

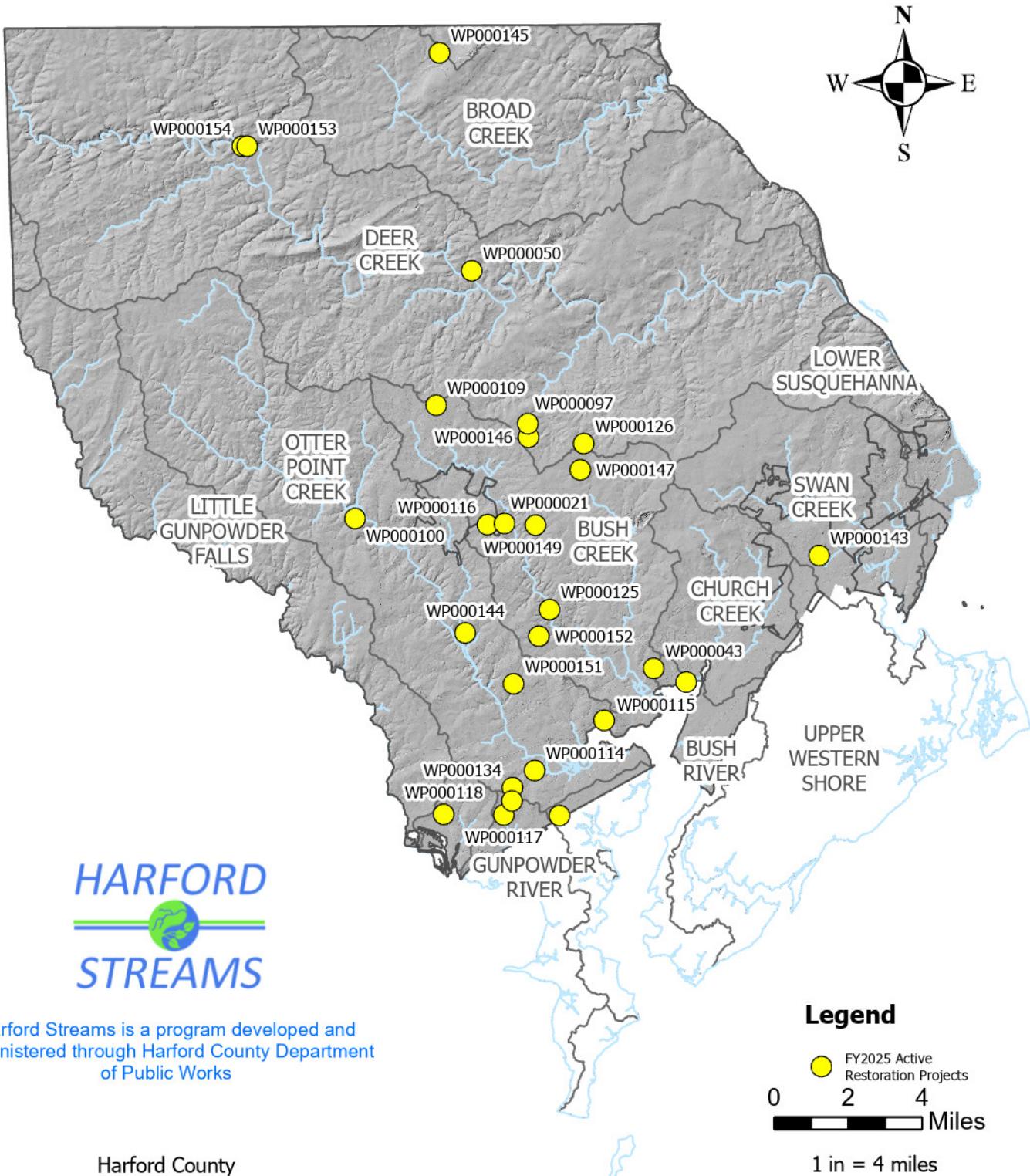
Appendix C6 – Source Identification (Water Quality Improvement Projects)

Appendix C6

Harford County, MD Department of Public Works Watershed Protection and Restoration FY2025 Active Restoration Projects



Robert Cassilly
County Executive



Harford Streams is a program developed and administered through Harford County Department of Public Works

Harford County
NPDES Phase 1 MS4 Permit 22-DP-3310
FY2025 Annual Report

HarfordStreams@HarfordCountyMD.gov

www.HarfordCountyMD.gov

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(410) 638-3217

Watershed Protection and Restoration**ACTIVE Projects****12/17/25****1,435.55**

Credits - IA (acres)	Status	Construction Complete (FY)	Permit	Project Number	Project Name	Project Type	Project Subtype
15.54	Planning	2026	5		Spring	Meadow Planting	Conservation Landscaping
10.00	Planning	2026	5		Spring	Tree Planting	Forest Tree Planting
5.00	Planning	2026	5		Spring	Tree Planting	Urban Tree Canopy
20.00	Planning	2026	5		HLT Program	Other	Forest Conservation Easement
127.53	Under Construction	2026	5	WP000043	Declaration	Stream Restoration	Stream Restoration
1.93	Under Construction	2026	5	WP000109	Hickory Vet Retrofit	Stormwater (Upgrade)	Submerged Gravel Wetland
4.58	Under Construction	2026	5	WP000143	Aberdeen MS	Tree Planting	Urban Tree Canopy
0.42	Under Construction	2026	5	WP000154	Eden Mill	Tree Planting	Urban Tree Canopy
2.00	Under Construction	2026	5	WP000144	Harford Glen	Tree Planting	Urban Tree Canopy
1.26	Under Construction	2026	5	WP000146	Prospect Mill Park	Tree Planting	Urban Tree Canopy
3.29	Under Construction	2026	5	WP000147	Schuck's Rd Park	Tree Planting	Urban Tree Canopy
1.00	Under Construction	2026	5	WP000145	Whiteford Shop	Tree Planting	Urban Tree Canopy

Harford County Completed MS4 Restoration

48.94	Under Construction	2026	5	WP000125	Abbey Circle	Stream Restoration	Outfall Stabilization
12.04	Under Construction	2026	5	WP000115	Anita Leight Stream Restoration	Stream Restoration	Stream Restoration
18.00	Under Construction	2026	5		Lower Wheel Repairs	Stream Restoration	Stream Restoration
20.76	Under Construction	2026	5	WP000114	Watergate Court Stream Restoration	Stream Restoration	Stream Restoration
56.50	Design	2027	5	WP000097	Woodland	Stream Restoration	Stream Restoration
17.90	Design	2027	5	WP000134	Edgewater Village	Stream Restoration	Stream Restoration
108.31	Design	2027	5	WP000126	Harford Community College	Stream Restoration	Stream Restoration
20.00	Planning	2027	5		HLT Program	Other	Forest Conservation Easement
68.92	Design	2027	5	WP000117	North Reardon Stream Restoration	Stream Restoration	Stream Restoration
183.90	Design	2027	5	WP000118	Taylor Creek Stream Restoration	Stream Restoration	Stream Restoration
69.30	Design	2027	5		Water's Edge	Stream Restoration	Stream Restoration
50.00	Planning	2027	5			Stream Restoration	Outfall Stabilization
5.00	Planning	2027	5			Meadow Planting	Conservation Landscaping
10.00	Planning	2027	5			Tree Planting	Forest Tree Planting
5.00	Planning	2027	5			Tree Planting	Urban Tree Canopy

Harford County Completed MS4 Restoration

95.10	Design	2028	5	WP000021	Sunnyview	Stream Restoration	Stream Restoration
136.10	Design	2028	5	WP000100	Watervale	Stream Restoration	Stream Restoration
98.72	Design	2028	5	WP000151	Barclay	Stream Restoration	Stream Restoration
62.18	Design	2028	5	WP000149	Bennett Place	Stream Restoration	Stream Restoration
10.50	Design	2028	5	WP000152	Boxthorn/Laurel Valley	Stream Restoration	Stream Restoration
0.79	Design	2028	5	WP000153	Eden Mill Wetland Retrofit	Stormwater Management	Wetland Retrofit
58.04	Design	2028	5	WP000116	Farnandis Stream Restoration	Stream Restoration	Stream Restoration
20.00	Planning	2028	5		HLT Program	Other	Forest Conservation Easement
50.0	Planning	2028	5			Stream Restoration	Outfall Stabilization
2.00	Planning	2028	5			Meadow Planting	Conservation Landscaping
10.00	Planning	2028	5			Tree Planting	Forest Tree Planting
5.00	Planning	2028	5			Tree Planting	Urban Tree Canopy

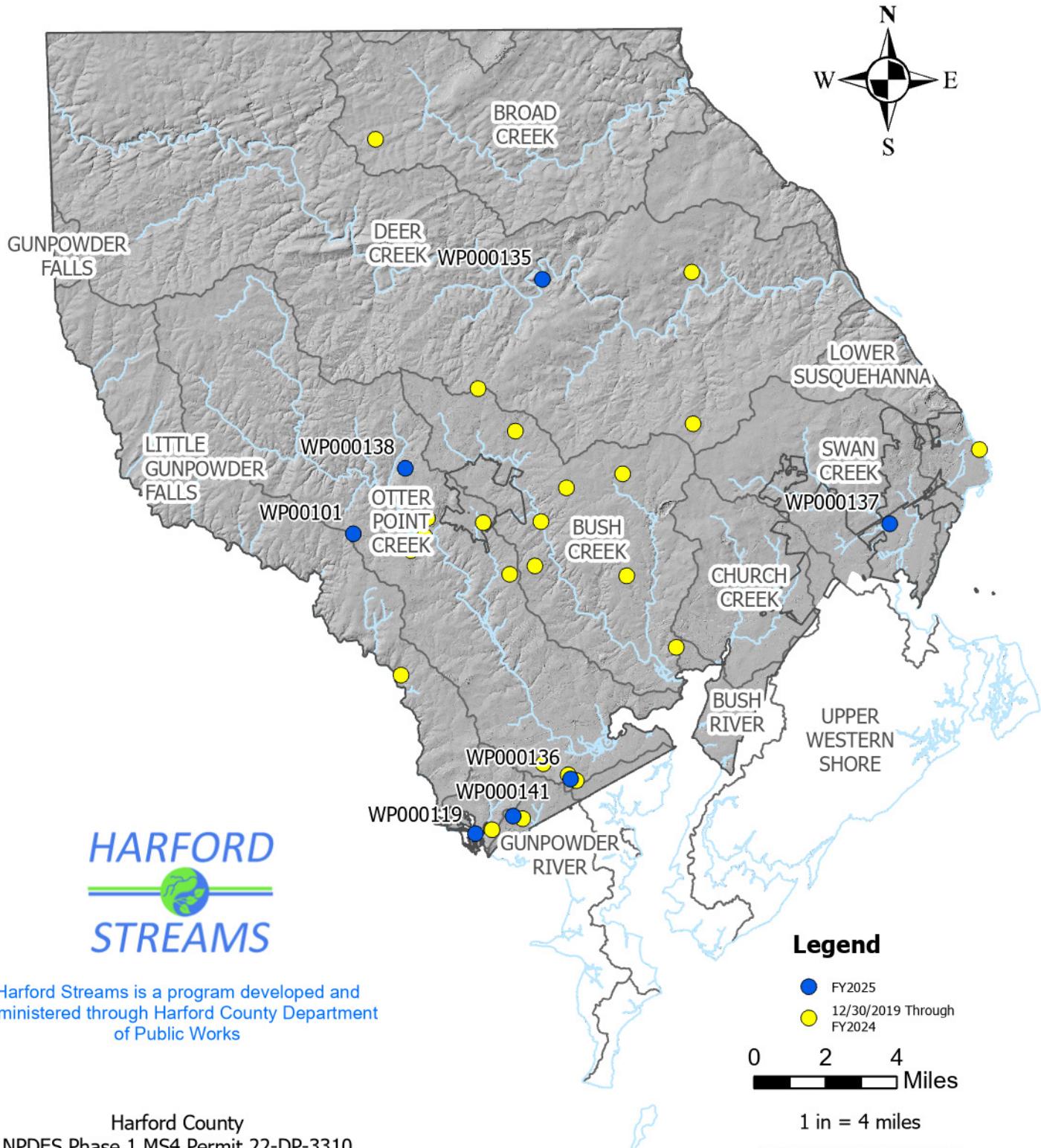
Appendix C6

Harford County, MD Department of Public Works Watershed Protection and Restoration



Robert Cassilly
County Executive

Restoration Projects Completed
(December 30, 2019 - June 30, 2025)



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Watershed Protection and Restoration

Completed Projects

12/17/25

1,018.01

Credits - IA (acres)	Status	Construction Complete (FY)	Permit	Project Number	Project Name	Project Type	Project Subtype
97.7	Complete	2020	5	WP000086	Annie's Playground Stream Restoration	Stream Restoration	Stream Restoration
3.31	Complete	2020	5	WP000086	Annie's Playground Tree Planting	Tree Planting	Forest Tree Planting
82.6	Complete	2020	5	WP000039	Barrington	Stream Restoration	Stream Restoration
0.6	Complete	2020	5	WP000039	Barrington	Stormwater Retrofit	Bioretention
0.4	Complete	2020	5	WP000039	Barrington	Stormwater Retrofit	Pond / Wetland System
1.6	Complete	2020	5	WP000039	Barrington (Rollins SWM Wetland)	Stormwater Retrofit	Pond / Wetland System
6.2	Complete	2020	5	WP000039	Barrington (SWM Pond 1)	Stormwater Retrofit	Wet Pond
1.0	Complete	2020	5	WP000039	Barrington (SWM Pond 2)	Stormwater Retrofit	Wet Pond
0.7	Complete	2020	5	WP000104	Courthouse Micro Bioretention	Stormwater (New)	Micro Bioretention
0.24	Complete	2020	5	WP000105	Mariner Point	Tree Planting	Urban Tree Canopy
8.6	Complete	2020	5	WP000087	Tributary to Plumtree Run at Wakefield Manor Stream Restoration	Stream Restoration	Stream Restoration
143.3	Complete	2020	5	WP000033	Willoughby Beach	Stream Restoration	Stream Restoration

Harford County Completed MS4 Restoration

6.6	Complete	2020	5	WP000033	Willoughby Beach	Stormwater (New)	Pond / Wetland System
2.9	Complete	2020	5	WP000033	Willoughby Beach (SPSC Outfall C)	Stream Restoration	Stream Restoration
5.3	Complete	2020	5	WP000033	Willoughby Beach (SPSC Outfall H)	Stream Restoration	Stream Restoration
3.5	Complete	2020	5	WP000033	Willoughby Beach (SWM Pond 1)	Stormwater (Upgrade)	Infiltration Basin
2.2	Complete	2020	5	WP000033	Willoughby Beach (SWM Pond 2)	Stormwater (Upgrade)	Wet Pond
58.5	Complete	2021	5	WP000085	Emmord (aka Magnolia Middle)	Stream Restoration	Stream Restoration
73.3	Complete	2022	5	WP000091	C Milton Wright High School	Stream Restoration	Stream Restoration
1.5	Complete	2022	5	WP000102	Fallston Library	Stormwater (Upgrade)	Bioretention
45.6	Complete	2022	5	WP000014	Heavenly	Stream Restoration	Stream Restoration
28.5	Complete	2022	5	WP000037	Stillmeadow	Stream Restoration	Stream Restoration
4.4	Complete	2022	5	WP000037	Stillmeadow	Stormwater (New)	Stream Restoration
2.94	Complete	2023	5	WP000121	Cedar Lane Park - Landscaping	Tree Planting	Forest Tree Planting
2.42	Complete	2023	5	WP000124	Edgeley Grove Park - Landscaping	Tree Planting	Forest Tree Planting
1.40	Complete	2023	5	WP000124	Edgeley Grove Park - Landscaping	Tree Planting	Riparian Forest Planting
33.21	Complete	2024	5	WP000155	Alliance Planting (County Founded)	Tree Planting	Forest Tree Planting
2.01	Complete	2024	5	WP000155	Alliance Planting (County Founded)	Tree Planting	Urban Tree Canopy

Harford County Completed MS4 Restoration

80.54	Complete	2024	5	WP000156	Alliance Planting (Non-County Founded)	Tree Planting	Forest Tree Planting
8.59	Complete	2024	5	WP000156	Alliance Planting (Non-County Founded)	Tree Planting	Riparian Forest Planting
2.41	Complete	2024	5	WP000156	Alliance Planting (Non-County Founded)	Tree Planting	Urban Tree Canopy
123.1	Complete	2024	5	WP000034	Church Creek Elementary	Stream Restoration	Stream Restoration
0.0	Complete	2024	5	WP000034	Church Creek Elementary	Stormwater (Upgrade)	Infiltration Trench
7.95	Complete	2024	5	WP000034	Church Creek Elementary	Stormwater (Upgrade)	Submerged Gravel Wetland
3.55	Complete	2024	5	WP000132	Edgewater Village Park	Tree Planting	Forest Tree Planting
1.26	Complete	2024	5	WP000133	Fountain Green ES Park	Tree Planting	Forest Tree Planting
0.60	Complete	2024	5	WP000157	Gunpowder Valley Conservancy Trees	Tree Planting	Urban Tree Canopy
3.56	Complete	2024	5	WP000157	Gunpowder Valley Conservancy Trees	Tree Planting	Forest Tree Planting
1.06	Complete	2024	5	WP000157	Gunpowder Valley Conservancy Trees	Tree Planting	Riparian Forest Planting
58.00	Complete	2024	5	WP000140	HdG Living Shoreline (trade)	Other	Living Shoreline
0.94	Complete	2024	5	WP000122	North Harford High School - Meadow	Meadow Planting	Conservation Landscaping

Harford County Completed MS4 Restoration

0.24	Complete	2024	5	WP000122	North Harford High School - Tree Planting	Tree Planting	Urban Tree Canopy
2.55	Complete	2024	5	WP000122	North Harford Middle School - Forest Planting	Tree Planting	Forest Tree Planting
0.52	Complete	2024	5	WP000139	SWS (Food Forest and Chestnut)	Tree Planting	Urban Tree Canopy
0.12	Complete	2025	5		755 Alliance Planting (CBT Grant)	Tree Planting	Urban Tree Canopy
0.12	Complete	2025	5		755 Alliance Planting (CBT Grant)	Tree Planting	Street Tree Planting
12.04	Complete	2025	5	WP000135	Deer Creek Conservation Area	Tree Planting	Forest Tree Planting
0.28	Complete	2025	5	WP000136	Edgewood ES Planting	Tree Planting	Urban Tree Canopy
1.35	Complete	2025	5	WP000136	Edgewood ES Planting	Tree Planting	Forest Tree Planting
0.13	Complete	2025	5	WP000136	Edgewood ES Planting	Tree Planting	Conservation Landscaping
0.55	Complete	2025	5	WP000101	Fallston MS Infill	Tree Planting	Forest Tree Planting
5.51	Complete	2025	5	WP000101	Fallston MS, Fallston HS	Stormwater (New)	Surface Sand Filter
5.38	Complete	2025	5	WP000101	Fallston MS, Fallston HS	Stormwater (New)	Step Pool Conveyance
58.35	Complete	2025	5	WP000101	Fallston MS, Fallston HS	Stream Restoration	Stream Restoration
0.77	Complete	2025	5		Fallston Presbyterian SWM	Stormwater (New)	Stormwater (New)
2.34	Complete	2025	5	WP000141	Magnolia ES/MS Planting	Tree Planting	Urban Tree Canopy

Harford County Completed MS4 Restoration

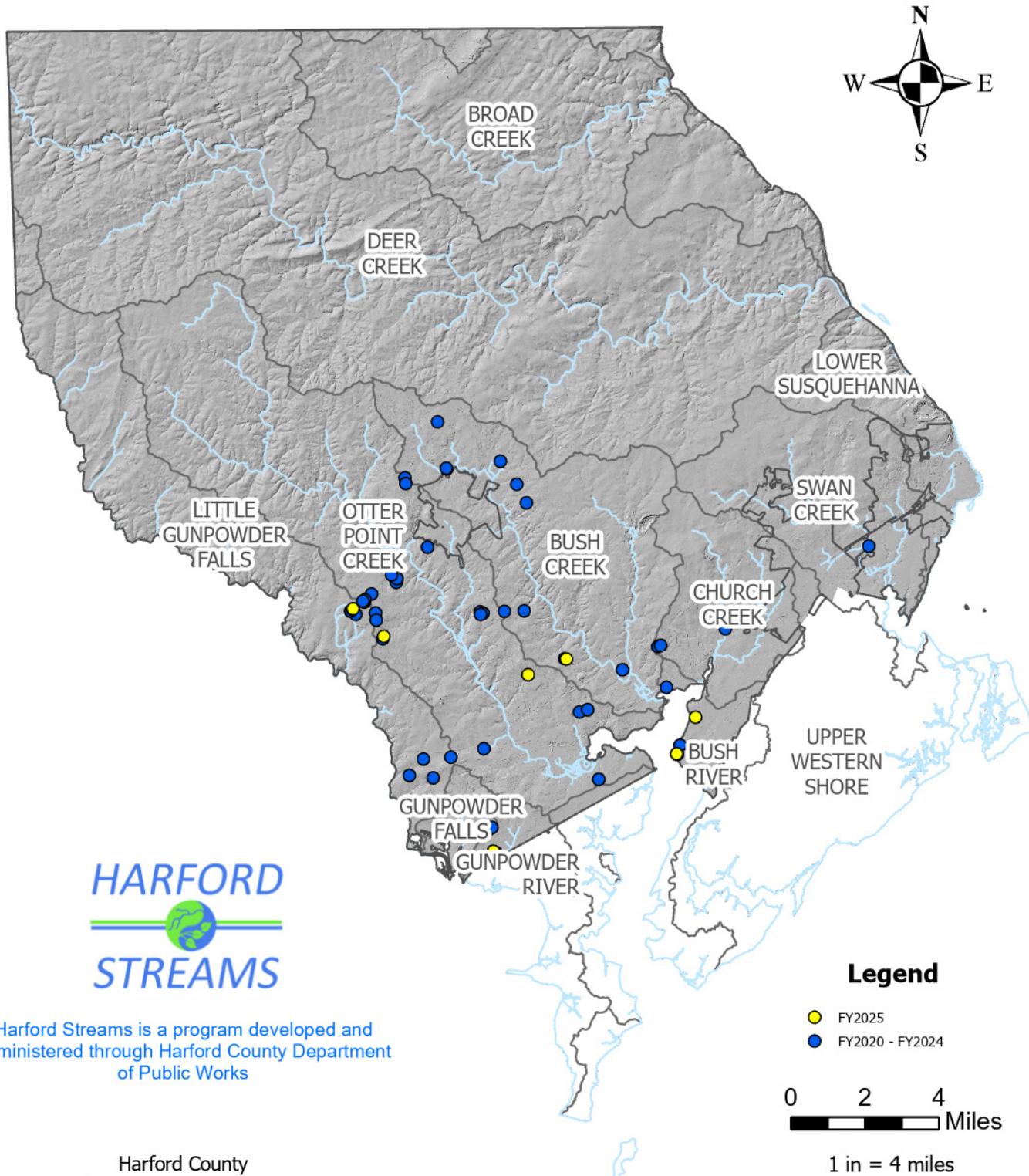
0.69	Complete	2025	5	WP000141	Magnolia ES/MS Planting	Tree Planting	Urban Tree Canopy
3.01	Complete	2025	5	WP000119	Mariner Point Stormwater Retrofit	Stormwater (New)	Stormwater (New)
0.17	Complete	2025	5	WP000138	Red Pump ES Planting	Tree Planting	Urban Tree Canopy
4.03	Complete	2025	5	WP000142	Red Pump ES Planting - Ph2	Tree Planting	Urban Tree Canopy
0.35	Complete	2025	5	WP000137	Roye E Williams ES Planting	Tree Planting	Riparian Forest Planting
7.28	Complete	2025	5	WP000137	Roye E Williams ES Planting	Tree Planting	Urban Tree Canopy
0.14	Complete	2025	5		Watershed Steward Academy Projects	Stormwater (New)	Stormwater (New)

Appendix C6

Harford County, MD Department of Public Works Watershed Protection and Restoration Septic Systems Connected to Wastewater Treatment (December 30, 2019 - June 30, 2025)



Robert Cassilly
County Executive



HARFORD

STREAMS

Harford Streams is a program developed and
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Harford County
NPDES Phase 1 MS4 Permit 22-DP-3310
FY2025 Annual Report

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Harford County Completed MS4 Restoration

Watershed Protection and Restoration

Septic Connections **12/17/25****20.57**

Credits - IA (acres)	Status	Construction Complete (FY)	Completion Date	Project Name	Project Type	Tax ID
0.4	Complete	2020	2019 Nov	730 Post Rd North	Septic Connection	02073153
0.4	Complete	2020	2019 Nov	2101 Harford Rd	Septic Connection	03031942
0.4	Complete	2020	2019 Nov	2112 Deadora Rd	Septic Connection	01051652
0.4	Complete	2020	2019 Oct	3309 Philadelphia Rd	Septic Connection	01089838
0.4	Complete	2020	2019 Sep	1309 Gingerbread Ln	Septic Connection	01007823
0.4	Complete	2020	2019 Aug	732 Bel Air Rd	Septic Connection	03050742
0.4	Complete	2020	2019 Aug	1305 Stonewall Ln	Septic Connection	03133699
0.4	Complete	2020	2019 Jul	914 Trimble Rd	Septic Connection	01106457
0.4	Complete	2020	2019 Jul	1002 Trimble Rd	Septic Connection	01104624
0.4	Complete	2020	2019 Jul	916 Trimble Rd	Septic Connection	01040499
0.4	Complete	2020	2019 Jul	1000 Trimble Rd	Septic Connection	01030795

Harford County Completed MS4 Restoration

0.4	Complete	2020	2020 Jun	1300 Bel Air Rd	Septic Connection	03036871
0.4	Complete	2020	2020 Feb	2219 Old Emmorton Rd	Septic Connection	01073877
0.4	Complete	2021	2021 Apr	1 Bagley St	Septic Connection	03165906
0.4	Complete	2021	2021 Apr	3 Bagley St	Septic Connection	03130479
0.4	Complete	2021	2021 Jun	901 Conowingo Rd	Septic Connection	03129489
0.4	Complete	2021	2021 Jun	2214 Perryman Rd	Septic Connection	02055678
0.4	Complete	2021	2020 Jul	2911 Willoughby Beach Rd	Septic Connection	01178040
0.4	Complete	2021	2020 Aug	3200 Wilson Ave	Septic Connection	01045032
0.4	Complete	2021	2021 Jun	1343 Belcamp Rd	Septic Connection	01040855
0.4	Complete	2021	2021 Feb	1502 Old Mountain South Rd	Septic Connection	01039776
0.4	Complete	2021	2021 Jan	912 Trimble Rd	Septic Connection	01006479
0.4	Complete	2022	2022 Jun	1500 Hillside Dr	Septic Connection	03058956
0.4	Complete	2022	2022 Jun	1315 Locust Ave	Septic Connection	03070646
0.4	Complete	2022	2022 Jun	310 Wisteria Ct	Septic Connection	01051601

Harford County Completed MS4 Restoration

0.4	Complete	2022	2022 May	1308 Stonewall Ln	Septic Connection	03081206
0.4	Complete	2022	2022 Apr	1606 Old Joppa Rd	Septic Connection	01044524
0.4	Complete	2022	2022 Mar	26 Mountain Rd	Septic Connection	03046516
0.4	Complete	2022	2022 Feb	102 Mountain Rd	Septic Connection	03120708
0.4	Complete	2022	2022 Feb	536 Trimble Rd	Septic Connection	01097881
0.4	Complete	2022	2022 Feb	1601 Mandeville Rd	Septic Connection	01030299
0.4	Complete	2022	2022 Jan	595 Irwin Rd	Septic Connection	03400864
0.4	Complete	2022	2021 Dec	4411 Philadelphia Rd	Septic Connection	01400353
0.4	Complete	2022	2021 Dec	508 Westview Rd	Septic Connection	03143813
0.4	Complete	2022	2021 Nov	2411 Harford Rd	Septic Connection	03401156
0.4	Complete	2022	2021 Nov	2409 Harford Rd	Septic Connection	03401155
0.4	Complete	2022	2021 Aug	304 Wisteria Ct	Septic Connection	01051768
0.4	Complete	2022	2021 Jul	826 Stepney Rd South	Septic Connection	02061732
0.2	Complete	2023	2022 Aug	502 Foster Branch Rd	Septic Connection	01012274

Harford County Completed MS4 Restoration

0.2	Complete	2023	2023 Feb	1350 Locust Ave	Septic Connection	03048640
0.2	Complete	2023	2023 Apr	1505 Old Philadelphia Rd	Septic Connection	02051753
0.2	Complete	2023	2022 Oct	2119 Parsonage Ln	Septic Connection	03046966
0.2	Complete	2023	2022 Sep	2209 Queensbury Dr	Septic Connection	03103749
0.2	Complete	2023	2022 Oct	3104 Barrens Rd	Septic Connection	01026534
0.2	Complete	2023	2023 Jun	4015 Philadelphia Rd	Septic Connection	01245627
0.2	Complete	2023	2022 Sep	4505 Pulaski Hwy	Septic Connection	01038540
0.2	Complete	2023	2022 Sep	529 Pritt Ln	Septic Connection	03133109
0.2	Complete	2024	2023 Aug	105 Fort Hoyle Rd	Septic Connection	01056824
0.2	Complete	2024	2024 Feb	1517 Clayton Rd	Septic Connection	01028820
0.2	Complete	2024	2023 Nov	1911 Harford Rd	Septic Connection	03046192
0.2	Complete	2024	2023 Nov	2101 Parsonage Ln	Septic Connection	03039684
0.2	Complete	2024	2024 Jun	2124 Park Beach Dr	Septic Connection	02046261
0.2	Complete	2024	2024 Jun	3307 Philadelphia Rd	Septic Connection	01081451

Harford County Completed MS4 Restoration

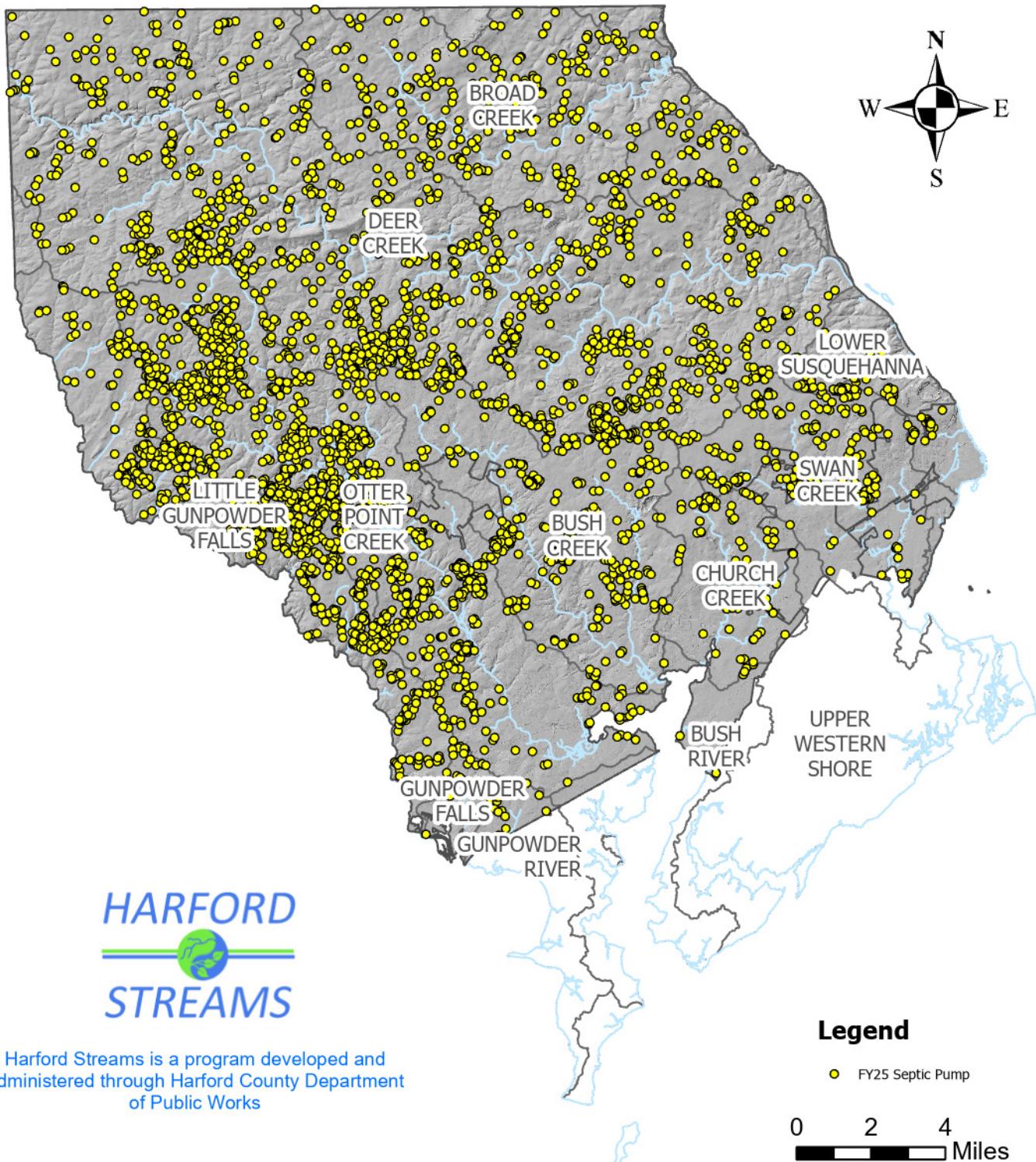
0.2	Complete	2024	2023 Nov	411 Wheel Rd East	Septic Connection	01013386
0.2	Complete	2024	2023 Aug	701 Fountain Green Rd North	Septic Connection	03060802
0.2	Complete	2025	2023 Aug	112 Fort Hoyle Rd	Septic Connection	01056824
0.2	Complete	2025	2024 Feb	1909 Mitchell Dr	Septic Connection	01028820
0.2	Complete	2025	2024 Jun	2210 Perryman Rd	Septic Connection	02046261
0.2	Complete	2025	2023 Nov	2215 Queensbury Dr	Septic Connection	03046192
0.2	Complete	2025	2023 Aug	2403 Harford Rd	Septic Connection	03060802
0.2	Complete	2025	2023 Nov	2405 Harford Rd	Septic Connection	03039684
0.2	Complete	2025	2023 Nov	3103 Barrens Rd	Septic Connection	01013386
0.2	Complete	2025	2024 Jun	7 Porter Dr	Septic Connection	01081451

Appendix C6

Harford County, MD Department of Public Works Watershed Protection and Restoration FY2025 Septic Pump



Robert Cassilly
County Executive



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NPDES Phase 1 MS4 Permit 22-DP-3310
FY2025 Annual Report

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MEMORANDUM

700 East Pratt Street, Suite 500
Baltimore, MD 21202
Phone 410.728.2900
www.rkk.com

Date: October 2025
To: Danielle Hankins, MS4 Program Administrator
From: Brittany Ayers Moyer, P.E., Project Manager
CC: Lucia Noya, P.E., Director; Celine Brundridge, Environmental Scientist
Re: Harford County FY25 Septic Pump Out Credit

Introduction

Harford County contracted RK&K to review and catalog each septic manifest ticket in order to calculate the NPDES MS4 alternative BMP credit associated with septic pump outs in Fiscal Year (FY) 2025. The manifest tickets were completed by waste haulers that unloaded at Harford County's Sod Run Wastewater Treatment Plant and include septic pump outs, holding tanks, and commercial waste.

Methodology

In FY25, RK&K reviewed a total of 9,843 manifest tickets. The numbers shown in parentheses below are percentages (%) of the total manifests.

1. 3,497 (36%) manifests are not septic. These manifests were recorded with Holding Tank, Commercial Volume, or Landfill (Scarboro Landfill) and were excluded from crediting.
2. Some residents pump their septic tank annually, but crediting is only available once in a five-year period. The septic systems credited in FY20 were able to be credited again in FY25. Of the remaining 6,346 tickets for FY25, 1,867 (19%) came from manifests that were credited in previous fiscal years—FY21, FY22, FY23, and FY24—and were excluded from crediting in FY25.
3. Of the remaining 4,479 manifests, 322 (3%) tickets were excluded due to one of the following factors: a missing address or the address was unable to be verified, the address was outside of Harford County, the TaxID was unable to be verified, the ticket was a duplicate, or the ticket was from portable restrooms or a non-septic source. A 3% exclusion rate for FY25 aligns closely with the downward trend from the 4–6% rates reported in previous fiscal years.
4. **In FY25, 4,157 (42%) tickets remained available for crediting after exclusions.** This is a 14% increase of total tickets included compared to FY24.

Table 1. Total Number of Tickets After Exclusions

	FY21	FY22	FY23	FY24	FY25	
	# of Tickets				# of Tickets	% of Total Tickets
Total Tickets	10,232	9,428	9,995	9,780	9,843	-
Not Septic Tickets	3,292	3,266	3,827	3,895	3,497	36%
Credited in Previous Years	2,823	3,344	4,160	1,739	1,867	19%
MS4 Exclusions	678	622	436	496	322	3%
Tickets after Exclusions	3,439	2,196	1,572	3,650	4,157	42%

Table 1 above shows the data used to calculate the number of tickets after exclusions in each fiscal year.

To calculate the amount of impervious area credit provided by the septic systems, it is necessary to obtain the number of addresses pumped from in FY25. This step is important to identify the addresses where multiple pump outs occurred. Of the 4,157 tickets that remained after exclusions:

1. 3,641 manifests were identified at locations where only a single pump out occurred.
2. 516 manifests were identified at locations where multiple (two+) pump outs occurred.
 - a. By isolating the addresses where multiple pump outs occurred, it was determined that the 516 manifests accounted for pump outs at 176 addresses.
3. **The total number of creditable addresses during Fiscal Year 2025 is 3,817**, see **Table 2** below. This is approximately 30% more than the creditable addresses reported in FY24. Creditable manifests increased as expected this fiscal year since addresses pumped in FY20 are now available for credit, past the five-year cycle.

Table 2. Total Number of Address

Of the Tickets after Exclusions	FY21	FY22	FY23	FY24	FY25
# of Single Pumps (a)	3,042	1,973	1,406	2,688	3,641
# of Multiple Pumps (b)	397	223	166	962	516
# of Multi-Pump Addresses (c)	149	94	62	245	176
Total # of Addresses (a+c)	3,191	2,067	1,468	2,933	3,817

Impervious Area Credit

Utilizing the equivalent impervious acre conversion factor (EIA_f) for septic pumping presented in Table 3.E. of the 2014 *MDE Accounting for Wasteload Allocations and Impervious Acres Treated* document, the impervious area credit was calculated using the number of creditable septic systems that were identified in FY25. The 2014 Accounting Guidance is being used because Harford County is still working toward their 2014 permit restoration goal. An EIA_f of 0.03 acres of credit per creditable septic system was utilized in the equation below.

$$\text{Number of Septic Systems} \times EIA_f = \text{Equivalent Impervious Acre Credit}$$

Applying this equation to the 3,817 septic systems results in **114.51 acres of impervious area credit** for Harford County's FY25 MS4 program through septic pump outs.

Distribution

RK&K also reviewed the distribution of septic pump outs by volume for FY25. The following information does not pertain to the impervious area credit calculation, but may be used for Harford County's MS4 Annual Report.

In FY25, 47% of the pump outs were less than 1,200 gallons, 32% of pump outs were between 1,200 and 2,400 gallons, and 20% of pump outs were greater than 2,400 gallons. This represents a 2% reduction in

pump outs less than 1,200 gallons, a 4% reduction in pump outs between 1,200 and 2,400 gallons, and a 4% increase in pump outs greater than 2,400 gallons compared to FY24.

An adjusted volume was calculated using the sum of the single-pump household volumes and the average for multiple-pump households. Based on the adjusted pump out volume (see Table 3 below), an average tank size of 1,665 gallons was calculated. This shows a trending increase in average tank size from 1,380 gallons in FY21, 1,427 gallons in FY22, 1,447 gallons in FY23, and from 1,555 gallons in FY24. The average tank size rose again in FY25. Since the FY20 list of creditable septic systems have been re-introduced into the calculation, it was expected that the average tank size would decrease in FY25 because smaller septic tanks will be available for crediting again. However, the high multi-pump volume was maintained this fiscal year, similar to FY24. The adjusted volume in FY25 is approximately 1.8 million gallons more than FY24's adjusted volume of approximately 4.6 million gallons. As expected, another large jump in volume has occurred due to the inclusion of FY20 credited septic tanks. Table 3 below shows that the adjusted volume as a percentage of pre-adjusted volume has increased to 91% from 90% in FY21, 92% in FY22, 90% in FY23, and 75% in FY24.

Table 3. Adjusted Volume FY23

In US GAL,	FY21	FY22	FY23	FY24	FY25	% of Pre-Adjusted Volume
Pre-Adjusted Volume	4,915,621	3,199,922	2,350,456	6,077,960	7,002,650	-
Single-Pump Only Volume	4,167,947	2,832,084	2,036,061	4,040,310	5,950,750	85%
Multi-Pump Only Volume	747,674	367,838	314,395	2,037,650	1,051,900	15%
Multi-Pump Volume Reduced	236,939	117,819	88,553	521,400	402,800	6%
Adjusted Volume	4,404,886	2,949,903	2,124,614	4,561,710	6,353,550	91%
Adjusted Average Pump per Household	1,380	1,427	1,447	1,555	1,665	0.02%

Summary

In FY25, RK&K determined that 3,817 septic systems were available for Alternative BMP crediting, which resulted in **114.51 acres of impervious area credit**. See **Table 3** below for a summary of impervious area credit obtained from septic pump outs during each of the past five fiscal years.

Table 3. Impervious Area Credit from Septic Pump Outs

	FY21	FY22	FY23	FY24	FY25
Impervious Area Credit	95.73	62.01	44.04	87.99	114.51

Therefore, the five-year septic pump out credit average is **80.86 acres** of MS4 credit.