all aspects of snow operations. Topics include, but are not limited to plow driving, calibration, brine making, equipment hook up, materials loading, and winter maintenance operations. Hands on training helps drivers / operators see how the equipment works and what an appropriate spreader output should look like during operations. Drivers develop a better understanding and sense of normal / proper application and product output, and this in turn fosters trust of controls and calibration.

In addition to these trainings, a consultant and County staff conduct Snow and Ice Control – Operator Training in the fall. The training covers topics about calibration, the impacts of deicers, over application, and the importance of salt reduction. Staff learn the importance of being the foundation of the operation and being part of the solution to reducing chloride loading to surface waters.

Many employees involved in snow operations also participate in annual stormwater pollution prevention training. Training covers information outlined in the SWPPPs including good housekeeping, material storage and handling, vehicle / equipment maintenance, recognizing and reporting illicit discharges, spill response, and other practices.

Response to “Salt Piles”

There are circumstances when excess salt may be released to the ground. A driver may forget to turn off the spreader when stopped at a traffic light creating a pile of salt, equipment may release too much salt on slopes or when trucks are navigating cul-de-sacs, or due to faulty/damaged equipment. Drivers are trained to report these issues so follow-up can occur. Large piles of salt can be removed using a skid steer or manually shoveled / swept up. If the salt is not contaminated with debris, it is brought back to one of the two storage facilities to be reused. Contaminated salt is not reused as it could damage equipment. In this case, contaminated salt is properly disposed of in the trash. The County also responds to resident reports of large salt piles that need to be removed.

Materials Storage

Materials used for deicing and sanding activities are kept in covered storage facilities until application. Sand and salt are stored at two locations in the county. At the Trades Center, salt is stored in the salt storage building near the Solid Waste Bureau EPRY. The salt storage building is large enough to allow trucks to be loaded inside under cover. The building has a door that is kept closed when the building is not being accessed. An emergency sand stockpile is stored in a nearby contained area that is covered by a tarp. Additional information about this facility, including good housekeeping can be found in the Arlington County Trades Center Stormwater Pollution Prevention Plan (SWPPP). Salt and sand are also stored at the North Side Salt Storage facility located near the intersection of Old Dominion Drive and 25th Street North. Salt is stored inside a storage structure. The opening to the building is kept closed when it is not being accessed. An emergency sand stockpile is stored in a contained area that is covered by a tarp.

End of Event or Season Vehicle / Equipment Maintenance

At the end of the snow event, remaining salt in trucks and equipment is emptied inside the storage facilities. At the end of the season (and sometimes during the winter season if times permits) trucks and equipment are then washed to remove dirt, sand, and salt residue. Practices outlined in the Trades Center SWPPP are followed during washing and end of season equipment break down and storage. Washing is conducted at the WSS loading dock. Storm drains are plugged, and wash water is captured by a vacuum truck and disposed of into the sanitary sewer system. Wash water is not allowed to enter the storm drain system.

All mobile tanks are emptied of brine. Once emptied, tanks are checked to ensure they are in good condition. Any damaged equipment is sent to the Equipment Bureau.

Drip pads are placed under spreader motors and plows hydraulic connectors when not in use. Lines are capped and/or bagged to prevent leaks.

The brine machine is kept covered when not in use and the valve is kept in the off position. The brine machine and storage area are checked during quarterly Trades Center SWPPP inspections.

Stormwater Pollution Prevention Plans (SWPPP)

SWPPPs have been developed for the Arlington County Trades Center and the North Side Salt Storage Facility. These plans are referenced in the Snow Operations Plan. The North Side Salt SWPPP is included as an appendix.

Salt Management Strategy Implementation

Arlington County participated in the development of the Northern Virginia Salt Management Strategy (SaMS). The County had been implementing many of the BMPs outlined in the SaMS Toolkit.

The County will continue explore addition BMPs as new practices and technology emerge. Updating fleet with new technology and continuing employee training to help eliminate or minimize user error are critical for reducing salt usage.

Appendix AR7 - Certified Pesticide Applicators				
CERTIFICATE_NO	ISSUE_CLASS	CERTEXPIRE	FIRSTNAME	LASTNAME
76776	3B - GOVERNMENT	06/30/2023	RUBEN	FERNANDEZ
95209	3A 3B - GOVERNMENT	06/30/2023	MARCO	PAREDES
113607	6 -GOVERNMENT	06/30/2023	JENNIFER	SOLES
80147	60 - REGISTERED TECHNICIAN	06/30/2023	WILLIAM	PEREZ
90474	60 - REGISTERED TECHNICIAN	06/30/2023	CHRISTIAN	HUDSON
95789	60 - REGISTERED TECHNICIAN	06/30/2023	ROBERTO	PORTILLO
97737	60 - REGISTERED TECHNICIAN	06/30/2023	ROBERT	UPTON
98086	60 - REGISTERED TECHNICIAN	06/30/2023	CARLOS	GONZALEZ
101120	60 - REGISTERED TECHNICIAN	06/30/2023	ADAM	BRADY
104371	60 - REGISTERED TECHNICIAN	06/30/2023	JAIME	VASQUEZ
110719	60 - REGISTERED TECHNICIAN	06/30/2023	ANDREW	KNAPIK
120919	60 - REGISTERED TECHNICIAN	06/30/2023	JOSE	MAJANO-PENA
126627	60 - REGISTERED TECHNICIAN	06/30/2023	EDWIN	LORENZO
132179	60 - REGISTERED TECHNICIAN	06/30/2023	PETER	ALCHIN
137058	60 - REGISTERED TECHNICIAN	06/30/2023	JOSE	MARQUEZ
142553	60 - REGISTERED TECHNICIAN	06/30/2023	JOAQUIN	RETANA
145766	60 - REGISTERED TECHNICIAN	06/30/2023	YUEMER ALEXIS	MAJANO GOMEZ
145767	60 - REGISTERED TECHNICIAN	06/30/2023	SANTOS	DE LAO
146301	60 - REGISTERED TECHNICIAN	06/30/2023	MARCUS	MOORE
154544	60 - REGISTERED TECHNICIAN	06/30/2023	JOSE	GIRON
154832	60 - REGISTERED TECHNICIAN	06/30/2023	LUIS	RIVERA
157140	60 - REGISTERED TECHNICIAN	06/30/2023	JOSE	VEGA
158928	60 - REGISTERED TECHNICIAN	06/30/2023	JOHN	KOLOSZAR
160883	60 - REGISTERED TECHNICIAN	06/30/2023	PATRICK	GRANDLE

Appendix AR8 - Summary of Locations with Nutrient Management Plans

Location	Address	Longitude and Latitude	Acres of Managed turf	Acres of turf affected by NMP	Month/Year NM Plan Implemented	Month/Year NM Plan Revised/ Renewed	Month/Year Plan Expiration
Arlington Hall Park	290 South Taylor St.	38.866376, -77.107340	1.55	2	11/2016	7/2021	6/2024
Barcroft Park	4200 S. Four Mile Run Dr.	38.849039, -77.100599	2.99	2.99	6/2013	7/2021	6/2024
Bluemont Park	601 N. Manchester St.	38.870459, -77.132339	2.37	9.73	4/2014	7/2021	6/2024
Bluemont Junction	744 North Emerson St.	38.872768, -77.132464	1.11	1.11	4/2014	7/2021	6/2024
Eads Street Park	2730 South Eads St.	38.848602, -77.054653	1.00	1.13	4/2014	7/2021	6/2024
Fields Park	775 North George Mason Dr.	38.879923, -77.120760	1.50	1.50	11/2016	7/2021	6/2024
Greenbrier Park	5201 N. 28th St.	38.900982, -77.140469	2.40	2.40	6/2013	7/2021	6/2024
Gunston Park #3	1401 28th St. S	38.847814, -77.069479	1.29	1.29	1/2015	7/2021	6/2024
Jennie Dean Park #1	3630 27th St. S.	38.842895, -77.088092	1.19	5	1/2015	11/2018	11/2021*
Madison Manor Park	6225 12th Road N.	38.882376, -77.150409	2.41	2.50	1/2015	7/2021	6/2024
Quincy Park	1021 N. Quincy St.	38.885037, -77.107436	3.24	5.59	4/2013	7/2021	6/2024
Jamestown back	3700 N. Delaware St.	38.15924, -77.8229596	1.2	1.2	6/2015	7/2021	6/2024
Thomas Jefferson Upper**	3501 2nd St. S	38.870231, -77.095317	1.33	1.13	1/2015	7/2021	6/2024
Tuckahoe Park	2400 N. Sycamore St.	38.900065, -77.150850	3.26	3.26	6/2018	7/2021	6/2024
Virginia Highlands Park	1600 S. Hayes St.	38.860367, -77.062404	3.58	5.52	1/2015	7/2021	6/2024
		Total	30.42	46.35			

*Park has recently been redeveloped – NMP in the process of being updating to reflect new field conditions / acreage

**Field converted to a synthetic field in late FY22 – project completed July 2022.

Department of Parks & Recreation Nursery and Storage Facility Stormwater Pollution Prevention Plan



Arlington County Department of Environmental Services



Revised May 2022

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Introduction

In accordance with Arlington County's Virginia Stormwater Management Program (VSMP), Municipal Separate Storm Sewer System (MS4) permit (#VA0088579), the County is required to develop and maintain a Stormwater Pollution Prevention Plan (SWPPP) for high priority municipal facilities.

A high priority municipal facility is any facility owned and operated by the permittee that actively engages in one or more of the following activities: (i) composting; (ii) equipment storage and maintenance; (iii) materials storage; (iv) pesticide storage; (v) storage for public works; (vi) recycling; (vii) salt storage; (viii) solid waste handling and transfer; and, (ix) vehicle storage and maintenance.

The County must also assess whether a HPMF has a high potential for discharging pollutants. Municipal high-priority facilities that would be considered to have this designation are those facilities that are not covered under a separate VPDES permit and where any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt or runoff:

- a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;*
- b) Materials or residuals on the ground or in stormwater inlets from spills or leaks;*
- c) Material handling equipment (except adequately maintained vehicles);*
- d) Materials or products that would be expected to be mobilized in stormwater runoff during loading/unloading or transporting activities (e.g., rock, salt, fill dirt);*
- e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);*
- f) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;*
- g) Waste material except waste in covered, non-leaking containers (e.g., dumpsters);*
- h) Application or disposal of process wastewater (unless otherwise permitted); or*
- i) Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.*

The Arlington County Department of Parks & Recreation (DPR) Nursery and Storage Facility has been identified as a high priority municipal facility (HPMF) that has a high potential for discharging pollutants. Operations at the facility meet criteria "d" above.

The objectives of this SWPPP are:

- To provide information about the facility and its operations;
- To identify potential sources of stormwater pollutants; and
- To provide information on best management practices (BMPs) and pollution prevention practices implemented at the facility to prevent or minimize non-stormwater discharges and pollutant releases to surface waters.

Site Description and Operations

The DPR Nursery and Storage Facility is located at 4190 South Four Mile Run Drive behind a baseball field complex. The facility is located in both Doctor's Branch and Four Mile Run, Middle Mainstem watersheds. The site occupies an area of approximately 73,415 square feet or 1.70 acres. The nursery area consists of a greenhouse, a netted covered area for native plants, a plant storage area including cold frames, a metal-panel fabricated building where pesticides and equipment are stored, and stockpiles of bulk materials. The road leading to the facility and a portion of site are paved. The remaining surface of the site consists of gravel and compacted dirt; a concrete pad is located near the greenhouse. Site facility photos are within Appendix A.

There is no stormwater infrastructure at the facility. Runoff leaves the site via sheet flow that becomes concentrated at two low spots (see Figure 1). The entrance road and a portion of the southeast side of the site drains to the east towards Doctors Branch, which flows into Four Mile Run approximately 300 feet south. The rest of the facility drains to the south toward Four Mile Run (see Figure 1). A portion of the facility is within a Resource Protection Area (RPA) (see Figure 2). The facility has been in its current location since the early 1980s, pre-dating the Chesapeake Bay Preservation Ordinance and subsequent RPA designation.

The nursery and storage facility houses materials and equipment for DPR operations as well as stockpiles of bulk materials such as soil, gravel, and athletic field turf filler. Trailers, water tanks, signs, and other equipment needed to maintain County parks and natural areas are also stored at this facility. Damaged equipment and debris removed from County parks is brought to the facility and temporarily stored until being taken to a waste disposal facility.

Figure 1 – Department of Parks & Recreation Nursery and Storage Facility



Figure 2. Location of Resource Protection Area (red hatching)



Site Oversight / Compliance Responsibilities

DPR oversees and manages the Nursery and Storage facility. DPR staff are responsible for ensuring the practices outlined in this SWPPP are implemented. Staff shall ensure the following:

- Compliance with the conditions and requirements of the County’s MS4 permit.
- Implementation of stormwater pollution prevention and good housekeeping practices.
- Employees have the necessary training, materials, and equipment to carry out the provisions of this SWPPP.
- Spills or unauthorized non-stormwater discharges or pollution releases to the County’s MS4 or surface waters are cleaned up upon discovery and properly reported.
- Periodic review and updates to this SWPPP to address changes in operations or regulatory requirements.
- Corrective actions identified during an inspection are remedied within a specified time frame, as determined in the inspection report based upon the nature of the corrective action needed and level of effort required.

The following staff certify that they have reviewed this Stormwater Pollution Prevention Plan and will ensure the plan is implemented to comply with the conditions of the County’s MS4 permit.

Marco Antonio Paredes Marco Antonio Paredes May 9, 2022
Marco Antonio Paredes (May 9, 2022 08:31 EDT)

Name	Signature	Date
DPR Parks and Natural Resources Stormwater Specialist		

Potential Stormwater Pollutants and Pollution Sources

Operations at the DPR Nursery and Storage Facility that have the potential to generate stormwater pollutants and non-stormwater discharges include equipment maintenance and material storage, transferring and loading.

The following stormwater pollutants exist on the site and may result in stormwater or non-stormwater discharges if not properly managed.

- Sediment
- Nutrients
- Hydrocarbons (fuel, grease, oil)
- Trash
- Metals
- Pesticides
- Herbicides
- Infill synthetic filler

Outdoor Storage / Parking Areas

Outdoor storage and parking areas can be sources of stormwater pollutants including sediment, litter, hydrocarbons, and metals that can be carried by runoff during storm events to surface waters. Hydrocarbons, metals and other vehicle-related materials are deposited on parking areas as a result of leaks and routine vehicle wear and tear. Other pollutants include accumulated grit and sediment from vehicle tracking and transporting loose materials. Litter can also accumulate in storage areas. Litter may be blown out of vehicles or dropped on the ground by individuals.

Exposed Equipment / Equipment Maintenance

Equipment and materials that are stored at this site have the potential to contribute to stormwater pollution. Residue from spills or leaks that are left on the ground and not cleaned up can be carried in runoff to surface waters.

Uncovered stockpiles of loose materials can be sources of stormwater pollutants if piles are not properly contained.

Waste and Recycling Receptacles

Uncovered trash containers are potential sources of pollution. Open containers can collect rainwater which can leak or spill out when the container is emptied or damaged. Rain can wash leaked materials, spills and debris from these containers into surface waters. There are covered waste and recycling receptacles located adjacent to the equipment storage shed.

Nursery Area

Runoff from watering operations at the nursery area can result in non-stormwater discharges that contain nutrients.

Non-Stormwater Discharges

Potential non-stormwater discharges could result from spills and leaks associated with storage of equipment and vehicles. Potential sources of leaks and spills include the following:

- Leaking hydraulic cylinders and lines on trucks and equipment
- Fuel and/or vehicle fluid leaks from vehicles
- Leaking containers

Runoff from watering operations at the nursery area is an additional potential non-stormwater discharge.

Stormwater Management Controls and Pollution Prevention

There is no stormwater infrastructure on this site. The two discharge locations both flow into vegetated areas, one to the east towards Doctors Branch and one to the south towards Four Mile Run. In an effort to provide flow dissipation, sediment capture, and nutrient uptake, a vegetated area was allowed to be established in the southern discharge. The area has been further enhanced over the years and now is vegetated swale / buffer measuring 10 feet wide by 50 feet long, with a stone berm and geotechnical fabric lining serving as pre-treatment. Any runoff leaving the swale goes to the adjacent vegetated area.



Booms and stone berms have been placed at the other low drainage area to help capture any sediment or trash in runoff from that section of the facility.

Good Housekeeping Practices and Site Maintenance

Housekeeping practices are implemented at the storage facility to prevent pollutant runoff.

Equipment stored at this site is maintained to prevent leaks of fuel, oil or any other fluids. Drip pans or absorbent pads are placed under equipment that have the potential to leak.

Litter is picked up routinely by staff and disposed of in the on-site trash receptacles. These receptacles are covered to prevent materials from blowing out or from filling up with rainwater. Trash and recyclable materials are disposed of in appropriate collection receptacles. Trash is not placed in any receptacle or container that is not designated for that specific purpose. Full or overflowing containers are emptied as soon as possible to avoid waste materials from being blown or washed offsite.

Traffic is limited in the area to DPR personnel and authorized volunteers only. If the area is too muddy from recent storm events, no traffic is allowed on the site to prevent rutting and track out.

Cover and Containment

Stockpiled loose materials contained using concrete blocks on three sides to prevent materials from migrating out of the storage area. The bottom of each containment area is graded toward the back wall to prevent runoff from the containment area. Any loose materials that are deposited outside of the containment area during loading and unloading activities are shoveled back into the contained area. Piles are covered with tarps.

Items stored in the maintenance building include chemicals (pesticides, fertilizer) and applicator equipment. These items are stored in a cabinet with a spill tray. Fuel cans are stored in the shipping container on top of a spill tray.

Two spray rigs are stored in the equipment shed over the winter months when not in use. During the growing season they are kept outside.

Tools and equipment used for park grounds maintenance are stored in a 20-foot shipping container in the storage yard. No liquids are stored in this container. An additional shipping container in the nursery area stores backpack sprayers, gas cans for mowers and trimmers, and oil used for two-cycle gas mixing.

Prevention of Washing Discharges

There are no washing operations at this facility that would generate non-stormwater discharges. Equipment and vehicles are washed at the vehicle wash facility at the Trades Center or other facilities where wash water is captured and sent to the sanitary sewer system.

Small applicator tanks and containers are rinsed on-site. The rinse water is poured into a larger applicator tank so leftover product is reused.

Backpack sprayer cleaning consists of rinsing tanks with water to remove herbicide residue. The rinse water is poured into an onsite 150-gallon spray rig container.

Prior to disposal, herbicide product containers are triple-rinsed then emptied into the 150-gallon spray rig container.

Pesticide Handling

DPR has developed standard operating procedures for handling, transporting, mixing, diluting, storing and disposal of pesticides. A copy of the SOP is included in Appendix E.

Spills and Leaks

Equipment and vehicles stored at the facility are regularly checked for leaks. Leaking vehicles and/or equipment are taken to the Equipment Bureau at the Trades Center for repair.

A spill kit is mounted to the exterior of the maintenance building. Applicable safety data sheets and personal protective equipment are located in the building.

Minor spills are cleaned up at the point of origin by staff using available spill kits and materials. Since this site is a dirt/gravel lot, areas where leaks and spills occur can be removed (by removing dirt/gravel) and replaced with clean fill. Contaminated material will be properly disposed of at an appropriate waste disposal facility.

For larger spills (those spills that cannot be contained and cleaned up using available spill kits and materials) or releases of hazardous materials, the Arlington County Fire Department (911) will be notified to assist with containment.

Notification and information regarding non-stormwater discharges to the surface waters shall be provided to DES Office of Sustainability and Environmental Management (OSEM) (703-228-3979) for tracking and reporting purposes. Spill reports are filled out following any significant spills and sent to OSEM and the ACFD Fire Prevention Office for record keeping. Spill report forms can be found on-line on AC Commons on the Trades Center team page.

Spill History

All spills at this facility have been minor and have been contained and cleaned up using appropriate absorbent materials and/or contaminated soil / gravel was removed. A spill log of significant spills and corresponding spill report forms shall be kept by DPR staff (Appendix D).

Inspections / Site Compliance Evaluation

Site inspections shall be conducted to assess the facility for potential pollutant and/or non-stormwater discharges and evaluate the effectiveness of existing best management practices and general housekeeping to ensure permit compliance and protection of

surface waters. Inspections will be conducted quarterly by DPR staff to ensure that the facility is appropriately maintained. Annual Inspections will be conducted by staff from OSEM.

During inspections, storage and staging areas will be checked to identify housekeeping issues. Equipment and containers will be checked for leaks, corrosion, or other signs of deterioration. Equipment that is found to be damaged will be repaired or replaced. Landscaped areas shall also be checked for any signs of erosion or necessary maintenance.

Completed inspection reports and photos will be sent to appropriate staff for follow-up and kept on file by OSEM. Any noted corrective actions will be followed up on as soon as possible. The inspection form is included in Appendix B.

Dry Weather / Outfall Screening

There is no stormwater infrastructure at this site; however, there are two locations where stormwater flow is concentrated and leaves the site (see Figure 1). The southern discharge location to Four Mile Run consists of a stone berm and vegetated buffer. These two areas will be monitored for evidence of erosion and pollutant runoff to determine if additional stormwater controls are needed.

Training

Training on good housekeeping practices, stormwater pollution prevention, and recognizing and reporting illicit discharges shall be conducted on an annual basis (or as otherwise specified in the County's MS4 permit) as part of the HPMF SWPPP training. Training attendance sheets are kept on file by OSEM. Specialized training for pollution prevention at this facility shall be conducted as needed.

The Department of Parks and Recreation ensures employees who apply pesticides and herbicides receive proper training and certification requirements per the Virginia Pesticide Control Act. Training and certification records are kept by DPR staff. Training on safe pesticide handling for applicators and registered technicians will be done on an annual basis. Training will be conducted by DPR staff or a designated contractor.

SWPPP Evaluation

This SWPPP will be evaluated on an annual basis by DPR and OSEM staff and updated as necessary to reflect any changes in operations at the facility or regulatory requirements.

Appendix A – Facility Photos



Photo 1: Maintenance Building with mounted spill kit



Photo 2: Covered bulk material storage area



Photo 3: Netted plant nursery area



Photo 4: Covered equipment



Photo 5: Hooped greenhouse



Photo 6: Boom and stone berm at east drainage low spot

Appendix B – Inspection Form

**Arlington County Dept. of Parks and Recreation Nursery and Storage Facility
Stormwater Pollution Prevention Plan
Inspection Form**

Date:

Precipitation past 24 hours:

Inspector(s):

	No Issues Observed	Action(s) Needed	Corrective Actions Required / Comments
Outdoor Storage <ul style="list-style-type: none"> • Covers / containment • Material outside containment area • Tracking • Evidence of leaks / stains • Litter / debris • Unused materials / equipment 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Equipment / Vehicles <ul style="list-style-type: none"> • Leaks • Spills • Damage 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Waste / Recycling Receptacles <ul style="list-style-type: none"> • Damage / Leaks • Debris around container • Overflowing • Lids / doors kept closed 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Spill Kit <ul style="list-style-type: none"> • Accessible • Adequately stocked 	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
Drainage / Low Spots <ul style="list-style-type: none"> • Erosion • Sediment accumulation 	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
Non-Stormwater Discharges	<input type="checkbox"/>	<input type="checkbox"/>	

Notes:

Appendix C – Spill Report Form

SPILL REPORT FORM

This form shall be completed after an outdoor spill or release has occurred. Submit completed forms to DPR Natural Resources Division Chief, OSEM c/o Mark Wisdom, and Fire Prevention Office c/o Charlene Branch

What was spilled? _____

Amount / Volume spilled (best estimate) _____

Date and Time of Incident: _____

Location of Spill: _____

Describe what caused the spill:

How was the spill cleaned up?

Was the spill contained? YES NO

Did the spill enter a storm drain? YES NO

Did the spill enter surface waters? YES NO

Did the spill soak into the ground / soil? YES NO

Check the offices that were contacted:

- Arlington County Fire Department
- DES OSEM (must contact if spill entered storm drain or surface water)
- VA DEQ
- Other _____

Additional comments / information:

Name (please print)

Signature

Date


Appendix D – Spill Log

**Arlington County Dept. of Parks & Recreation Nursery and Storage Facility
Spill Log**

Date of Spill	Type of Material / Amount Spilled	Date / Description of Clean-up	Employee Initials

Appendix E – Standard Operating Procedure: Safe Procedures for Pesticide Handling (Transporting, Mixing/Diluting) Storage & Disposal

Standard Operating Procedure

SOP Title	Safe Procedures for Pesticide Handling (Transporting, Mixing/Diluting) Storage & Disposal
SOP Owner	Kurt Louis, Parks & Natural Resources Division Chief
Implementation Date	January 1 st , 2019
Last Reviewed/Update Date	
Approval (signature/date)	 1/1/2019

Objective: To provide PNR Staff who access and use chemicals from the Pesticide Room or out in the field with procedures for safe handling, transporting, storage and disposal.

Procedures

1) General

- a) Become familiar with the Safety Data Sheets (SDS) for each product being used.
- b) Always follow the manufacturers' label recommendations for storage, handling (transporting, mixing, transferring, diluting), application and disposal.
- c) All pesticide application equipment must be capable of immediate shut-off in the event of an emergency. Additionally, staff using this equipment should be trained in various ways to correct any spills when using equipment or handling materials.
- d) Follow information provided within this Standard Operating Procedure (SOP).

2) Storage

- a) Order only the amount of material needed to minimize excess or obsolete materials which require storage or disposal.
- b) Label all original containers with date purchased use older materials first.
- c) "Service Container" means any package, can, bottle, bag, barrel, drum, tank or other containing-device (excluding any application tanks) used to enclose a pesticide. Containers that are used to sell or distribute a pesticide product and that also function in applying the product (such as spray bottles, aerosol cans, and containers that become part of a direct injection system) are considered to be containers.
- d) All chemicals will be stored in the original container or labeled service container.
- e) All service containers must be labeled with the product inside. *Use of available luggage tags is suggested.* Clearly label all service containers with name of product, date placed in secondary container and use a copy of the manufacturer's label.
- f) "Secondary containment unit" means any structure, including rigid diking, that is designed and constructed to intercept and contain pesticide spills and leaks and to prevent runoff and leaching from stationary pesticide containers.
- g) All products in the storage room or being transported by vehicles shall be stored in secondary containment units. Secondary containment units are meant to catch any spilled product and shall be

large enough to sufficiently capture the entire amount spilled from the primary (i.e. manufacturer's) container.

- h) Open bags of pesticides and fertilizers will be double-bagged in clear plastic bags to allow staff the ability to read product information without having to go into the bag. Such bags will also be stored in a secondary containment unit.
- i) Have SDS sheets for all chemicals. Ensure new products have a label and SDS printed and placed in the appropriate books of the room(s) where the product is being stored.
- j) **Do not** store pesticides in the same place as ammonium nitrate fertilizers.
- k) At least annually, maintain a current written inventory of all pesticides and fertilizers at the storage site. This task will be completed by the person assigned to maintain the Pesticide Room.
- l) Weekly: Inspect storage area for leaks and spills. Document these inspections on the sign-off sheet and report to supervisor.
- m) Equip area with easily accessible spill cleanup materials and portable firefighting equipment.
- n) Contaminated waste materials should be placed in the Used Absorbent designated container that is stored in a designated, covered and contained area.
- o) **Do not** store chemicals containers on the floor or ground.

3) Mixing and Transferring

- a) Follow all manufacturers' recommendations for transferring, mixing, applying and handling of fertilizers, herbicides and pesticides.
- b) When transferring products to a service container, work on a stable surface and have spill kit readily available.
- c) Mix fertilizers, herbicides or pesticides within a protected area with impervious secondary containment so that spills or leaks will not contact soil. When mixing outside, work on a stable surface and a spill pan must be directly under the mixing point.
- d) At the Trades Center, herbicides and pesticides are to be mixed outside the Pesticide Room.
- e) Always mix only the minimum amount of fertilizers, herbicides or pesticides that will be needed for the immediate job.
- f) Fertilizers are mixed on location of where work is to be performed.

4) First Aid/Decontamination/Spills/HazMat

- a) A shower and eye wash station are available within the Pesticide Room for first aid treatment.
- b) Eye wash fluids shall be placed on vehicles that regularly transport pesticides, fertilizers, herbicides, etc. and/or be available at locations where regular mixing takes place.
- c) Spills should be cleaned immediately using proper PPE and available spill kit equipment.
- d) Per county policy, any liquid spill over 5 gallons is considered a Hazmat situation and Arlington County Fire Department (ACFD) should be called to respond.
- e) If possible, use rinse water from cleaning containers and application equipment as a dilution for the next batch.
- f) Sweep pavement where fertilizers or other solid chemicals have fallen. Report spills to supervisor.
- g) Residue collected from the shower and eye wash station shall be discarded in a toilet, sink or system attached to county's sanitary sewer lines. Pump out residue with the designated Wet Vac found in the room.

5) Disposal

- a) Always follow manufacturers' instructions for cleaning and disposal of containers and equipment.
- b) Do not pour leftover pesticides down the sink, into the toilet, down a sewer or street drain or directly in soil.
- c) If the container is empty, do not reuse it. Triple rinse the container and place it in the trash, unless the label specifies a different procedure.

In-house Training and competency requirements

Annually (suggested in the month of February) all commercial applicators and registered technicians will participate in a training session. The session will include:

- Reviewing this S.O.P.
- Sharing information regarding new products that may be used
- Sharing information on new equipment being used
- Review procedures for the Pesticide Room
- Discussion of "best practices"
- Review process in which we use Spill Kits

Associated documents and trainings

- Integrated Spill Prevention, Control and Countermeasure (SPCC) Plan & Hazardous Material Management Plan
- Stormwater Pollution Prevention Plan for Arlington Trades Center
- Annual DES SWPP Review training (usually held in November)
- Virginia Pesticide Laws & Regulations

Signs (Insert associated signage)

Posted signs for Pesticide Room:

1. Pesticide Room – Spill/Leak Safe Handling Procedures
2. Pesticide Room - Product Storage & Safe Handling Procedures

Appendix AR 10 – Summary of Illicit Discharges Identified in FY22

Date	Watershed	ID Description	Source / Reason for Release	Summary / Action Taken	ID Eliminated or No Longer Occurring
07/05/2021	Arlington Branch	Wash Water	Washing Activity	Contractor cleaning spray park filters directly into storm drain. Notice of Violation (NOV) issued to responsible party.	Yes
07/06/2021	Gulf Branch	Paint/Grout	Construction Activity	Private contractor washed out paint brushes in back yard. Wash water discharged to Gulf Branch. NOV issued.	Yes
07/08/2021	Four Mile Run - Middle Mainstem	Gasoline	Spill	Spill from a food truck left an oily sheen on the surface of a parking lot. ACFD personnel placed absorbent to cover the impacted area.	Yes
07/12/2021	Lubber Run	Sediment	Construction Activity	Report of sediment discharge to Lubber Run. Discharge traced back to active construction site on N Glebe Road	Yes
07/14/2021	Spout Run	Paint /Pigment	Spill	Unknown red substance spilled out of roll-off container when being picked up by hauler. Substance flowed into the storm drain system. Investigation by DES and ACFD. DEQ notified. Product did not reach surface waters. FM required cleanup of storm drain system.	Yes
07/16/2021	Lower Long Branch	Concrete/Asphalt	Construction Activity	Discharge of concrete wash water from an improperly constructed concrete wash out area to the storm drain system. NOV issued to responsible party.	Yes
07/17/2021	Gulf Branch	Paint	Washing Activity	ACFD dispatched for discolored water in Gulf Branch. Source was spilled paint that had been washed off street and entered storm drain. Fire Marshal followed up with residents.	Yes
07/19/2021	Rocky Run	Sediment	Pipe Break/Leak	Sediment discharge from water main break. Water main hit during service repair. WSS repaired line.	Yes
07/19/2021	Lubber Run	Sediment	Unknown	Sediment discharge from outfall to Lubber Run in Woodlawn Park. Drainage area investigation conducted. Source not identified.	Yes
07/23/2021	Rocky Run	Concrete/Asphalt	Construction Activity	Concrete discharge to MS4 from work associated with apron repair work. Concrete the storm drain system. No discharge to surface waters.	Yes
07/26/2021	Lubber Run	Sediment	Pipe Break/Leak	Water main break resulted in sediment-laden water discharging to storm drain system. WSS repaired main.	Yes
07/30/2021	Lubber Run	Paint/Grout	Unknown	Slug discharge of unknown white substance; discharge resembled latex paint wash water. Source not determined during drainage area investigation. ACFD dispatched, no hazards detected.	Yes
07/30/2021	Lubber Run	Sediment	Construction Activity	Sediment discharge to MS4 from activity at construction site. NOV issued to responsible party.	Yes
08/03/2021	Lubber Run	Sediment	Construction Activity	OSEM investigated report of sediment discharge to Lubber Run from the west outfall in Woodlawn Park. Traced back to construction site that had issues with dewatering filter controls. NOV issued to responsible party.	Yes
08/09/2021	Four Mile Run - Upper Mainstem	Sediment	Pipe Break/Leak	Report of sediment in Four Mile Run. Source of discharge determined to be associated with water main break in City of Falls Church.	Yes

Date	Watershed	ID Description	Source / Reason for Release	Summary / Action Taken	ID Eliminated or No Longer Occurring
08/10/2021	Spout Run	Chemical	Dumping	Roofing contractor disposed of acrylic elastomer / wash water into a storm drain on the property. Fire Marshal and DES-OSEM staff spoke with contractor about issue. NOV issued to responsible party.	Yes
08/15/2021	Arlington Branch	Sediment	Construction Activity	Report of contractor pumping out SFH construction excavation into street on with no filtering controls. Inspector followed up with builder about issue and need for additional ESC. NOV issued to responsible party.	Yes
08/16/2021	Lubber Run	Sediment	Construction Activity	Sediment discharge from construction site to RoW during significant rain event. Runoff overwhelmed IP and entered other drains on streets. Contractor cleaning up mud in RoW and replacing controls.	Yes
08/16/2021	Upper Long Branch	Sediment	Pipe Break/Leak	Sediment discharge associated with 20" water main break. Water main repaired.	Yes
08/17/2021	Spout Run	Dye	Other	ACFD responded to report of green colored water in Spout Run. No hazards were detected on chemical classifier strip. Substance appeared to be tracer dye. Source of dye not determined.	Yes
08/17/2021	Lubber Run	Sediment	Construction Activity	Sediment discharge from overwhelmed dewatering system at a construction site. Contractor pumping too much water, too quickly from the system. Inspector required corrective action. NOV issued to contractor.	Yes
08/23/2021	Roaches Run	Chemical	Construction Activity	Builder notified AC and DEQ of discharge of cleaner used to clean organic material from well point system to the dewatering system for the construction site. NOV warning issued to builder.	Yes
08/28/2021	Four Mile Run - Middle Mainstem	Other Vehicle Fluid	Spill / Release from Vehicle	Hydraulic line broke on dump truck releasing ~25 gallons to the ground. Estimated 2 gallons entered a storm drain. All product contained on ground and inside storm drain. Clean up conducted. DEQ notified.	Yes
08/31/2021	Roaches Run	Concrete/Asphalt	Construction Activity	Discharge of concrete and sediment to MS4 from construction activity. Inspector working with construction site superintendent on ESC/ SWPPP issues. NOVs issued to contractor.	Yes
09/02/2021	Spout Run	Other Vehicle Fluid	Washing Activity	Report of gas station employee washing down garage bay and runoff flowing off site and into the street. Staff spoke with personnel. NOV issued.	Yes
09/02/2021	Torreyson Run	Sediment	Construction Activity	FD dispatched for report of muddy water being pumped from a SFH construction site. Site was being pumped to prevent collapse of sides of excavation and tree falling. Construction inspector working with contractor on additional filtering controls.	Yes
09/04/2021	Fairlington / Bradlee	Runoff from vehicle fire	Vehicle Accident	Runoff from ACFD extinguishing a trash truck fire entered the storm drain system.	Yes
09/08/2021	Little Pimmit Run - East Branch	Sediment	Construction Activity	Discharge of pumped water from drilling excavation project at SFH to MS4 and Little Pimmit Run. NOV issued to responsible party. DEQ notified.	Yes

Date	Watershed	ID Description	Source / Reason for Release	Summary / Action Taken	ID Eliminated or No Longer Occurring
09/10/2021	Gulf Branch	Unusual Color	Unknown	Staff report of discolored water in stream. Appeared to be sediment slug. Source not determined. Discharge no longer active.	Yes
09/10/2021	Four Mile Run - Upper Mainstem 1	Sediment	Washing Activity	Resident power washed residual sediment in street to clean area. No controls used. Sediment discharge to MS4. NOV issued to responsible party.	Yes
09/10/2021	Lubber Run	Sediment	Construction Activity	Sediment discharge to Lubber Run. Investigation found that parking garage storm detention vault is compromised with sediment. Contractors are aware and working on cleaning out vault. NOV issued to responsible party.	Yes
09/23/2021	Lubber Run	Sediment	Construction Activity	No filtering controls used to dewater area around foundation resulting in sediment-laden water being discharged to MS4 and Lubber Run. NOV issued to contractor.	Yes
09/24/2021	Donaldson Run	Sediment	Unknown	Contractor working on Country reported a brief discharge of muddy water coming from a black corrugated pipe into the stream channel. The source of the discharge was not determined; may have been associated with pool draining.	Yes
09/25/2021	Roaches Run	Sediment, Wash Water	Washing Activity	Discharge of dirty water from power washing activity to the MS4. No controls in place. DES staff spoke with Supervisor. NOV issued to property management company.	Yes
09/29/2021	Torreyson Run	Sediment	Construction Activity	Contractor pumping muddy water from excavation at SFH construction site directly to the street with no filtering controls. Discharge reached storm drain. DES OSEM spoke to contractor. NOV issued to responsible party.	Yes
10/05/2021	Four Mile Run - Middle Mainstem	Oil	Leak from Vehicles	Report of leaking vehicle and motorcycle parked on street. Follow-up investigation conducted. Evidence of leaking vehicles and staining in right of way. Homeowner notified of matter and asked to address leaks. No evidence of discharge to storm drain.	Yes
10/08/2021	Colonial Village Branch	Wash Water	Washing Activity	Mobile vehicle detailing company washing car in ROW, wash water entered MS4. Company notified that activity is not permitted. NOV issued to responsible party.	Yes
10/12/2021	Nauck Branch	Wash Water	Washing Activity	Resident had washing machine connected to sump pump and was discharging gray water to the sidewalk and parking area with storm drain. Resident corrected the issue. Warning issued.	Yes
10/13/2021	Donaldson Run	Wash Water	Pipe Break/Leak	Discharge of chlorinated water from broken sanitary lateral to Donaldson Run.	Yes
10/14/2021	Rocky Run	Oil, Other Vehicle Fluid	Vehicle Accident	Vehicular accident resulted in release of vehicle fluids (oil, transmission, and gasoline) to the roadway and storm drain. Product contained inside storm drain vault. FD put down absorbent material on roadway - pads placed inside drain.	Yes
10/18/2021	Arlington Branch	Concrete/Asphalt	Construction Activity	Discharge of slurry from saw cutting operations in the right of way. OSEM spoke with contractor. NOV issued to responsible party.	Yes

Date	Watershed	ID Description	Source / Reason for Release	Summary / Action Taken	ID Eliminated or No Longer Occurring
10/23/2021	Lubber Run	Concrete/Asphalt, Sediment	Unknown	Resident reported gray / brown discolored water flowing out of west outfall to Lubber Run. Source of episodic discharge not determined.	Yes
10/27/2021	Lubber Run	Concrete/Asphalt	Unknown	Resident reported gray discolored water flowing out of west outfall to Lubber Run. Source of episodic discharge not determined. Source may be associated with construction activity in area.	Yes
11/03/2021	Four Mile Run - Middle Mainstem	Chemical	Spill	Tank valve failed to hold, and product overflowed out of containment tray. Product reached MS4 and FMR resulting in a fish kill. WSS and contractor cleaned site. DEQ notified IR#301424.	Yes
11/08/2021	Donaldson Run	Paint/Grout, Wash Water	Construction Activity	Report of cloudy water in Donaldson Run. Upon investigation staff found white paint wash water draining to curb from contractor washing out brushes. NOV issued to responsible party.	Yes
11/09/2021	Colonial Village Branch	Sediment	Construction Activity	Discharge of sediment / muddy water to the ROW and MS4 from dewatering operations at a SFH construction site. Contractor notified and NOV issued to responsible party.	Yes
11/10/2021	Lubber Run	Sediment, Unusual Color	Washing Activity	Report of gray discolored water entering Lubber Run from west outfall. Drainage area investigation did not reveal the source of the transient discharge.	Yes
11/16/2021	Spout Run	Concrete/Asphalt	Construction Activity	Contractor conducting saw cutting in right of way. No controls in place to contain slurry / wash water. DES staff stopped work until controls were on site. NOV issued to responsible party.	Yes
11/18/2021	Four Mile Run - Middle Mainstem	Concrete/Asphalt	Construction Activity	Discharge of saw cut slurry / wash water to MS4 and FMR. OSEM investigated and spoke with contractor. NOV issued to responsible party.	Yes
11/23/2021	Arlington Branch	Sediment	Construction Activity	Complaint of red brick dust from brick cutting in street/gutter. Product did not enter storm drain. Contractor cleaned up dust immediately.	Yes
11/23/2021	Lubber Run	Sediment	Construction Activity	Resident report of sediment discharge to Lubber Run. Source of transient discharge not identified.	Yes
11/29/2021	Lubber Run	Sediment	Construction Activity	Muddy water got into a stormwater detention system, which discharged to the MS4 and Lubber Run. Contractor notified about issue and NOV issued to responsible party.	Yes
12/02/2021	Donaldson Run	Sediment	Construction Activity	Report of sediment / cloudy water in stream. Hose came loose on dewatering bag being used as part of the pump around system for the restoration work - water poured over exposed slope. Hose immediately reattached, straw added, and issue resolved.	Yes
12/03/2021	Donaldson Run	Sediment	Construction Activity	Report of discolored water coming from an outfall to Donaldson Run. Source of sediment discharge associated with water main maintenance work. Contractor notified about issue.	Yes
12/06/2021	Colonial Village Branch	Concrete/Asphalt	Construction Activity	Discharge of slurry from saw cutting activity associated with SFH construction site. No controls on site. Work stopped. DES staff spoke with contractor about issue. NOV issued to contractor.	Yes

Date	Watershed	ID Description	Source / Reason for Release	Summary / Action Taken	ID Eliminated or No Longer Occurring
12/07/2021	Four Mile Run - Lower Mainstem	Sewage	Pipe Break/Leak	DES identified a discharge resulting from a leaking private sanitary lateral. Sewage leaking through manhole in sidewalk. DES notified company to address the issue. Discharge entered right of way, but not to a storm drain. DEQ notified. Repair to lateral made by plumber.	Yes
12/13/2021	Lubber Run	Concrete/Asphalt	Construction Activity	Report of staining in road leading to storm drain. Follow-up investigation determined source was concrete / stone cutting wash water in the road associated with work for a new residential driveway.	Yes
12/21/2021	Lubber Run	Sediment	Unknown	Sediment discharge to Lubber Run. Source of transient discharge not identified.	Yes
12/30/2021	Spout Run	Paint/Grout	Unknown	ACFD investigated report of unknown white, milky discoloration in Spout Run. No hazards detected. Drainage area investigation did not reveal the source of discharge. DEQ notified.	Yes
12/31/2021	Roaches Run	Concrete/Asphalt	Construction Activity	Report of discharge of concrete slurry from SFH construction site to right of way. NOV issued to contractor.	Yes
01/06/2022	Lubber Run	Sediment	Pipe Break/Leak	Sediment observed in Lubber Run in Woodlawn Park and downstream through Ballston Pond. WSS confirmed a water main break occurred in drainage area. Main repaired.	Yes
01/12/2022	Little Pimmit Run - West Branch	Sediment	Construction Activity	Sediment discharge from SFH construction site to right of way, MS4, and bioretention area resulting from lack of ESC. Construction inspector stopped work. NOV issued to responsible party.	Yes
01/20/2022	Doctor's Branch	Wash Water	Washing Activity	Report of private vacuum truck draining tank directly into the storm drain. OSEM spoke to company about this incident. NOV warning issued to responsible party.	Yes
01/21/2022	Four Mile Run - Upper Mainstem 2	Sediment	Pipe Break/Leak	ACFD dispatched for report of discolored water in Four Mile Run. Source of discoloration was sediment runoff from a water main break in the drainage area. No hazards detected.	Yes
01/23/2022	Lubber Run	Sediment	Unknown	Sediment discharge from east outfall to Lubber Run. A drainage area investigation was conducted. The source of the observed sediment was not determined. Discharge no longer occurring at time of investigation.	Yes
01/23/2022	Four Mile Run - Upper Mainstem 1	Sediment	Pipe Break/Leak	Sediment discharge to MS4 resulting from an 8" water main break. WSS repaired main and cleaned roadway.	Yes
01/25/2022	Doctor's Branch	Sediment	Construction Activity	Contractor has insufficient onsite ESC. Sediment entering the storm drain system via the alley behind the property. Sediment accumulating in the gravel and around the grate inlet during or after a significant rain. Contractor cleaned area and installed additional controls.	Yes
01/27/2022	Lubber Run	Sediment	Construction Activity	Contractor working on water main replacement opened hydrant and discharge washed sediment on roadway around excavation area into the storm drain system. No IP in place.	Yes
01/28/2022	Lubber Run	Sediment	Unknown	Report of sediment discharge from outfall to Lubber Run. Drainage area investigation conducted. Source of transient discharge not determined.	Yes

Date	Watershed	ID Description	Source / Reason for Release	Summary / Action Taken	ID Eliminated or No Longer Occurring
01/28/2022	Lubber Run	Sediment	Construction Activity	Report of SFH renovation construction with no ESC. Sediment washing off project site into nearby storm drain. NOV issued to responsible party.	Yes
02/01/2022	Spout Run	Sediment	Construction Activity	Discharge of muddy water from dewatering system at a construction site to the storm drain system. Construction inspector stopped the pumping operation. System was reconfigured and issue resolved by contractor.	Yes
02/02/2022	Four Mile Run - Lower Mainstem	Sewage	Overflow	Sewage release from private sanitary lateral to ROW. Property owner notified and instructed to address the issue. DEQ notified. Pollution Report #302896	Yes
02/02/2022	Four Mile Run - Lower Mainstem	Sewage	Dumping	Discharge of sewage and food waste from private establishment to the street and storm drain system. Discharge stopped. NOV issued to owner. HD and DEQ notified. IR#302894	Yes
02/07/2022	Lubber Run	Sediment	Construction Activity	Sediment discharge to storm drain system and Lubber Run associated with 6" water main break and subsequent repair.	Yes
02/08/2022	Donaldson Run	Sediment	Pipe Break/Leak	Newly installed 24" water main broke during pressure test resulting in sediment-laden water flowing into the street, storm drain, and Donaldson Run Tributary B.	Yes
02/09/2022	Four Mile Run - Upper Mainstem 2	Paint/Grout	Unknown	Resident report of white discolored water in FMR tributary. Observed by resident on 2/09/22 but not reported until 2/19/22. Based on photos, discoloration resembled possible paint wash water. Transient source not identified.	Yes
02/11/2022	Four Mile Run - Upper Mainstem 2	Sediment	Pipe Break/Leak	Sediment discharge to Four Mile Run associated with a water main break in Fairfax County entering MS4 in Arlington along Wilson Blvd. Fairfax Water notified and working on repair.	Yes
02/11/2022	Spout Run	Sewage	Pipe Break/Leak	Discharge of sewage to the right of way associated with release from broken private lateral. DEQ notified IR#303121. Plumber made repairs.	Yes
02/15/2022	Lubber Run	Sediment	Construction Activity	Resident reported sediment in East outfall of Lubber Run park. Sediment discharge from dewatering operations at SFH construction site. NOV issued.	Yes
02/19/2022	Four Mile Run - Upper Mainstem 2	Sediment	Pipe Break/Leak	Sediment discharge associated from runoff from 6" water main break on 800 block of N Harrison Street. WSS crew repaired line. Discharge ceased.	Yes
02/26/2022	Four Mile Run - Upper Mainstem 2	Paint/Grout	Washing Activity	Report of milky white discolored water in Four Mile Run. Drainage area investigation did not determine source of episodic discharge. Discharge resembled paint wash water runoff.	Yes
03/01/2022	Lubber Run	Sediment	Unknown	Report of sediment in several sections of Lubber Run and FMR. Drainage area investigation did not find all sources. Source possibly associated with dewatering operations and pump around at construction site.	Yes

Date	Watershed	ID Description	Source / Reason for Release	Summary / Action Taken	ID Eliminated or No Longer Occurring
03/10/2022	Four Mile Run - Lower Mainstem	Sediment	Construction Activity	Discharge of sediment-laden water from dewatering operations to MS4. Dewatering filter bag overwhelmed and overflowed; discharge left site and entered roadway and nearby storm drain. Site inspector notified. NOV issued to responsible party.	Yes
03/17/2022	Spout Run	Other - finishing pellets	Construction Activity	Release of Sto Fine Sand DPR Finish (pellets) from construction site to adjacent properties and MS4. Excess product blown and washed off site. Contractor notified and instructed to clean up product. NOV issued to responsible party and clean-up required. DEQ notified IR#303718	Yes
03/18/2022	Lubber Run	Sediment	Unknown	Report of sediment / turbid water in Lubber Run. Follow-up investigation did not determine a source. Possibly related to bypass from upstream pond project following heavy rain event the previous day.	Yes
03/21/2022	Gulf Branch	Concrete/Asphalt	Construction Activity	Discharge of saw cut slurry / wash water associated with sanitary sewer work on Military Rd to storm drain system and Gulf Branch. Contractor notified and cleaning up residual material along curb line. NOV issued. DEQ notified IR#303805	Yes
03/25/2022	Lubber Run	Sediment	Construction Activity	Report of heavy sediment in Lubber Run. Investigation revealed that dewatering occurred at SFH construction site. No controls used despite a dewatering tank and new sediment bag on site. NOV issued to responsible party.	Yes
03/28/2022	Four Mile Run - Lower Mainstem	Sediment	Construction Activity	Report of sediment-laden water being pumped directly to a storm drain. Inadequate filtering controls used during dewatering operations at a construction site. Inspector notified contractor and stopped pumping. NOV issued to contractor.	Yes
03/30/2022	Little Pimmit Run - East Branch	Sewage	Sanitary overflow	OSEM staff observed sanitary flow to County storm drain from broken cleanout cap on sewer lateral. Sewer pipe appears to be blocked. DEQ notified #IR303922	Yes
03/30/2022	Little Pimmit Run - East Branch	Sediment	Washing Activity	OSEM staff observed muddy water draining from rear parking lot. Employee at a business was cleaning equipment in parking lot. NOV issued to responsible party.	Yes
03/31/2022	Gulf Branch	Sediment	Unknown	Report of turbid water coming from outfall to tributary of Gulf Branch. Discharge resembled sediment. Source of turbidity not identified. Discharge was transient and no longer occurring.	Yes
04/04/2022	Windy Run	Paint/Grout	Washing Activity	ACFD dispatched to investigate report of cloudy/white water in stream. Discharge resembled latex paint wash water. FD notified VDEM; DEQ notified, IR# 303995. OSEM conducted follow-up investigation, source not identified. Discharge no longer occurring	Yes
04/11/2022	Four Mile Run - Lower Mainstem	Sediment	Construction Activity	Sediment discharge from construction site associated with inadequate filtering control for dewatering operation. Contractor notified about issue. NTC issued.	Yes

Date	Watershed	ID Description	Source / Reason for Release	Summary / Action Taken	ID Eliminated or No Longer Occurring
04/11/2022	Four Mile Run - Lower Mainstem	Sediment	Construction Activity	Discharge of turbid water from dewatering operations at a construction site to the storm drain system. Staff provided instruction on proper set up and filtering controls. NTC issued to contractor	Yes
04/12/2022	Lubber Run	Sediment	Construction Activity	Sediment discharge to the MS4 and Lubber Run from SFH construction site. Contractor notified / NTC issued.	Yes
04/16/2022	Colonial Village Branch	Foam/Suds, Wash Water	Washing Activity	Staff witnessed soapy water discharge coming from pressure washing activity in outdoor seating area of restaurant.	Yes
04/20/2022	Lubber Run	Sediment	Unknown	Resident report of sediment discharge to Lubber Run. Source of transient discharge not identified.	Yes
05/06/2022	Crossman Run	Concrete/Asphalt, Other Vehicle Fluid	Construction Activity	Resident report of VDOT paving equipment leaking and leaving oil residue on street and curb. VDOT notified and issue addressed.	Yes
05/13/2022	Four Mile Run - Lower Mainstem	Chlorine	Leak	Leak from damaged underground pipe connected to sump in containment area in storage building resulted in a release of hypochlorite to storm drain system and Four Mile Run. Release caused a fish kill. DEQ notified.	Yes
05/17/2022	Four Mile Run - Lower Mainstem	Sewage	Sanitary overflow	Sanitary overflow via MH from blocked private sanitary lateral. Discharge to sidewalk and right of way. Responsible party notified and plumber cleared blockage in lateral.	Yes
05/20/2022	Lubber Run	Concrete/Asphalt, Sediment	Construction Activity	Report of cloudy water coming from outfall to Lubber Run. Follow-up investigation tracked the source to a SHF with inadequate E&S controls. Construction inspector notified and NTC issued.	Yes
05/21/2022	Windy Run	Sewage	Construction Activity	Release of sewage from a sanitary main. Utility contractor conducting horizontal boring hit and broke main. Main repaired. DEQ notified.	Yes
05/23/2022	Bailey's Branch	Mineral oil	Storm / Accident	Small release of non-PCB mineral oil from power line transformer due to storm damage that brought trees down on power lines. Product contained in storm drain system. Dominion Power cleaned up area. No discharge to surface water was observed.	Yes
05/23/2022	Cemetery / Pentagon (Potomac River)	Sediment	Construction Activity	Sediment discharge from federal project site associated with the Arlington Cemetery expansion along Columbia Pike. DEQ notified.	Yes
05/23/2022	Spout Run	Sediment	Construction Activity	Sediment laden water pumped to street and storm drain from construction site. NOV issued to responsible party.	Yes
05/25/2022	Lower Long Branch	Gasoline	Washing Activity	ACFD responded to individual washing gas tank in right of way. Wash water entered a storm drain. NOV issued to responsible party.	Yes
05/26/2022	Roaches Run	Sediment	Construction Activity	Sediment discharge from construction site to neighboring property and County MS4. NOV issued to responsible party.	Yes
06/02/2022	Four Mile Run - Upper Mainstem 2	Stone dust	Construction Activity	Contractor conducting stone cutting and runoff stone dust slurry drained to nearby catch basin. NOV issued to responsible party.	Yes
06/03/2022	Lubber Run	Sediment	Construction Activity	Sediment discharge to Lubber Run. Dewatering being conducted with no filtering controls. Runoff discharged to MS4. Responsible party notified. NOV to be issued to responsible party.	Yes

Date	Watershed	ID Description	Source / Reason for Release	Summary / Action Taken	ID Eliminated or No Longer Occurring
06/04/2022	Lubber Run	Potable Water	Pipe Break/Leak	Tree company trimming trees in park. A large limb dropped on top of an exposed 12" water main, cracking the pipe. Discharge stopped after 1 hour. DEQ notified. IR#305078	Yes
06/05/2022	Four Mile Run - Upper Mainstem 2	Sewage	Overflow	SSO caused by grease blockage in 10" main. WSS cleared blockage and stopped discharge. Additional CCTV inspection conducted. DEQ notified. IR#305083	Yes
06/06/2022	Lubber Run	Sediment	Unknown	Reported sediment discharge from outfall to Lubber Run k. Drainage area investigation conducted. Source of transient not identified.	Yes
06/07/2022	Donaldson Run	Sediment	Construction Activity	Construction company dewatering at SFH construction site. Personnel discharged water over a retaining wall onto an exposed slope causing erosion and sediment discharge downhill to Donaldson Run Tributary B. NOV issued to responsible party.	Yes
06/07/2022	Lubber Run	Sediment	Construction Activity	Sediment discharge from SFH excavation. Controls not properly implemented. Sediment-laden water ran off into RoW and storm drain system. County staff spoke with onsite personnel about issue and how to use controls.	Yes
06/10/2022	Four Mile Run - Upper stem	Sediment	Construction Activity	Sediment tracked into ROW from land disturbance associated with landscaping work at SFD. Discharge from sump pump washing sediment into storm drain. NOV issued to responsible party.	Yes
06/15/2022	Arlington Branch	Other Vehicle Fluid	Spill	Hydraulic fluid release from ART Bus to roadway. Small amount of product entered a storm drain. Product did not go far in system and did not reach surface waters. Personnel cleaned up spill.	Yes
06/16/2022	Windy Run	Sewage	Overflow	Discharge of sewage from damaged sanitary force main to parking area and Windy Run. DEQ notified.	Yes
06/20/2022	Four Mile Run - Upper Mainstem 1	Concrete/Asphalt	Dumping	Contractor disposed of concrete slurry into storm drains on street. ACFD dispatched. NOV issued to responsible party.	Yes
06/22/2022	Windy Run	Sediment	Construction Activity	Exposed soil on a slope adjacent to building was washed into the parking lot during a thunderstorm. Area was exposed as a result of foundation waterproofing work being done. Contractor then washed mud off parking lot. Muddy water flowed down slope and into a storm drain.	Yes
06/22/2022	Spout Run	Sewage	Overflow	SSO from manhole caused by blockage of grease and wipes in pipe. WSS cleared blockage and stopped overflow. DEQ notified IR#305364	Yes
06/30/2022	Spout Run	Concrete/Asphalt	Construction Activity	Discharge of slurry from saw cutting operations in the right-of-way by contractor. OSEM spoke with staff on site. NOV issued to responsible party. DEQ notified IR#305446.	Yes

Appendix AR11 List of Permitted IHRR Facilities in FY22

Permit Number	Facility	Permit Type	Discharge Activity / Type
VAG110087	Virginia Concrete Company Inc.	Concrete SWGP	Surface discharges from plant
VAR051097	WMATA – Four Mile Run Bus Garage	Industrial SWGP	Discharge waiver
VAR051296	US Army – Joint Base Myer Henderson Hall**	Industrial SWGP / MS4 Permit	Surface discharges from MS4
VAR051421	Arlington County Water Pollution Control Facility	Industrial SWGP	Surface discharges from plant
VAR051790	US NPS – George Washington Memorial Pkwy Maintenance**	Industrial SWGP / MS4 Permit	Discharge waiver
VA0032000	US Department of Defense – Pentagon	Individual Industrial	Discharges from plant
VA008976	The Nature Conservancy	Individual Industrial	Long term groundwater discharge (treatment system in place)
VAG750208	Avis Rental Car	Car Wash GP	Episodic outdoor washing
VAG750207	Enterprise Shirlington	Car Wash GP	Frequent outdoor washing
VAG830321	Avalon at Arlington	Petroleum GP	Long term groundwater discharge (treatment system in place)
VAG830340	1812 Holdings LLC, 1812 N Moore St.	Petroleum GP	Long term groundwater discharge (treatment system in place)
VAG830569	Fillmore Shopping Center	Petroleum GP	Associated with active construction site
VAG830559	Met678 National Landing Amazon	Petroleum GP	Associated with active construction site
VAG830560	1900 Crystal Drive Towers	Petroleum GP	Associated with active construction site

**Facility does not discharge or have a point of connection to Arlington County's MS4.

Appendix AR12 Summary of FY22 IHRR Inspections (Commercial Facilities)

Facility	Street #	Street	Inspection Date	Evidence of ID ?	Follow-up Needed?	Correspondence Sent / Referral to other office	Issue(s) resolved
Joyce Motors	3201, 3211	10th Street N	06/13/2022	Yes	Yes	Yes	Yes
Jim's Automotive	4961	10th Street S	06/10/2022	Yes	Yes	Yes	Yes
Avis	3206	10th Street N	06/13/2022	Yes	Yes	Yes	Yes
Arlington Forest Shopping Center	4801-4831	1st Street N	03/21/2021	Yes	Yes	Yes	Yes
Royal Pawn	507	23rd Street S	11/18/2021	No	No	N/A	N/A
Taj of India	509	23rd Street S	11/18/2021	No	No	N/A	N/A
Los Tios	513	23rd Street S	11/18/2021	No	Yes	Yes	Yes
Federico Ristorante Italia	519	23rd Street S	11/18/2021	No	Yes	Yes	Yes
Top Thai	523	23rd Street S	11/18/2021	No	Yes	Yes	Yes
Andalusia	525	23rd Street S	11/18/2021	No	Yes	Yes	Yes
Crystal City Sports Pub	529	23rd Street S	11/18/2021	No	No	N/A	N/A
Bob and Edith's Diner	539	23rd Street S	11/18/2021	No	No	N/A	N/A
23rd St S / S Eads St Alley (Young Chow, CC Restaurant, Kabob Palace)	420 / 2315	23rd Street S / S Eads Street	03/02/2022	Yes	Yes	Yes	On-going
2325-2333 Shawarma XPress Strip	2325-2333	S Eads Street	03/02/2022	No	No	N/A	N/A
First Choice Auto Body Flemings	525	31st Street S	03/02/2022	No	No	N/A	N/A
C&G Auto Body	3912	5th Road N	05/19/2022	No	No	N/A	N/A
Shirlington Village (Alley)	4028	Campbell Avenue	05/19/2022	No	No	N/A	N/A
Shirlington Village (Alley)	4251	Campbell Avenue	05/19/2022	No	No	N/A	N/A
Arlington Village Center	2500-2530	Columbia Pike	04/29/2022	No	No	N/A	N/A
Columbia Pike Retail	2601-2619	Columbia Pike	04/29/2022	No	No	N/A	N/A
Arlington Heights Property	4101-4113	Columbia Pike	04/29/2022	No	No	N/A	N/A

Facility	Street #	Street	Inspection Date	Evidence of ID ?	Follow-up Needed?	Correspondence Sent / Referral to other office	Issue(s) resolved
Columbia Pike Plaza	5027	Columbia Pike	04/29/2022	No	No	N/A	N/A
Carters BP Station/Car Wash	4625	Columbia Pike	04/29/2022	No	No	N/A	N/A
Gelman Arlington Shopping Center	3013	Columbia Pike	04/21/2022	Yes	Yes	Yes	Yes
3203 Alley	3203	Columbia Pike	04/14/2022	No	No	N/A	N/A
Eska	3111	Columbia Pike	04/14/2022	No	No	N/A	N/A
Sheldon Croft	3201	Columbia Pike	04/14/2022	No	No	N/A	N/A
PHO Harmony and Grill	3203	Columbia Pike	04/14/2022	No	No	N/A	N/A
City Kabob and Curry House	3205	Columbia Pike	04/14/2022	No	No	N/A	N/A
Panda Bowl	3207	Columbia Pike	04/14/2022	No	No	N/A	N/A
Good Fortune Chinese Restaurant	3209	Columbia Pike	04/14/2022	No	No	N/A	N/A
Bangkok 54	2927	Columbia Pike	04/21/2022	No	No	N/A	N/A
Boru Ramen	2915	Columbia Pike	04/21/2022	No	No	N/A	N/A
Citgo	2324	Columbia Pike	04/21/2022	No	No	N/A	N/A
Barcroft Plaza	4801-4821	Columbia Pike	04/21/2022	No	Yes	Yes	Yes
Burger King	3627	Columbia Pike	04/29/2022	No	No	N/A	N/A
Marlen Perfume (food truck depot)	3533	Columbia Pike	04/29/2022	No	No	N/A	N/A
The Broiler	3601	Columbia Pike	04/29/2022	No	No	N/A	N/A
Metro Motor Liberty	2300	Columbia Pike	04/29/2022	No	No	N/A	N/A
Shell Gas Station	3100	Columbia Pike	04/14/2022	No	No	N/A	N/A
Audi Arlington	3200	Columbia Pike	04/14/2022	No	No	N/A	N/A
Arlington Auto Group	3621	Columbia Pike	04/29/2022	No	No	N/A	N/A
Eagle Automotive	3700	Columbia Pike	04/29/2022	No	No	N/A	N/A
Liberty Gas Station	4211	Columbia Pike	04/29/2022	No	Yes	Yes	Yes
Auto Plus	4601	Columbia Pike	04/29/2022	No	No	N/A	N/A
Sunoco /Arlington Auto Service Gas	5200	Columbia Pike	04/29/2022	No	No	N/A	N/A
Exxon	2410	Langston Blvd	05/11/2022	No	No	N/A	N/A

Facility	Street #	Street	Inspection Date	Evidence of ID ?	Follow-up Needed?	Correspondence Sent / Referral to other office	Issue(s) resolved
Reinhart's Garage	3203	Langston Blvd	05/11/2022	No	No	N/A	N/A
Shell Gas Station	3332	Langston Blvd	05/11/2022	No	No	N/A	N/A
Cherrydale Motors	3412	Langston Blvd	05/11/2022	No	No	N/A	N/A
Liberty Gas Station	4019	Langston Blvd	03/30/2022	No	No	N/A	N/A
Exxon Gas Station	4035	Langston Blvd	03/30/2022	No	No	N/A	N/A
Exxon Gas Station	4746	Langston Blvd	03/11/2022	No	No	N/A	N/A
NTB	4801	Langston Blvd	03/11/2022	No	Yes	Yes	Yes
Japanese Auto Care	4831	Langston Blvd	03/11/2022	No	No	N/A	N/A
Sunoco Gas Station	5501	Langston Blvd	03/11/2022	No	No	N/A	N/A
BP Gas Station	5601	Langston Blvd	03/11/2022	No	Yes	Yes	Yes
Liberty Gas Station	5618	Langston Blvd	03/11/2022	No	Yes	Yes	Yes
Shell Gas Station	5630	Langston Blvd	03/11/2022	No	No	N/A	N/A
7-11/Exxon Gas Station	6730	Langston Blvd	05/12/2022	No	No	N/A	N/A
Midas	6730A	Langston Blvd	05/12/2022	No	No	N/A	N/A
Lee Hwy Plaza	5701-5731	Langston Blvd	03/30/2022	No	No	N/A	N/A
Garden City Shopping Center	5117-5183	Langston Blvd	03/30/2022	No	Yes - Trash	Yes	Yes
Advanced Auto Parts	5404	Langston Blvd	03/30/2022	No	No	N/A	N/A
Arlington Kabob Strip	5036-5046	Langston Blvd	03/30/2022	Yes	Yes	Yes	Yes
Bob & Edith's Diner	5050	Langston Blvd	03/30/2022	No	Yes - housekeeping	Yes	Yes
Mr. Tire	5200	Langston Blvd	03/30/2022	No	No	N/A	N/A
Koons Arlington Toyota/D&P	4045	Cherry Hill Rd	03/30/2022	Yes	Yes	Yes	Yes
Cherrydale Properties	3901-3911	Langston Blvd	05/11/2022	No	No	N/A	N/A
Burger 7	2515	Langston Blvd	05/11/2022	Yes	Yes	Yes	Yes
C&P Automotive	6917	Langston Blvd	05/11/2022	No	No	N/A	N/A
Buckingham Shopping Center 2	301-319	N Glebe Road	06/14/2022	Yes	Yes	Yes	Yes
Shell Gas Station	2240	N Glebe Road	05/19/2022	No	No	N/A	N/A
Liberty Gas / Auto Center	67	N Glebe Road	03/21/2022	No	No	N/A	N/A

Facility	Street #	Street	Inspection Date	Evidence of ID ?	Follow-up Needed?	Correspondence Sent / Referral to other office	Issue(s) resolved
Enterprise	720	N Glebe Road	03/21/2022	No	No	N/A	N/A
Lee Harrison Shopping Center	2425	N Harrison Street	05/19/2022	No	No	N/A	N/A
Gyu-Kaku Japanese BBQ	1119	N Hudson St	06/13/2022	No	No	N/A	N/A
Buckingham Shopping Center 1	4235	N Pershing Drive	06/13/2022	No	No	N/A	N/A
Liberty Pershing Metro Motor	2717	N Pershing Drive	06/13/2022	No	No	N/A	N/A
Williamsburg Shopping Center 2	2914	N Sycamore Street	06/13/2022	No	No	N/A	N/A
Exxon Gas Station	2300	Richmond Hwy	03/02/2022	No	No	N/A	N/A
Porsche of Arlington	3100	Richmond Hwy	06/10/2022	No	No	N/A	N/A
Enterprise Shirlington	2778	S Arlington Mill Drive	04/08/2022	No	No	N/A	N/A
S Barcroft complex	4120-4162	S Four Mile Run Drive	03/03/2022	No	No	N/A	N/A
7 11 / Mobil	4154	S Four Mile Run Drive	03/03/2022	No	No	N/A	N/A
Jiffy Lube #3151	4148	S Four Mile Run Drive, B	03/03/2022	No	No	N/A	N/A
Mr. Tire	4160	S Four Mile Run Drive	03/03/2022	No	No	N/A	N/A
Car Spa	3846	S Four Mile Run Drive	04/27/2022	No	No	N/A	N/A
Brothers Garage	3850	S Four Mile Run Drive	04/27/2022	No	No	N/A	N/A
Auto America Service	3860	S Four Mile Run Drive	04/27/2022	No	No	N/A	N/A
BP Gas Station	4050	S Four Mile Run Drive	04/28/2022	No	No	N/A	N/A
Shell Gas Station	4060	S Four Mile Run Drive	04/28/2022	No	No	N/A	N/A
Caliber Collision Center	4068	S Four Mile Run Drive	04/28/2022	No	No	N/A	N/A
Caliber Collision Center	4072	S Four Mile Run Drive	04/28/2022	No	No	N/A	N/A
J&F Motors	4076	S Four Mile Run Drive	04/28/2022	No	No	N/A	N/A
Arlington Collision Center	3840	S Four Mile Run Drive	04/27/2022	No	No	N/A	N/A
Auto Stop	3808	S Four Mile Run Drive	04/27/2022	No	No	N/A	N/A
Advanced Auto Sales	3800A	S Four Mile Run Drive	04/27/2022	No	No	N/A	N/A
Automotive Express	3800B	S Four Mile Run Drive	04/27/2022	No	No	N/A	N/A
M&R Motors	3800C	S Four Mile Run Drive	04/27/2022	No	No	N/A	N/A

Facility	Street #	Street	Inspection Date	Evidence of ID ?	Follow-up Needed?	Correspondence Sent / Referral to other office	Issue(s) resolved
Ceramic Shield	3800D	S Four Mile Run Drive	04/27/2022	No	No	N/A	N/A
4 Mile Run Used Tires	3800E	S Four Mile Run Drive	04/27/2022	No	No	N/A	N/A
E&D International Auto Repair	3800F	S Four Mile Run Drive	04/27/2022	No	No	N/A	N/A
Arlington Ridge Shopping Center	2925-2955	S Glebe Road	03/02/2022	No	No	N/A	N/A
Giant Food	2901	S Glebe Road	03/02/2022	No	No	N/A	N/A
Arna Valley Exxon Gas Station	2720	S Glebe Road	03/02/2022	No	No	N/A	N/A
Exxon Gas Station	1001	S Glebe Road	04/14/2022	No	No	N/A	N/A
Midas	1001	S Glebe Road	04/14/2022	No	No	N/A	N/A
7-11	201	S Glebe Road	06/10/2022	No	No	N/A	N/A
Town Car Repair	301	S Glebe Road	06/10/2022	No	No	N/A	N/A
All American Motors	918	S Monroe Street	04/29/2022	No	No	N/A	N/A
Automotive Express	2705	S Oakland Street	04/27/2022	No	No	N/A	N/A
The Muddy Mutt	2603A	S Oxford Street	04/27/2022	Yes	Yes	Yes	Yes
Shirlington Shell	2817	S Quincy Street	05/19/2022	No	No	N/A	N/A
Collision Veteran Accident Repair	2609	Shirlington Road	05/12/2022	Yes	Yes	Yes	Yes
Auto America Service	2611	Shirlington Road	05/12/2022	Yes	Yes	Yes	Yes
Exxon	2316	Shirlington Road	05/12/2022	No	No	N/A	N/A
Arlington Auto Sale (Capitol Auto Land)	2427	Shirlington Road	05/12/2022	No	No	N/A	N/A
Ashu Auto Repair	2515	Shirlington Road, A	05/12/2022	No	No	N/A	N/A
Fine Line Auto	2515	Shirlington Road, B	05/12/2022	No	No	N/A	N/A
Foreign Car Service Center	2758	Washington Blvd	03/15/2022	Yes	Yes	Yes	Yes
Shell Gas Station	2835	Washington Blvd	03/15/2022	No	Yes	Yes	Yes
Baird Automotive	3427	Washington Blvd	03/15/2022	Yes	Yes	Yes	Yes
Pham's Auto	3435	Washington Blvd	03/15/2022	Yes	Yes	Yes	Yes
Japanese Auto	4530	Washington Blvd	03/15/2022	No	No	N/A	N/A
Sunoco Gas Station	4601	Washington Blvd	03/15/2022	No	No	N/A	N/A

Facility	Street #	Street	Inspection Date	Evidence of ID ?	Follow-up Needed?	Correspondence Sent / Referral to other office	Issue(s) resolved
H&R Auto	2824, 2825	Washington Blvd	03/15/2022	Yes	Yes	Yes	Yes
Westover Village Shopping Center	5839-5863	Washington Blvd	05/10/2022	No	No	N/A	N/A
Westover Village Shops	5866-5880	Washington Blvd	05/10/2022	Yes	Yes	Yes	Yes
Liberty	5201	Wilson Blvd	03/21/2022	No	No	N/A	N/A
Colonial Village Shopping Center	1711-1737	Wilson Blvd	05/10/2022	Yes	Yes	Yes	Yes
2039-2057 Wilson Blvd	2039	Wilson Blvd	05/10/2022	Yes	Yes	Yes	Yes
Don Tito's	3165	Wilson Blvd	05/10/2022	Yes	Yes	Yes	Yes
Spider Kelley's	3181	Wilson Blvd	05/10/2022	Yes	Yes	Yes	Yes
Wilson Blvd strip alleys	3125-3141	Wilson Blvd	05/10/2022	No	No	N/A	N/A
Liberty Tavern	3195	Wilson Blvd	05/10/2022	No	No	N/A	N/A
Mario's Pizza / Carvel	3322	Wilson Blvd	03/21/2022	No	No	N/A	N/A
All About Burger	3325	Wilson Blvd	03/21/2022	No	No	N/A	N/A
Exxon Gas Station	1824	Wilson Blvd	05/10/2022	No	No	N/A	N/A
T&J Auto Body / Mr. Tires	3237	Wilson Blvd	05/10/2022	No	No	N/A	N/A
Goodyear Arlington Auto Care	3298	Wilson Blvd	03/21/2022	No	No	N/A	N/A
LA MOTO	3298	Wilson Blvd	05/10/2022	Yes	Yes	Yes	Yes
Speedway Gas Station	3299	Wilson Blvd	05/10/2022	No	No	N/A	N/A
Japanese Auto Service	3413	Wilson Blvd	05/10/2022	No	No	N/A	N/A
Arlington Auto Clinic Exxon	5000	Wilson Blvd	03/21/2022	No	No	N/A	N/A
Sure Fit	3298	Wilson Blvd, B	05/10/2022	No	No	N/A	N/A

Appendix AR13: Public Education and Participation

Arlington County conducts education and outreach activities for a comprehensive variety of stormwater and watershed management issues, including nonpoint source pollution, illicit discharges and pollution prevention, household hazardous waste, litter, and recycling, stream buffer and stream restoration, and water quality monitoring. Some activities are conducted annually, and others vary each year. These programs range from volunteer stream cleanup events, storm drain marking, and school and civic group presentations to web-based information and multi-media outreach efforts (including the Northern Virginia regional education campaign). Stormwater and watershed-related public education activities are conducted primarily by Arlington County Department of Environmental Services and Department of Parks and Recreation staff, with a variety of collaborative efforts undertaken with other Northern Virginia jurisdictions, such as EcoAction Arlington, Northern Virginia Regional Commission, Northern Virginia Soil and Water Conservation District, and other organizations. Each year Arlington County uses the strategies in the table below in our public education and engagement initiatives.

Strategies	Arlington County examples
Traditional written materials	Informational brochures, fact sheets and resources on rain gardens, rain barrels, permeable pavement, native plants/reducing lawn and green gardening.
Alternative materials	Dog waste pickup bags, dog rope toys, gardening gloves, native seed packets, notepads, and temporary tattoos with “Only Rain in the Storm Drain,” green gardening and pollution prevention messages.
Signage	Storm drain markers, dog waste pickup signs at dog parks, temporary educational signs at events, posters on best practices for restaurants, pollution prevention for institutional facilities, etc.
Media Materials	Articles in local media outlets, social media engagement, television and social media advertisement with Clean Water Partners.
Speaking engagements	Presentations to civic associations, teachers, local businesses, students, Master Naturalists, Master Gardeners, etc.
Curriculum materials	Enviroscape Watershed Model lesson – materials and model provided to volunteers and teachers for use with students; Material and teaching for Master Naturalist and Master Gardener classes.
Training materials	Materials for rain garden workshops and other homeowner technical assistance provided online.

Table 1: List of strategies and Arlington County-specific examples

Per Arlington’s MS4 permit, public outreach and education objectives include:

1. Promote, publicize, and facilitate public reporting of the presence of **illicit discharges** or improper disposal of materials into the MS4;
2. The permittee shall identify no less than three high-priority stormwater issues to meet the goal of educating the public. High-priority issues may include the following examples: **Chesapeake Bay nutrients, pet wastes**, local receiving water impairments, TMDLs, high-quality receiving waters, and **illicit discharges from commercial sites**. The permittee shall use four or more of the strategies listed in the table [above] per year to communicate to the public the high-priority stormwater issues identified including how to reduce stormwater pollution;
3. Continue to promote individual and group **involvement in local water quality improvement initiatives** including the promotion of local restoration and clean-up projects, programs, groups, meetings and other opportunities for public involvement;
4. Develop an outreach program for public and private **golf courses** located within the County which discharge to the permittee’s MS4 that encourages implementation of integrated management practice (IMP) plans and techniques to reduce runoff of fertilizer and pesticides;
5. Promote and publicize the proper management and disposal of used **oil and household hazardous wastes**;
6. Promote and publicize the proper disposal of **pet waste** and household **yard waste**;
7. Promote and publicize the use of the county’s **litter prevention** program;
8. Promote and publicize methods for residential **car washing** that minimize water quality impacts;
9. Promote and publicize the proper use, application, and disposal of **pesticides, herbicides, and fertilizers** by public, commercial, and private applicators and distributors;
10. Encourage private property owners to implement **voluntary stormwater management** techniques and/or retrofits including those described in Part I.B.2; and,
11. Target strategies towards local groups of **commercial, industrial, and institutional entities** likely to have significant stormwater impacts
12. Develop an outreach and education strategy to target **private winter maintenance providers** and encourages implementation of enhanced best management practices in the application and storage of anti-icing and deicing compounds and abrasives used for snow and ice management.

The tables below provide the reporting information required by the permit: a list of permittee public outreach and education activities and the estimated number of individuals reached through the activities. The sections that follow provide summaries of the key programs for FY22.

In the last column of the tables, the public outreach and education objectives (from the list above) for each activity are abbreviated: Illicit discharge (1, 2), Public involvement (3), Golf courses (4), Household hazardous waste (5), Pet waste/yard waste (6, 2), Litter prevention (7), Car washing (8), Pesticides and fertilizers (9, 2), Voluntary stormwater techniques (10), Commercial and institutional outreach (11, 2), Winter salt (12).

Public Outreach / Education Presentations and Events	Date	Estimated or actual number of individuals reached	Themes Covered
Soil Profile Rebuilding Demonstrations	7/21/2021, 8/4/2021	35	Commercial outreach
Cardinal School Stormwater Vault 90% Design meeting	7/28/21	30	Plan review for stormwater vault project construction
Park Stewards Training	8/4/2021	15	Public involvement, Illicit discharge
Resident Meeting Cardinal Vault Project	8/15/21	10	Neighbor pre-construction meeting
Bluemont Civic Association Meeting	8/19/21	25	Floodplain map update, flooding, maintenance
Arlington County Fair	8/20-22/2021	1000	Voluntary stormwater techniques, public involvement in water quality initiatives, Litter prevention
Falls Church Planning Commission presentation	9/1/21	10	Stormwater and flood resilience
Stream Monitoring Training	9/8/2021	9	Public involvement
Cardinal School Stormwater Vault pre-construction meeting	9/22/21	40	Pre-construction meeting
Paws on the Pike Event	10/3/2021	150	Pet waste
Gulf Branch Floodplain Map Update Meeting	10/13/21	15	Update on FEMA floodplain map update
Stream Monitoring Training	10/22/2021	8	Public involvement
Annual Stream Monitor Appreciation Event	10/27/2021	19	Public involvement, Winter salt, Pet waste
Arlington Regional Master Naturalists Training	10/30/2021	30	Voluntary stormwater techniques, Public involvement

Public Outreach / Education Presentations and Events	Date	Estimated or actual number of individuals reached	Themes Covered
Columbia Forest Civic Association Meeting	11/8/21	30	Flooding and stormwater management
Cardinal Elem Stormwater Vault PTA Meeting	11/9/21	50	Vault project pre-construction
Four Mile Run Joint Task Force	12/2/21	20	Stormwater and planning projects near south Four Mile Run
C2E2 Commission and CivFed Stormwater discussion	12/13/21	20	Stormwater and flooding mitigation
Lubber Run Civic Association Group	1/13/2022	12	Stormwater and flood resilience
Green Valley Civic Association – Concord Mews Pond	2/7/2022	35	Stormwater pond project outreach
Civic Federation Stormwater Presentation	2/8/22	100	Stormwater and flood resilience
Our Environment, Our Future: Imagine	2/12/2022	150	Voluntary stormwater techniques, Public involvement, Pet waste, Litter prevention, Fertilizers & pesticides
Waverly Hills Civic Association Meeting	2/16/22	30	Flood resilience and mitigation projects
Master Gardeners Q&A session	2/22/22	40	Q&A session about water quality and stormwater
Cardinal stormwater vault community meeting	2/23/22	25	Community update on construction project
Concord Mews Pond – Concord Mews HOA	2/28/2022	12	Stormwater pond project outreach
Spout Run Civic Association Watershed group	3/3/22	20	Meeting of representatives from all civic associations in Spout Run watershed to discuss flooding mitigation
Chesapeake Bay Preservation Plan Public Meeting	3/16/2022	11	Public involvement

Public Outreach / Education Presentations and Events	Date	Estimated or actual number of individuals reached	Themes Covered
Lubber Run Civic Association Watershed group	3/23/22	20	Meeting of representatives from all civic associations in Lubber Run watershed to discuss flooding mitigation
Rain Barrel Workshop	3/26/2022	30	Voluntary stormwater techniques, Public involvement
C2E2 Commission Stormwater Update	3/28/22	20	Stormwater management, flood resilience and capital projects
Stormwater Utility Community Advisory Group (SUCAG)	3/30/22	15	Initial meeting of community advisory group for stormwater utility engagement
Introduction to Stream Monitoring	3/30/2022, 4/1/2022	26	Illicit discharge, Public involvement
Civic Federation Stormwater Utility Overview	4/12/22	75	Overview of stormwater utility for Civic Federation
Team Leader and Identifier Refresher Training	4/14/2022, 4/21/2022	25	Public involvement
Parks Commission Stormwater Update	4/20/22	20	Stormwater management, flood resilience and capital projects
Presentation to Amazon Employees	4/20/2022	30	Voluntary stormwater techniques, Public involvement, Litter prevention, Yard waste
Langston Blvd Alliance Earth Day Event	4/24/2022	100	Illicit discharges, Voluntary stormwater techniques, Public involvement, Car

Public Outreach / Education Presentations and Events	Date	Estimated or actual number of individuals reached	Themes Covered
			washing, Pet waste, Yard waste, Fertilizers & pesticides
Crossman Run Watershed Meeting	4/27/22	15	Flood mitigation projects and update on flooded property acquisition
Stormwater Utility Community Advisory Group (SUCAG) Meeting 3	5/3/22	15	Second meeting of community advisory group for stormwater utility engagement
Arlington Regional Master Naturalists Training	5/7/2022	30	Voluntary stormwater techniques, Public involvement
Four Mile Run Flood Channel Dredging Community Meeting	5/17/22	15	Community Meeting to discuss plans for flood channel dredging
Rain Barrel Workshop	5/20/2022	30	Voluntary stormwater techniques, Public involvement
Gulf Branch Stream Project Advisory Group Meeting and make-up sessions	5/23/2022, 6/9/2022, 6/15/2022	9	Public involvement, Voluntary stormwater techniques
Neighborhood College Sustainability Presentation	5/24/22	20	Sustainability overview
Jamestown Elem School Watershed Talk	5/27/22	20	Stream protection and native plants
Chamber of Commerce Stormwater Utility	6/1/22	15	Stormwater Utility Overview
Flooded Property Acquisition – home demolition neighbor meeting	6/1/22	10	Neighbor meeting prior to demolition on home on acquired property
Green Community (Home and Garden) Tour	6/5/2022	100	Voluntary stormwater techniques, Public involvement

Public Outreach / Education Presentations and Events	Date	Estimated or actual number of individuals reached	Themes Covered
Gulf Branch Floodplain Map Update Meeting	6/6/22	15	Update on result of appeal to FEMA on floodplain map update
Cardinal Stormwater Vault Community Meeting	6/8/22	30	Construction update
Donaldson Run Tributary B Stream Project Tour	6/18/22	15	Tour of recently completed stream restoration project
Gulf Branch Stream Project Community Meeting	6/22/2022	35	Public involvement, Voluntary stormwater techniques
Park Corps Presentation	6/27/2022	15	Illicit discharge, Park Corps
Stormwater Utility Community Advisory Group (SUCAG) Meeting 3	6/27/22	15	Second meeting of community advisory group for stormwater utility engagement
Bacteria Monitoring Training	6/30/2022	16	Public involvement, Pet waste, Winter salt
Total Individuals Reached via Presentations and Events		2732	

Table 2: List of permittee public outreach presentations and events and the estimated or actual number of individuals reached, FY22

Public Outreach / Education – Other Activities	Timeframe	Estimated or actual number of individuals reached	Themes Covered
Pollution prevention and stream pollution reporting via the County website , social media and e-blasts	Ongoing, special focus in spring	2998 pageviews	Illicit discharge, Household hazardous waste, Car washing, Pet waste, Fertilizers & pesticides, Yard waste, Commercial outreach
Storm drain marking	Ongoing	47 volunteers, 76 volunteer hours, 302 storm drain markers	Illicit discharge, Public involvement
Stream monitoring	Ongoing	96 volunteers, 1088 volunteer hours	Illicit discharge, Public involvement
Green Events weekly email newsletter with environmental events, workshops, programs, and environmental tips	Ongoing	5530 recipients	Public involvement
In-depth interview and conversation with Washington Golf and Country Club grounds manager on integrated management practice plans and techniques to reduce runoff of fertilizer and pesticides	2/23/2022	Manager for 25-30 grounds staff	Golf courses
Restaurant Pollution Prevention Resources – print and online, including used cooking oil brochure, FOG brochure, Back-of-House Restaurant dry cleanup methods posters, and Keep It Clean restaurant poster	Ongoing	As needed	Commercial and institutional entities
Household Hazardous Material Program and E-CARE	Year-Round, Special Events 2x/year	See Public Education and Participation section for totals	Household hazardous waste, Litter prevention
Recycling-focused social media and listserv messaging	Ongoing	27,434 residents	Litter Prevention

Public Outreach / Education – Other Activities	Timeframe	Estimated or actual number of individuals reached	Themes Covered
Quarterly brochures on proper recycling, organics and trash disposal, and Recycling Made Simple Bilingual Brochure	Quarterly	33,000 households	Litter Prevention
Trash and Recycling website educating on proper disposal	Online	328,624 pageviews	Litter Prevention
Rethinking Recycling video	Online	24,683 views	Litter Prevention
Technical assistance site visits to private property owners to implement stormwater practices	Ongoing	8 site visits, 12 individuals reached	Voluntary stormwater techniques
Stormwater at Home website outreach	Ongoing	4634 pageviews	Voluntary stormwater techniques
Rain Garden Workshop Recording and Materials	Online	626 views since February 2021	Voluntary stormwater techniques
Swimming Pool Owner and Contractor Outreach	Letters in Spring	318 letters	Commercial outreach
Postcards on managing sawcut slurry, concrete washout, and dumpsters	Ongoing	As needed	Commercial outreach
Annual water quality report – included information on stormwater utility project	July 2022	35,000	Article on stormwater utility

Table 3: List of other permittee public outreach and education activities and the estimated or actual number of individuals reached, FY22

Media coverage for FY 2022

- July 7, 2021, Donaldson Run project <http://www.arlingtonconnection.com/news/2021/jul/03/your-help-needed-protecting-our-water-arlington/>
- October 6 – Beavers in the park https://www.washingtonpost.com/lifestyle/kidspost/with-beavers-in-suburbia-park-officials-look-balance-needs-of-humans-and-natures-engineers/2021/10/04/52cf5e16-1f98-11ec-8200-5e3fd4c49f5e_story.html
- Ballston Pond Wetland project <https://www.arlnow.com/2021/12/02/long-awaited-renovations-to-ballston-beaver-pond-begin/>
- March, 2022. Flood awareness week. [https://www.arlingtonva.us/About-Arlington/News/Articles/2022/Virginia-Flood-Awareness-Week-2022-Points-to-Preparation_\(3/10/22\)](https://www.arlingtonva.us/About-Arlington/News/Articles/2022/Virginia-Flood-Awareness-Week-2022-Points-to-Preparation_(3/10/22)), <https://www.fairfaxcounty.gov/publicworks/news/flood-awareness-week-2022-recognized-countywide-cross-jurisdictional-campaign>
- March, 2022. Flood awareness week in Insider <https://content.govdelivery.com/accounts/VAARLINGTON/bulletins/30e45bb>
- March 2022, Four Mile Run Dredging. <https://www.arlnow.com/2022/03/17/four-mile-run-to-be-dredged-in-5m-project-to-alleviate-potential-flooding>
- March, 2022. Parks Newsletter – 30K subscribers. <https://content.govdelivery.com/accounts/VAARLINGTON/bulletins/30fcd05>
- May 2022 – Beaver Pond naming. <https://www.arlnow.com/2022/05/26/a-few-days-left-to-pitch-a-new-name-for-the-ballston-beaver-pond/?fbclid=IwAR3SP5WfU4oZvxq92YrfSjKiDdaIV7yMJCTYzJI0z58PqpKewylbvQgBbGc>
- News release June 1 Hurricane season. <https://content.govdelivery.com/accounts/VAARLINGTON/bulletins/31a477e>

Northern Virginia Clean Water Partners – Only Rain Down the Drain Campaign

In FY22, Arlington County continued to support the Northern Virginia Clean Water Partners [Only Rain Down the Drain campaign](#), a regional stormwater education campaign. The campaign includes television, print, internet advertising, Facebook, and Twitter to help visualize water pollution, sharing pollution prevention messages related to pet waste, motor oil, car washing, and fertilizer.

As part of the campaign, PSAs aired on a variety of TV stations throughout Northern Virginia, resulting in 820,154 impressions. Social media engagement and ads resulted in 1,257,502 impressions. During the summer of 2022, a survey was conducted of 500 northern Virginia residents to measure the effectiveness of the campaign. An average of 28 percent of the respondents recalled seeing the advertisements on TV or social media.

Of those respondents who recalled the ads, 40 percent said they were already taking action to protect water quality. Of those who made a behavior change after seeing the ad, 42 percent state they now pick up their pet waste more often, 37 percent state they plan to fertilize fewer times per year, and 12 percent are more careful with motor oil.

Summary of Regional Stormwater Education Campaign	
<u>Northern Virginia Clean Water Partners</u>	
Television Ads	
Number of viewers reached (English and Spanish ad)	820,154
Digital Impressions	
Number of Social Media Impressions (Facebook and Twitter)	1,257,502
Engagement with social media posts	30,267
Onlyrain.org website visits	3,984
Annual Survey Results	
Number of residents surveyed	500
Northern Virginia residents who know they live in the Potomac River watershed	37%
Arlington residents who know they live in the Potomac River watershed	35%
Survey respondents who recall seeing the Only Rain in the Storm Drain logo	66%
Arlington residents who recall seeing the Only Rain in the Storm Drain logo	80%
Survey respondents who recalled seeing Only Rain ads on TV or social media	28%
Those who saw the ads made the following behavior changes:	
Pick up pet waste more often	42%
Fertilize fewer times per year	37%
More careful with motor oil	12%

* Viewership numbers for TV ads can include viewers who saw the ad more than once.



Northern Virginia Rain Barrel Program

Arlington County continued to support the Northern Virginia Regional rain barrel program over the past year, including helping staff two rain barrel workshops. Over 4,500 rain barrels have been sold, with almost 1,300 of those rain barrels going to Arlington residents, with a 90 percent satisfaction rate for workshop participants. This equates to 125,000 gallons of stormwater that can be collected and retained during every storm event.

Summary of Rain Barrel Program								
	2016	2017	2018	2019	2020	2021	2022	Total**
Regional Participants	211	200	200	209	20*	102*	146	3958
Regional Number of Barrels	252	223	230	210	18	120	160	4740
Number of Barrels Sold to Arlington Residents	75	50	52	67	18	17	57	1377

* Rain barrel workshops were limited in 2020-2021 due to the Covid-19 public health emergency. A few small outdoor workshops and sales were held.

**Total number of barrels includes barrels sold since the program inception in 2007.

Appendix AR14 Summary of Employee Training in FY22

Training	Training Date	# of Participants
Stormwater Pollution Prevention Training for APS Drivers	08/24/2021	240
Spill Response Refresher Training – DES WSS	10/13/2021	31
Snow Operator Training for DES and DPR	10/21/2021	65
Annual SWPPP Training - DPR	03/01/2022	99
Dechlorination Refresher Training - DES	03/18/2022	33
Annual HPMF SWPPP Training – DES SWB	05/24/2022	34
Annual HPMF SWPPP Training – DES TE&O	05/26/2022	26
Annual HPMF SWPPP Training - DES WSS (Streets)	06/01/2022	30
Annual HPMF SWPPP Training - DES WSS (Water Utility Maintenance, Warehouse)	06/02/2022	40
Annual HPMF SWPPP Training – DES WSS (Water Utility Maintenance)	06/02/2022	19
Annual HPMF SWPPP Training - DES WSS (Sewer)	06/07/2022	25
Annual HPMF SWPPP Training – DES Equipment Bureau	06/15/2022	27
Annual HPMF SWPPP Training – DES WSS (Engineering / Contracts)	06/16/2022	18
Annual HPMF SWPPP Training - General Session (Police Impound, FTA)	06/15/2022	15
ESC & SWPPP Refresher Training for Inspectors & Plan Reviewers	06/28/2022	15

Total: 717

Appendix AR15 Summary FY22 Dry Weather Outfall Screening

Outfall ID	Location	Contributing Land Use	Type	Flow Condition	Chlorine	Fluoride	Ammonia	Surfactants	Nitrate	Nitrite	Phosphorus	<i>Escherichia coli</i>	pH	Non-Chemical Indicators
19904	Between Barcroft Park and a branch office of the Virginia Department of Motor Vehicles	Light Industrial / Commercial	36-inch circular RCP	Flowing	0.012	BDL	BDL	BDL	0.758	0.084	0.043	160	7.65	Algae and trash
20280	Southwest of AAAA Self Storage, 2305 South Walter Reed Drive	Light Industrial / Commercial	48-inch circular RCP	Flowing	0.056	BDL	0.073	BDL	1.062	BDL	0.1	110	7.93	Algae and trash
20456	Near the west edge of Shirlington Dog Park	Light Industrial / Commercial	18-inch circular CMP	Flowing	0.033	BDL	0.305	BDL	0.848	0.24	0.80	23	7.21	Trash
20619	Near Shirlington Dog Park	Light Industrial / Commercial	54-inch circular RCP	Flowing	BDL	BDL	0.015	BDL	> 1.65	0.034	0.01	240	7.35	Flow line, algae, and trash
20794	Northeast of the intersection of South Arlington Mill Drive and South Taylor Street	Light Industrial / Commercial	30-inch circular RCP	Flowing	0.077	BDL	0.288	0.24	1.346	BDL	0.013	490	7.64	Algae and trash
20981	Near the intersection of South Arlington Mill Drive and Shirlington Road	Commercial	27-inch circular RCP	Dry	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Trash
20992	Northeast of South Arlington Mill Drive; approximately 460 feet southeast of South Taylor Street	Commercial	48-inch circular RCP	Flowing	BDL	BDL	0.127	BDL	0.946	BDL	0.15	BDL	7.90	Algae and trash
21045	Northwest of intersection of South Arlington Mill Drive and South Quincy Street	Commercial	84-inch circular RCP	Flowing	BDL	BDL	0.176	BDL	0.849	BDL	0.066	550	7.60	Rancid odor and algae
21120	Near the intersection of South Arlington Mill Drive and Campbell Drive	Commercial	42-inch circular RCP	Dry	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Flow line and algae
21131	North of the intersection of South Arlington Mill Drive and South Randolph Street	Commercial	30-inch circular RCP	Flowing	0.011	BDL	BDL	BDL	1.274	BDL	0.043	770	7.47	Suds, scum, flow line, algae, and trash
21139	South side of South Arlington Mill Drive, between South Quincy Street and South Randolph Street	Commercial	27-inch circular RCP	Dry	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Flow line and trash
25986	Near the entrance to Shirlington Dog Park	Light Industrial / Commercial	15-inch circular RCP	Dry	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Flow line and trash
26577	South Four Mile Run Drive at South Oxford Street	Light Industrial / Commercial	15-inch circular RCP	Dry	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Flow line

Notes: The units for test results are milligrams per liter, except for *Escherichia coli* (colonies: most probable number per 100 milliliters) and pH. Screening data values that exceeded Program criteria are indicated in bold type. BDL = Below Detection Limit or not evident. N/A = Not Applicable. RCP = reinforced concrete pipe. CMP = corrugated metal pipe.

Appendix AR16 FY22 Dry Weather Facility Screening

Facility	Street	Inspection Date	Direct connect to AC MS4 on property*	Structure Type	DW Flow?	Cloudy / Discolored	Foam /Suds	Sheen	Odor	Algae	Total Chlorine (ppm)	Ammonia (ppm)	Phosphorous (ppm)	Nitrate / Nitrite (ppm)	Evidence of ID ?	Follow-up Needed?	Correspondence Sent / Referral to other office	Issue(s) resolved	Notes
Arlington Forest Shopping Center	1st Street N	03/21/2021	Yes	CB	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes	Evidence of washing, dumpster leaking
23rd St S / S Eads St Alley (Young Chow, CC Restaurant, Kabob Palace)	23rd Street S / S Eads Street	03/02/2022	Yes	GI	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes	On-going	Trash, standing water inside GI in alley, evidence of washing
First Choice Auto Body Flemings	31st Street S	03/02/2022	Indirect	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Shirlington Village (Alley)	Campbell Avenue	05/19/2022	Yes	GI, CB	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Shirlington Village (Alley)	Campbell Avenue	05/19/2022	Yes	GI, CB	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Arlington Village Center	Columbia Pike	04/29/2022	Yes	CB	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Columbia Pike Retail	Columbia Pike	04/29/2022	Yes	GI	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Arlington Heights Property	Columbia Pike	04/29/2022	Yes	GI	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Columbia Pike Plaza	Columbia Pike	04/29/2022	Yes	GI	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Gelman Arlington Shopping Center	Columbia Pike	04/21/2022	Yes	CB	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes	Dumpster/grease area needs housekeeping
Barcroft Plaza	Columbia Pike	04/21/2022	Yes	GI	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	Yes	Yes	Yes	Trash in storm drains
Burger King	Columbia Pike	04/29/2022	Yes	GI	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Audi Arlington	Columbia Pike	04/14/2022	Yes	CB	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	Car wash water contained
7-11/Exxon Gas Station	Langston Blvd	05/12/2022	Yes	CB	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Midas	Langston Blvd	05/12/2022	Indirect	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Koons Arlington Toyota/D&P	Cherry Hill Rd	03/30/2022	Yes	GI	Yes	No	No	No	No	No	0.01	0.72	0.59	ND	No	Yes	Yes	Yes	Washing discharge
Burger 7	Langston Blvd	05/11/2022	Yes	GI	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	Yes	Yes	Yes	Trash around dumpsters
Buckingham Shopping Center 2	N Glebe Road	06/14/2022	Indirect	N/A	Yes, but not in drain	Yes	No	No	No	No	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes	Greenish liquid in curb draining from a dumpster
Lee Harrison Shopping Center	N Harrison Street	05/19/2022	Yes	GI	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	
Gyu-Kaku Japanese BBQ	N Hudson St	06/13/2022	Indirect	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Buckingham Shopping Center 1	N Pershing Drive	06/13/2022	Indirect	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Williamsburg Shopping Center 2	N Sycamore Street	06/13/2022	Indirect	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
S Barcroft complex	S Four Mile Run Drive	03/03/2022	Yes	CB, GI	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
7 11 / Mobil	S Four Mile Run Drive	03/03/2022	Yes	CB	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Jiffy Lube #3151	S Four Mile Run Drive, B	03/03/2022	Indirect	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Mr. Tire	S Four Mile Run Drive	03/03/2022	Yes	CB, GI	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	

Facility	Street	Inspection Date	Direct connect to AC MS4 on property*	Structure Type	DW Flow?	Cloudy / Discolored	Foam /Suds	Sheen	Odor	Algae	Total Chlorine (ppm)	Ammonia (ppm)	Phosphorous (ppm)	Nitrate / Nitrite (ppm)	Evidence of ID ?	Follow-up Needed?	Correspondence Sent / Referral to other office	Issue(s) resolved	Notes
Arlington Ridge Shopping Center	S Glebe Road	03/02/2022	Yes	GI	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Giant Food	S Glebe Road	03/02/2022	Yes	CB	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Arna Valley Exxon Gas Station	S Glebe Road	03/02/2022	Yes	GI	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Exxon Gas Station	S Glebe Road	04/14/2022	Indirect	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Midas	S Glebe Road	04/14/2022	Indirect	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Shirlington Shell	S Quincy Street	05/19/2022	Yes	CB	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	N/A	N/A	
Westover Village Shopping Center	Washington Blvd	05/10/2022	Indirect	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A	
Colonial Village Shopping Center	Wilson Blvd	05/10/2022	Indirect	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes	Evidence of outdoor washing
2039-2057 Wilson Blvd	Wilson Blvd	05/10/2022	Indirect	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes	Trash

N/A = Non-applicable

CB = Catch basin

GI = Grate Inlet

ND = Non detect

*Direct connection = Yes = stormwater infrastructure on property that connects to County MS4. Indirect connection = surface drainage runoffs off property to County maintained right of way (RoW) and MS4.

Appendix AR17 Summary FY22 Wet Weather Screening Data

Site	Date	Rain (")	<i>E. coli</i> (MPN/100ml)	TPH (mg/L)	pH	Spec. Conductivity (mS/cm)	Surfactants as MBAs (mg/L)	Temp (°C)	Zinc (mg/L)	Cd (mg/L)	Cu (mg/L)	Lead (mg/L)	Hardness	NH ₃ (mg/L)	Nitrate / Nitrite (mg/L)	COD (mg/L)	Total P (mg/L)	TKN (mg/L)	TSS (mg/L)	Floatables
Outfall 17217 S Dinwiddie St	10/29/2021	0.74"	> 1600	<5	7.1	0.291	<0.2	11.2	0.083	<0.002	0.0298	0.00035	30	0.89	0.435	150	0.19	2.05	40	organic matter, plastic pieces, scraps of paper, several pieces of polystyrene, three plastic bottles, plastic bag, aluminum can
Outfall 21131 S Randolph St Shirlington	10/29/2021	0.74"	> 2420	<5	6.9	0.315	0.354	11.3	0.045	<0.002	0.0073	<0.001	27	0.55	0.76	170	0.17	1.78	55	organic matter, plastic pieces, several small pieces of polystyrene, plastic cup, straw, pieces of foil
Outfall 17217 S Dinwiddie St	03/17/2022	0.53"	> 1600	<5	7.2	1.021	<0.2	10.8	0.16	<0.010	0.024	<0.02	50	1.4	0.48	240	0.31	3.8	41	organic matter, plastic pieces, scraps of paper, several pieces of polystyrene, two plastic bottles, a steel can
Outfall 21131 S Randolph St Shirlington	03/27/2022	0.53"	> 1600	2.0	6.9	1.628	0.221	10.2	0.16	<0.010	0.023	<0.02	40	0.22	0.854	240	0.13	1.51	50	organic matter, plastic pieces, scraps of paper, several small pieces of polystyrene, several aluminum cans, plastic baby bottle, plastic bag
Outfall 17217 S Dinwiddie St	06/22/2022	2.02"	13,300	1.0	6.8	0.285	0.947	22.0	0.135	<0.0016	0.0253	<0.016	47.9	0.79	1.43	190	0.20	2.28	16	organic matter, plastic pieces, a scrap of paper, a piece of polystyrene, an aluminum can
Outfall 21131 S Randolph St Shirlington	06/22/2022	2.02"	26,100	1.0	7.2	0.337	0.243	22.0	0.0731	<0.0016	0.113	<0.016	43.9	0.52	0.957	120	0.11	1.02	5.5	organic matter, plastic pieces, a small scrap of metal

NA = Non-applicable

A value shown in bold indicates a level exceeding the program water quality criterion recommended by Center for Watershed Protection

Appendix AR18: Bacteria Monitoring Detailed Information

Arlington monitors bacteria at 21 sites (Table 1). A map of the sites is available online at <https://www.arlingtonva.us/Government/Programs/Sustainability-and-Environment/Streams/Bacteria>

Upper Four Mile Run FMR1, FMR2, FMR3, FMR4, FMR5	Lower Four Mile Run FMR6, FMR7, FMR8, FMR9, FMR10
Four Mile Run Tributaries LBR1, LBR2, LBR3, ULB1, DB1, LLB1	Potomac Drainages GB1, DR1, DR2, WR1, LP1

Table 1: Bacteria Monitoring Site Groups

Since 2013, the bacteria monitoring program has followed a DEQ-approved Quality Assurance Project Plan (QAPP), available online at <https://www.arlingtonva.us/Government/Programs/Sustainability-and-Environment/Streams/News-Bacteria-Monitors>. Programmatic updates that year improved data quality, reporting methods, and timeliness of data collection. Annual volunteer recertification is required, including a written test. Data from prior years is not comparable.

Arlington posts summary *E. coli* bacteria data online, with periodically updated graphs reflecting typical seasonal and rainfall-driven conditions. This baseline data helps the public make recreational decisions: <https://www.arlingtonva.us/Government/Programs/Sustainability-and-Environment/Streams/Bacteria>

Overview

The bacteria monitoring program had 99.6% coverage of its sites in FY 2022, for a total of 251 out of 252 samples. See Table 2.

Water Quality Standard Exceedances and Average Concentrations FY13-22

Of the 251 samples in FY22, 36% (90 samples) exceeded the primary contact recreation water quality standard (WQS) of 235 *E. coli* colony-forming units per 100 ml (CFU/100 ml). The secondary contact recreation water quality standard of 1173 CFU/100 ml was exceeded in 4% (11) of the samples.

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Primary Exceedances (Number)	74	94	51	65	64	60	89	74	57	90
Primary Exceedances (% of Total Samples)	37%	38%	20%	26%	25%	25%	36%	30%	23%	36%
Secondary Exceedances (Number)	29	23	5	13	15	16	22	5	9	11
Secondary Exceedances (% of Total Samples)	14%	9%	2%	5%	6%	7%	9%	2%	4%	4%
Total Samples	201	245	252	252	252	238	247	250	251	251

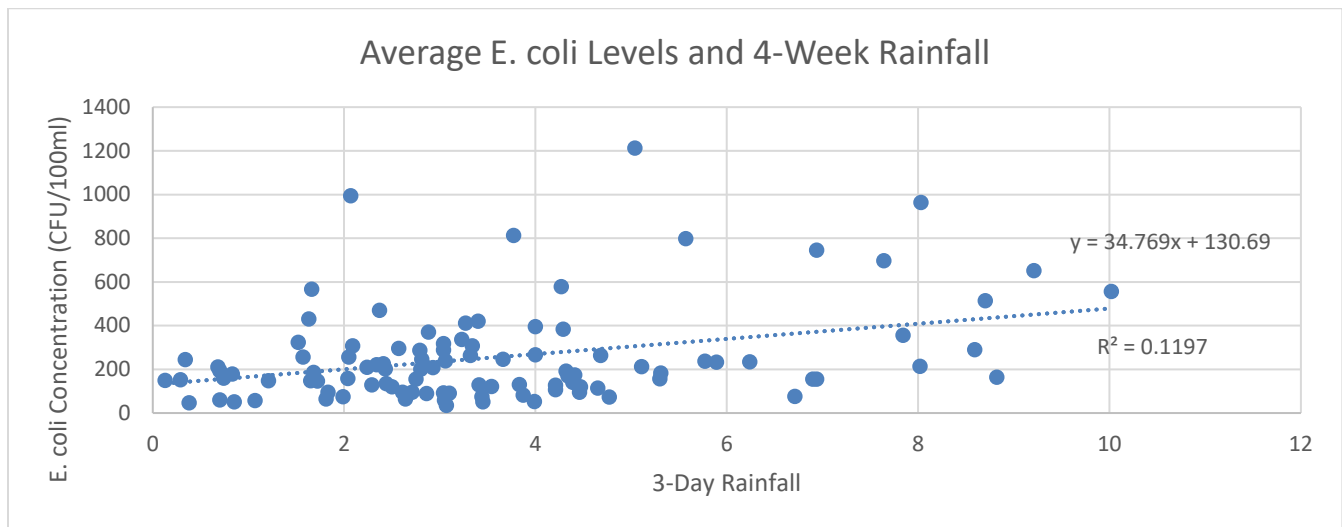
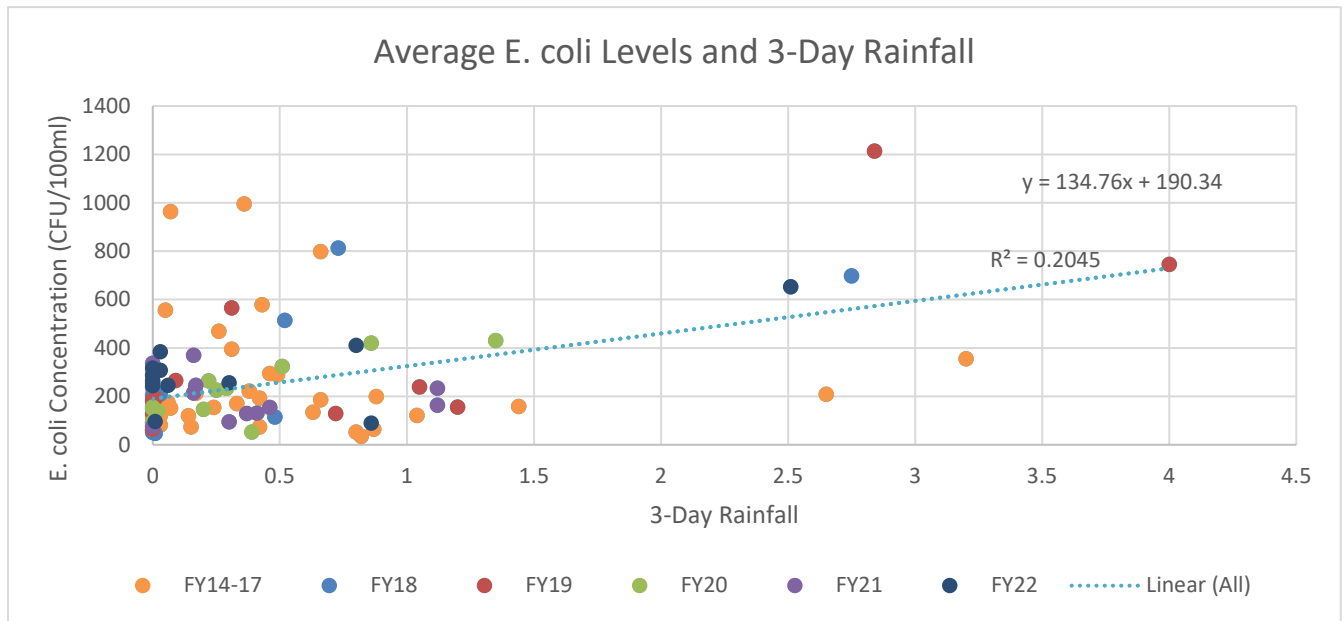
Table 2: Comparison of FY13-22 primary and secondary exceedances. Note that there were fewer sites in FY13-14.

Secondary contact recreation includes canoeing, kayaking, and fishing, whereas swimming is considered a primary contact activity. The availability of the secondary contact standard, even if not currently applicable to Arlington streams, is valuable. It allows the County to evaluate the suitability of our streams for these activities. The County’s guidance for safe stream use follows allowable secondary contact activities, and the data collected support the safety of our streams for these activities.

Table 2 compares the number of exceedances, both primary and secondary, from FY 2013 – FY 2022.

Precipitation Relationships

Stormwater runoff may carry sediment, pet waste, wildlife waste, and bacteria to the streams, particularly in urban watersheds like those in Arlington. In FY2022, we continued to see a correlation between rainfall and *E. coli*, particularly for 3-day precipitation levels.

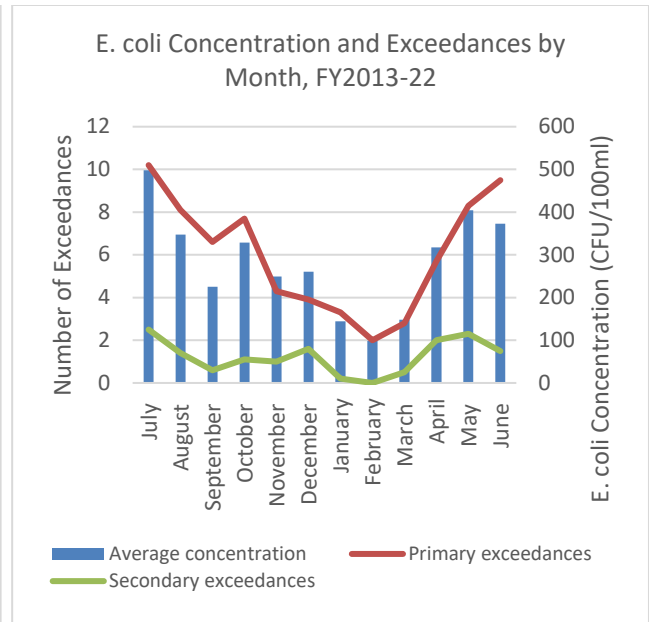
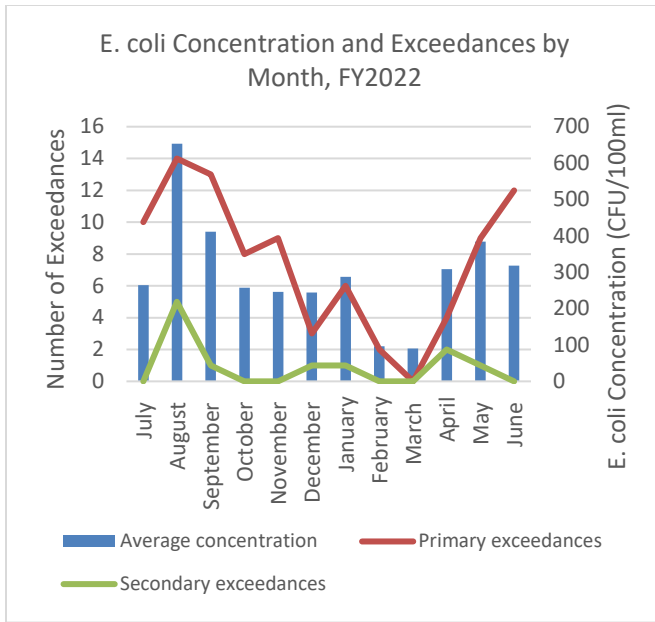


Figures 1 and 2: Average *E. coli* concentrations with 3-day and 4-week rainfall totals. Each point represents one sampling date for which *E. coli* concentrations of all 21 monitoring sites are averaged.

Since samples are collected once a month on a fixed schedule, larger rainfall events and higher corresponding *E. coli* levels are subject to inherent variability from year to year.

Colder Months, Fewer Exceedances

More Arlington water quality standard exceedances tend to occur during warm-weather months (Figures 3 and 4). Colder temperatures do not encourage bacterial growth and dog walking activities likely decrease along the stream valleys during the winter. Schueler (2000) notes that fecal coliform bacteria, of which *E. coli* is a subset, are typically at lower levels in winter months.



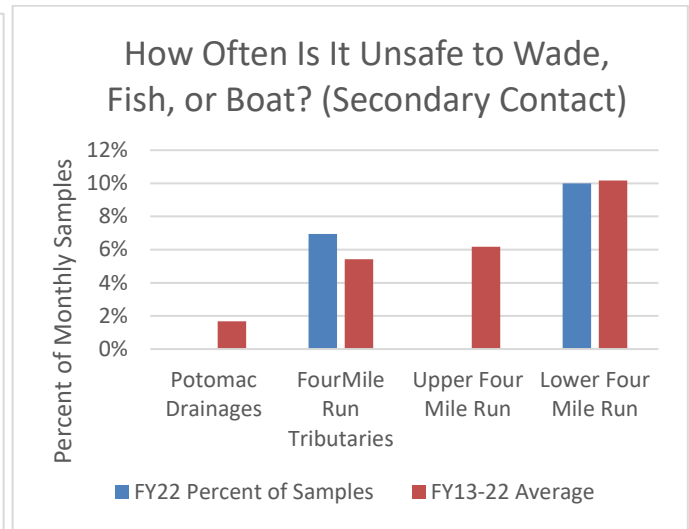
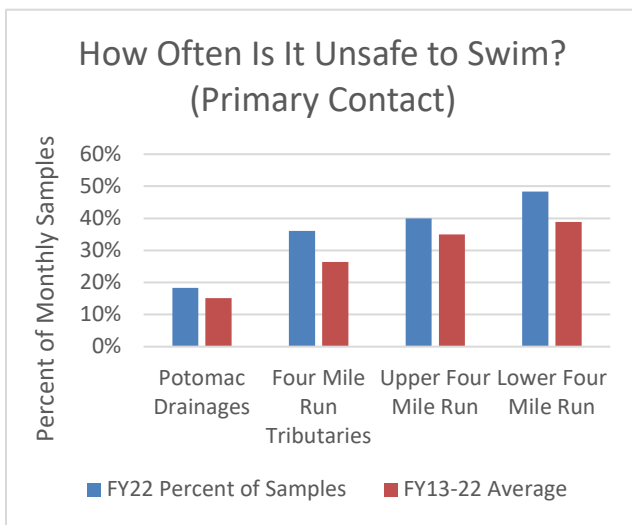
Figures 3 and 4: Primary and secondary water quality standard exceedances by month, FY13-22 and FY22 averages

Site Group Results

For the purposes of this analysis, the 21 sites can be broken into four groups: the Potomac drainages, Four Mile Run tributaries, upper Four Mile Run, and lower Four Mile Run. Figures 5 and 6 show water quality standard exceedance averages for each site group. Overall, FY22 results were similar to FY13-22 averages.

- Potomac drainage sites: Gulf Branch, Donaldson Run, Windy Run, Little Pimmit Run
- Four Mile Run tributary sites: Lubber Run, Upper Long Branch, Doctor’s Branch, Lower Long Branch
- Upper Four Mile Run sites: From Banneker Park to upper Glencarlynn Park
- Lower Four Mile Run sites: From Glencarlynn Park (downstream of the dog park) to Mount Vernon Ave.

This data supports the County’s decision to recommend residents restrict [stream usage to secondary contact activities](#).



Figures 5 and 6: Frequency of water quality standard site exceedances expressed as a percentage of monthly samples. Results represent site group averages.

Site Specific Results

Individual site data are shown in Table 4 and Figure 7. Arlington County recommends residents [limit stream usage to secondary contact activities](#).

Site Location	Site	Unsafe to Swim (FY22)	Unsafe to Wade, Fish, Boat (FY22)	Unsafe to Swim (FY2013-22)	Unsafe to Wade, Fish, Boat (FY13-22)
Windy Run	WR 1	8%	0%	6%	1%
Donaldson Run upstream	DR 1	8%	0%	11%	3%
Lubber Run Park	LBR 3	33%	0%	18%	3%
Lubber Run at Woodlawn Park	LBR 2	25%	8%	20%	5%
Donaldson Run downstream	DR 2	33%	0%	20%	2%
Little Pimmit Run	LP 1	17%	0%	20%	3%
Four Mile Run (Glencarlyn Park, upstream of dog park)	FMR 5	8%	0%	21%	8%
Gulf Branch	GB 1	27%	0%	23%	1%
Doctor's Branch (Alcova Heights Park)	DB 1	0%	0%	23%	0%
Lubber Run at Woodlawn Park	LBR 1	50%	25%	29%	8%
Four Mile Run (S Arlington Mill Dr)	FMR 7	42%	17%	31%	8%
Four Mile Run (Barcroft)	FMR 8	33%	0%	34%	9%
Upper Long Branch (Glencarlyn Park)	ULB 1	58%	0%	34%	8%
Four Mile Run (Bon Air Park)	FMR 3	50%	0%	34%	3%
Four Mile Run (Shirlington dog park)	FMR 9	50%	17%	36%	9%
Four Mile Run (Bluemont Park/N Carlin Springs Rd)	FMR 4	33%	0%	37%	7%
Lower Long Branch (Troy Park)	LLB 1	50%	8%	40%	9%
Four Mile Run at Mount Vernon Ave bridge	FMR 10	42%	8%	42%	10%
Four Mile Run (Banneker Park)	FMR 1	50%	0%	42%	6%
Four Mile Run (N Sycamore St)	FMR 2	58%	0%	44%	8%
Four Mile Run (Glencarlyn Park, downstream of dog park)	FMR 6	75%	8%	54%	14%

Table 4: Frequency of E. coli water quality standard exceedances expressed as a percentage of monthly samples. Sorted by frequency of primary exceedances (FY2013-22).

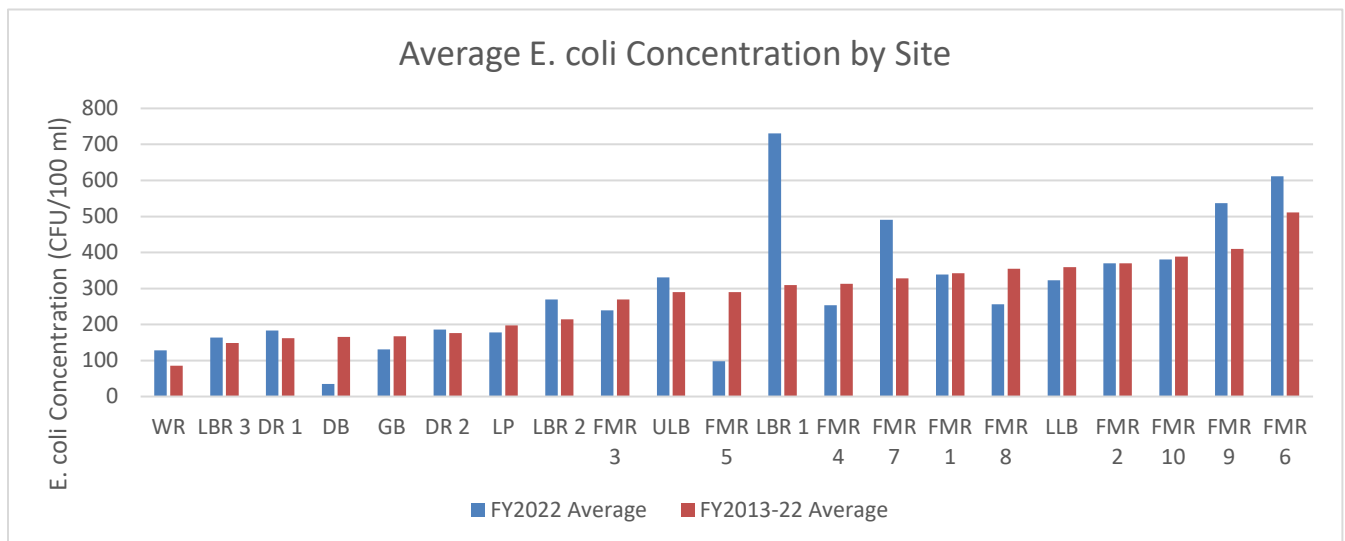


Figure 7: Average E. coli concentrations in colony-forming units per 100ml (CFU/100ml). Sorted by FY2013-22 average.

Sewer Relining Data

Approximately 60 percent of Arlington County’s 470 miles of sanitary sewer system was placed before the 1950s. For the last 25 years, the County has used cure-in-place pipe to reline sanitary sewer mains to prevent and repair cracks and leaks. Typically 2% of the sanitary pipes are relined each year. The work is prioritized based on video inspections of the pipes throughout the county, condition, area focus, and stream crossings.

Fiscal Year	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY20	FY 21	FY 22	Total	Total Arlington County Sanitary Mains	Percentage of Sanitary Mains Relined FY14 - FY21
Linear Feet	61,003	62,379	56,074	74,647	76,095	93,883	106,575	98,830	74,936	704,422		
Miles	11.5	11.8	10.6	14.1	14.4	17.8	20.2	18.7	14.133	133.233	465 miles	28.65%

From FY14-22, more than 130 miles of additional sewer main relining was completed, with 74,936 linear feet lined in FY22. County analysis shows that approximately 66% of county-maintained sanitary pipes have been relined to date. Based on our data, there does not appear to be a close relationship by site between relining and E. coli levels, although preventing sanitary sewer leaks is beneficial to reducing bacteria levels.

Long Term Trend Analysis

Bacteria data collected once per month is inherently variable. Collecting samples on the same day each month facilitates comparison between sites but may skew data if collection dates occur after heavy rainfall. Results to date do not show strong trends (Figure 8).

DEQ also has monitoring locations within our watersheds. One monitoring site is in Arlington – 1APIM000.15 Pimmit Run. Two sites are in Alexandria – 1AFOU000.19 Potomac River embayment estuary sampling, and 1AFOU001.92 Four Mile Run. These sites are not co-located with existing Arlington monitoring sites, use a different testing method than Arlington County, and are not collected with the same regularity as Arlington data. DEQ’s sampling occurs less frequently (typically 3 to 6 samples per year per site). DEQ’s data are not collected within the same month year-to-year, or at the same time of the month from month-to-month. Due to the differences between the sampling programs, the DEQ data are not included with this trend analysis.

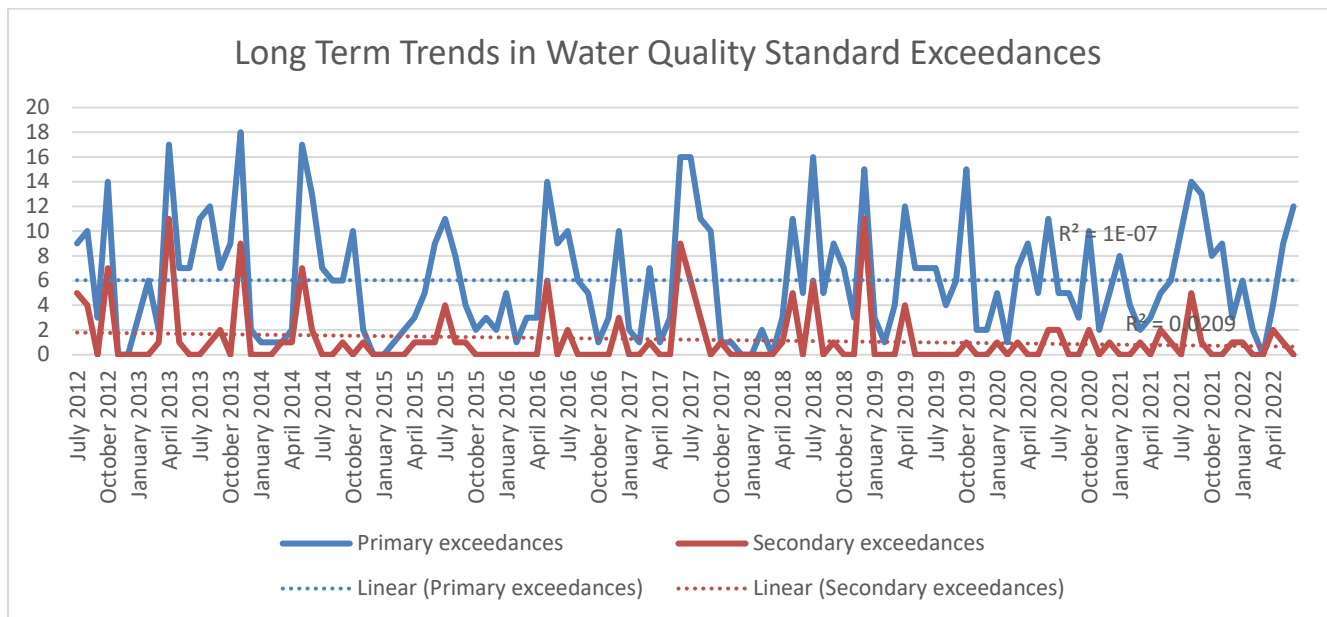


Figure 8: Monthly water quality standard exceedances of 21 sites, FY2013-22.

Summary

The bacteria monitoring program had 99.6% coverage of its sites in FY 2022. Of the 251 samples in FY22, 36% (90 samples) exceeded the primary contact recreation water quality standard (WQS) of 235 *E. coli* colony forming units per 100 ml (CFU/100 ml). The secondary contact recreation water quality standard of 1173 CFU/100 ml was exceeded in 4% (11) of the samples. These data support the County's recommendations to the citizens to restrict usage of the streams to secondary contact activities (<https://environment.arlingtonva.us/streams/stream-safety/>).

As in previous years, precipitation was correlated with *E. coli* levels and number of exceedances, along with seasonal patterns with lower levels in winter months. Potomac drainages had the lowest *E. coli* levels, followed by Four Mile Run tributaries, and Upper Four Mile Run. Lower Four Mile Run had the highest *E. coli* levels and most water quality standard exceedances overall.

It is not surprising that the Lower Four Mile Run stations see the highest *E. coli* levels and most exceedances. Four Mile Run drains roughly two thirds of Arlington and the watershed includes a larger area that includes portions of Falls Church, Fairfax County and Alexandria. Within Arlington's borders, there are also three dog parks that are located immediately upstream of Four Mile Run stations FMR 2, FMR 6 and FMR 9.

Numerous factors play a role in the survivability of bacteria, including sunlight, temperature, soil and moisture conditions, and settling. Schueler (2000) shows that bacteria may not simply die off within a few days but instead may settle out of the water column and continue to thrive for variable periods of time in the bottom sediments of urban streams, catch basins, ditches and drains, curb sediments, moist soils, and leaf piles. According to U.S. EPA, harmful bacteria can survive in sediments for up to several months. It is possible that the relationship between bacteria levels during and following rain events may be partially the result of the resuspension of existing bacteria instead of the addition of bacteria.

Schueler goes on to say that "Researchers have occasionally correlated bacteria levels with factors such as rainfall, rainfall intensity, antecedent rainfall, turbidity and suspended solids within individual urban watersheds. Few of these relationships, however, appear to be transferable from one watershed to another." It was further noted in the article that impervious cover does not appear to have a direct relation to fecal coliform levels.

Studies that only quantify *E. coli* do not indicate the source of the bacteria and if it is considered a controllable, anthropogenic (human or dog) source. Hybridized *E. coli* found in the storm sewer network and *E. coli* from wildlife, while contributing to the quantity of *E. coli*, are not considered controllable sources and are not the focus of the efforts detailed in TMDL Action Plans.

As Arlington's monitoring program continues to mature, we anticipate ongoing variability in further study of this indicator organism, but hope that our implementation of green infrastructure, street sweeping, sewer relining, and other pollution-reducing practices will help bring overall levels down.

References:

Schueler, T. 2000. *Microbes in Urban Watersheds: Concentrations, Sources, & Pathways: The Practice of Watershed Protection*. Center for Watershed Protection, Ellicott City, MD. Pages 74-84

U.S. Environmental Protection Agency. 2001. *Protocol for Developing Pathogen TMDLs*. EPA 841-R-00-002. Office of Water (4503F), United States Environmental Protection Agency, Washington, DC. 132 pp.

Appendix AR19: Biological Stream Monitoring Detailed Information

Arlington’s macroinvertebrate monitoring program is executed by volunteers at nine monitoring locations around the County, plus one reference site in Clifton (see Table 1).

- The program is **permitted** through the Virginia Department of Game and Inland Fisheries (DGIF).
- **Macroinvertebrate data** are provided to DGIF and posted to the Arlington MS4 permit page on an annual basis at <https://environment.arlingtonva.us/stormwater-watersheds/ms4-permit/>.
- **Monitoring protocol** is based on EPA’s Rapid Bioassessment Protocol 2. Posted on: <http://environment.arlingtonva.us/news-macroinvertebrate-monitors/>
- Sites are monitored in the spring, summer and fall, during the same five-week period each year.
- Monitors collect macroinvertebrates, pH, and temperature. Photographs of the monitoring reaches are taken to assess habitat. (<https://www.flickr.com/photos/arlmonitoring/>)

Macroinvertebrate Sampling Stations
Donaldson Run at Zachary Taylor Park
Windy Run
Gulf Branch
Little Pimmit Run
Four Mile Run at Benjamin Banneker Park
Four Mile Run at Bluemont Park
Lubber Run
Upper Long Branch at Glencarlyn Park
Four Mile Run at Barcroft Park
Margaret’s Creek, Reference Site at Webb Nature Sanctuary, Clifton, VA

Table 1. Summary of macroinvertebrate monitoring stations

FY22 Sampling

The Arlington [protocol](#) requires that site teams collect 100 (+/- 10%) organisms three times a year. In FY2022, all 10 sites were monitored in the summer, fall, and spring. All monitoring reached the collection requirement.

Stream Monitor Training

Staff continue to recruit new volunteers and offer volunteer training opportunities. An Access database tracks volunteers, trainings and hours. Volunteer training opportunities and descriptions are included in Table 2.

<i>Introduction to Stream Monitoring.</i> Gain an understanding of Arlington’s program and macroinvertebrates found in Arlington streams. This training is required for program participation.
<i>Online Identification Training.</i> Review key characteristics needed for positive streamside identification of Arlington macroinvertebrates to the order and family level. Macroinvertebrate orders included: Ephemeroptera, Trichoptera, Diptera, Odonata, Hirudinea, Oligochaeta, Tricladida, Isopoda, and Amphipoda.
<i>Open Lab.</i> Improve observation and identification skills of common macroinvertebrates of Arlington streams using preserved samples. Improve familiarity with macroinvertebrate body parts important for identification using microscopes and preserved samples.
<i>Arlington Macroinvertebrate Communities.</i> Online Training. Arlington macroinvertebrate taxonomy to the order and family level with both common and scientific names. Life cycles, adult stage, and tolerance values.
<i>Master Identifier Certification Test.</i> Master Identifiers (MIs) take this test to certify their mastery of the material. It is open book, with preserved bugs identified using hand lenses and microscopes. MIs are the primary identifiers streamside and record data for the program.
<i>Team Leader and Master Identifier Training.</i> On an annual basis, team leaders and master identifiers come together prior to the start of the spring season to review the protocol and key identification challenges.

Table 2: Volunteer Training Opportunities and Descriptions

Results and Analysis

Arlington uses several metrics to evaluate macroinvertebrate populations based on monitor-collected data. Family Biotic Index measures sensitivity and tolerance to stressors such as water quality, stream flashiness, or poor habitat. Average number of taxa (ANT) and effective number of taxa (ENT) are measures of diversity or richness. The dominant taxa are also recorded.

The Arlington program and results were evaluated and corroborated by contracted professionals in 2011/2012, 2015, and 2019, and several improvements and metrics were incorporated. Due to monitoring protocol updates implemented beginning FY2014, previously collected data are not comparable.

Family Biotic Index: Tolerance Values

The **Family Biotic Index** is a measure of the pollution tolerance of the macroinvertebrates found. The values range from 0 (Excellent) to 10 (Very Poor). Lower values indicate a less pollution-tolerant (or more sensitive) macroinvertebrate community. See Figure 1 and Table 3.

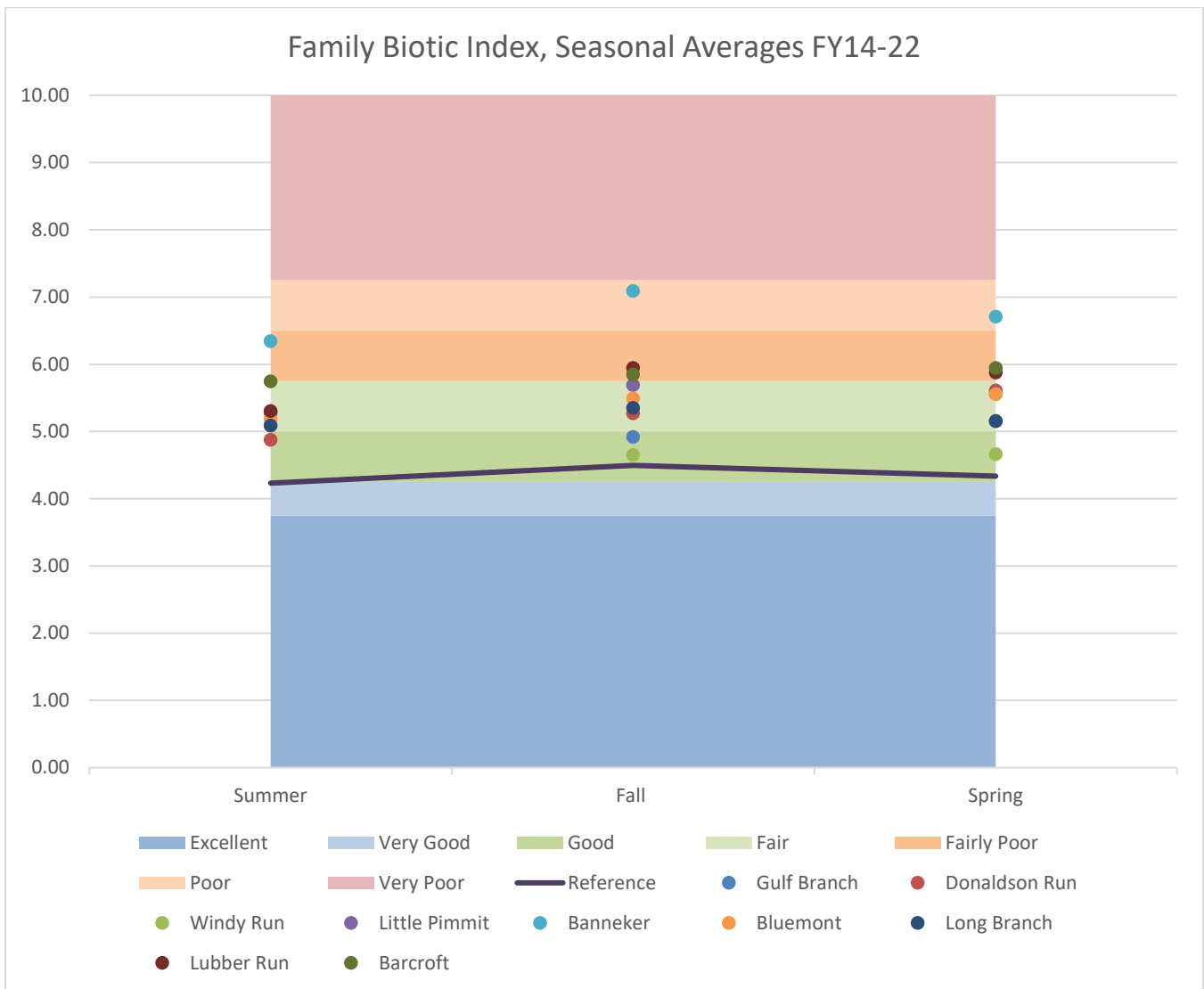


Figure 1: Seasonal average Family Biotic Index Values. Arlington site average seasonal values are plotted as points. Reference site average seasonal values are represented by the solid line. Family Biotic Index ranges are also depicted.

Site	Summer FY22	Summer FY14-22	Fall FY22	Fall FY14-22	Spring FY22	Spring FY14-22
Gulf Branch	4.95	5.27	4.10	4.92	4.58	5.15
Donaldson Run	4.61	4.87	4.48	5.27	5.51	5.61
Windy Run	4.73	5.10	6.18	4.65	5.15	4.66
Little Pimmit Run	5.23	5.29	7.93	5.69	4.93	5.56
Banneker-Four Mile Run	5.85	6.34	6.15	7.09	6.08	6.71
Bluemont-Four Mile Run	6.47	5.19	4.38	5.49	4.83	5.55
Long Branch	4.75	5.09	5.10	5.35	4.87	5.16
Lubber Run	4.91	5.30	4.27	5.95	5.24	5.88
Barcroft-Four Mile Run	5.32	5.74	6.15	5.84	5.77	5.94
Reference	4.30	4.23	4.26	4.50	4.30	4.34

Table 3: Family Biotic Index FY22 and FY14-22 average values. FY2022 values were similar to FY14-22 averages.

- FY2022 results were similar to FY14-22 averages. The hot, dry fall impacted values at some sites.
- Windy Run tends to have the lowest pollution tolerance values, often ranking in the “good” range.
- At the **reference** site, summer and spring tolerance values tend to be slightly lower than the fall.
- Among **Arlington** sites, spring tends to show more clustered tolerance values, with greater variation in summer and fall. Differences by season and between most Arlington sites tend to be small.
- For those groups that cannot be reliably identified down to the family-level stream-side (Amphipoda, Hirudinea, Oligochaeta, Tricladida), an average of the family tolerance values is used for that order.

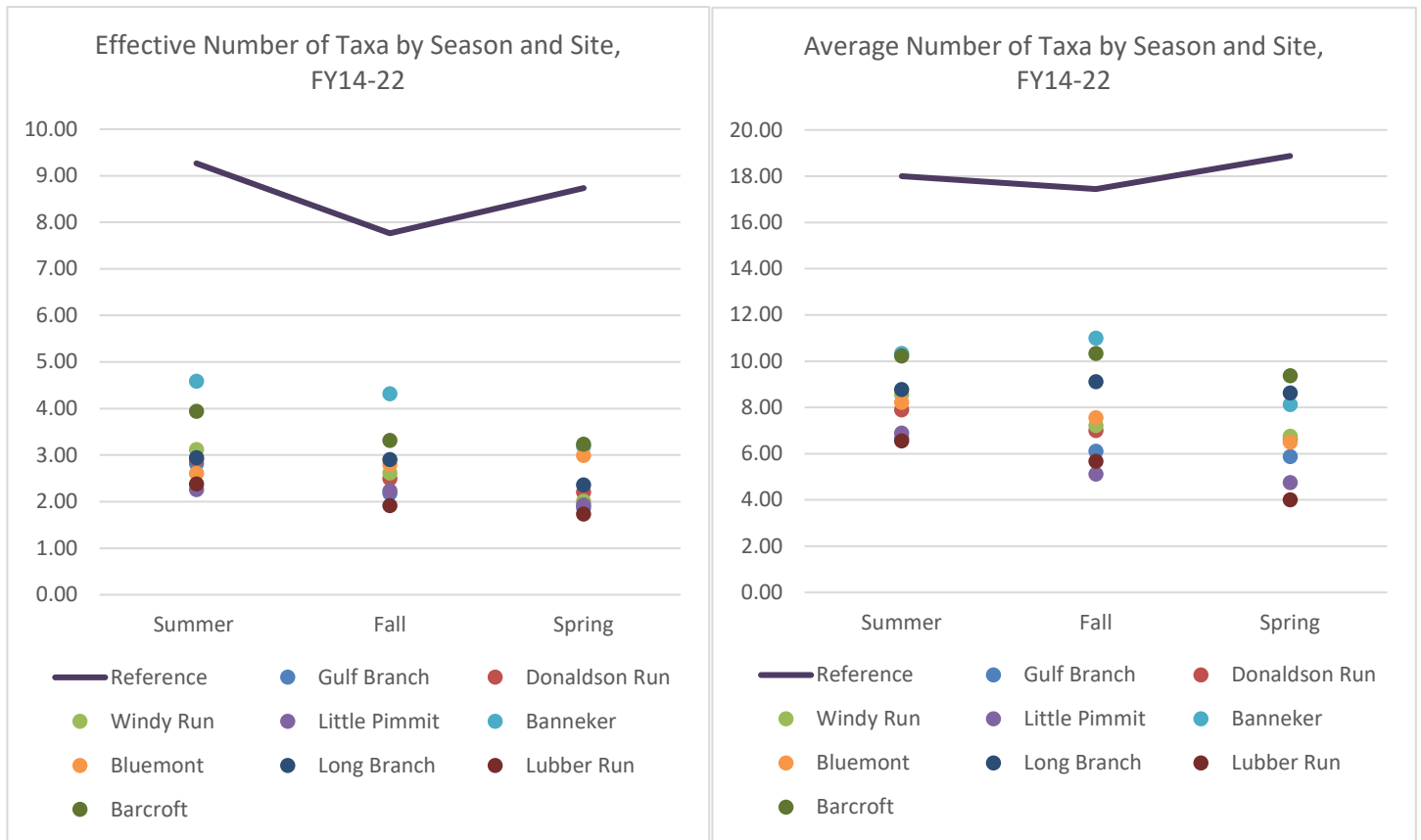
Average Number of Taxa (ANT) and Effective Number of Taxa (ENT)

Two metrics gage the biodiversity or taxa richness of the macroinvertebrate community. **Average Number of Taxa (ANT)** is based on the number of distinct macroinvertebrate families found at each monitoring. **Effective Number of Taxa (ENT)** also incorporates the abundance of each family-level taxa, based on the Gini-Simpson Index of Diversity. Higher values reflect more taxa richness and a more biodiverse sample. Neither metric provides information on pollution tolerance. See Table 4 and Figures 2 and 3.

- Overall, FY2022 values were similar to FY14-22 averages.
- Four Mile Run sites tend to have the most taxa richness in Arlington, especially Banneker and Barcroft.
- Sites with more taxa richness also tend to have more pollution tolerance in Arlington.
- Seasonal variability may be due to benthic life cycles and season-specific influences and stressors.

	Average Number of Taxa						Effective Number of Taxa					
	Summer FY22	Summer FY14-22	Fall FY22	Fall FY14-22	Spring FY22	Spring FY14-22	Summer FY22	Summer FY14-22	Fall FY22	Fall FY14-22	Spring FY22	Spring FY14-22
Gulf Branch	7	6.67	3	6.11	4	5.88	2.31	2.82	1.08	2.17	1.73	1.86
Donaldson Run	8	7.89	7	7.00	6	6.63	3.75	2.90	1.86	2.49	2.51	2.20
Windy Run	8	8.56	8	7.22	5	6.75	2.03	3.12	3.48	2.61	2.22	2.01
Little Pimmit Run	4	6.89	3	5.11	5	4.75	2.97	2.26	1.37	2.23	2.18	1.93
Banneker	10	10.33	11	11.00	7	8.13	4.96	4.59	5.59	4.32	1.64	3.19
Bluemont	13	8.22	5	7.56	5	6.50	3.03	2.60	1.50	2.79	2.08	2.99
Long Branch	6	8.78	8	9.11	11	8.63	2.49	2.94	2.80	2.90	2.04	2.35
Lubber Run	8	6.56	4	5.67	2	4.00	2.36	2.38	1.30	1.91	1.91	1.73
Barcroft	7	10.22	11	10.33	11	9.38	3.02	3.94	4.91	3.31	4.30	3.23
Reference	15	18.00	17	17.44	20	18.88	6.55	9.27	5.83	7.76	8.25	8.73

Table 4: FY22 and FY14-22 Average Number of Taxa and Effective Number of Taxa by stream site.



Figures 2 and 3: Effective and Average Number of Taxa by Season and Site. Reference site values are represented by the solid line. Arlington sites' values are plotted as points.

Dominant Taxa

The dominant taxon has the greatest abundance (largest number of individuals) out of the total sample. Lower percentages of dominance indicate a more diverse community.

- Baetidae (small minnow mayfly) is the most commonly dominant taxon in Arlington streams. From FY14-22, it was dominant in 53% of the Arlington samples.
 - The Baetid lifecycle is short, has several generations per year, and they can emerge in large populations. It is particularly dominant in wet summer and fall seasons. Tolerance value 4.
- Chironomidae (midge) is the second most commonly dominant taxon. From FY14-22, it was dominant at 25% of the Arlington sampling sessions.
 - It is particularly dominant in the spring. Even when it is not the most dominant taxon in a spring sampling, it is often a close second. Tolerance value 6.
- Hydropsychidae (netspinner caddisfly) has the third most instances of dominance. From FY14-22, it was dominant at 9% of the Arlington sampling sessions.
 - It is particularly dominant in the fall. Tolerance value 6.
- The life cycles and seasonality of these three dominant taxa are connected to the seasonal variation in Family Biotic Index and taxa richness at most Arlington sites.
- Banneker is less dominated by Baetidae and Hydropsychidae. Results show more dominance from Gastropoda (snails) and Coenagrionidae (Narrowing damselfly). Barcroft also has had instances of Gastropod and Coenagrionid dominance.
- See Table 5 for more detail.

	Baetidae	Chironomidae	Hydro- psychidae	Tricladida	Gastropoda	Coen- agrionidae	Philo- potamidae	Simuliidae
Gulf Branch	17	4	4	1	0	0	0	1
Donaldson Run	11	8	7	0	0	0	0	0
Windy Run	12	6	1	3	0	0	3	0
Little Pimmit	12	9	0	3	0	0	0	2
Banneker	3	13	2	0	5	4	0	0
Bluemont	18	2	5	1	0	0	0	0
Long Branch	23	1	1	1	0	0	0	0
Lubber Run	12	10	1	3	0	0	0	0
Barcroft	17	6	1	0	1	1	0	0
Reference*	4	4	10	0	0	0	0	0

*Table 5: Instances of taxa dominance by site, FY14-2022. *Note that the reference site has also had instances of dominance of Ptilodactylidae (3), Leuctridae (2), Amphipoda (2), Elmidae (1), Heptageniidae (1), and Perlidae (1).*

Habitat Assessments

Habitat assessments were conducted by a contracted professional in 2011-12, 2015 and 2019 based on EPA’s Rapid Bioassessment Protocol 2. Results for the spring and fall 2015 and 2019 seasons varied between sites and seasons, with ratings falling in the optimal to sub-optimal ranges (Figure 4). The habitat assessment confirmed that adequate habitat is available at each of our monitoring locations for macroinvertebrate communities.

Of the Arlington sites, Windy Run has typically had the most sensitive Family Biotic Index ratings and the highest habitat survey scores. In 2015 and 2019 surveys, it was found to have a wide vegetated riparian area, minimal channelization, frequent riffles, and good vegetative protection on the banks.

Habitat scores at Barcroft and Donaldson Run have appeared to decline, including from spring to fall 2019, during which Arlington experienced a historic storm on July 8, 2019. It should also be noted that Donaldson Run Tributary B, which discharges directly into the Donaldson Run sampling reach, had active severe stream bank erosion for many years. A stream restoration project was completed in 2022 that will help prevent further sediment deposition.

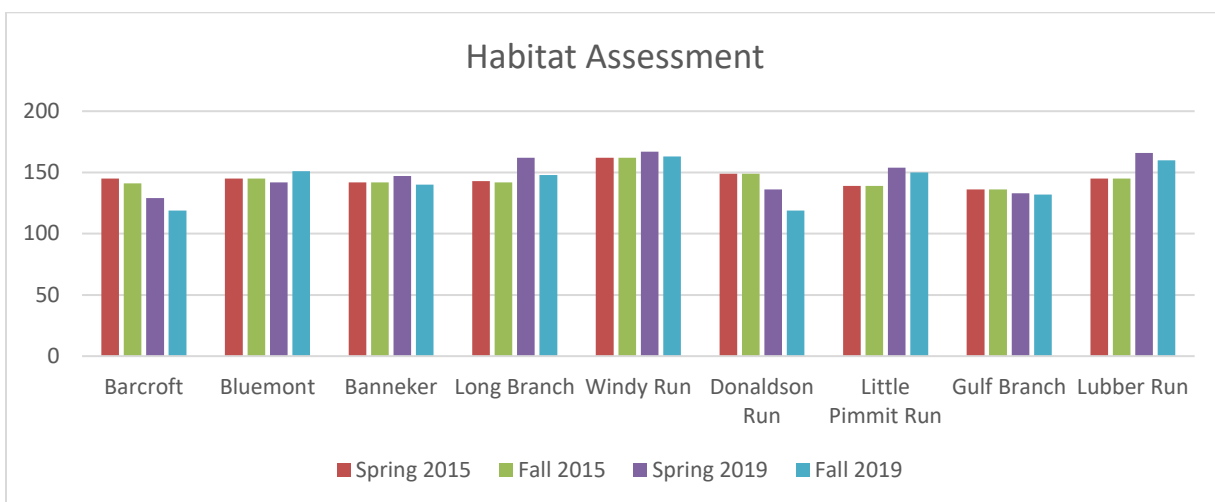
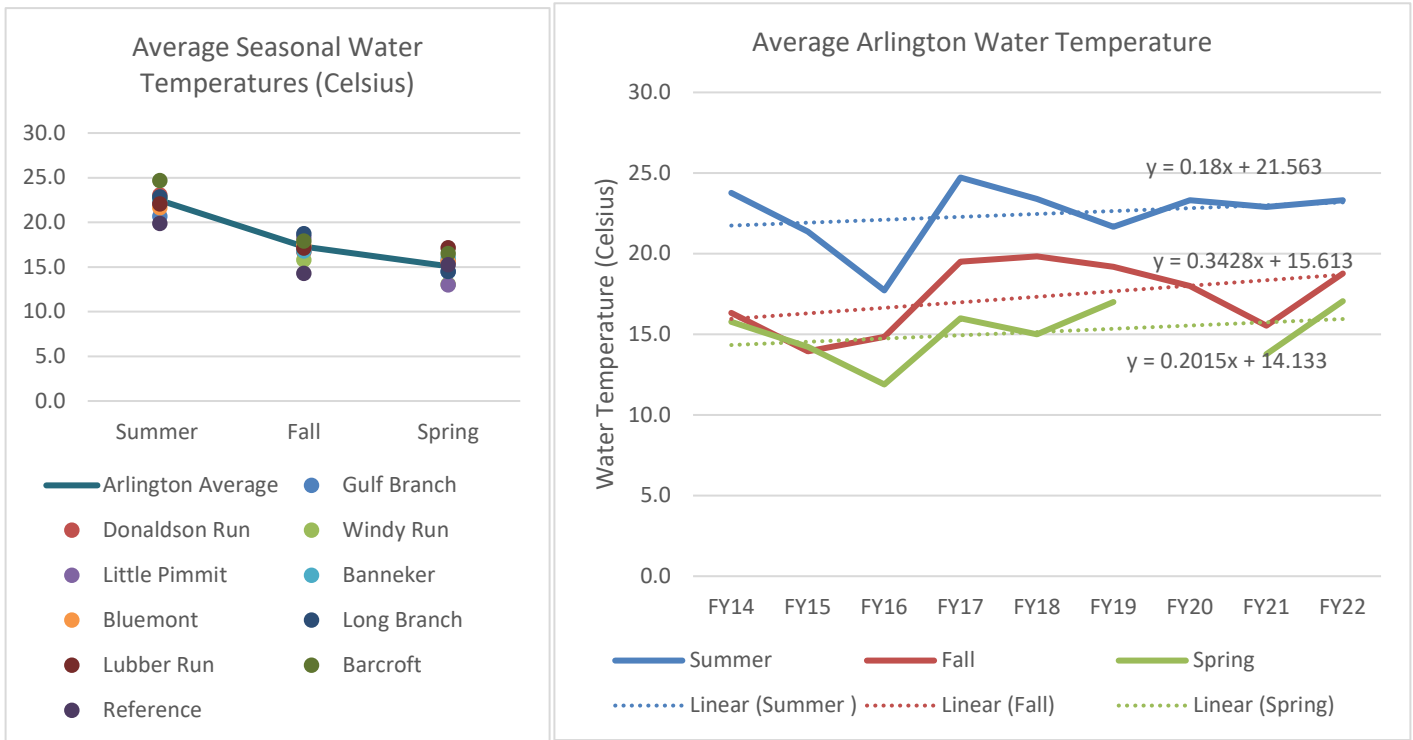


Figure 4: Habitat assessment scores

Water Temperature and pH

Volunteers also collect water temperature and pH at stream monitoring events, shown in figures 5-7. Any unusual chemical test values are reported to the program coordinator for follow-up.



Figures 5 and 6: Water temperatures by site, season and over time

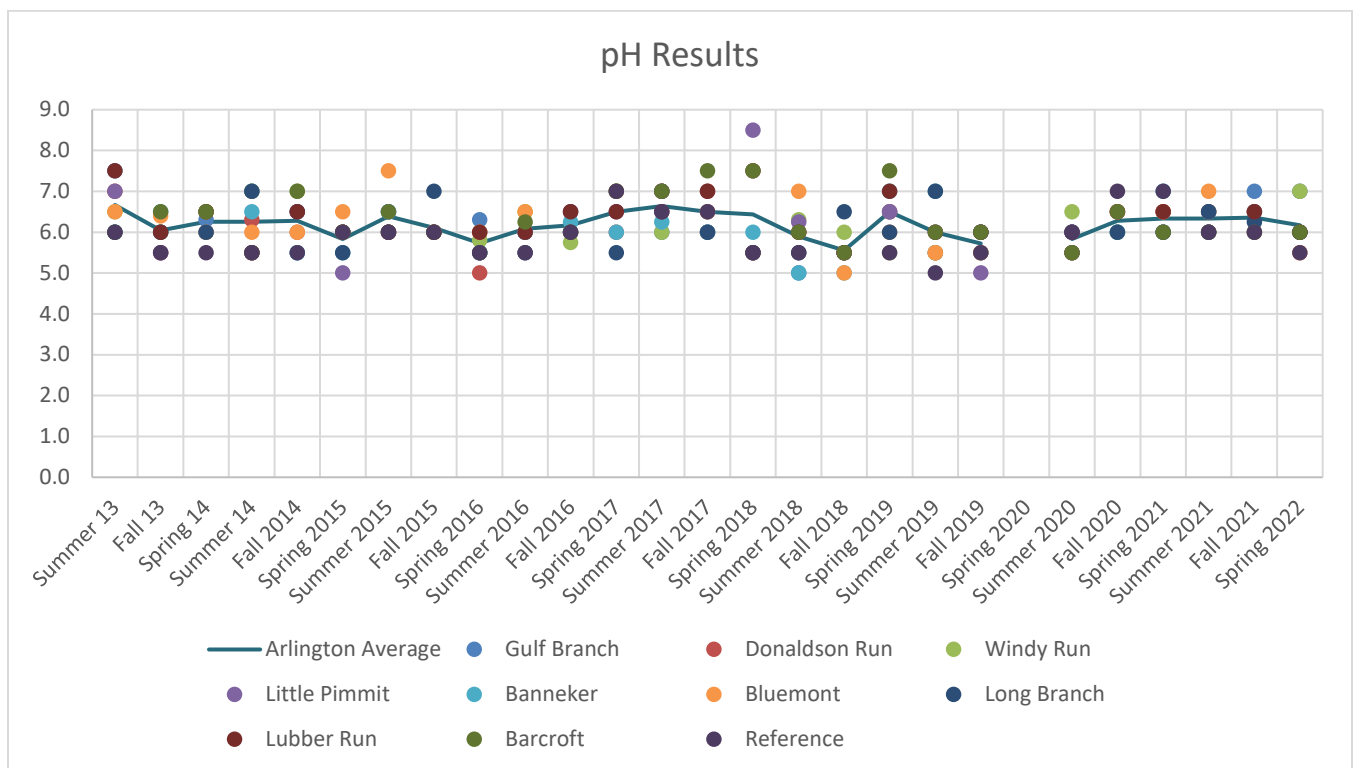


Figure 7: pH Results

Potential Trends

We continue to work to establish baseline data for macroinvertebrate monitoring sites, given the inherent variability and uncertainty of macroinvertebrate data. While long term trends are not available, seasonal patterns or other shorter-scale changes in metrics have been observed. It should be noted that statistical analysis has not been conducted to determine significance.

In the spring season, which typically runs from late April through May and is often dominated by Chironomidae, Arlington sites showed the highest tolerance and lowest taxa richness. The reference site, on the other hand, saw no such pattern. Arlington’s seasonal results may be impacted by the road treatments for winter frozen precipitation events (Table 6). It seems likely that the road treatments could impact our macroinvertebrate communities in combination with other urban stressors.

Winter	Number of Winter Weather Events	Number of Snow Operation Days	Date Range of Winter Weather
FY 2014	18	27	12/8/2013 – 03/25/2014
FY 2015	14	25	11/26/2014 – 03/07/2015
FY 2016	9	20	01/12/2016 – 03/19/2016
FY 2017	10	14	12/6/2016 – 3/15/2017
FY 2018	15	20	12/9/2017 – 3/21/2018
FY 2019	11	20	11/15/2018 – 3/4/2019
FY 2020	4	5	12/10/2019 – 01/17/2020
FY 2021	10	17	12/15/2020 – 2/22/2021
FY 2022	9	20	01/03/2022 – 03/12/2022

Table 6. Winter weather operations for Arlington County operations. Does not include VDOT information.

Weather, historic storms, illicit discharges and other disturbance have also impacted macroinvertebrates. In the weeks following an illicit discharge or other event, monitors may have difficulty reaching the required number of organisms. In subsequent seasons, streams appear to recover to the previously observed patterns.

Site	Drainage Area (mi ²)	% Impervious
Donaldson Run	0.37	28%
Windy Run	0.45	38%
Gulf Branch	0.66	30%
Long Branch	1.27	42%
Banneker	1.34	31%
Lubber Run	1.44	49%
Little Pimmit Run	1.48	37%
Bluemont	4.37	36%
Barcroft	10.75	41%

Table 7: Drainage Area, Percent Impervious

We also expect Arlington streams to be impacted by their urban watersheds. Many of Arlington’s original stream segments have been enclosed in pipes. Arlington has an overall impervious cover of 42%. The watershed imperviousness for our monitoring sites ranges from 28% to 49%. Sites with smaller drainage areas and lower imperviousness often see a more sensitive Family Biotic Index (Table 7).

Overall, high-impervious watersheds, “flashy” streams, and episodic nonpoint source pollution are likely key sources of stress in Arlington streams. The macroinvertebrate monitoring program data and analysis provide a window into Arlington stream communities’ resilience and help inform stormwater programs.

Appendix AR20 - Floatables Monitoring Summary

Summary of results for three sampling sites in FY22:

Stream Cleanup Report - FY2022																	
Number of Trash Pieces by Category in a 100-Foot Section of Stream																	
Location	Date	Cigarette Butts	Metal Cans	Glass Bottles	Glass Pieces	Plastic Bags	Plastic Container/Bottles	Plastic Pieces	Styrofoam Containers	Styrofoam Pieces	Cloth or Clothing	Tires	Balls	Plastic straps	Wrappers	Other*	Total Pieces
Barcroft Park(not 100')	9/18/2021	220	136	76	327	615	426	1,136	49	722	0	2	0	45	695	331	4,780
Arlington Mill	4/21/2022	22	5	2	24	8	10	20	2	15	5	0	3	0	4	10	130
Shirlington Park	5/20/2022	22	1	11	0	13	21	13	1	9	2	0	0	2	15	29	139
Total		264	142	89	351	636	457	1,169	52	746	7	2	3	47	714	370	5,049
Percentage		5.23%	2.81%	1.76%	6.95%	12.60%	9.05%	23.15%	1.03%	14.78%	0.14%	0.04%	0.06%	0.93%	14.14%	7.33%	100.00%

Data for FY14 through FY22 are provided in the graph below.

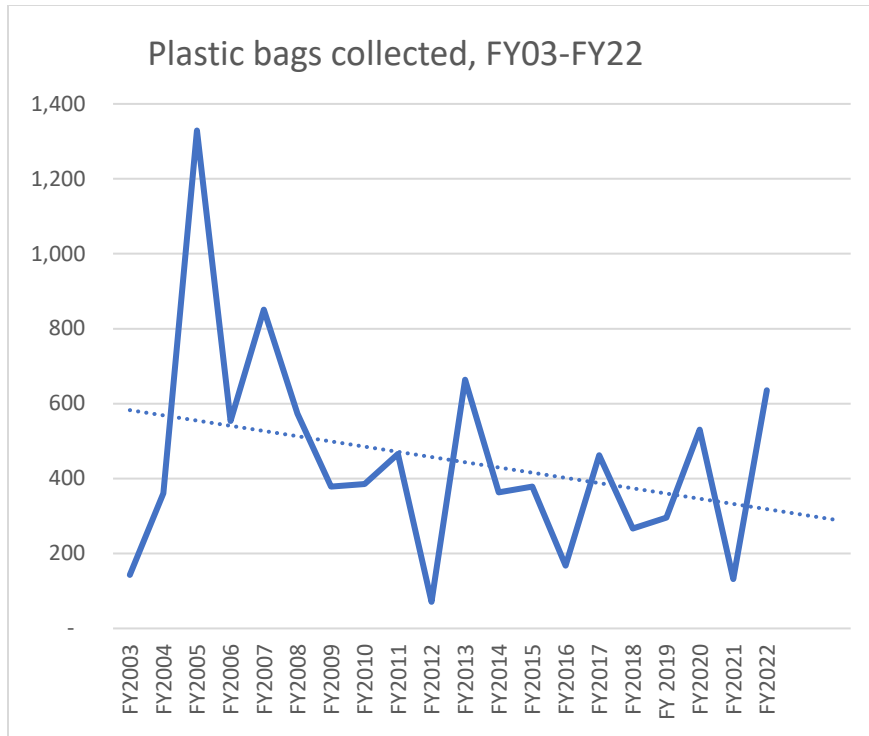
Overall, more pieces of trash were observed and collected in FY22 compared to the previous four years. This may have been the result of more people participating in the clean-ups. The fall stream cleanup event also had fewer volunteers due to rain.

For the first time in 19 years, the number of wrappers collected accounted for was the third largest number of pieces accounted for. Following plastic pieces, styrofoam pieces, wrappers, and plastic bags together accounted for 65 percent of the trash collected by abundance. The number of volunteers that participated in FY21 was 41 and in FY22 was 153. In increase of an additional 112 volunteers contribute to the to amount of trash that was collected in FY22.

Overall, plastic bags, plastic pieces, plastic containers, Styrofoam® pieces, wrappers and cigarette butts represent more than 60 percent of the total pieces collected from FY03 through FY21 (see pie chart included in this section).

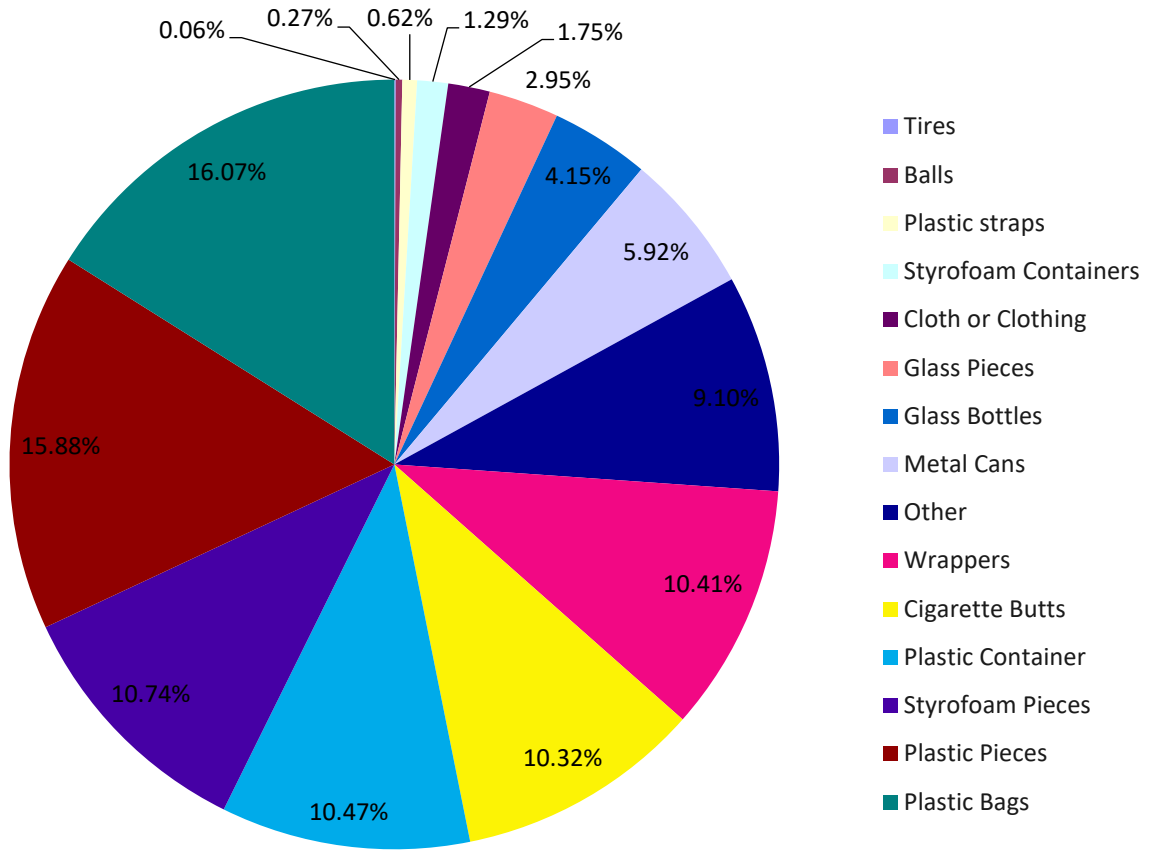
The data continue to be quite variable from year to year as shown in the first chart below. Sampling variation by volunteers and rainfall prior to sampling also likely affect the results. There is an encouraging potential downward trend with plastic bags (the largest source by count at 16.4%), but variability is also high.

The reduction in the number of plastic bags may be related to the recently adopted plastic bag tax. In 2020, the Virginia General Assembly adopted Virginia Code [58.1-1745](#), which authorizes any county or city in Virginia to impose a tax of five cents per bag on disposable plastic bags provided to customers by convenience stores, drugstores, and grocery stores. The Virginia Department of Tax Administration published [final Guidelines for the Virginia Disposable Plastic Bag Tax](#) on September 1, 2021. Arlington County adopted a plastic bag tax ordinance on September 18, 2021. The tax became effective January 1, 2022.



Both the resident and daytime population of Arlington has been growing substantially over the past several years, and trash generation and littering is an indicator of the impacts of these population increases. Keeping pace with these increases and their impacts through public and private refuse and recycling collection efforts, along with street sweeping, catch basin cleaning, retrofits, education, and other measures, will continue to be a challenging task in the years to come. The County has strong overall litter and recycling programs and requirements and also implements commercial ‘hotspot’ inspections as described in this report. Human behavior is difficult to control.

Stream trash collected by source at three locations in Arlington County, FY03 through FY22



In FY22, floatables found during dry weather and wet weather screening were similar to those found during sampling and clean-up events. Floatables observed during these screenings included aluminum cans, plastic bottles, cigarette ends, plastic bags, plastic wrappers associated with food packaging, pieces of plastic, paper, foil, and polystyrene, and organic materials.

Appendix AR21 - List of Facility Reports in GCP

ID	StructureID	DESCRIPTION	FacilityDescription	Release	TreatedArea	Impervious	TurfArea	ForestArea	DrainsToV	SWMFInstallDate	Maintenar	Jurisdiction	Watershed	ChesBaySeg	HUC6
41331	18-0155A	MANUFACTURED BMP	Stormtech - Isolator Row, outlet control in Bayfilter	Underdrain to Bayfilter	0.38	0.38	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41333	18-0155C	MANUFACTURED BMP	Bayfilter	Underdrain to Storm Sewer	0	0	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41334	18-0155D	BIORETENTION #1	Detached Planter Box #1A (12 inch ponding)	Underdrain to StormTech	0.02	0.02	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41335	18-0155E	BIORETENTION #1	Planter Box #1B (12 inch ponding)	Underdrain to Planter Box #1A	0.01	0.01	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41336	18-0155F	BIORETENTION #1	Planter Box #1C (12 inch ponding)	Underdrain to StormTech	0.01	0.01	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41337	18-0155G	BIORETENTION #1	Planter Box #1D (12 inch ponding)	Underdrain to StormTech	0.01	0.01	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41338	18-0155H	BIORETENTION #1	Planter Box #1E (6 inch ponding)	Underdrain to StormTech	0.0039	0.0039	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41339	18-0155I	BIORETENTION #1	Planter Box #2A (12 inch ponding)	Underdrain to StormTech	0.01	0.01	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41340	18-0155J	BIORETENTION #1	Planter Box #2B (12 inch ponding)	Underdrain to StormTech	0.01	0.01	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41341	18-0155K	BIORETENTION #1	Detached Planter Box #2C (12 inch ponding)	Underdrain to StormTech	0.03	0.03	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41342	18-0155L	BIORETENTION #1	Detached Planter Box #3A (12 inch ponding)	Underdrain to StormTech	0.01	0.01	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41343	18-0155M	BIORETENTION #1	Planter Box #3B (12 inch ponding)	Underdrain to StormTech	0.0046	0.0046	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41344	18-0155N	BIORETENTION #1	Planter Box #3C (12 inch ponding)	Underdrain to StormTech	0.01	0.01	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41345	18-0155O	BIORETENTION #1	Planter Box #3D (12 inch ponding)	Underdrain to StormTech	0.01	0.01	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41346	18-0155P	BIORETENTION #1	Planter Box #3E (12 inch ponding)	Underdrain to StormTech	0.0015	0.0015	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41347	18-0155Q	BIORETENTION #1	Planter Box #3F (12 inch ponding)	Underdrain to StormTech	0.01	0.01	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41348	18-0155R	BIORETENTION #1	Planter Box #4A (12 inch ponding)	Underdrain to Planter Box #4E	0.0074	0.0074	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41349	18-0155S	BIORETENTION #1	Planter Box #4B (12 inch ponding)	Underdrain to Planter Box #4E	0.01	0.01	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41350	18-0155T	BIORETENTION #1	Planter Box #4C (12 inch ponding)	Underdrain to Planter Box #4E	0.01	0.01	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41351	18-0155U	BIORETENTION #1	Planter Box #4D (12 inch ponding)	Underdrain to Planter Box #4E	0.02	0.02	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24
41352	18-0155V	BIORETENTION #1	Detached Planter Box #4E (12 inch ponding)	Underdrain to StormTech	0.03	0.03	0	0	Yes	03/30/2022	Yes	Private	Stohman's Run	POTTF_DC	PL24

Please note that all facilities are in series and the only one report to DEQ is 18-0155Q

Upload Status	Import ID	Tracking ID	BMP ID	Date Installed	NRCS Code	Clearinghouse BMP	BMP Name	Measure ment Name	Measure ment Unit	BMP Extent	Impervious Acres Treated	Runoff Treated (Acres-Feet)	Practice Description	Locality	Locality FIPS	ToLocality	HUC12	VAHU6	Latitude	Longitude	Existing Land Use	MS4 Service Area	Ownership Type	Maintenance Agreement	Action Plan
PASS	683654	ARLCO-2022-00489947	18-0155Q	03/30/2022		BB1	Bioretention	Area Treatment	ACRE	0.6074	0.6074	0.0506	BIORETENTION #1	ARLINGTON				PL24	38.926	-77.1266		Inside MS4	Private	Yes	Both

Import ID	Tracking ID	Data Provider	Installation Date	BMP NRC	BMP Name	Measure	Measure	BMP Ext	Impervio	Runoff A	Practice I	Locality	FIPS	To Local	HUC 12	HUC VA	Latitude	Longitude	Land Use	MS4 Serv	MS4 Own	Maintena	MS4 Acti	Facility	Contact N	Agency N	Inspection Dat	Inspectio	Inspectio	Status	Organiza	Submissi
683339	VADEQ-2022-00489633	51663	12/29/2021		Bioretention				0.0000			ARLINGTOI013				38.926200	-77.126900										12/29/2021	FAIL	Transform	Arlington C	2022	
683338	VADEQ-2022-00489632	51662	12/29/2021		Bioretentic Area Treat	ACRE		0.0200	0.0200			ARLINGTOI013				38.926200	-77.126900									12/29/2021	FAIL	Transform	Arlington C	2022		
683337	VADEQ-2022-00489631	51661	12/29/2021		Bioretentic Area Treat	ACRE		0.0200	0.0200			ARLINGTOI013				38.926200	-77.126900									12/29/2021	FAIL	Transform	Arlington C	2022		
683336	VADEQ-2022-00489630	51655	12/29/2021		Bioretentic Area Treat	ACRE		0.0100	0.0100			ARLINGTOI013				38.926200	-77.126900									12/29/2021	FAIL	Transform	Arlington C	2022		
683335	VADEQ-2022-00489629	51654	12/29/2021		Bioretentic Area Treat	ACRE		0.0100	0.0100			ARLINGTOI013				38.926200	-77.126900									12/29/2021	FAIL	Transform	Arlington C	2022		
683334	VADEQ-2022-00489628	51653	09/10/2021		Bioretentic Area Treat	ACRE		0.0200	0.0200			ARLINGTOI013				38.926200	-77.126900									09/10/2021	FAIL	Transform	Arlington C	2022		
683333	VADEQ-2022-00489627	51652	09/10/2021		Bioretention				0.0000			ARLINGTOI013				38.926200	-77.126900									09/10/2021	FAIL	Transform	Arlington C	2022		
683332	VADEQ-2022-00489626	51651	09/10/2021		Bioretentic Area Treat	ACRE		0.0100	0.0100			ARLINGTOI013				38.926200	-77.126900									09/10/2021	FAIL	Transform	Arlington C	2022		
683331	VADEQ-2022-00489625	51650	09/10/2021		Bioretentic Area Treat	ACRE		0.0200	0.0200			ARLINGTOI013				38.926200	-77.126900									09/10/2021	FAIL	Transform	Arlington C	2022		
683330	VADEQ-2022-00489624	51649	09/10/2021		Bioretention				0.0000			ARLINGTOI013				38.926200	-77.126900									09/10/2021	FAIL	Transform	Arlington C	2022		
683329	VADEQ-2022-00489623	51648	09/10/2021		Bioretentic Area Treat	ACRE		0.0100	0.0100			ARLINGTOI013				38.926200	-77.126900									09/10/2021	FAIL	Transform	Arlington C	2022		
683328	VADEQ-2022-00489622	51647	09/10/2021		Bioretentic Area Treat	ACRE		0.0300	0.0300			ARLINGTOI013				38.926200	-77.126900									09/10/2021	FAIL	Transform	Arlington C	2022		
683327	VADEQ-2022-00489621	51646	09/10/2021		Bioretentic Area Treat	ACRE		0.0200	0.0200			ARLINGTOI013				38.926200	-77.126900									09/10/2021	FAIL	Transform	Arlington C	2022		
683326	VADEQ-2022-00489620	51645	09/10/2021		Bioretentic Area Treat	ACRE		0.0200	0.0200			ARLINGTOI013				38.926200	-77.126900									09/10/2021	FAIL	Transform	Arlington C	2022		
683325	VADEQ-2022-00489619	51644	10/27/2021		Bioretention				0.0000			ARLINGTOI013				38.926200	-77.126900									10/27/2021	FAIL	Transform	Arlington C	2022		
683324	VADEQ-2022-00489618	51643	10/27/2021		Bioretentic Area Treat	ACRE		0.0100	0.0100			ARLINGTOI013				38.926200	-77.126900									10/27/2021	FAIL	Transform	Arlington C	2022		
683323	VADEQ-2022-00489617	51642	10/27/2021		Bioretentic Area Treat	ACRE		0.0100	0.0100			ARLINGTOI013				38.926200	-77.126900									10/27/2021	FAIL	Transform	Arlington C	2022		
683322	VADEQ-2022-00489616	51641	10/27/2021		Bioretentic Area Treat	ACRE		0.0100	0.0100			ARLINGTOI013				38.926200	-77.126900									10/27/2021	FAIL	Transform	Arlington C	2022		
683321	VADEQ-2022-00489615	51623	10/27/2021		Bioretentic Area Treat	ACRE		0.0300	0.0300			ARLINGTOI013				38.926200	-77.126900									10/27/2021	FAIL	Transform	Arlington C	2022		

Appendix AR22 AC MS4 BMP Template for DEQ Chesapeake Bay Warehouse

Upload Status	Import ID	Tracking ID	BMP ID	Date Installed	NRCS Code	BMP	BMP Name	Measurement Name	Measurement Unit	BMP Extent	Impervious Acres Treated	Runoff Treated (Acres-Fee)	Practice Description	Locality	Locality FIPS	ToLocality	HUC12	VAHU6	Latitude	Longitude	Existing Land Use	MS4 Service Area	Ownership Type	Maintenance Agreement	Action Plan
PASS	462508	ARLCO-2006-00268930	02-839A	11/02/2005			Proprietary Stormwater Treatment Device	Area Treated	ACRE	1.5820		1.2914	0.0659 8'X16" STORMFILTER	ARLINGTON				PL25	38.842089	-77.051174		Inside MS4 service area	Private	Yes	Both
PASS	462509	ARLCO-2006-0026931	02-839B	11/02/2005			Proprietary Stormwater Treatment Device	Area Treated	ACRE	2.5530		2.1190	0.1064 8'X16" STORMFILTER	ARLINGTON				PL25	38.842089	-77.051174		Inside MS4 service area	Private	Yes	Both
PASS	462495	ARLCO-2004-00269111	02-847	06/24/2004			Proprietary Stormwater Treatment Device	Area Treated	ACRE	0.3700		0.3700	0.0154 6'X12" STORMFILTER	ARLINGTON				PL24	38.897699	-77.077755		Inside MS4 service area	Private	Yes	Both
PASS	22524	ARLCO-2016-00022524	13-1499	09/26/2014		BB1	Bioretention	Area Treated	ACRE	0.1400		0.0602	0.01 BIoretention (12" PONDING)	ARLINGTON	013		020700100301	PL25	38.898011	-77.163488		Inside MS4 service area	Private	Yes	Both
PASS	683569	ARLCO-2022-00489863	15-1987A	07/01/2021		BB2	Bioretention	Area Treated	ACRE	0.9256		0.2305	1.1570 Bioretention #1 (9-inch ponding)	ARLINGTON				PL24	38.89994483	-77.11357347		Inside MS4 service area	Public	No	Both
PASS	683570	ARLCO-2022-00489864	15-1987B	07/01/2021		BB2	Bioretention	Area Treated	ACRE	0.3500		0.1800	0.4375 Bioretention #2 (9-inch ponding)	ARLINGTON				PL24	38.89987373	-77.11354775		Inside MS4 service area	Public	No	Both
PASS	683571	ARLCO-2022-00489865	15-1987C	07/01/2021		BP1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.7500		0.0750	0.0375 Permeable Paver Parking lot	ARLINGTON				PL24	38.84359399	-77.0574022		Inside MS4 service area	Public	No	Both
PASS	683572	ARLCO-2022-00489866	15-1987D	07/01/2021		BP2	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	1.7600		1.7600	1.9360 Artificial Turf	ARLINGTON				PL24	38.84702822	-77.06997082		Inside MS4 service area	Public	No	Both
PASS	683573	ARLCO-2022-00489867	15-1987E	07/01/2021		BP1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0400		0.0400	0.0400 Permeable Pavement - Flexipave	ARLINGTON				PL24	38.85252102	-77.05791738		Inside MS4 service area	Public	No	Both
PASS	683574	ARLCO-2022-00489868	15-1987F	07/01/2021		BB1	Bioretention	Area Treated	ACRE	0.2318		0.1885	0.2318 Bioretention (6 inch ponding)	ARLINGTON				PL24	38.895465	-77.07769284		Inside MS4 service area	Public	No	Both
PASS	683575	ARLCO-2022-00489869	15-1987G	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0010		0.0010	0.0011 Planter (43 sf)	ARLINGTON				PL24	38.86458244	-77.05351143		Inside MS4 service area	Private	Yes	Both
PASS	683576	ARLCO-2022-00489870	15-1987H	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0010		0.0010	0.0011 Planter (43 sf)	ARLINGTON				PL24	38.86456159	-77.05339046		Inside MS4 service area	Private	Yes	Both
PASS	683577	ARLCO-2022-00489871	15-1987I	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0010		0.0010	0.0011 Planter (43 sf)	ARLINGTON				PL24	38.86454416	-77.05326743		Inside MS4 service area	Private	Yes	Both
PASS	683578	ARLCO-2022-00489872	15-1987J	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0060		0.0060	0.0066 Planter (27 sf)	ARLINGTON				PL24	38.86452984	-77.05314394		Inside MS4 service area	Private	Yes	Both
PASS	683579	ARLCO-2022-00489873	15-1987K	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0028		0.0028	0.0031 Planter (121 sf)	ARLINGTON				PL24	38.86451381	-77.05308477		Inside MS4 service area	Private	Yes	Both
PASS	683580	ARLCO-2022-00489874	15-1987L	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0100		0.0100	0.0110 Tree planter strip (558 sf)	ARLINGTON				PL24	38.86458629	-77.05331729		Inside MS4 service area	Private	Yes	Both
PASS	683581	ARLCO-2022-00489875	15-1987M	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0023		0.0023	0.0025 Planter (101 sf)	ARLINGTON				PL24	38.86387859	-77.05331341		Inside MS4 service area	Private	Yes	Both
PASS	683582	ARLCO-2022-00489876	15-1987N	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0008		0.0008	0.0009 Planter (35 sf)	ARLINGTON				PL24	38.86388477	-77.05341409		Inside MS4 service area	Private	Yes	Both
PASS	683583	ARLCO-2022-00489877	15-1987O	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0020		0.0020	0.0022 Street tree planter (88 sf)	ARLINGTON				PL24	38.86400342	-77.05389684		Inside MS4 service area	Private	Yes	Both
PASS	683584	ARLCO-2022-00489878	15-1987P	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0010		0.0010	0.0011 Street tree planter (43 sf)	ARLINGTON				PL24	38.86409616	-77.05387381		Inside MS4 service area	Private	Yes	Both
PASS	683585	ARLCO-2022-00489879	15-1987Q	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0008		0.0008	0.0009 Street tree planter (36 sf)	ARLINGTON				PL24	38.86415809	-77.05385819		Inside MS4 service area	Private	Yes	Both
PASS	683586	ARLCO-2022-00489880	15-1987R	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0020		0.0020	0.0022 Street tree planter (89 sf)	ARLINGTON				PL24	38.86423558	-77.05383826		Inside MS4 service area	Private	Yes	Both
PASS	683587	ARLCO-2022-00489881	15-1987S	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0100		0.0100	0.0110 Tree planter strip (785 sf)	ARLINGTON				PL24	38.86385442	-77.05340791		Inside MS4 service area	Private	Yes	Both
PASS	683588	ARLCO-2022-00489882	15-1987T	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0100		0.0100	0.0110 Planting bed (557 sf)	ARLINGTON				PL24	38.86436824	-77.05319452		Inside MS4 service area	Private	Yes	Both
PASS	683589	ARLCO-2022-00489883	15-1987U	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0071		0.0071	0.0078 Planting bed (311 sf)	ARLINGTON				PL24	38.86434788	-77.0533797		Inside MS4 service area	Private	Yes	Both
PASS	683590	ARLCO-2022-00489884	15-1987V	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0080		0.0080	0.0088 Planting bed (348 sf)	ARLINGTON				PL24	38.86428549	-77.05330717		Inside MS4 service area	Private	Yes	Both
PASS	683591	ARLCO-2022-00489885	15-1987X	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0100		0.0100	0.0110 Green roof (488 sf)	ARLINGTON				PL24	38.86421246	-77.05335865		Inside MS4 service area	Private	Yes	Both
PASS	683592	ARLCO-2022-00489886	15-1987Y	07/01/2021		BVR2	Green Roofs	Area Treated	ACRE	0.0021		0.0021	0.0023 Tree planter (93)	ARLINGTON				PL24	38.86424276	-77.05343762		Inside MS4 service area	Private	Yes	Both
PASS	437849	ARLCO-2019-00250154	15-2091A	11/01/2018			Retrofit Stormwater Treatment	Site Area	ACRE	1.1639		0.5900	0.05 1,639 sf; 3 tiered cells separated by concrete	ARLINGTON	013		020700100103	PL24	38.911685	-77.138591		Inside MS4 service area	Public	No	Both
PASS	437848	ARLCO-2019-00250153	15-2091B	11/01/2018			Retrofit Stormwater Treatment	Site Area	ACRE	0.9200		0.5300	0.0500 1,639 sf; 3 tiered cells separated by concrete	ARLINGTON	013		020700100103	PL24	38.911471	-77.138685		Inside MS4 service area	Public	No	Both
PASS	683593	ARLCO-2022-00489887	15-2112A	08/27/2021			Proprietary Stormwater Treatment Device	Area Treated	ACRE	1.5200		1.3500	0.1267 MANUFACTURED BMP	ARLINGTON				PL25	38.84417659	-77.08317434		Inside MS4 service area	Private	Yes	Both
PASS	564071	ARLCO-2017-00370331	15-2195C	07/12/2016		BP1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0109		0.0109	0.0008 PERMEABLE PAVEMENT #1	ARLINGTON			020700100103	PL25	38.905399	-77.152175		Inside MS4 service area	Private	Yes	Both
PASS	683594	ARLCO-2022-00489888	16-0020A	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0600		0.0600	0.0660 Planting bed (2652 sf)	ARLINGTON	015		020700100103	PL24	38.86412344	-77.05340801		Inside MS4 service area	Private	Yes	Both
PASS	683595	ARLCO-2022-00489889	16-0020B	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0300		0.0300	0.0330 Extensive green roof (1562 sf)	ARLINGTON				PL24	38.86446086	-77.05316582		Inside MS4 service area	Private	Yes	Both
PASS	683596	ARLCO-2022-00489890	16-0020C	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0700		0.0700	0.0770 Extensive green roof (3053 sf)	ARLINGTON				PL24	38.86433249	-77.05365869		Inside MS4 service area	Private	Yes	Both
PASS	683597	ARLCO-2022-00489891	16-0020D	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0300		0.0300	0.0330 Extensive green roof (1683 sf)	ARLINGTON				PL24	38.86441639	-77.05350333		Inside MS4 service area	Private	Yes	Both
PASS	683598	ARLCO-2022-00489892	16-0020E	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0100		0.0100	0.0110 Extensive green roof (5573 sf)	ARLINGTON				PL24	38.86421219	-77.05364668		Inside MS4 service area	Private	Yes	Both
PASS	683599	ARLCO-2022-00489893	16-0020F	01/18/2022		BP2	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0700		0.0700	0.0770 Storage in stone underneath of pavers	ARLINGTON				PL24	38.86454126	-77.05377156		Inside MS4 service area	Private	Yes	Both
PASS	683600	ARLCO-2022-00489894	16-0020G	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0100		0.0100	0.0110 Intensive Green Roof A - 696 sf	ARLINGTON				PL24	38.8793195	-77.10975474		Inside MS4 service area	Private	Yes	Both
PASS	683601	ARLCO-2022-00489895	16-0020H	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0058		0.0058	0.0064 Intensive Green Roof B - 252 sf	ARLINGTON				PL24	38.87923744	-77.10971345		Inside MS4 service area	Private	Yes	Both
PASS	683602	ARLCO-2022-00489896	16-0020I	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0035		0.0035	0.0039 Intensive Green Roof C - 153 sf	ARLINGTON				PL24	38.87913737	-77.10975541		Inside MS4 service area	Private	Yes	Both
PASS	683603	ARLCO-2022-00489897	16-0020J	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0026		0.0026	0.0029 Intensive Green Roof D - 113 sf	ARLINGTON				PL24	38.87912741	-77.1096684		Inside MS4 service area	Private	Yes	Both
PASS	683604	ARLCO-2022-00489898	16-0020K	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0087		0.0087	0.0096 Intensive Green Roof E - 378 sf	ARLINGTON				PL24	38.8790838	-77.10966639		Inside MS4 service area	Private	Yes	Both
PASS	683605	ARLCO-2022-00489899	16-0020L	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0033		0.0033	0.0036 Intensive Green Roof F - 145 sf	ARLINGTON				PL24	38.8790543	-77.10953402		Inside MS4 service area	Private	Yes	Both
PASS	683606	ARLCO-2022-00489900	16-0020M	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0042		0.0042	0.0046 Intensive Green Roof G - 184 sf	ARLINGTON				PL24	38.87909538	-77.10941743		Inside MS4 service area	Private	Yes	Both
PASS	683607	ARLCO-2022-00489901	16-0020N	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0019		0.0019	0.0021 Intensive Green Roof H - 83 sf	ARLINGTON				PL24	38.87921215	-77.10937086		Inside MS4 service area	Private	Yes	Both
PASS	683608	ARLCO-2022-00489902	16-0020O	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0006		0.0006	0.0007 Intensive Green Roof I - 26 sf	ARLINGTON				PL24	38.87934247	-77.10933545		Inside MS4 service area	Private	Yes	Both
PASS	683609	ARLCO-2022-00489903	16-0020P	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0037		0.0037	0.0041 Intensive Green Roof J - 163 sf	ARLINGTON				PL24	38.87932769	-77.10940864		Inside MS4 service area	Private	Yes	Both
PASS	683610	ARLCO-2022-00489904	16-0020Q	01/18/2022		BVR2	Green Roofs	Area Treated	ACRE	0.0078		0.0078	0.0086 Intensive Green Roof K - 341 sf	ARLINGTON				PL24	38.87943829	-77.10959519		Inside MS4 service area	Private	Yes	Both
PASS	683611	ARLCO-2022-00489905	16-0046D	08/13/2021		BB1																			

PASS	683772	ARLCO-2022-00490064	20-0143E	05/19/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0017 BIORETENTION #1	ARLINGTON	PL24	38.90339228	-77.1090989	Inside MS4 service area	Private	Yes	Both
PASS	683773	ARLCO-2022-00490065	20-0145A	08/13/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter box #1(12 inch ponding)	ARLINGTON	PL24	38.90434044	-77.11280858	Inside MS4 service area	Private	Yes	Both
PASS	683774	ARLCO-2022-00490066	20-0150B	05/16/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0008 BIORETENTION #1	ARLINGTON	PL24	38.84662454	-77.06325015	Inside MS4 service area	Private	Yes	Both
PASS	683775	ARLCO-2022-00490067	20-0150C	05/16/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box #2 (11 inch ponding)	ARLINGTON	PL24	38.84648936	-77.06345227	Inside MS4 service area	Private	Yes	Both
PASS	683776	ARLCO-2022-00490068	20-0150D	05/16/2022	BB1	Bioretention	Area Treated	ACRE	0.0300	0.0300	0.0300 Planter Box B (12 inch ponding)	ARLINGTON	PL24	38.84653587	-77.06306714	Inside MS4 service area	Private	Yes	Both
PASS	683777	ARLCO-2022-00490069	20-0151A	12/29/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box#1 (12 inch ponding)	ARLINGTON	PL24	38.91472608	-77.11341686	Inside MS4 service area	Private	Yes	Both
PASS	683778	ARLCO-2022-00490070	20-0151B	12/29/2021	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200 Planter Box#2 (12 inch ponding)	ARLINGTON	PL24	38.91458243	-77.11335008	Inside MS4 service area	Private	Yes	Both
PASS	683779	ARLCO-2022-00490071	20-0152B	10/11/2021	BI2	Infiltration Practices	Area Treated	ACRE	0.0200	0.0200	0.0018 INFILTRATION #2	ARLINGTON	PL24	38.91301714	-77.1408942	Inside MS4 service area	Private	Yes	Both
PASS	683780	ARLCO-2022-00490072	20-0155A	11/15/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box#1 (12 inch ponding)	ARLINGTON	PL24	38.8942675	-77.10388779	Inside MS4 service area	Private	Yes	Both
PASS	683781	ARLCO-2022-00490073	20-0155B	11/15/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box#2 (12 inch ponding)	ARLINGTON	PL24	38.89426679	-77.10382832	Inside MS4 service area	Private	Yes	Both
PASS	683782	ARLCO-2022-00490074	20-0155C	11/15/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box#3 (12 inch ponding)	ARLINGTON	PL24	38.89426918	-77.10378893	Inside MS4 service area	Private	Yes	Both
PASS	683783	ARLCO-2022-00490075	20-0155D	11/15/2021	BPP1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0099	0.0099	0.0099 Permeable Pavement #1	ARLINGTON	PL24	38.89424338	-77.10366315	Inside MS4 service area	Private	Yes	Both
PASS	683784	ARLCO-2022-00490076	20-0156A	08/04/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 PLANTER BOX #1 (12 inch ponding)	ARLINGTON	PL25	38.89954545	-77.16060407	Inside MS4 service area	Private	Yes	Both
PASS	683785	ARLCO-2022-00490077	20-0156B	08/04/2021	BB1	Bioretention	Area Treated	ACRE	0.0049	0.0049	0.0049 PLANTER BOX #2 (12 inch ponding)	ARLINGTON	PL25	38.89964949	-77.16053803	Inside MS4 service area	Private	Yes	Both
PASS	683786	ARLCO-2022-00490078	20-0156C	08/04/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 PLANTER BOX #3 (12 inch ponding)	ARLINGTON	PL25	38.89959842	-77.16054521	Inside MS4 service area	Private	Yes	Both
PASS	683787	ARLCO-2022-00490079	20-0156D	08/04/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 PLANTER BOX #4 (12 inch ponding)	ARLINGTON	PL25	38.89954551	-77.16057803	Inside MS4 service area	Private	Yes	Both
PASS	683788	ARLCO-2022-00490080	20-0160A	07/30/2021	BPP1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0057	0.0057	0.0057 Permeable driveway	ARLINGTON	PL25	38.89586499	-77.15276834	Inside MS4 service area	Private	Yes	Both
PASS	683789	ARLCO-2022-00490081	20-0165A	04/12/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box #1 (12 inch ponding)	ARLINGTON	PL24	38.89455779	-77.10825093	Inside MS4 service area	Private	Yes	Both
PASS	683790	ARLCO-2022-00490082	20-0165B	04/12/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200 Planter Box #2 Rear (12 inch ponding)	ARLINGTON	PL24	38.89434886	-77.10831581	Inside MS4 service area	Private	Yes	Both
PASS	683791	ARLCO-2022-00490083	20-0165C	04/12/2022	BB1	Bioretention	Area Treated	ACRE	0.0077	0.0077	0.0077 Detached Planter Box #3 (12 Inch ponding)	ARLINGTON	PL24	38.89417296	-77.10826927	Inside MS4 service area	Private	Yes	Both
PASS	683792	ARLCO-2022-00490084	20-0165D	04/12/2022	BPP1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0100	0.0100	0.0100 Permeable Pavers - Front section	ARLINGTON	PL24	38.8945077	-77.10835883	Inside MS4 service area	Private	Yes	Both
PASS	683793	ARLCO-2022-00490085	20-0165E	04/12/2022	BPP1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0200	0.0200	0.0200 Permeable Pavement - Rear section	ARLINGTON	PL24	38.89429351	-77.10832724	Inside MS4 service area	Private	Yes	Both
PASS	683794	ARLCO-2022-00490086	20-0168A	07/27/2021	BB1	Bioretention	Area Treated	ACRE	0.0300	0.0300	0.0300 Planter Box #1 (12-inch ponding)	ARLINGTON	PL24	38.91373216	-77.1284722	Inside MS4 service area	Private	Yes	Both
PASS	683795	ARLCO-2022-00490087	20-0168B	07/27/2021	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200 Planter Box #2 (12-inch ponding)	ARLINGTON	PL24	38.91362711	-77.12841277	Inside MS4 service area	Private	Yes	Both
PASS	683796	ARLCO-2022-00490088	20-0169A	01/28/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 planter box # 1 (12 inch ponding depth)	ARLINGTON	PL25	38.86503648	-77.07542958	Inside MS4 service area	Private	Yes	Both
PASS	683797	ARLCO-2022-00490089	20-0169B	01/28/2022	BB1	Bioretention	Area Treated	ACRE	0.0077	0.0077	0.0077 planter box # 2 (12 inch ponding)	ARLINGTON	PL25	38.86501965	-77.07560851	Inside MS4 service area	Private	Yes	Both
PASS	683798	ARLCO-2022-00490090	20-0169C	01/28/2022	BB1	Bioretention	Area Treated	ACRE	0.0077	0.0077	0.0077 Planter box # 3 (12 inch ponding)	ARLINGTON	PL25	38.86512294	-77.07545009	Inside MS4 service area	Private	Yes	Both
PASS	683799	ARLCO-2022-00490091	20-0170A	10/04/2021	BB1	Bioretention	Area Treated	ACRE	0.0088	0.0088	0.0088 Planter box 1 (6 inch ponding)	ARLINGTON	PL23	38.88918095	-77.11806913	Inside MS4 service area	Private	Yes	Both
PASS	683800	ARLCO-2022-00490092	20-0171A	04/29/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200 planter box1 (12 inch ponding)	ARLINGTON	PL25	38.88514497	-77.15843152	Inside MS4 service area	Private	Yes	Both
PASS	683801	ARLCO-2022-00490093	20-0171B	04/29/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 planter box 2 (12 inch ponding)	ARLINGTON	PL25	38.88513896	-77.15863602	Inside MS4 service area	Private	Yes	Both
PASS	683802	ARLCO-2022-00490094	20-0171C	04/29/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 planter box 3 (12 inch ponding)	ARLINGTON	PL25	38.88509349	-77.15876042	Inside MS4 service area	Private	Yes	Both
PASS	683803	ARLCO-2022-00490095	20-0171A	10/07/2021	BB1	Bioretention	Area Treated	ACRE	0.0081	0.0081	0.0081 Detached planter box #1 (12 inch Ponding)	ARLINGTON	PL25	38.87653491	-77.12202065	Inside MS4 service area	Private	Yes	Both
PASS	683804	ARLCO-2022-00490096	20-0175A	08/19/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 planter box #1 (12 inch ponding)	ARLINGTON	PL24	38.89317128	-77.11407082	Inside MS4 service area	Private	Yes	Both
PASS	683805	ARLCO-2022-00490097	20-0175B	08/19/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box #2 (12 inch ponding)	ARLINGTON	PL24	38.88914929	-77.1114202	Inside MS4 service area	Private	Yes	Both
PASS	683806	ARLCO-2022-00490098	20-0180A	12/21/2021	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200 Planter Box #1A (5 inch ponding)	ARLINGTON	PL25	38.87867335	-77.11595312	Inside MS4 service area	Private	Yes	Both
PASS	683807	ARLCO-2022-00490099	20-0180B	12/21/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box #2A (5 inch ponding)	ARLINGTON	PL25	38.87864072	-77.11618457	Inside MS4 service area	Private	Yes	Both
PASS	683808	ARLCO-2022-00490100	20-0180C	12/21/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box #1B (6 inch ponding)	ARLINGTON	PL25	38.87884708	-77.11605816	Inside MS4 service area	Private	Yes	Both
PASS	683809	ARLCO-2022-00490101	20-0180D	12/21/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box #2B (6 inch ponding)	ARLINGTON	PL25	38.87871729	-77.11621662	Inside MS4 service area	Private	Yes	Both
PASS	683810	ARLCO-2022-00490102	20-0183	07/09/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box#1 (12-inch Ponding)	ARLINGTON	PL24	38.89810975	-77.13720663	Inside MS4 service area	Private	Yes	Both
PASS	683811	ARLCO-2022-00490103	20-0185A	01/06/2022	BB1	Bioretention	Area Treated	ACRE	0.0061	0.0061	0.0061 Planter Box #1 (12 inch ponding)	ARLINGTON	PL24	38.8856881	-77.0914192	Inside MS4 service area	Private	Yes	Both
PASS	683812	ARLCO-2022-00490104	20-0185B	01/06/2022	BB1	Bioretention	Area Treated	ACRE	0.0065	0.0065	0.0065 Planter Box #2 (12 inch ponding)	ARLINGTON	PL24	38.88567752	-77.09149525	Inside MS4 service area	Private	Yes	Both
PASS	683813	ARLCO-2022-00490105	20-0185C	01/06/2022	BB1	Bioretention	Area Treated	ACRE	0.0300	0.0300	0.0300 Planter Box #3 (12 inch ponding)	ARLINGTON	PL24	38.88560553	-77.09160901	Inside MS4 service area	Private	Yes	Both
PASS	683814	ARLCO-2022-00490106	20-0190A	12/28/2021	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200 Planter Box#1 (12 inch ponding)	ARLINGTON	PL24	38.88827434	-77.11152164	Inside MS4 service area	Private	Yes	Both
PASS	683815	ARLCO-2022-00490107	20-0190B	12/28/2021	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200 Planter Box#2 (12 inch ponding)	ARLINGTON	PL24	38.88835263	-77.11157971	Inside MS4 service area	Private	Yes	Both
PASS	683816	ARLCO-2022-00490108	20-0190C	12/28/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box#3 (12 inch ponding)	ARLINGTON	PL24	38.88837835	-77.1113475	Inside MS4 service area	Private	Yes	Both
PASS	683817	ARLCO-2022-00490109	20-0190D	12/28/2021	BB1	Bioretention	Area Treated	ACRE	0.0031	0.0031	0.0031 Planter box 4 (12 inch ponding)	ARLINGTON	PL24	38.88829871	-77.11135103	Inside MS4 service area	Private	Yes	Both
PASS	683818	ARLCO-2022-00490110	20-0190E	12/28/2021	BPP1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0200	0.0200	0.0200 Pervious Driveway	ARLINGTON	PL24	38.88844684	-77.11140774	Inside MS4 service area	Private	Yes	Both
PASS	683819	ARLCO-2022-00490111	20-0192A	08/25/2021	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200 Planter Box #1 (12 inch ponding) - Lot 20	ARLINGTON	PL25	38.89663397	-77.10919425	Inside MS4 service area	Private	Yes	Both
PASS	683820	ARLCO-2022-00490112	20-0192B	08/25/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box #2 (12 inch ponding) - Lot 20	ARLINGTON	PL25	38.89594932	-77.10930383	Inside MS4 service area	Private	Yes	Both
PASS	683821	ARLCO-2022-00490113	20-0192C	08/25/2021	BPP1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0100	0.0100	0.0100 Permeable Paver Driveway - Lot 20	ARLINGTON	PL25	38.89516167	-77.10924133	Inside MS4 service area	Private	Yes	Both
PASS	683822	ARLCO-2022-00490114	20-0192D	10/01/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box #3 (12 inch ponding) - Lot 19	ARLINGTON	PL25	38.85972767	-77.10914847	Inside MS4 service area	Private	Yes	Both
PASS	683823	ARLCO-2022-00490115	20-0192E	10/01/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 Planter Box #4 (12 inch ponding) - Lot 19	ARLINGTON	PL25	38.85969047	-77.10901416	Inside MS4 service area	Private	Yes	Both
PASS	683824	ARLCO-2022-00490116	20-0201A	10/19/2021	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200 planter box # 1 (12 inch ponding)	ARLINGTON	PL25	38.87464262	-77.12081114	Inside MS4 service area	Private	Yes	Both
PASS	683825	ARLCO-2022-00490117	20-0201B	10/19/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100 planter box #2 (12 inch ponding)	ARLINGTON	PL25	38.87466547	-77.1210039	Inside MS4 service area	Private	Yes	Both
PASS	683826	ARLCO-2022-00490118	20-0202B	11/17/2021	BB1	Bioretention	Area Treated	ACRE	0.0300	0.0300	0.0025 BIORETENTION #1	ARLINGTON	PL24	38.90170479	-77.15640586	Inside MS4 service area	Private	Yes	Both
PASS	683827	ARLCO-2022-00490119																	

PASS	683879	ARLCO-2022-00490171	20-0266A	04/15/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	planter box # 1 (12 Inch ponding)	ARLINGTON	PL24	38.91654998	-77.12852627	Inside M54 service area	Private	Yes	Both
PASS	683880	ARLCO-2022-00490172	20-0266B	04/15/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	planter box #2 (12 inch ponding)	ARLINGTON	PL24	38.91642125	-77.12846355	Inside M54 service area	Private	Yes	Both
PASS	683881	ARLCO-2022-00490173	20-0266C	04/15/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	planter box #3 (12 inch ponding)	ARLINGTON	PL24	38.91657661	-77.12833198	Inside M54 service area	Private	Yes	Both
PASS	683882	ARLCO-2022-00490174	20-0266A	03/03/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	planter box 1 (6 inch ponding)	ARLINGTON	PL24	38.89071171	-77.09641901	Inside M54 service area	Private	Yes	Both
PASS	683883	ARLCO-2022-00490175	20-0268B	03/03/2022	BB1	Bioretention	Area Treated	ACRE	0.0087	0.0087	0.0087	planter box 2 (6 inch ponding)	ARLINGTON	PL24	38.89083649	-77.09648958	Inside M54 service area	Private	Yes	Both
PASS	683884	ARLCO-2022-00490176	20-0268C	03/03/2022	BB1	Bioretention	Area Treated	ACRE	0.0097	0.0097	0.0097	planter box 3 (7 Inch ponding)	ARLINGTON	PL24	38.89079844	-77.09658844	Inside M54 service area	Private	Yes	Both
PASS	683885	ARLCO-2022-00490177	20-0268D	03/03/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	planter box 4 (6 Inch ponding)	ARLINGTON	PL24	38.89085508	-77.09659075	Inside M54 service area	Private	Yes	Both
PASS	683886	ARLCO-2022-00490178	20-0271F	12/01/2021	BB1	Bioretention	Area Treated	ACRE	0.0341	0.0341	0.0341	0.0028 Planter Box#6 (12 inch ponding)	ARLINGTON	PL24	38.90487438	-77.10779126	Inside M54 service area	Private	Yes	Both
PASS	683887	ARLCO-2022-00490179	20-0271G	12/01/2021	BB1	Bioretention	Area Treated	ACRE	0.0700	0.0700	0.0700	0.0058 BIORETENTION #1	ARLINGTON	PL24	38.90486885	-77.10777241	Inside M54 service area	Private	Yes	Both
PASS	683888	ARLCO-2022-00490180	21-0001A	12/03/2021	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 Planter Box (12 inch ponding)	ARLINGTON	PL25	38.87993475	-77.12366865	Inside M54 service area	Private	Yes	Both
PASS	683889	ARLCO-2022-00490181	21-0003A	10/29/2021	BB1	Bioretention	Area Treated	ACRE	0.0067	0.0067	0.0067	0.0067 Detached Planter Box #1 (12 inch ponding)	ARLINGTON	PL24	38.89177374	-77.08963547	Inside M54 service area	Private	Yes	Both
PASS	683890	ARLCO-2022-00490182	21-0003B	10/29/2021	BB1	Bioretention	Area Treated	ACRE	0.0067	0.0067	0.0067	0.0067 Detached Planter Box#2 (12 inch ponding)	ARLINGTON	PL24	38.8917289	-77.08965181	Inside M54 service area	Private	Yes	Both
PASS	683891	ARLCO-2022-00490183	21-0005B	05/20/2022	BB1	Bioretention	Area Treated	ACRE	0.0300	0.0300	0.0300	0.0025 BIORETENTION #1	ARLINGTON	PL25	38.88729722	-77.13667039	Inside M54 service area	Private	Yes	Both
PASS	683892	ARLCO-2022-00490184	21-0006A	04/26/2022	BB1	Bioretention	Area Treated	ACRE	0.0059	0.0059	0.0059	0.0059 Planter Box #1 (12 inch ponding)	ARLINGTON	PL24	38.92211728	-77.13072023	Inside M54 service area	Private	Yes	Both
PASS	683893	ARLCO-2022-00490185	21-0007A	02/11/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0017 BIORETENTION #1	ARLINGTON	PL24	38.91703023	-77.13437436	Inside M54 service area	Private	Yes	Both
PASS	683894	ARLCO-2022-00490186	21-0007C	02/11/2022	BB1	Bioretention	Area Treated	ACRE	0.0261	0.0261	0.0261	0.0022 BIORETENTION #1	ARLINGTON	PL24	38.91692269	-77.13454385	Inside M54 service area	Private	Yes	Both
PASS	683895	ARLCO-2022-00490187	21-0007E	02/11/2022	BP1P1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0100	0.0100	0.0100	0.0100 pervious driveway	ARLINGTON	PL24	38.91688014	-77.13449845	Inside M54 service area	Private	Yes	Both
PASS	683896	ARLCO-2022-00490188	21-0011A	02/24/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 Planter Box#1 (12 inch Ponding)	ARLINGTON	PL25	38.88804037	-77.11709575	Inside M54 service area	Private	Yes	Both
PASS	683897	ARLCO-2022-00490189	21-0011B	02/24/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 Planter Box#2 (12 inch Ponding)	ARLINGTON	PL25	38.88921927	-77.11711663	Inside M54 service area	Private	Yes	Both
PASS	683898	ARLCO-2022-00490190	21-0011C	02/24/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 Planter Box#3	ARLINGTON	PL25	38.88877387	-77.11693468	Inside M54 service area	Private	Yes	Both
PASS	683899	ARLCO-2022-00490191	21-0011E	02/24/2022	BP1P1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0094	0.0094	0.0094	0.0094 Porous Driveway	ARLINGTON	PL25	38.88843554	-77.11698092	Inside M54 service area	Private	Yes	Both
PASS	683900	ARLCO-2022-00490192	21-0015A	06/23/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 Planter box#1 (12 inch ponding)	ARLINGTON	PL24	38.90142215	-77.14870947	Inside M54 service area	Private	Yes	Both
PASS	683901	ARLCO-2022-00490193	21-0015B	06/23/2022	BB1	Bioretention	Area Treated	ACRE	0.0098	0.0098	0.0098	0.0098 Planter box#2 (12 inch ponding)	ARLINGTON	PL24	38.90127523	-77.1485495	Inside M54 service area	Private	Yes	Both
PASS	683902	ARLCO-2022-00490194	21-0015C	06/23/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 Planter box#3 (12 inch ponding)	ARLINGTON	PL24	38.90125027	-77.14862099	Inside M54 service area	Private	Yes	Both
PASS	683903	ARLCO-2022-00490195	21-0016A	01/04/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 Planter Box#1 (12 inch ponding)	ARLINGTON	PL25	38.85388435	-77.0557744	Inside M54 service area	Private	Yes	Both
PASS	683904	ARLCO-2022-00490196	21-0016B	01/04/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 Planter box#2 (12 inch ponding)	ARLINGTON	PL25	38.85389637	-77.05589708	Inside M54 service area	Private	Yes	Both
PASS	683905	ARLCO-2022-00490197	21-0016C	01/04/2022	BP1P1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0100	0.0100	0.0100	0.0100 Permeable Driveway and leadwalk	ARLINGTON	PL25	38.85403602	-77.05582088	Inside M54 service area	Private	Yes	Both
PASS	683906	ARLCO-2022-00490198	21-0018A	11/23/2021	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 planter box (6 inch ponding)	ARLINGTON	PL24	38.92510516	-77.12915624	Inside M54 service area	Private	Yes	Both
PASS	683907	ARLCO-2022-00490199	21-0020A	02/02/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 planter box #1 (12 inch ponding)	ARLINGTON	PL25	38.88822652	-77.15292135	Inside M54 service area	Private	Yes	Both
PASS	683908	ARLCO-2022-00490200	21-0020B	02/02/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 planter box #2 (12 inch ponding)	ARLINGTON	PL25	38.88826366	-77.15308511	Inside M54 service area	Private	Yes	Both
PASS	683909	ARLCO-2022-00490201	21-0021A	04/18/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 Planter Box #1 (4 inch ponding)	ARLINGTON	PL24	38.88294054	-77.10873345	Inside M54 service area	Private	Yes	Both
PASS	683910	ARLCO-2022-00490202	21-0028A	06/13/2022	BB1	Bioretention	Area Treated	ACRE	0.0300	0.0300	0.0300	0.0300 Planter Box (12 inch ponding)	ARLINGTON	PL24	38.89318519	-77.08882719	Inside M54 service area	Private	Yes	Both
PASS	683911	ARLCO-2022-00490203	21-0031A	03/07/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 PLANTER BOX#1 (6 inch ponding)	ARLINGTON	PL25	38.89326522	-77.13497956	Inside M54 service area	Private	Yes	Both
PASS	683912	ARLCO-2022-00490204	21-0031B	03/07/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 PLANTER BOX #2 (6 inch ponding)	ARLINGTON	PL25	38.89332009	-77.13493965	Inside M54 service area	Private	Yes	Both
PASS	683913	ARLCO-2022-00490205	21-0034A	05/17/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 Planter Box # 1 (9 inch ponding)	ARLINGTON	PL24	38.89822887	-77.13663616	Inside M54 service area	Private	Yes	Both
PASS	683914	ARLCO-2022-00490206	21-0035A	03/07/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 Planter Box #1 (12 inch ponding)	ARLINGTON	PL25	38.85944681	-77.1056669	Inside M54 service area	Private	Yes	Both
PASS	683915	ARLCO-2022-00490207	21-0035B	03/07/2022	BB1	Bioretention	Area Treated	ACRE	0.0077	0.0077	0.0077	0.0077 Planter Box #2 (12 inch ponding)	ARLINGTON	PL25	38.85964191	-77.10565017	Inside M54 service area	Private	Yes	Both
PASS	683916	ARLCO-2022-00490208	21-0035C	03/07/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 Planter Box #3 (12 inch ponding)	ARLINGTON	PL25	38.85959091	-77.10578706	Inside M54 service area	Private	Yes	Both
PASS	683917	ARLCO-2022-00490209	21-0036A	01/05/2022	BB1	Bioretention	Area Treated	ACRE	0.0400	0.0400	0.0400	0.0400 Planter Box (12 inch ponding)	ARLINGTON	PL25	38.891941	-77.16033666	Inside M54 service area	Private	Yes	Both
PASS	683918	ARLCO-2022-00490210	21-0041A	06/21/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 PLANTER BOX #1 (12 inch ponding)	ARLINGTON	PL24	38.91189564	-77.14641684	Inside M54 service area	Private	Yes	Both
PASS	683919	ARLCO-2022-00490211	21-0041B	06/21/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 PLANTER BOX #2 (12 inch ponding)	ARLINGTON	PL24	38.91190799	-77.14665289	Inside M54 service area	Private	Yes	Both
PASS	683920	ARLCO-2022-00490212	21-0041C	06/21/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 PLANTER BOX #3 (12 inch ponding)	ARLINGTON	PL24	38.91177416	-77.14657982	Inside M54 service area	Private	Yes	Both
PASS	683921	ARLCO-2022-00490213	21-0041D	06/21/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 PLANTER BOX # 4 (12 inch ponding)	ARLINGTON	PL24	38.91176977	-77.14638898	Inside M54 service area	Private	Yes	Both
PASS	683922	ARLCO-2022-00490214	21-0046A	05/09/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 Planter box#1 (12 inch ponding)	ARLINGTON	PL24	38.89249333	-77.1129185	Inside M54 service area	Private	Yes	Both
PASS	683923	ARLCO-2022-00490215	21-0046B	05/09/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 Planter box#2 (Ponding 12 inch)	ARLINGTON	PL24	38.89247259	-77.11282373	Inside M54 service area	Private	Yes	Both
PASS	683924	ARLCO-2022-00490216	21-0046C	05/09/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 Planter Box #3 (12 inch ponding)	ARLINGTON	PL24	38.89262373	-77.11286534	Inside M54 service area	Private	Yes	Both
PASS	683925	ARLCO-2022-00490217	21-0046D	05/09/2022	BP1P1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0062	0.0062	0.0062	0.0062 Porous Patio	ARLINGTON	PL24	38.89255962	-77.11272505	Inside M54 service area	Private	Yes	Both
PASS	683926	ARLCO-2022-00490218	21-0047A	03/07/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 planter box # 1 (12 inch ponding)	ARLINGTON	PL25	38.89035552	-77.13840472	Inside M54 service area	Private	Yes	Both
PASS	683927	ARLCO-2022-00490219	21-0047B	03/07/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 PLANTER BOX # 2 (12 inch ponding)	ARLINGTON	PL25	38.89045116	-77.13845001	Inside M54 service area	Private	Yes	Both
PASS	683928	ARLCO-2022-00490220	21-0050A	03/02/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 Planter box 1 (6 inch ponding)	ARLINGTON	PL24	38.90314933	-77.15114532	Inside M54 service area	Private	Yes	Both
PASS	683929	ARLCO-2022-00490221	21-0050B	03/02/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 Planter box 2 (12 Inch ponding)	ARLINGTON	PL24	38.90324553	-77.15100479	Inside M54 service area	Private	Yes	Both
PASS	683930	ARLCO-2022-00490222	21-0051A	06/27/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	0.0100 Planter Box#1 (12 inch ponding)	ARLINGTON	PL24	38.91288689	-77.14055013	Inside M54 service area	Private	Yes	Both
PASS	683931	ARLCO-2022-00490223	21-0051B	06/27/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	0.0200 Planter Box#2 (12 inch ponding)	ARLINGTON	PL24	38.91298833	-77.14052029	Inside M54 service area	Private	Yes	Both
PASS	683932																			

PASS	683986	ARLCO-2022-00490278	21-0153A	06/17/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	Planter Box #1 (12 inch Ponding)	ARLINGTON	PL25	38.87536327	-77.13047926	Inside MS4 service area	Private	Yes	Both
PASS	683987	ARLCO-2022-00490279	21-0153B	06/17/2022	BB1	Bioretention	Area Treated	ACRE	0.0097	0.0097	0.0097	Planter Box #2 (Ponding 12 inch)	ARLINGTON	PL25	38.87549087	-77.13038351	Inside MS4 service area	Private	Yes	Both
PASS	683988	ARLCO-2022-00490280	21-0155A	06/09/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	Planter Box #1 (12 inch ponding)	ARLINGTON	PL24	38.89438351	-77.11801104	Inside MS4 service area	Private	Yes	Both
PASS	683989	ARLCO-2022-00490281	21-0155B	06/09/2022	BB1	Bioretention	Area Treated	ACRE	0.0300	0.0300	0.0300	Planter Box #2 (12 inch ponding)	ARLINGTON	PL24	38.89454109	-77.11790232	Inside MS4 service area	Private	Yes	Both
PASS	683990	ARLCO-2022-00490282	21-0156A	03/28/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	planter box (12 Inch ponding)	ARLINGTON	PL25	38.88778208	-77.11907948	Inside MS4 service area	Private	Yes	Both
PASS	683991	ARLCO-2022-00490283	21-0157A	04/22/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	Planter box #1 (12 inch ponding)	ARLINGTON	PL25	38.8827469	-77.13190843	Inside MS4 service area	Private	Yes	Both
PASS	683992	ARLCO-2022-00490284	21-0157B	04/22/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	Planter box #2 (12 inch ponding)	ARLINGTON	PL25	38.8826429	-77.13192744	Inside MS4 service area	Private	Yes	Both
PASS	683993	ARLCO-2022-00490285	21-0157C	04/22/2022	BPP1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0083	0.0083	0.0083	Permeable Pavers Driveway	ARLINGTON	PL25	38.8826491	-77.1320029	Inside MS4 service area	Private	Yes	Both
PASS	683994	ARLCO-2022-00490286	21-0157D	04/22/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	Planter Box #3 (12 inch ponding)	ARLINGTON	PL25	38.8827833	-77.1320268	Inside MS4 service area	Private	Yes	Both
PASS	683995	ARLCO-2022-00490287	21-0157E	04/22/2022	BPP1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0083	0.0083	0.0083	Permeable Pavers Driveway	ARLINGTON	PL25	38.8828252	-77.1320215	Inside MS4 service area	Private	Yes	Both
PASS	683996	ARLCO-2022-00490288	21-0165A	05/20/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	Planter Box #1 (12 inch Ponding)	ARLINGTON	PL25	38.87802478	-77.1288483	Inside MS4 service area	Private	Yes	Both
PASS	683997	ARLCO-2022-00490289	21-0165B	06/10/2022	BB1	Bioretention	Area Treated	ACRE	0.0200	0.0200	0.0200	Planter Box #2 (12 inch Ponding)	ARLINGTON	PL25	38.87795345	-77.12902313	Inside MS4 service area	Private	Yes	Both
PASS	683998	ARLCO-2022-00490290	21-0170A	06/10/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	Detached Planter Box#1 (12 inch ponding)	ARLINGTON	PL24	38.90332212	-77.15755761	Inside MS4 service area	Private	Yes	Both
PASS	683999	ARLCO-2022-00490291	21-0170B	06/10/2022	BB1	Bioretention	Area Treated	ACRE	0.0085	0.0085	0.0085	Detached Planter Box #2 (12 inch ponding)	ARLINGTON	PL24	38.90321575	-77.15755428	Inside MS4 service area	Private	Yes	Both
PASS	684000	ARLCO-2022-00490292	21-0170C	06/10/2022	BPP1	Permeable Pavement	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain	ACRE	0.0100	0.0100	0.0100	Permeable driveway	ARLINGTON	PL24	38.9031423	-77.15761284	Inside MS4 service area	Private	Yes	Both
PASS	684001	ARLCO-2022-00490293	21-0172A	04/20/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	PLANTER BOX #1 (12 Inch ponding)	ARLINGTON	PL24	38.9039781	-77.13787589	Inside MS4 service area	Private	Yes	Both
PASS	684002	ARLCO-2022-00490294	21-0172B	04/20/2022	BB1	Bioretention	Area Treated	ACRE	0.0300	0.0300	0.0300	PLANTER BOX #2 (12 Inch ponding)	ARLINGTON	PL24	38.90385224	-77.13779005	Inside MS4 service area	Private	Yes	Both
PASS	684003	ARLCO-2022-00490295	21-0188A	06/10/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	planter box (6 inch ponding)	ARLINGTON	PL25	38.88476582	-77.1571901	Inside MS4 service area	Private	Yes	Both
PASS	684004	ARLCO-2022-00490296	21-0227A	06/28/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	Planter Box # 1 (Ponding 12 inch)	ARLINGTON	PL25	38.87495286	-77.12868852	Inside MS4 service area	Private	Yes	Both
PASS	684005	ARLCO-2022-00490297	21-0227B	06/28/2022	BB1	Bioretention	Area Treated	ACRE	0.0100	0.0100	0.0100	Planter Box #2 (Ponding 12 inch)	ARLINGTON	PL25	38.87504708	-77.12873529	Inside MS4 service area	Private	Yes	Both
PASS	684006	ARLCO-2022-00490298	Donaldson	06/21/2022		Stream Restoration Urban	Protocol 1 TN	LBS	183.0000	0.0000	0.0000	Donaldson Run Stream Restoration	ARLINGTON	PL25	38.90777000	-77.11690000	Outside MS4 service area	Public	No	Both
PASS	684007	ARLCO-2022-00490298	Donaldson	06/21/2022		Stream Restoration Urban	Protocol 1 TP	LBS	79.0000	0.0000	0.0000	Donaldson Run Stream Restoration	ARLINGTON	PL24	38.90777000	-77.11690000	Outside MS4 service area	Public	No	Both
PASS	684008	ARLCO-2022-00490298	Donaldson	06/21/2022		Stream Restoration Urban	Protocol 1 TSS	LBS	366811.0000	0.0000	0.0000	Donaldson Run Stream Restoration	ARLINGTON	PL24	38.90777000	-77.11690000	Outside MS4 service area	Public	No	Both
PASS	684009	ARLCO-2022-00490298	Donaldson	06/21/2022		Stream Restoration Urban	Protocol 2 TN	LBS	139.0000	0.0000	0.0000	Donaldson Run Stream Restoration	ARLINGTON	PL24	38.90777000	-77.11690000	Outside MS4 service area	Public	No	Both
PASS	684010	ARLCO-2022-00490298	Donaldson	06/21/2022		Stream Restoration Urban	Length Restored	FEET	1406.0000	0.0000	0.0000	Donaldson Run Stream Restoration	ARLINGTON	PL24	38.90777000	-77.11690000	Outside MS4 service area	Public	No	Both
PASS	684011	ARLCO-2022-00490303	FY22Street	07/01/2021		Street Cleaning Practice 1	acres	ACRE	281.8100	281.8100	0.0000	FY22 Street Sweeping	ARLINGTON	PL25	38.868761	-77.085670	Outside MS4 service area	Public	No	Both
PASS	684012	ARLCO-2022-00490304	GWCC	07/13/2021		Stream Restoration Urban	Protocol 1 TN	LBS	685.7000	0.0000	0.0000	GWCC Stream Restoration	ARLINGTON	PL24	38.90837866	-77.12772523	Outside MS4 service area	Public	No	Both
PASS	684013	ARLCO-2022-00490304	GWCC	07/13/2021		Stream Restoration Urban	Protocol 1 TP	LBS	315.8000	0.0000	0.0000	GWCC Stream Restoration	ARLINGTON	PL24	38.90837866	-77.12772523	Outside MS4 service area	Public	No	Both
PASS	684014	ARLCO-2022-00490304	GWCC	07/13/2021		Stream Restoration Urban	Protocol 1 TSS	LBS	108800.0000	0.0000	0.0000	GWCC Stream Restoration	ARLINGTON	PL24	38.90837866	-77.12772523	Outside MS4 service area	Public	No	Both
PASS	684015	ARLCO-2022-00490304	GWCC	07/13/2021		Stream Restoration Urban	Protocol 2 TN	LBS	158.0000	0.0000	0.0000	GWCC Stream Restoration	ARLINGTON	PL24	38.90837866	-77.12772523	Outside MS4 service area	Public	No	Both
PASS	684016	ARLCO-2022-00490304	GWCC	07/13/2021		Stream Restoration Urban	Protocol 3 TN	LBS	302.9000	0.0000	0.0000	GWCC Stream Restoration	ARLINGTON	PL24	38.90837866	-77.12772523	Outside MS4 service area	Public	No	Both
PASS	684017	ARLCO-2022-00490304	GWCC	07/13/2021		Stream Restoration Urban	Protocol 3 TP	LBS	29.4000	0.0000	0.0000	GWCC Stream Restoration	ARLINGTON	PL24	38.90837866	-77.12772523	Outside MS4 service area	Public	No	Both
PASS	684018	ARLCO-2022-00490304	GWCC	07/13/2021		Stream Restoration Urban	Protocol 3 TSS	LBS	13200.0000	0.0000	0.0000	GWCC Stream Restoration	ARLINGTON	PL24	38.90837866	-77.12772523	Outside MS4 service area	Public	No	Both
PASS	684019	ARLCO-2022-00490304	GWCC	07/13/2021		Stream Restoration Urban	Length Restored	FEET	2329.0000	0.0000	0.0000	GWCC Stream Restoration	ARLINGTON	PL24	38.90837866	-77.12772523	Outside MS4 service area	Public	No	Both

Appendix AR23 FY22 Credit for Chesapeake Bay TMDL

Old Technical Criteria

RR practices		IMPERVIOUS		LOADS (per DCR Potomac River Basin)			PERVIOUS			LOADS (per DCR Potomac River Basin)			TOTAL LOADS to SWMF			REMOVAL RATES per			Total Loads removed		
SWMF Type	Drain To MS4	Total drainage area (ac)	Area (ac)	TP	TN	TSS	Area (ac)	TP	TN	TSS	TP	TN	TSS	Runoff depth treated (in)	TP	TN	TSS	TP	TN	TSS	
GreenRoof	Yes	0.0000	0.0000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.50	52%	45%	56%	0.0000	0.0000	0.0000	
Pavers	Yes	0.0750	0.0750	0.1	1.3	87.8	0.0000	0.0	0.0	0.0	0.1	1.3	87.8	0.50	52%	45%	56%	0.0635	0.5668	49.1960	
Bioretention 1	No	0.0000	0.0000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.50	52%	45%	56%	0.0000	0.0000	0.0000	
Bioretention 1	Yes	0.0000	0.0000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.50	52%	45%	56%	0.0000	0.0000	0.0000	
Bioretention 2	Yes	0.0000	0.0000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	1.00	70%	60%	75%	0.0000	0.0000	0.0000	
Pavers	Yes	0.0000	0.0000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.50	52%	45%	56%	0.0000	0.0000	0.0000	
Total																		0.0635	0.5668	49.1960	

TP	TN	TSS	
Drains to MS4	9.4838	109.6200	7617.8929
Not Drains to MS4	0.0912	1.0226	86.0408
In Series			
Drains to MS4	6.386046987	54.20680545	3803.617488
Land Use Change			
Not Drains to MS4	0.087746	0.335358	33.4757

Totals:

Drains to MS4	15.8698	163.8269	11421.5104
Not Drains to MS4	0.1789	1.3579	119.5165

ST practices

ST practices		IMPERVIOUS		LOADS (per DCR Potomac River Basin)			PERVIOUS			LOADS (per DCR Potomac River Basin)			TOTAL LOADS to SWMF			REMOVAL RATES per			Total Loads removed		
SWMF Type	Drain To MS4	Total drainage area (ac)	Area (ac)	TP	TN	TSS	Area (ac)	TP	TN	TSS	TP	TN	TSS	Runoff depth treated (in)	TP	TN	TSS	TP	TN	TSS	
Manufactured-Filtering	Yes	0	0	0.0	0.0	0.0	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.50	41%	26%	52%	0.0000	0.0000	0.0000	
Total																		0.0000	0.0000	0.0000	

New Technical Criteria

RR practices		IMPERVIOUS		LOADS (per DCR Potomac River Basin)			PERVIOUS			LOADS (per DCR Potomac River Basin)			TOTAL LOADS to SWMF			REMOVAL RATES per			Total Loads removed		
SWMF Type	Drain To MS4	Total drainage area (ac)	Area (ac)	TP	TN	TSS	Area (ac)	TP	TN	TSS	TP	TN	TSS	Runoff depth treated (in)	TP	TN	TSS	TP	TN	TSS	
Bioretention 1	Yes	4.9814	4.8500	7.9	81.8	5680.9	0.1314	0.1	1.3	23.1	7.9	83.1	5704.0	1.00	55%	64%	75%	4.3510	53.1803	4272.8680	
Bioretention 1	No	0.0486	0.0486	0.1	0.8	56.9	0.0000	0.0	0.0	0.0	0.1	0.8	56.9	1.00	55%	64%	75%	0.0433	0.5244	42.6434	
Bioretention 2	No	0.0000	0.0000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	1.25	90%	90%	79%	0.0000	0.0000	0.0000	
Bioretention 2	Yes	1.4550	0.5155	1.5	15.8	1100.5	0.9395	0.4	9.5	165.2	1.9	25.3	1265.6	1.25	90%	90%	79%	1.7165	22.7707	999.8392	
Dry Swale #1	Yes	0.0000	0.0000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	1.25	52%	55%	75%	0.0000	0.0000	0.0000	
Grass Channel A/B Soils	Yes	0.0000	0.0000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	1.25	23%	28%	75%	0.0000	0.0000	0.0000	
Vegetated Roof #1	Yes	0.0715	0.0715	0.1	1.2	83.7	0.0000	0.0	0.0	0.0	0.1	1.2	83.7	1.00	45%	45%	75%	0.0521	0.5425	62.8120	
Vegetated Roof #2	Yes	0.3600	0.3600	0.6	6.1	421.7	0.0000	0.0	0.0	0.0	0.6	6.1	421.7	1.10	60%	60%	75%	0.3499	3.6418	316.2564	
Vegetated Roof #2	No	0.0400	0.0400	0.1	0.7	46.9	0.0000	0.0	0.0	0.0	0.1	0.7	46.9	1.10	60%	60%	75%	0.0389	0.4046	35.1396	
Infiltration Trench	Yes	0.1600	0.1500	0.2	2.5	175.7	0.0100	0.0	0.1	1.8	0.2	2.6	177.5	1.00	63%	59%	75%	0.1557	1.5515	132.9323	
Infiltration Trench #2	No	0.0000	0.0000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	1.10	93%	92%	79%	0.0000	0.0000	0.0000	
Infiltration Trench #2	Yes	0.0400	0.0400	0.1	0.7	46.9	0.0000	0.0	0.0	0.0	0.1	0.7	46.9	1.10	93%	92%	79%	0.0603	0.6204	37.0137	
Pavers	Yes	0.6203	0.6203	1.0	10.5	726.6	0.0000	0.0	0.0	0.0	1.0	10.5	726.6	1.00	59%	59%	75%	0.5929	6.1704	544.9273	
Pavers	No	0.0094	0.0094	0.0	0.2	11.0	0.0000	0.0	0.0	0.0	0.0	0.2	11.0	1.00	59%	59%	75%	0.0090	0.0935	8.2578	
Pavers #2	No	0.0000	0.0000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	1.10	81%	81%	79%	0.0000	0.0000	0.0000	
Pavers #2	Yes	1.8843	1.8843	3.1	31.8	2207.1	0.0000	0.0	0.0	0.0	3.1	31.8	2207.1	1.10	81%	81%	79%	2.4726	25.7331	1743.6234	
Total																		9.8421	115.2332	8196.3132	

ST practices		IMPERVIOUS		LOADS (per DCR Potomac River Basin)			PERVIOUS			LOADS (per DCR Potomac River Basin)			TOTAL LOADS to SWMF			REMOVAL RATES per			Total Loads removed		
SWMF Type	Drain To MS4	Total drainage area (ac)	Area (ac)	TP	TN	TSS	Area (ac)	TP	TN	TSS	TP	TN	TSS	Runoff depth treated (in)	TP	TN	TSS	TP	TN	TSS	
Manufactured-Filtering	Yes	0.1500	0.1500	0.2	2.5	175.7	0.0000	0.0	0.0	0.0	0.2	2.5	175.7	1.00	20%	0%	0%	0.0486	0.0000	0.0000	
Manufactured-Filtering	Yes	0.0000	0.0000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	1.00	40%	0%	0%	0.0000	0.0000	0.0000	
Manufactured-Filtering	Yes	0.2000	0.1900	0.3	3.2	222.6	0.0100	0.0	0.1	1.8	0.3	3.3	224.3	1.00	50%	0%	0%	0.1560	0.0000	0.0000	
Total																		0.2046	0.0000	0.0000	

16-0046A replace with 16-0046D & E

ST practices		IMPERVIOUS		LOADS (per DCR Potomac River Basin)			PERVIOUS			LOADS (per DCR Potomac River Basin)			TOTAL LOADS to SWMF			REMOVAL RATES per			Total Loads removed		
SWMF Type	Drain To MS4	Total drainage area (ac)	Area (ac)	TP	TN	TSS	Area (ac)	TP	TN	TSS	TP	TN	TSS	Runoff depth treated (in)	TP	TN	TSS	TP	TN	TSS	
Bioretention 1	Yes	0.0427	0.0427	0.1	0.7	50.0	0.0000	0.0	0.0	0.0	0.1	0.7	50.0	1.00	55%	64%	75%	0.0380	0.4608	37.4665	
Total																		-0.0380	-0.4608	-37.4665	

16-0120E data entry error

ST practices		IMPERVIOUS		LOADS (per DCR Potomac River Basin)			PERVIOUS			LOADS (per DCR Potomac River Basin)			TOTAL LOADS to SWMF			REMOVAL RATES per			Total Loads removed		
SWMF Type	Drain To MS4	Total drainage area (ac)	Area (ac)	TP	TN	TSS	Area (ac)	TP	TN	TSS	TP	TN	TSS	Runoff depth treated (in)	TP	TN	TSS	TP	TN	TSS	
Pavers	Yes	0.0186	0.0186	0.0	0.3	21.8	0.0000	0.0	0.0	0.0	0.0	0.3	21.8	1.00	59%	59%	75%	0.0178	0.1850	16.3203	
Pavers	Yes	0.0166	0.0166	0.0	0.3	19.4	0.0000	0.0	0.0	0.0	0.0	0.3	19.4	1.00	59%	59%	75%	0.0159	0.1651	14.5654	
Total																		0.0019	0.0199	1.7549	

17-0151RR abandoned and replaced with 17-0151YY

ST practices		IMPERVIOUS		LOADS (per DCR Potomac River Basin)			PERVIOUS			LOADS (per DCR Potomac River Basin)			TOTAL LOADS to SWMF			REMOVAL RATES per			Total Loads removed		
SWMF Type	Drain To MS4	Total drainage area (ac)	Area (ac)	TP	TN	TSS	Area (ac)	TP	TN	TSS	TP	TN	TSS	Runoff depth treated (in)	TP	TN	TSS	TP	TN	TSS	
Permeable Pavement 2	Yes	0.0025	0.0025	0.0	0.0	2.9	0.0000	0.0	0.0	0.0	0.0	0.0	2.9	1.10	81%	81%	79%	0.0033	0.0341	2.3134	
Bioretention 2	Yes	0.0534	0.0064	0.0	0.1	7.5	0.0470	0.0	0.5	8.3	0.0	0.6	15.8	1.25	90%	90%	79%	0.0267	0.5231	12.4496	
Total																		0.0234	0.4889	10.1363	

17-0151QQ modified to include leadwalk

ST practices		IMPERVIOUS		LOADS (per DCR Potomac River Basin)			PERVIOUS			LOADS (per DCR Potomac River Basin)			TOTAL LOADS to SWMF			REMOVAL RATES per			Total Loads removed		
SWMF Type	Drain To MS4	Total drainage area (ac)	Area (ac)	TP	TN	TSS	Area (ac)	TP	TN	TSS	TP	TN	TSS	Runoff depth treated (in)	TP	TN	TSS	TP	TN	TSS	
Permeable Pavement 2	Yes	0.0100	0.0100	0.0	0.2	11.7	0.0000	0.0	0.0	0.0	0.0	0.2	11.7	1.10	81%	81%	79%	0.0131	0.1366	9.2534	
Permeable Pavement 2	Yes	0.0112	0.0112	0.0	0.2	13.1	0.0000	0.0	0.0	0.0	0.0	0.2	13.1	1.10	81%	81%	79%	0.0147	0.1530	10.3638	
Total																		0.0016	0.0164	1.1104	

17-0151FF replaced with 17-0151GG

ST practices		IMPERVIOUS		LOADS (per DCR Potomac River Basin)			PERVIOUS			LOADS (per DCR Potomac River Basin)			TOTAL LOADS to SWMF			REMOVAL RATES per			Total Loads removed		
Facility ID	Drain To MS4	Total drainage area (ac)	Area (ac)	TP	TN	TSS	Area (ac)	TP	TN	TSS	TP	TN	TSS	Runoff depth treated (in)	TP	TN	TSS	TP	TN	TSS	
16-0290A	BIORETENTION #1	Yes	0.0078	0.0078	0.01	0.13	9.14	0.0000	0.00	0.00	0.00	0.01	0.1								

Facility ID	BMPType	Total drain	Area (ac)	IMPERVIOUS LOADS (per DCR Potomac River)			PERVIOUS LOADS (per DCR Potomac River)	TOTAL LOADS TO BMP			Retrofit stg	Retrofit stg	Runoff det	REMOVAL RATES per adjustor			Total Loads removed					
				TP	TN	TSS		TP	TN	TSS				TP	TN	TSS	TP	TN	TSS			
19-0186C	BIORETENTION #1	Yes	0.03	0.03	0.05	0.51	35.14	0	0.00	0.00	0.00	0.05	0.51	35.14	1.00	55%	64%	75%	0.0267	0.3237	26.3547	
19-0186A	BIORETENTION #1	Yes	0	0	0.05	0.51	35.14	0	0.00	0.00	0.00	0.07	0.69	43.92	1.00	55%	64%	75%	0.0388	0.4402	32.9434	
			0.0300	0.0300				0.0000											Total	0.0655	0.7640	59.2981
19-0186B	BIORETENTION #1	Yes	0	0.06	0.67	46.85		0	0.00	0.00	0.00	0.06	0.67	46.85	1.00	55%	64%	75%	0.0356	0.4316	35.1396	
19-0186D	BIORETENTION #1	Yes	0.03	0.03	0.05	0.51	35.14	0	0.00	0.00	0.00	0.05	0.51	35.14	1.00	55%	64%	75%	0.0267	0.3237	26.3547	
19-0186E	BIORETENTION #1	Yes	0	0	0.06	0.67	46.85	0	0.00	0.00	0.00	0.12	1.10	67.35	1.00	55%	64%	75%	0.0637	0.7035	50.5132	
			0.0700	0.0700				0.0000											Total	0.1261	1.4589	112.0075
20-0073C	BIORETENTION #1	Yes	0.02	0.02	0.03	0.34	23.43	0	0.00	0.00	0.00	0.03	0.34	23.43	1.00	55%	64%	75%	0.0178	0.2158	17.5698	
20-0073D	BIORETENTION #1	Yes	0	0	0.03	0.34	23.43	0	0.00	0.00	0.00	0.05	0.46	29.28	1.00	55%	64%	75%	0.0258	0.2935	21.9623	
			0.0200	0.0200				0.0000											Total	0.0437	0.5093	39.5321
20-0073A	BIORETENTION #1	Yes	0.01	0.01	0.02	0.17	11.71	0	0.00	0.00	0.00	0.02	0.17	11.71	1.00	55%	64%	75%	0.0089	0.1079	8.7849	
20-0073B	BIORETENTION #1	Yes	0.01	0.01	0.02	0.17	11.71	0	0.00	0.00	0.00	0.02	0.17	11.71	1.00	55%	64%	75%	0.0089	0.1079	8.7849	
20-0073E	BIORETENTION #1	Yes	0	0	0.02	0.17	11.71	0	0.00	0.00	0.00	0.03	0.29	17.57	1.00	55%	64%	75%	0.0169	0.1856	13.1774	
			0.0200	0.0200				0.0000											Total	0.0169	0.1856	13.1774
20-0119A	BIORETENTION #1	Yes	0.27	0.22	0.36	3.71	257.69	0.04	0.02	0.40	7.03	0.37	4.11	264.72	1.00	55%	64%	75%	0.2050	2.6317	198.5418	
20-0119B	MANUFACTURED BMP	Yes	0	0	0.36	3.71	257.69	0.17	0.07	1.71	29.89	0.59	6.90	353.76	1.00	50%	0%	0%	0.2969	0.0000	0.0000	
			0.2700	0.2200				0.0400											Total	0.5020	2.6317	198.5418
20-0143D	BIORETENTION #1	Yes	0.02	0.02	0.03	0.34	23.43	0	0.00	0.00	0.00	0.03	0.34	23.43	1.00	55%	64%	75%	0.0178	0.2158	17.5698	
20-0143E	BIORETENTION #1	Yes	0	0	0.03	0.34	23.43	0	0.00	0.00	0.00	0.05	0.46	29.28	1.00	55%	64%	75%	0.0258	0.2935	21.9623	
			0.0200	0.0200				0.0000											Total	0.0437	0.5093	39.5321
20-0150A	BIORETENTION #1	Yes	0.01	0.01	0.02	0.17	11.71	0	0.00	0.00	0.00	0.02	0.17	11.71	1.00	55%	64%	75%	0.0089	0.1079	8.7849	
20-0150B	BIORETENTION #1	Yes	0	0	0.02	0.17	11.71	0	0.00	0.00	0.00	0.02	0.23	14.64	1.00	55%	64%	75%	0.0129	0.1467	10.9811	
			0.0100	0.0100				0.0000											Total	0.0218	0.2547	19.7660
20-0152B	INFILTRATION # 2	Yes	0	0	0.03	0.34	23.43	0.17	0.07	1.71	29.89	0.12	2.17	59.17	1.10	83%	94%	79%	0.1055	2.0403	46.7435	
			0.0200	0.0200				0.0000											Total	0.1263	2.2561	64.3133
20-0202A	BIORETENTION #1	Yes	0.02	0.02	0.03	0.34	23.43	0	0.00	0.00	0.00	0.03	0.34	23.43	1.00	55%	64%	75%	0.0178	0.2158	17.5698	
20-0202B	BIORETENTION #1	Yes	0.01	0.01	0.03	0.34	23.43	0	0.00	0.00	0.00	0.05	0.46	29.28	1.00	55%	64%	75%	0.0258	0.2935	21.9623	
			0.0300	0.0300				0.0000											Total	0.0437	0.5093	39.5321
20-0210A	BIORETENTION #1	Yes	0.03	0.03	0.05	0.51	35.14	0	0.00	0.00	0.00	0.05	0.51	35.14	1.00	55%	64%	75%	0.0267	0.3237	26.3547	
20-0210B	BIORETENTION #1	Yes	0.03	0.03	0.05	0.51	35.14	0	0.00	0.00	0.00	0.07	0.69	43.92	1.00	55%	64%	75%	0.0388	0.4402	32.9434	
20-0210C	BIORETENTION #1	Yes	0.03	0.03	0.05	0.51	35.14	0	0.00	0.00	0.00	0.08	0.75	46.12	1.00	55%	64%	75%	0.0442	0.4822	34.5955	
			0.0900	0.0900				0.0000											Total	0.1097	1.2462	93.8886
20-0221A	BIORETENTION #1	Yes	0.0200	0.0200	0.03	0.34	23.43	0	0.00	0.00	0.00	0.03	0.34	23.43	1.00	55%	64%	75%	0.0178	0.2158	17.5698	
20-0221B	BIORETENTION #1	Yes	0.0200	0.0200	0.03	0.34	23.43	0	0.00	0.00	0.00	0.05	0.46	29.28	1.00	55%	64%	75%	0.0258	0.2935	21.9623	
20-0221C	BIORETENTION #1	Yes	0.0000	0.0000	0.03	0.34	23.43	0	0.00	0.00	0.00	0.05	0.50	30.75	1.00	55%	64%	75%	0.0294	0.3215	23.0604	
			0.0400	0.0400				0.0000											Total	0.0731	0.8308	62.5924
20-0225C	BIORETENTION #1	Yes	0.0200	0.0200	0.03	0.34	23.43	0	0.00	0.00	0.00	0.03	0.34	23.43	1.00	55%	64%	75%	0.0178	0.2158	17.5698	
20-0225D	BIORETENTION #1	Yes	0.0100	0.0100	0.03	0.34	23.43	0	0.00	0.00	0.00	0.05	0.46	29.28	1.00	55%	64%	75%	0.0258	0.2935	21.9623	
			0.0300	0.0300				0.0000											Total	0.0437	0.5093	39.5321
20-0271A	BIORETENTION #1	Yes	0.0300	0.0300	0.05	0.51	35.14	0	0.00	0.00	0.00	0.05	0.51	35.14	1.00	55%	64%	75%	0.0267	0.3237	26.3547	
20-0271D	BIORETENTION #1	Yes	0.0100	0.0100	0.05	0.51	35.14	0	0.00	0.00	0.00	0.07	0.69	43.92	1.00	55%	64%	75%	0.0388	0.4402	32.9434	
20-0271G	BIORETENTION #1	Yes	0.0300	0.0300	0.02	0.17	11.71	0	0.00	0.00	0.00	0.05	0.42	22.69	1.00	55%	64%	75%	0.0264	0.2664	17.0207	
			0.0700	0.0700				0.0000											Total	0.0918	1.0304	76.3188
20-0271C	BIORETENTION #1	Yes	0.0041	0.0041	0.01	0.07	4.80	0	0.00	0.00	0.00	0.01	0.07	4.80	1.00	55%	64%	75%	0.0037	0.0442	3.6018	
20-0271B	BIORETENTION #1	Yes	0.0100	0.0100	0.01	0.07	4.80	0	0.00	0.00	0.00	0.01	0.09	6.00	1.00	55%	64%	75%	0.0053	0.0602	4.5023	
20-0271F	BIORETENTION #1	Yes	0.0200	0.0200	0.02	0.17	11.71	0	0.00	0.00	0.00	0.02	0.20	13.21	1.00	55%	64%	75%	0.0113	0.1296	9.9105	
			0.0341	0.0341				0.0000											Total	0.0202	0.2340	18.0145
21-0005A	BIORETENTION #1	Yes	0.0200	0.0200	0.03	0.34	23.43	0	0.00	0.00	0.00	0.03	0.34	23.43	1.00	55%	64%	75%	0.0178	0.2158	17.5698	
21-0005B	BIORETENTION #1	Yes	0.0100	0.0100	0.03	0.34	23.43	0	0.00	0.00	0.00	0.05	0.46	29.28	1.00	55%	64%	75%	0.0258	0.2935	21.9623	
			0.0300	0.0300				0.0000											Total	0.0437	0.5093	39.5321
20-0114A	BIORETENTION #1	Yes	0.0200	0.0200	0.03	0.34	23.43	0	0.00	0.00	0.00	0.03	0.34	23.43	1.00	55%	64%	75%	0.0178	0.2158	17.5698	
20-0114B	BIORETENTION #1	Yes	0.0100	0.0100	0.03	0.34	23.43	0	0.00	0.00	0.00	0.05	0.46	29.28	1.00	55%	64%	75%	0.0258	0.2935	21.9623	
20-0114C	BIORETENTION #1	Yes	0.0100	0.0100	0.02	0.17	11.71	0	0.00	0.00	0.00	0.04	0.33	19.03	1.00	55%	64%	75%	0.0205	0.2136	14.2755	
20-0221D	INFILTRATION #1	Yes	0.0500	0.0500	0.02	0.17	11.71	0	0.00	0.00	0.00	0.04	0.33	19.03	1.00	63%	57%	75%	0.0235	0.1902	14.2755	
			0.0900	0.0900				0.0000											Total	0.0877	0.9131	68.0830
21-0007D	BIORETENTION #1	Yes	0.0100	0.0100	0.02	0.17	11.71	0	0.00	0.00	0.00	0.02	0.17	11.71	1.00	5						

		Edge of Stream Reductions		
Land Use From	Conversion	TN(lbs/ac/year)	TP(lbs/ac/year)	TSS(lbs/ac/year)
Impervious	Turf	9.85	0.8	1797
Impervious	Forest	9.55	0.48	877
Impervious	Mixed Open	4.27	0	1240
Turf	Forest	5.58	1.46	557
Turf	Mixed Open	5.28	1.15	0
Mixed Open	Forest	0.3	0.32	920

Not Drains to MS4 TN TP TSS
0.335358 0.087746 33.4757

Edison Park Improvements 19-0164	Pre Land Use	TN	TP	TSS
Reforestation	0.0601 Turf	0.335358	0.087746	33.4757
	0.0601	0.335358	0.087746	33.4757

Septic Conversion Through June 20, 2021
 Reduction from Residential Septic Conversions

TN Edge of Stream Loading	3.6	From DEQ
Average number of people per	2.1	2020 Census
Number of residential conversions:	7	See list below

Residential TN Reduction(lbs/year)= 52.92

PARCEL ADDRESS	PARCEL CITY/STATE	LAT	LONG	STATUS CHANGE DATE	TYPE (R OR C)	HUC6
3915 44TH STREET N	ARLINGTON, VA 22207	38.93263413	-77.11997586	04/04/2017	R	PL24
405 CHAIN BRIDGE ROAD	ARLINGTON, VA 22207	38.9329451	-77.12013212	04/22/2015	R	PL24
407 CHAIN BRIDGE ROAD	ARLINGTON, VA 22201	38.93354004	-77.11960553	04/04/2017	R	PL23
4238 COLUMBIA PIKE	ARLINGTON, VA 22204	38.85789869	-77.10308637	04/09/2020	R	PL25
3656 N MONROE STREET	ARLINGTON, VA 22207	38.92288816	-77.1149649	03/28/2018	R	PL24
2500 25TH STREET N	ARLINGTON, VA 22207	38.90371016	-77.09249783	2/4/2011*	R	PL24
3520 ROBERTS LANE	ARLINGTON, VA 22207	38.92036533	-77.11194332	12/15/2006*	R	PL24

*Date connected to public sewer as exact date septic was removed is unknown. All other dates refer to removal of the septic tank.

Appendix AR24 – FY22 Chesapeake Bay TMDL Summary

Appendix AR23 - FY22 Credit for Chesapeake Bay TMDL provides a spreadsheet of POC load reductions from SWMFs installed with development activities completed in FY22, along with the following updates captured through data QA/QC procedures: load reductions from SWMFs installed in FY 2015, 2016, 2017, 2018, 2019, 2020, 2021 and accounting or corrections made to structures already reported due to data entry errors or changes made to the structures. Appendix AR23 - FY22 Credit for Chesapeake Bay TMDL also includes the calculations for septic tank conversion from FY07 to FY22 and street sweeping for FY22.

A summary of this spreadsheet information is shown below, highlighting the calculated POC load

104.986899,76	Pollutant	Existing Development Conditions for Projects from 7/1/2021 to 6/30/2022 Acres	2009 E0SLoading Rate (lbs/ac)	Load	Post Development Conditions for Projects from 7/1/2021 to 6/30/2022 Acres ** includes historic data correct due to data entry errors	2009 E0SLoading Rate (lbs/ac)	Load	Load Increase	Total Load Increase	Reduction from SWMF drain to MS4 in FY22	Reduction from SWMF that do not Drain to MS4in FY22	Difference
Regulated Urban Impervious	Nitrogen	48.58	16.86	819.06	58.15	16.86	980.47	161.41	130.56	163.8300	1.36	-34.63
Regulated Urban Pervious		-48.58	10.07	-489.20	-51.64	10.07	-520.05	-30.85				
Regulated Urban Impervious	Phosphorus	48.58	1.62	78.70	58.15	1.62	94.21	15.51	14.25	15.87	0.18	-1.80
Regulated Urban Pervious		-48.58	0.41	-19.92	-51.64	0.41	-21.17	-1.26				
Regulated Urban Impervious	Total Suspended Solids	48.58	1171.32	56902.73	58.15	1171.32	68116.59	11213.87	10675.27	11421.51	119.52	-865.76
Regulated Urban Pervious		-48.58	175.80	-8540.36	-51.64	175.80	-9078.96	-538.60				

Development Load Changes and Load Reductions from SWMF for FY22

1) Estimated Reduction Achieved through FY22

Project Type	In Place		
	TN	TP	TSS
2006-2009 Historical BMPs	140.3	18.4	16,101.3
Development	871.4	62.0	44,270.4
Living Shore	29.6	32.1	20,969.9
Septic Conversions	52.9	0.0	0.0
Stream Restoration	1651.8	681.2	654,595.2
Street Sweeping	86.5	21.0	32,569.8
Trades Retrofit	14.8	2.2	2,059.7
Watershed Retrofit	180.5	15.7	11,144.60
Total Credits	3,027.8	832.7	781,710.9
Total Progress	26.2%	54.4%	59.6%

The forty percent POC reduction requirement for this permit cycle has been exceeded for TP and TSS. The means and methods implemented to date include watershed retrofit projects, stream restoration projects, living shore, outfall repair and redevelopment-based reductions, street sweeping, septic tank conversions, and 2006-2009 'historical BMPs.'

Appendix AR25 – FY22 Implementation Summary of Bacteria TMDL Action Plan

The County continues to implement a suite of programs and practices to address bacteria loading to the MS4—and is exceeding the permit requirements as the County’s program covers the entire County is not limited to the Four Mile Run watershed as specified in Attachment A of the County’s permit. The goal of this action plan is to reduce bacteria loadings from controllable, anthropogenic sources to the maximum extent practicable as part of a long-term and comprehensive, multi-pollutant watershed management program.

The County is currently updating this Action Plan. The draft revised plan will be put out for public comment in fall 2022.

The following summary table provides information on action plan implementation efforts conducted in FY22 focused on reducing bacteria loading from controllable, anthropogenic sources throughout the County. The existing Bacteria TMDL Action Plan was approved by the Virginia Department of Environmental Quality (DEQ) in June 2016.

	Programs / Practices	Actions Taken	Implementation
Management Strategies & Practices	Outreach at Community Canine Areas (CCA)	The County has continued outreach efforts ensuring up to date signs that are clearly visible at County dog parks.	On-going
	Addressing Sanitary Sewer Exfiltration to the MS4 and Surface Waters	Approximately 370,000 linear feet of sanitary sewer system were inspected in FY22. Identified problem areas were scheduled to be flushed, relined, or replaced.	On-going
	Storm Drain System Inspection and Maintenance	Over 63,000 linear feet of storm sewer system were inspected in FY22; 1093 catch basins were inspected and maintained / cleaned.	On-going
	Street Sweeping	Over 8,900 of street lane miles were swept and over 800 tons of debris were removed from County streets in FY22.	On-going
	High Priority Municipal Facility (HPMF) Stormwater Pollution Prevention Plans (SWPPP)	All HPMF SWPPPs were updated in FY22. Inspections of all facilities occurred in FY22.	On-going
	Illicit Discharge Detection and Elimination	County staff investigated over 120 illicit discharge incidents in FY22. Information on how to report pollution / illicit discharges is available on the County’s website . <ul style="list-style-type: none"> • Dry weather screening is conducted on an annual basis for select outfalls that drain the South Four Mile Run Drive and Shirlington commercial areas. • The County continues to update its Report Stream Pollution page 	On-going
	Commercial and Industrial High-Risk Runoff (IHRR) Facility Inspections	In FY22, over 146 IHRR inspections of commercial facilities that were identified as potential sources of significant pollutant loading were conducted. Recycling specialists also conduct inspections to check that required facilities are implementing their recycling plans and maintaining recycling areas.	On-going

	Programs / Practices	Actions Taken	Implementation
		Follow-up letters and educational materials were provided to business owners or property managers when problems were identified.	
	Stormwater Coordination with Other County Agencies (Animal Control, Health Department)	Health Department staff continued vector control outreach and response. The Health Department continues to maintain its website with information on rodent control. The County provided dog waste pick-up bags to Animal Control. The bags are in dispensers that have the only rain logo on them.	On-going
	Pretreatment Inspections	Water Pollution Control Plant staff continued to conduct inspections of permitted facilities to ensure grease traps are maintained and functioning.	On-going
	Private Septic System Tracking	Arlington County Health Department continues to work with Fairfax County on tracking and ensuring septic systems in Arlington are properly maintained or safely abandoned if necessary. There are currently 34 septic systems in Arlington County (32 conventional, 2 alternative systems). Two systems were taken off-line in FY22.	On-going
Monitoring			
	Bacteria Monitoring	The County continued its bacteria (<i>E.coli</i>) monitoring program in FY22, with 21 sites monitored. Follow-up investigations are conducted after reports of high levels of bacteria found during sampling or evidence of stream pollution is observed by volunteers.	On-going
	Biological Monitoring	The County continued its biological monitoring program in FY22 at 10 sampling locations throughout the County. Follow-up investigations are conducted after reports of stream pollution is observed by volunteers. In FY22, ninety-six (96) volunteers participated in the County's stream bacteria and biological monitoring programs, providing over 1088 volunteer hours.	On-going
Education and Outreach			
	Only Rain Down the Drain Campaign	In FY22, Arlington County continued to support the Northern Virginia Clean Water Partners Only Rain Down the Drain campaign, a regional stormwater education campaign. The campaign has used radio advertising, online advertising and most recently cable TV advertising to educate the public about preventing water pollution. The campaign includes several television ads to help visualize water pollution, and includes pollution prevention messages related to pet waste , motor oil, car washing, and fertilizer use.	On-going

	Programs / Practices	Actions Taken	Implementation
	Public Presentations / Training	<p>The following presentations / trainings included information about how to protect water quality and report stream pollution;</p> <ul style="list-style-type: none"> • Arlington Regional Master Naturalist Trainings (Fall 2021, Spring 2022) • Stream Monitoring Trainings (9/8/2021, 10/22/2021, 10/27/2021, 03/30/2022, 04/01/2022, 04/14/2022, 04/21/2022) • Bacteria Monitoring Training (6/30/2022) <p>Information was provided on how to recognize and report illicit discharges such as sanitary sewer discharges.</p>	On-going
	Public Events	In FY22, the County participated in the County Fair (10/18-22/2021) and Paws on the Pike (10/3/2021) and promoted information on pollution prevention and cleaning up after your pet.	On-going
	Newsletter / Website / Social Media	<p>The DES Environmental Events newsletter list has grown to more than 5,500 subscribers. The digital newsletter provides weekly updates on upcoming environmental events, workshops, programs, and environmental tips.</p> <p>In FY22, the County updated the Prevent Pollution website, which includes information about picking up after your pet and disposal of fats, oils, and grease (FOG) (<i>see more under FOG Education below</i>)</p> <p>Additional messaging / outreach in FY22 included:</p> <ul style="list-style-type: none"> • Social media: DES Facebook and Twitter Feed: Pollution Prevention posts (Fall 2021, Spring /Summer 2022); Twitter and Facebook posts using FOG photos. • Inside Arlington newsletter – FOG information, pollution prevention tips 	On-going
	Storm Drain Marking	In FY22, 47 volunteers donated over 76 hours and marked 302 storm drains with the “Only Rain” storm drain markers . Volunteers are instructed to report dumping or illicit discharges to storm drains .	On-going
	Signs	<ul style="list-style-type: none"> • Educational signs have been placed in Community Canine Areas. • Signs that focus on picking up after your pet are displayed inside ART buses • Street sweepers and a few county vehicles continue to display “Only Rain down the Drain” signs 	On-going
	Pet Waste Postcards	Postcards continued to be offered Park Rangers and Nature Centers. Postcards were also distributed to organizations, businesses and companies that provide pet services (Animal Welfare League).	On-going
	Dumpster Education	Postcards are distributed by recycling inspectors during inspections.	On-going

	Programs / Practices	Actions Taken	Implementation
	Education to prevent Sanitary Sewer Overflows (Fats, Oils, Grease (FOG))	<p>Information on County Website:</p> <ul style="list-style-type: none"> - Fats, Oils, Grease -information on managing FOG - Garbage disposal tips - The Toilet is not a Trash Can <p>The County continues to promote Metropolitan Washington Council of Governments Protect Your Pipes campaign – https://protectyourpipes.org/ to protect wastewater infrastructure and preserve the health of waterways.</p> <p>Outreach articles:</p> <ul style="list-style-type: none"> • Inside Arlington Newsletter – FOG holiday reminder (November 2021) <p>Brochures continue to be distributed as needed during facility inspections, recycling program inspections, and by the WPCP staff during pretreatment inspections or investigations.</p>	On-going
	Policies / Regulations	The County amended the County Code in FY22 to help reduce discharges of FOG to the sanitary sewer system and decrease the potential for SSOs. Section 26.1 Wastewater Pretreatment was added.	On-going
	Back-of-House Maintenance for Restaurants – Information Series	Fact sheets have been distributed during commercial facility / HD inspections and/or included in post-inspection, follow-up correspondence.	On-going
Employee Training	SWPPP Training	Approximately 717 County and Arlington Public School employees received annual training covering how to recognize and report illicit discharges and methods to prevent stormwater pollution prevention at facilities and out in the community.	On-going

The bacteria monitoring program had 99.6% coverage of its sites in FY22. Of the 251 samples collected in FY22, 36% (90 samples) exceeded the primary contact recreation water quality standard (WQS) of 235 E. coli colony-forming units per 100 ml (CFU/100 ml). The secondary contact recreation water quality standard of 1173 CFU/100 ml was exceeded in 4% (11) of the samples. These data support the County’s guidelines to residents and visitors to restrict usage of the streams to secondary contact activities (<https://environment.arlingtonva.us/streams/stream-safety/>). A full summary of the FY22 data is provided in Appendix AR18 of the FY22 MS4 Annual Report. The County also reviews data from DEQ monitoring stations as data are made available.

The County anticipates continuing many of the aforementioned suite of actions and best management practices in this permit cycle as part of the County’s adaptive iterative approach to reduce pollutant discharges and loading. The updated Bacteria TMDL Action Plan will be submitted to DEQ by January 2023.

Reduction of bacteria loading from urban watersheds continues to be extremely challenging given the pre-dominance of uncontrollable wildlife sources, bacteria re-growth and re-suspension, weather volatility, aging public and private infrastructure and the inability to completely control human behavior.

Appendix AR26: FY22 Implementation Summary of PCB Action Plan

The goal of this local action plan is to identify sources of PCBs within Arlington County and reduce PCB loadings from controllable, anthropogenic sources to the maximum extent practicable as part of a long-term and comprehensive, multi-pollutant watershed management program.

The County continues to undertake pollution minimization practices and stormwater management initiatives aimed at reducing sediment loading, which in turn should reduce PCB loading to the MS4. These efforts complement the gradual reduction of PCB loads from atmospheric deposition and long-term chemical breakdown. In addition, the County continues to conduct education and outreach about proper disposal of various waste materials and debris. PCBs can be found in transformers and capacitors, coolants in electrical equipment, lubricants and hydraulic fluids, old fluorescent light ballasts, thermal insulation materials, adhesives and tapes, caulk, roofing materials and asphalt, pesticides, plastics, inks in products such as newspapers, magazines, or cardboard, clothing pigments and dyes, and paints. Educating the public about proper disposal and recycling practices and providing programs and events such as the Household Hazardous Waste Collection, metal and white goods collection programs, and E_CARE events are important steps to help prevent PCBs from getting into the environment via improper disposal, dumping, or littering.

The County is currently updating this Action Plan. The draft revised plan will be put out for public comment in fall 2022.

The following summary table provides information on implementation actions and best management practices conducted in FY22 focused on reducing PCB and other pollutant loading.

	Programs / Practices	Actions Taken	Implementation
Management Strategies & Practices	Street Sweeping	Over 8,900 of street lane miles were swept and over 800 tons of debris were removed from County streets in FY22.	On-going
	Storm Drain System Inspection and Maintenance	Over 63,000 linear feet of storm sewer system were inspected in FY22; 1093 catch basins were inspected and maintained / cleaned.	On-going
	Stormwater Treatment / Retrofits / Stream Restoration	Sediment reductions achieved via stormwater management facilities and retrofitting in FY22 are reported with the TMDL POC reductions for the Chesapeake Bay TMDL Action Plan The County continues to implement several stormwater retrofit and improvement projects .	On-going
	High Priority Municipal Facility Stormwater Pollution Prevention Plans (SWPPP)	All HPMF SWPPPs were updated in FY22. Inspections of all facilities occurred in FY22.	On-going
	Pollution Prevention Protocols for Street and Parking Lot Maintenance	The County updated its Stormwater Pollution Prevention Protocols for Street, Road, Sidewalk, and Parking Lot Maintenance. A copy of the report can be found in Appendix C of the MS4 Program Plan.	On-going
	Construction Site SWPPP Inspections	Site inspections were conducted to monitor compliance with LDA permit SWPPP requirements – specifically for erosion and sediment control. Pollution prevention	On-going

	Programs / Practices	Actions Taken	Implementation
		requirements are discussed at pre-con meetings. Spill kits are required to be kept on site.	
	Illicit Discharge Detection and Elimination	<p>County staff were involved in over 120 illicit discharge incidents in FY22. In all cases, the discharge was eliminated or resolved. Residents are encouraged to report stream pollution, spills, and illegal dumping.</p> <p>In FY22, the County updated its Report Stream Pollution page. Reporting illegal dumping into storm drains or stream pollution was also added to the County's Report a Problem web page.</p> <p>Dry weather screening continues to be conducted on an annual basis for outfalls located near South Four Mile Run Drive and Shirlington commercial areas.</p>	On-going
	Commercial Facility Inspections	Over 146 inspections were conducted at commercial facilities that have been identified to be potential sources of significant pollutant loading. Follow-up letters and educational materials were provided to business owners or property managers when problems were identified.	On-going
	Household Hazardous Waste Collection Program	The Water Pollution Control Plant continued to manage the County's year-round household hazardous materials (HHM) program. In FY22, residents dropped off 268,689 pounds of HHM and 84,134 pounds of electronics.	On-going
	E-CARE Collection Event	Residents participated in the Fall 2021 and Spring 2022 E-CARE events where 3,410 residents dropped off over 188,000 pounds of HHM collectively; over 53,000 pounds of electronics were also collected during the two events.	On-going
	SWB Metal and White Goods Collection/Recycling Program	The Solid Waste Bureau continued its metal recycling and white good collection program. Scrap metal can be recycled at two recycling centers in the County (N Quincy St Recycling Center and at the Trades Center).	On-going
	County Facility Renovation & Waste Disposal	As County facilities are renovated, waste materials are properly collected and disposed of at a certified commercial waste disposal facility outside of the County.	On-going
Education and Outreach	County Website	The County updated its Prevent Pollution page. Information on PCBs provided by the Northern Virginia Regional Commission was added to the site.	On-going
	Distribution of Educational Materials	<p>The following outreach materials continue to be distributed:</p> <ul style="list-style-type: none"> • Saw-Cut Slurry postcard • Concrete Wash Out postcard • Dumpster Management postcard <p>These materials were distributed in various ways: during inspections, pre-construction meetings, and/or post inspection follow-up / enforcement</p>	On-going

	Programs / Practices	Actions Taken	Implementation
		correspondence	
	Storm Drain Marking	In FY22, 47 volunteers donated over 76 hours and marked 302 storm drains with the “Only Rain” storm drain markers . Volunteers are instructed to report dumping or illicit discharges to storm drains .	On-going
Employee Training	SWPPP Training	Approximately 717 County and Arlington Public School employees received annual training in FY22 covering how to recognize and report illicit discharges and methods to prevent stormwater pollution prevention at facilities and out in the community. Employees were also trained on recognizing, responding to, and reporting spills and leaks.	On-going

Reduction of PCB loading from urban watersheds continues to be extremely challenging, if not impossible, given the legacy, non-active source status of PCB contamination, slow chemical breakdown of PCB compounds, and the lack of established stormwater treatment systems with quantifiable PCB removal efficiencies. The County anticipates continuing the aforementioned suite of actions and best management practices in this and the next permit cycle as part of the County’s adaptive iterative approach to reduce pollutant discharges and loading of pollutants of concern.

The updated PCB TMDL Action Plan will be submitted to DEQ by January 2023.