

Fairfax County 2023 MS4 Program Plan and Annual Report

Appendix R17

TMDL Action Plan Implementation Updates Other Than
Chesapeake Bay

VSMP Permit Number VA0088587
9-29-2023

Fairfax County Sediment TMDL Tracking Ledger

Bull Run Stream Restoration	TSS lbs/year	
Constructed	2,598,218.67	
<i>Bull Run</i>		
<i>Cub Run</i>	2,422,839.72	
<i>Johnny Moore Creek</i>		
<i>Little Rocky Run</i>		
<i>Popes Head Creek</i>	175,378.95	
Under Construction	-	
<i>Bull Run</i>		
<i>Cub Run</i>	-	
<i>Johnny Moore Creek</i>		
<i>Little Rocky Run</i>		
<i>Popes Head Creek</i>		
Total	2,598,218.67	Credit Sharing
Fairfax	2,598,218.67	100.0%
Herndon	-	0.0%
Vienna	-	0.0%

Bull Run Structural Retrofits	TSS lbs/year	
Constructed	280,376.12	
<i>Bull Run</i>	18,484.11	
<i>Cub Run</i>	207,226.58	
<i>Johnny Moore Creek</i>		
<i>Little Rocky Run</i>	11,629.62	
<i>Popes Head Creek</i>	43,035.81	
Under Construction	-	
<i>Bull Run</i>	-	
<i>Cub Run</i>	-	
<i>Johnny Moore Creek</i>		
<i>Little Rocky Run</i>		
<i>Popes Head Creek</i>	-	
Total	280,376.12	Credit Sharing
Fairfax	280,376.12	100.0%
Herndon	-	0.0%
Vienna	-	0.0%

Bull Run Land Use Change	TSS lbs/year	
Constructed	1,158.78	
<i>Bull Run</i>		
<i>Cub Run</i>	1,158.78	
<i>Johnny Moore Creek</i>		
<i>Little Rocky Run</i>		
<i>Popes Head Creek</i>		
Under Construction	-	
<i>Bull Run</i>		
<i>Cub Run</i>		
<i>Johnny Moore Creek</i>		
<i>Little Rocky Run</i>		
<i>Popes Head Creek</i>		
Total	1,158.78	
Fairfax	1,158.78	
Herndon	-	
Vienna	-	

Bull Run Total	TSS lbs/year	
Constructed	2,879,753.57	
<i>Bull Run</i>	18,484.11	
<i>Cub Run</i>	2,631,225.08	
<i>Johnny Moore Creek</i>	-	
<i>Little Rocky Run</i>	11,629.62	
<i>Popes Head Creek</i>	218,414.76	
Under Construction	-	
<i>Bull Run</i>	-	
<i>Cub Run</i>	-	
<i>Johnny Moore Creek</i>	-	
<i>Little Rocky Run</i>	-	
<i>Popes Head Creek</i>	-	
Total	2,879,753.57	Credit Sharing
Fairfax	2,879,753.57	100.0%
Herndon	-	0.0%
Vienna	-	0.0%

No Credit Sharing

Difficult Run Stream Restoration	TSS lbs/year	
Constructed	7,284,276.46	
Under Construction	-	
Total	7,284,276.46	Credit Sharing
Fairfax	6,220,772.10	85.4%
Herndon	-	0.0%
Vienna	1,063,504.36	14.6%

Difficult Run Structural Retrofits	TSS lbs/year	
Constructed	168,077.89	
Under Construction	-	
Total	168,077.89	Credit Sharing
Fairfax	143,538.52	85.4%
Herndon	-	0.0%
Vienna	24,539.37	14.6%

Difficult Run Land Use Change	TSS lbs/year	
Constructed	179.06	
Under Construction	-	
Total	179.06	
Fairfax	179.06	
Herndon	-	
Vienna	-	

No Credit Sharing

Difficult Run Total	TSS lbs/year	
Constructed	7,452,354.35	
Under Construction	-	
Total	7,452,533.41	Credit Sharing
Fairfax	6,364,489.68	85.4%
Herndon	-	0.0%
Vienna	1,088,043.73	14.6%

Popes Head Creek Stream Restoration	TSS lbs/year	
Constructed	175,378.95	
Under Construction	0	
Total	175,378.95	Credit Sharing
Fairfax	175,378.95	100.0%
Herndon	0.00	0.0%
Vienna	0.00	0.0%

Popes Head Creek Structural Retrofits	TSS lbs/year	
Constructed	43,035.81	
Under Construction	-	
Total	43,035.81	Credit Sharing
Fairfax	43,035.81	100.0%
Herndon	-	0.0%
Vienna	-	0.0%

Popes Head Creek Total	TSS lbs/year	
Constructed	218,414.76	
Under Construction	-	
Total	218,414.76	Credit Sharing
Fairfax	218,414.76	100.0%
Herndon	-	0.0%
Vienna	-	0.0%

NOTES

Popes Head Creek projects are included in both the Bull Run TMDL and Popes Head Creek TMDL since the TMDLs overlap.

Stream Restoration

PRJ_ID	#	Project Name	Substantial Completion	Longitude	Latitude	Type of Project or BMP	Acres Treated (Ac)	Impervious Acres Treated (Ac)	Pervious Acres Treated (Ac)	Estimated Cost (\$)	Restored Length (LF)	Estimated Amount of TSS Reduction (lbs/yr)		Pollutant Reduction Calculation Method	Watershed
												With Sediment Delivery Ratio	Without Sediment Delivery Ratio*		
Benthic Action Plan Project Completion Status - Stream Restoration															
CU9206	2	Big Rocky Tributary	5/26/2010	-77.441575	38.849032	Urban Stream Restoration	99.95	29.21	70.74	\$191,600	336	7,307.04	40,370.40	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 336 LF, Average Stream Bank Height: 4.5 ft, Sediment Delivery Ratio: 0.181; Protocol 2 - Average Stream Bank Width: 6.4 ft	Cub Run
CU9211A	4	Flatlick Confluence Stream Restoration	5/18/2011	-77.477458	38.862985	Urban Stream Restoration	5,016.42	1,938.97	3,077.45	\$633,530	1400	62,832.00	347,138.12	CBP Urban Stream Restoration Interim Approved Removal Rates; Sediment Delivery Ratio:0.181	Cub Run
CU9218A	5	Schneider Branch Stream Restoration	5/31/2011	-77.467084	38.893042	Urban Stream Restoration	1,022.20	627.48	394.72	\$631,100	1000	9,037.15	49,929.00	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 1000 LF, Average Stream Bank Height: 1.87 ft, Sediment Delivery Ratio: 0.181; Protocol 2 - Average Stream Bank Width: 10 ft	Cub Run
DF9143C46	8	Government Center Stormwater Retrofit	6/29/2012	-77.353374	38.854106	Urban Stream Restoration	148.14	74.73	73.41	\$275,000	1000	22,713.69	125,490.00	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 1000 LF, Average Stream Bank Height: 4.7 ft, Sediment Delivery Ratio: 0.181	Difficult Run
DF82-0015	14	Wolftrap Creek	10/19/2013	-77.250652	38.902473	Urban Stream Restoration	755.57	350.97	404.60	\$1,749,434	2089	31,296.08	172,906.52	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 2089 LF, Average Stream Bank Height: 3.1 ft, Sediment Delivery Ratio: 0.181	Difficult Run
CU9207	20	Big Rocky Run Phase II	6/25/2014	-77.438891	38.848568	Urban Stream Restoration	4,400.40	1,809.78	2,590.63	\$2,457,798	2550	73,191.24	404,371.49	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 2330 LF, Average Stream Bank Height: 6.5 ft, Sediment Delivery Ratio: 0.181	Cub Run
DF83-0002	22	Miller Heights Outfall	8/7/2014	-77.325369	38.888489	Outfall Restoration	23.83	5.34	18.49	\$209,803	233	11,728.80	64,800.00	CBP Urban Stream Restoration Expert Panel: Protocol 1 -BANCS Sediment Load Estimate: 64.8 tons/yr, Sediment Delivery Ratio: 0.181	Difficult Run
DF82-0001	23	South Lakes Stream Restoration	10/1/2014	-77.336585	38.932076	Urban Stream Restoration	37.23	19.79	17.43	\$646,509	660	4,401.62	24,318.36	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 660 LF, Average Stream Bank Height: 1.38 ft, Sediment Delivery Ratio: 0.181	Difficult Run
DF9045E	25	Difficult Run Tributary at Oakton Estates (DF9045)	6/26/2015	-77.350268	38.877995	Urban Stream Restoration	55.97	10.65	45.33	\$337,000	300	6,524.14	36,045.00	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 300 LF, Average Stream Bank Height: 4.5 ft, Sediment Delivery Ratio: 0.181	Difficult Run
CU9214A	34	Flatlick Phase I	12/8/2016	-77.423793	38.887072	Urban Stream Restoration	2,417.60	831.78	1,585.82	\$1,725,604	1772	69,107.61	381,809.99	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 2600 LF, Average Stream Bank Height: 5.5 ft, Sediment Delivery Ratio: 0.181	Cub Run
DF82-0008	38	Colvin Run Ph I	8/9/2017	-77.311688	38.965054	Urban Stream Restoration	2,776.59	947.96	1,828.63	\$3,041,000	2175	153,126.00	846,000.00	CBP Urban Stream Restoration Expert Panel: Protocol 1 -BANCS Sediment Load Estimate: 846 tons/yr, Sediment Delivery Ratio: 0.181; Protocol 2 - Average Stream Bank Width: 30.8 ft	Difficult Run
				-77.314909	38.963992	Urban Stream Restoration					110	3,077.00	17,000.00	CBP Urban Stream Restoration Expert Panel: Protocol 1 -BANCS Sediment Load Estimate: 17 tons/yr, Sediment Delivery Ratio: 0.181; Protocol 2 - Average Stream Bank Width: 4.6 ft	Difficult Run
				-77.313468	38.964642	Urban Stream Restoration					350	11,403.00	63,000.00	CBP Urban Stream Restoration Expert Panel: Protocol 1 -BANCS Sediment Load Estimate: 63 tons/yr, Sediment Delivery Ratio: 0.181; Protocol 2 - Average Stream Bank Width: 4 ft	Difficult Run
	42	Wolftrap Creek Phase 2	10/18/2017	-77.246262	38.905770	Urban Stream Restoration	693.74	268.15	425.59	\$890,000	1020	45,777.60	252,914.92	CBP Urban Stream Restoration Interim Approved Removal Rates; Sediment Delivery Ratio:0.181	Difficult Run
Subtotal:							17,447.65	6,914.80	10,532.85	\$ 12,788,378	14,995	511,522.97	2,826,093.80		

Stream Restoration

PRJ_ID	#	Project Name	Substantial Completion	Longitude	Latitude	Type of Project or BMP	Acres Treated (Ac)	Impervious Acres Treated (Ac)	Pervious Acres Treated (Ac)	Estimated Cost (\$)	Restored Length (LF)	Estimated Amount of TSS Reduction (lbs/yr)		Pollutant Reduction Calculation Method	Watershed
												With Sediment Delivery Ratio	Without Sediment Delivery Ratio*		
Projects Completed in Addition to Action Plan Projects															
	54	Stone Mill Court Reach 2	4/24/2018	-77.342058	38.879321	Outfall Restoration	32.96	7.76	25.20	\$360,874	262.8	5,084.00	28,088.40	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 263 LF, Average Stream Bank Height: 4 ft, Sediment Delivery Ratio: 0.181	Difficult Run
CU-9214	55	Flatlick Ph II	4/26/2018	-77.434525	38.881297	Urban Stream Restoration	3,331.06	1,117.71	2,213.35	\$4,874,194	3560	138,323.95	764,220.72	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 4400 LF, Average Stream Bank Height: 5.5 ft, Sediment Delivery Ratio: 0.181; Protocol 2 - Average Stream Bank Width: 46 ft	Cub Run
						Urban Stream Restoration					340				
						Urban Stream Restoration					175				
						Urban Stream Restoration					200				
DF82-03	56	Robinson, PCL 19 @ 0723DP (DF82-03)	5/22/2018	-77.293272	38.970800	Outfall Restoration	34.33	5.08	29.25	\$395,000	260	1,256.50	6,942.00	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 260 LF, Average Stream Bank Height: 1.0 ft, Sediment Delivery Ratio: 0.181	Difficult Run
DF82-0014	59	Lake Martin Tributaries	10/23/2018	-77.341165	38.88487	Outfall Restoration	29.48	5.24	24.24	\$1,747,968	1363	36,268.39	200,377.85	CBP Urban Stream Restoration Expert Panel: Protocol 1 -BANCS Sediment Load Estimate: 175 tons/yr, Sediment Delivery Ratio: 0.181, Protocol 4 - a RSC with 6,534 cf of runoff treated	Difficult Run
	62	Innisvale Drive Outfall Restoration	12/7/2018	-77.354019	38.803831	Outfall Restoration	17.18	3.13	14.05	\$495,616	475	7,966.71	44,014.97	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 471 LF, Average Stream Bank Height: 3.5 ft, Sediment Delivery Ratio: 0.181	Popes Head Creek
1250DP	66	Browns Chapel Pond & Outfall Improvement	4/20/2019	-77.307614	38.96985	Outfall Restoration	91.58	22.42	69.16	\$262,518	145	5,132.33	28,355.41	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 180 LF, Average Stream Bank Height: 5.9 ft, Sediment Delivery Ratio: 0.181	Difficult Run
DF82-0007		Difficult Run Tributary @ Brittenford Drive	3/1/2020	-77.297957	38.943905	Urban Stream Restoration	459.20	112.42	346.78	\$4,781,000	5402	631,206.73	3,487,330.00	CBP Urban Stream Restoration Expert Panel: Protocol 1 -BANCS Sediment Load Estimate: 3487.33 tons/yr, Average Stream Bank Height: 4.7 ft, Protocol 2 - Restored Length 5486 lf, Average Stream Bank Width: 3.9 ft, Sediment Delivery Ratio: 0.181	Difficult Run
400-C40101		Brevity Drive Outfall	11/27/2019	-77.30877	38.98328	Outfall Restoration	88.90	14.20	74.70	\$622,839	540	15,657.95	86,508.01	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 540 LF, Average Stream Bank Height: 6 ft, Sediment Delivery Ratio: 0.181	Difficult Run
		Four Stairs Court & Sandy Folly Court Outfall	11/8/2019	-77.32923	38.809097	Outfall Restoration	27.60	4.80	22.80	\$572,842	1070	23,776.88	131,363.98	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 1070 LF, Average Stream Bank Height: 4.5 ft, Sediment Delivery Ratio: 0.181	Popes Head Creek
		Flatlick PhIII	4/10/2020	-77.448606	38.878373	Urban Stream Restora	3,989.40	1,333.50	2,655.9	\$3,154,231	3,895	78,735.00	435,000.00	CBP Urban Stream Restoration Expert Panel: Protocol 1 -BANCS Sediment Load Estimate: 435 tons/yr, Average Stream Bank Height: 4.6 ft, Protocol 2 - Restored Length 3794 lf, Average Stream Bank Width: 16.2 ft, Sediment Delivery Ratio: 0.181	Cub Run

Stream Restoration

PRJ_ID	#	Project Name	Substantial Completion	Longitude	Latitude	Type of Project or BMP	Acres Treated (Ac)	Impervious Acres Treated (Ac)	Pervious Acres Treated (Ac)	Estimated Cost (\$)	Restored Length (LF)	Estimated Amount of TSS Reduction (lbs/yr)		Pollutant Reduction Calculation Method	Watershed
												With Sediment Delivery Ratio	Without Sediment Delivery Ratio*		
Projects Completed in Addition to Action Plan Projects															
DF82-0005	73	Old Courthouse Spring Branch - Phase I @ Gosnell Road	1/29/2021	-77.247156	38.925587	Urban Stream Restoration	369.25	259.69	109.6	\$7,022,060	3,236	82,333.00	454,878.45	CBP Urban Stream Restoration Expert Panel: Protocol 1 -BANCS Sediment Load Estimate: 454.88 tons/yr, Sediment Delivery Ratio: 0.181	Difficult Run
		Snakeden Branch Tributary @ Lake Audubon	1/15/2021	-77.335564	38.929434	Urban Stream Restoration	46.76	22.44	24.3	\$1,860,000	863	21,344.00	117,922.65	CBP Urban Stream Restoration Expert Panel: Protocol 1 -BANCS Sediment Load Estimate: 117.92 tons/yr, Sediment Delivery Ratio: 0.181	Difficult Run
		Miller Heights Outfall	3/11/2021	-77.32549	38.888567	Outfall Restoration	31.00	5.89	25.1	\$272,345	403	9,251.00	51,110.50	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 403 LF, Average Stream Bank Height: 4.75 ft, Sediment Delivery Ratio: 0.181	Difficult Run
		Rockport Road	11/11/2020	-77.27333	38.913687	Outfall Restoration	39.70	13.10	26.6	\$441,909	378	14,614.00	80,740.33	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 378 LF, Average Stream Bank Height: 8 ft, Sediment Delivery Ratio: 0.181	Difficult Run
		Brooktrail Court	6/10/2021	-77.28009	38.928154	Outfall Restoration	39.11	7.04	32.1	\$310,026	300	5,799.00	32,038.67	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 300 LF, Average Stream Bank Height: 4 ft, Sediment Delivery Ratio: 0.181	Difficult Run
		Piney Branch	3/25/2021	-77.111759	38.814183	Urban Stream Restoration	688.50	249.80	438.7	\$1,600,000	1,525	104,039.00	574,801.10	CBP Urban Stream Restoration Expert Panel: Protocol 1 -BANCS Sediment Load Estimate: 574.81 tons/yr, Sediment Delivery Ratio: 0.181	Difficult Run
		Leigh Meadow & Towlston	10/29/2021	-77.27115	38.95121	Urban Stream Restoration	117.87	41.42	76.5	\$2,034,202	1,687	83,958.66	463,860.00	CBP Urban Stream Restoration Expert Panel: Protocol 1 -BANCS Sediment Load Estimate: 463.86 tons/yr, Average Stream Bank Height: 6.2 ft, Sediment Delivery Ratio: 0.181	Difficult Run
		Leigh Meadow & Towlston	10/29/2021	-77.27115	38.95121	Outfall Restoration	9.55	2.73	6.8	\$757,460	187	3,732.68	20,622.54	CBP Urban Stream Restoration Expert Panel: Protocol 4 -Proposed treatment volume: 26,764 cf, Sediment Delivery Ratio: 0.181	Difficult Run
		Chestnut Burr Court	10/17/2021	-77.34433	38.930976	Outfall Restoration	10.70	4.60	6.1	\$371,461	654	8,728.86	48,225.75	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 654 LF, Average Stream Bank Height: 3 ft, Sediment Delivery Ratio: 0.181	Difficult Run
		Shouse Village	3/11/2022	-77.27026	38.944231	Outfall Restoration	117.93	37.69	80.2	\$1,040,846	1,035	22,508	124,355.25	CBP Urban Stream Restoration Expert Panel: Protocol 1 -Existing Length: 1035 LF, Average Stream Bank Height: 4.5 ft, Sediment Delivery Ratio: 0.181	Difficult Run
		Piney Run @ Lake Wereowance	1/23/2023	-77.2864	38.983	Urban Stream Restoration	2,601.60	520.32	2,081.3	\$4,212,584	3,267	199,420.37	1,101,770.00	CBP Urban Stream Restoration Expert Panel: Protocol 1 -BANCS Sediment Load Estimate: 708.53 tons/yr, Sediment Delivery Ratio: 0.181, Protocol 2 - Restored Length 3267 lf, Average Stream Bank Width: 8.8 ft	Difficult Run
Subtotal:							12,173.66	3,790.97	8,382.72	\$37,189,975	31,223.00	1,499,137.31	8,282,526.58		

* Sediment delivery ratio does not apply to local TMDLs

QA/QC Corrections - Some projects included Bay baseline adjustments which were removed to keep reporting consistent
Project completed during the reporting period

Credit Summary by Watershed (lb/yr)	With Sediment Delivery Ratio	Without Sediment Delivery Ratio*
Cub Run Complete	438,533.99	2,422,839.72
Cub Run Under Construction	-	-
Little Rocky Run Complete	-	-
Little Rocky Run Under Construction	-	-
Total Bull Run	438,533.99	2,422,839.72
Difficult Run Complete	1,318,454.03	7,284,276.46
Difficult Run Under Construction	-	-
Total Difficult Run	1,318,454.03	7,284,276.46
Popes Head Creek Complete	31,743.59	175,378.95
Popes Head Creek Under Construction	-	-
Total Popes Head Creek	31,743.59	175,378.95

Structural Retrofits

PRJ_ID	#	Project Name	Substantial Completion	Longitude	Latitude	Type of Project or BMP	Acres Treated (Ac)	Impervious Acres Treated (Ac)	Pervious Acres Treated (Ac)	Estimated Cost (\$)	Estimated Total TSS Reduction (lbs/yr)*	Pollutant Reduction Calculation Method	Watershed
Benthic TMDL Action Plan Project Completion Status - Stormwater Retrofits													
CU9124	1	Willoughby's Ridge Pond Retrofit(0944DP)	9/4/2009	-77.429377	38.845618	Extended Detention Pond	17.03	7.82	9.21	\$277,100	5,389.42	CBP Established Efficiency, Dry Extended Detention Ponds	Cub Run
CU9125	2	Englewood Mews Pond Retrofit(1396DP)	9/4/2009	-77.428622	38.846256	Extended Detention Pond	46.42	21.63	24.79	\$297,300	14,846.87	CBP Established Efficiency, Dry Extended Detention Ponds	Cub Run
CU9143	5	Fair Ridge Richmond American Pond	12/15/2009	-77.374687	38.871101	Constructed Wetland	41.50	31.22	10.28	\$390,400	18,053.73	CBP Retrofits Expert Panel, ST, 0.42 inches of runoff treated	Cub Run
CU9193	6	Foxfield Pond D	12/15/2009	-77.405292	38.89487	Extended Detention Pond	111.00	22.77	88.23	\$271,800	21,090.90	CBP Established Efficiency, Dry Extended Detention Ponds	Cub Run
CU9142	7	Fair Ridge Pond A	12/15/2009	-77.370964	38.870001	Constructed Wetland	65.04	53.08	11.96	\$366,800	32,138.12	CBP Established Efficiency, Wet Ponds and Wetlands	Cub Run
PH9890	16	University Square	12/22/2010	-77.323737	38.838279	Extended Detention Pond	18.40	5.80	12.60	\$178,100	4,504.37	CBP Established Efficiency, Dry Extended Detention Ponds	Popes Head Creek
BN9105	21	Springhill Rec Center	7/15/2011	-77.227473	38.940809	Filtering Practices	0.10	0.10	-	\$39,000	93.71	CBP Established Efficiency, Filtering Practices	Bullneck Run
				-77.22833554	38.9406501	Permeable Pavement	0.40	0.40	-	\$76,100	345.80	CBP Retrofits Expert Panel, RR, 0.95 inches of runoff treated	Bullneck Run
				-77.227463	38.942894	Extended Detention Pond	14.10	8.04	6.06	\$56,200	5,239.89	CBP Established Efficiency, Dry Extended Detention Ponds	Bullneck Run
CU81-0003	22	Sequoia Section 2 Pond 1	8/1/2011	-77.440837	38.850177	Extended Detention Pond	92.25	30.00	62.25	\$486,264	23,041.58	CBP Established Efficiency, Dry Extended Detention Ponds	Cub Run
PH81-0001	25	Barton Place Pond Retrofit (DEL 2011)	12/13/2011	-77.33245	38.806626	Wet Pond	65.92	24.39	41.53	\$192,000	18,946.16	CBP Retrofits Expert Panel, ST, 0.51 inches of runoff treated	Popes Head Creek
DF9143C46	29	Government Center Stormwater Retrofit	6/29/2012	-77.353366	38.853269	Constructed Wetland	4.28	3.12	1.16	\$50,000	3,071.89	CBP Retrofits Expert Panel, ST, 2.5 inches of runoff treated	Difficult Run
				-77.355078	38.852334	Constructed Wetland	45.35	25.85	19.50	\$275,000	25,193.45	CBP Retrofits Expert Panel, ST, 1.39 inches of runoff treated	Difficult Run
DF87-0003	32	Great Falls Nike Park #4	11/1/2012	-77.324875	38.992132	Infiltration	0.95	0.90	0.05	\$41,954	1,009.83	CBP Established Efficiency, Infiltration Practices w/o Sand, Veg.	Difficult Run
						Dry Swale	0.40	0.09	0.31	\$37,495	133.07	CBP Retrofits Expert Panel, RR, 2 inches of runoff treated	Difficult Run
						Infiltration	1.89	1.79	0.10	\$190,736	2,008.53	CBP Established Efficiency, Infiltration Practices w/o Sand, Veg.	Difficult Run
PH9190	33	Marymead Section 1 & 2	12/14/2012	-77.362382	38.84276	Constructed Wetland	50.20	6.53	43.67	\$427,000	9,723.70	CBP Retrofits Expert Panel, ST, 0.75 inches of runoff treated	Popes Head Creek
DF9143D47	34	Fairfax County Landbay C, Pond #4	3/20/2013	-77.355287	38.852875	Constructed Wetland	16.99	9.25	7.74	\$110,000	9,722.55	CBP Retrofits Expert Panel, ST, 2.31 inches of runoff treated	Difficult Run
CU9138	35	Fair Woods, Section 9, Pond 2	4/10/2013	-77.38609	38.877209	Extended Detention Pond	26.99	14.91	12.08	\$401,550	9,794.02	CBP Established Efficiency, Dry Extended Detention Ponds	Cub Run
PH9180B	36	Brentwood West	6/19/2013	-77.365386	38.837887	Extended Detention Pond	35.27	9.52	25.75	\$345,158	7,838.91	CBP Established Efficiency, Dry Extended Detention Ponds	Popes Head Creek
DF9031A7	38	Regional SWM Pond D-31	6/24/2013	-77.314594	38.892094	Extended Detention Pond	331.11	116.20	214.91	\$655,815	86,944.28	CBP Established Efficiency, Dry Extended Detention Ponds	Difficult Run
DF81-0006	45	Towlston Meadow (0371DP)	4/4/2014	-77.265751	38.949846	Constructed Wetland	26.00	8.00	18.00	\$266,751	6,267.48	CBP Established Efficiency, Wet Ponds and Wetlands	Difficult Run
DF87-0006	48	Oak Marr Rec Center Stormwater	8/1/2014	-77.316279	38.874842	Bioretention	0.95	0.75	0.20	\$128,366	441.28	CBP Retrofits Expert Panel, RR, 0.4 inches of runoff treated	Difficult Run
DF87-0001	51	Oakton Library	9/15/2014	-77.302299	-77.302299	Permeable Pavement	0.37	0.25	0.12	\$239,841	267.78	CBP Retrofits Expert Panel, RR, 2.5 inches of runoff treated	Difficult Run
				-77.30182	38.883805	Bioretention	0.91	0.67	0.24	\$67,545	454.84	CBP Established Efficiency, Bioretention C/D soils, underdrain	Difficult Run
				-77.301959	38.883783	Infiltration	0.50	0.42	0.08	\$37,113	480.72	CBP Established Efficiency, Infiltration Practices w/o Sand, Veg.	Difficult Run
CU87-0002	53	Fire and Rescue Training Academy II	9/27/2014	-77.37489023	38.8545573	Permeable Pavement	0.82	0.65	0.17	\$89,210	660.28	CBP Retrofits Expert Panel, RR, 1.94 inches of runoff treated	Cub Run
CU9186	55	Armfield Sec 5	11/15/2014	-77.418565	38.895334	Constructed Wetland	78.79	27.43	51.36	\$317,413	19,507.74	CBP Retrofits Expert Panel, ST, 0.43 inches of runoff treated	Cub Run
DF9045A6	62	Oakton Swim and Racquet Club (DF9045A6)	5/22/2015	-77.350396	-77.350396	Bioretention	22.70	3.74	18.96	\$90,120	4,242.65	CBP Established Efficiency, Bioretention C/D soils, underdrain	Difficult Run
				-77.350679	-77.350679	Bioretention	18.87	2.47	16.40	\$90,120	3,176.95	CBP Established Efficiency, Bioretention C/D soils, underdrain	Difficult Run
				-77.350653	-77.350653	Bioretention	5.32	2.18	3.14	\$90,120	1,708.02	CBP Established Efficiency, Bioretention C/D soils, underdrain	Difficult Run
DF9045F	66	Penderbrook (DF9045/0691DP)	3/8/2016	-77.362336	38.87771	Constructed Wetland	22.53	2.60	19.93	\$105,021	4,239.05	CBP Retrofits Expert Panel, ST, 0.79 inches of runoff treated	Difficult Run
CU9214A	69	Flatlick Phase I	12/8/2016	-77.422712	38.887882	Constructed Wetland	8.39	3.59	4.80	\$325,765	3,912.75	CBP Retrofits Expert Panel, ST, 1.87 inches of runoff treated	Cub Run
Subtotal:							1,171.74	446.16	725.58	\$ 7,013,155	344,490.32		

Structural Retrofits

PRJ_ID	#	Project Name	Substantial Completion	Longitude	Latitude	Type of Project or BMP	Acres Treated (Ac)	Impervious Acres Treated (Ac)	Pervious Acres Treated (Ac)	Estimated Cost (\$)	Estimated Total TSS Reduction (lbs/yr)*	Pollutant Reduction Calculation Method	Watershed
Projects Completed in Addition to Action Plan Projects													
CU9711	3	Franklin Middle School	9/14/2009	-77.422277	38.90754	Constructed Wetland	54.40	10.10	44.30	\$556,479	11,415.78	CBP Retrofits Expert Panel, ST, 0.62 inches of runoff treated	Cub Run
				-77.422277	38.90754	Bioretention	1.41	1.09	0.32	\$72,000	1,010.02	CBP Retrofits Expert Panel, RR, 1.05 inches of runoff treated	Cub Run
DF87-0004B	31	Waples Mill ES Phase II	8/8/2012	-77.345172	-77.345172	Permeable Pavement	0.82	0.71	0.11	\$250,000	708.85	CBP Retrofits Expert Panel, RR, 1.92 inches of runoff treated	Difficult Run
DF	67	Terraset ES	12/15/2015	-77.343127	38.937057	Permeable Pavement	1.28	0.84	0.44	\$461,857	905.27	CBP Retrofits Expert Panel RR, 2.5 inches of runoff treated	Difficult Run
DF	67	Terraset ES	12/15/2015	-77.343622	38.935493	Permeable Pavement	0.69	0.35	0.34		400.69	CBP Retrofits Expert Panel RR, 2.5 inches of runoff treated	Difficult Run
BR8001-BR001	14	Weltman Estates	10/4/2010	-77.491502	38.83826	Extended Detention Pond	47.82	28.69	19.13	\$345,000	18,484.11	CBP Established Efficiency, Dry Extended Detention Ponds	Bull Run
DF87-0005	74	Sunrise Valley ES	9/1/2015	-77.3213	38.941291	Permeable Pavement	0.21	0.14	0.07	\$532,290	150.38	CBP Retrofits Expert Panel, RR, 2.5 inches of runoff treated	Difficult Run
				-77.320802	38.941418	Permeable Pavement	0.55	0.39	0.16		413.66	CBP Retrofits Expert Panel, RR, 2.5 inches of runoff treated	Difficult Run
				-77.319947	38.941094	Dry Swale	0.33	0.19	0.14		197.73	CBP Established Efficiency, Bioswale	Difficult Run
				-77.318977	38.939997	Infiltration	2.72	1.43	1.29		1,797.22	CBP Established Efficiency, Infiltration Practices w/o Sand, Veg.	Difficult Run
CU9807	76	Stringfellow Road - Park & Ride Stormwater Enhancements	5/11/2016	-77.40506	38.853782	Permeable Pavement	0.83	0.75	0.08	\$612,337	760.96	CBP Retrofits Expert Panel RR, 2.5 inches of runoff treated	Cub Run
				-77.404792	38.854064	Permeable Pavement	0.32	0.29	0.03		292.55	CBP Retrofits Expert Panel RR, 2.5 inches of runoff treated	Cub Run
				-77.405645	38.853421	Permeable Pavement	0.97	0.83	0.15		847.34	CBP Retrofits Expert Panel RR, 2.5 inches of runoff treated	Cub Run
				-77.405548	38.854177	Permeable Pavement	0.41	0.36	0.05		370.04	CBP Retrofits Expert Panel RR, 2.5 inches of runoff treated	Cub Run
				-77.405226	38.854651	Permeable Pavement	0.46	0.44	0.02		444.48	CBP Retrofits Expert Panel RR, 2.5 inches of runoff treated	Cub Run
				-77.40434	38.853796	Filtering Practices	0.03	0.03	0.00		23.73	CBP Retrofits Expert Panel RR, 2.5 inches of runoff treated	Cub Run
				-77.404202	38.853338	Filtering Practices	0.03	0.03	0.00		28.40	CBP Retrofits Expert Panel RR, 2.5 inches of runoff treated	Cub Run
CU87-0001	81	West Ox Bus Operations Center Expansion (CU87-0001)	7/21/2017	-77.377953	38.84816	Permeable Pavement	0.08	0.08	-	\$5,501	73.26	CBP Retrofits Expert Panel RR, 1.21 inches of runoff treated	Cub Run
						Permeable Pavement	0.42	0.42	-	\$83,249	380.46	CBP Retrofits Expert Panel RR, 1.17 inches of runoff treated	Cub Run
	88	Public Safety Headquarters Building Stormwater Enhancements	8/30/2017	-77.362589	38.857386	Dry Swale	3.10	2.54	0.56	\$264,636	2,458.08	CBP Established Efficiency, Bioswale	Difficult Run
						Dry Swale	0.26	0.20	0.06	\$22,195	194.26	CBP Established Efficiency, Bioswale	Difficult Run
						Permeable Pavement	0.24	0.24	-	\$91,300	210.59	CBP Retrofits Expert Panel RR, 1.0 inches of runoff treated	Difficult Run
						Vegetated Roof	0.53	0.53	-	\$315,147	465.05	CBP Retrofits Expert Panel, RR, 1.0 inches of runoff treated	Difficult Run
						Rainwater Harvesting	0.61	0.61	-	\$366,143	582.95	CBP Retrofits Expert Panel, RR, 1.51 inches of runoff treated	Difficult Run
						Biofilter # 1	0.09	0.02	0.07	\$50,503	25.01	CBP Retrofits Expert Panel, ST, 1.0 inches of runoff treated	Difficult Run
						Biofilter # 2	0.26	0.15	0.11	\$145,897	136.36	CBP Retrofits Expert Panel, ST, 1.0 inches of runoff treated	Difficult Run
DF9143H51		Herrity Pond Retrofit	8/8/2018	-77.361313	38.857138	Wet Pond	33.9	17.43	16.47	\$820,000	412.29	CBP Retrofits Expert Panel RR, 0.48 inches of runoff treated	Difficult Run
LR81-0001	91	Centreville Greene Pond 1 (LR81-0001)	2/4/2019	-77.413883	38.83876	Constructed Wetland	57.52	24.22	33.29	\$384,937	4,289.40	CBP Retrofits Expert Panel, ST, 0.09 inches of runoff treated	Little Rocky Run
LR81-0002		Centreville Greene Pond 2 (LR81-0002)	2/4/2019	-77.416088	38.836768	Constructed Wetland	27.96	16.43	11.53	\$361,107	4,574.42	CBP Retrofits Expert Panel ST, 0.15 inches of runoff treated	Little Rocky Run
1250DP		Browns Chapel Pond & Outfall Improvement	4/20/2019	-77.308138	38.970711	Extended Detention Pond	81.66	20.07	61.59	\$262,518	2,693.90	CBP Retrofits Expert Panel, ST curve (wet ponds) for forebay only, 0.14 inches of runoff treated	Difficult Run
		Langston Hughes MS	6/30/2020	-77.338308	38.934725	Infiltration	2	1.9	0.1	\$294,000	2,130.93	CBEE Infiltration w/o sand	Difficult Run
		Willow Springs ES	8/16/2019	-77.37839	38.831059	Filtering Practices	7.36	1.24	6.12	\$534,000	2,022.67	CBEE Filtering Practices	Popes Head Creek

Structural Retrofits

PRJ_ID	#	Project Name	Substantial Completion	Longitude	Latitude	Type of Project or BMP	Acres Treated (Ac)	Impervious Acres Treated (Ac)	Pervious Acres Treated (Ac)	Estimated Cost (\$)	Estimated Total TSS Reduction (lbs/yr)*	Pollutant Reduction Calculation Method	Watershed
Projects Completed in Addition to Action Plan Projects													
		Herrity Concrete Fountain Replacement	1/29/2021	-77.3625	38.8565	Rainwater Harvesting	2.2	1.87	0.33	\$321,750	697.00	VA Rainwater Harvesting Spreadsheet	Difficult Run
		Herrity Concrete Fountain Replacement	1/29/2021	-77.3625	38.8565	Bioretention	0.1	0.08	0.02	\$321,750	53.67	CBEE Bioretention C/D soils, underdrain	Difficult Run
		Foulger and Boldog	1/15/2021	-77.390302	38.847329	Wet Pond	51.3	14.56	41.85	\$72,000	2,765.80	CBP Retrofits Expert Panel, ST curve, for 0.67 inches of runoff w/ forebay	Little Rocky Run
		Leigh Meadow & Towlston	10/29/2021	-77.269100	38.951740	Filtering Practices	19.42	6.73	12.69	\$407,202	4,081.63	CBEE Filtering Practices	Difficult Run
		Sully Basins	4/19/2022	-77.457500	38.846900	Constructed Wetland	40.35	15.03	25.32	\$1,333,613	7,785.31	CBP Retrofits Expert Panel, ST curve, for 0.3 inches of runoff	Cub Run
		Sully Basins	4/19/2022	-77.458200	38.847500	Constructed Wetland	59.48	30.70	28.78	\$1,345,572	11,473.79	CBP Retrofits Expert Panel, ST curve, for 0.2 inches of runoff	Cub Run
		Sully Basins	4/19/2022	-77.459400	38.847500	Constructed Wetland	7.49	3.04	4.45	\$546,437	1,961.24	CBP Retrofits Expert Panel, ST curve, for 0.4 inches of runoff	Cub Run
		Centre Ridge Bason Retrofit	1/20/2023	-77.445937	38.821486	Constructed Wetland	52.37	21.42	30.95	\$1,672,941	23,885.04	CBT Retrofits Expert Panel, ST curve, for 2.0 inches of runoff	Cub Run
Subtotal:							561.99	226.16	340.93	12,852,360.26	111,604.33		

* Adjustments for baseline do not apply to local TMDLs

Originally identified in Difficult Run in TMDL Action Plan - not included on tracking ledger
 Added FCPS Projects
 Corrected watershed
 Project completed during the reporting period or previously unreported

Total Credit Summary by Watershed	Estimated TSS Reduction (lb/yr)*
Bull Run Complete	18,484.11
Bull Run Under Construction	-
Total Bull Run	18,484.11
Cub Run Complete	207,226.58
Cub Run Under Construction	-
Total Cub Run	207,226.58
Little Rocky Run Complete	11,629.62
Little Rocky Run Under Construction	-
Total Little Rocky Run	11,629.62
Difficult Run Complete	168,077.89
Difficult Run Under Construction	-
Total Difficult Run	168,077.89
Popes Head Creek Complete	43,035.81
Popes Head Creek Under Construction	-
Total Popes Head Creek	43,035.81