



Infiltration Trench Inspection Report					
Facility Name	Fairview Riverdale	Facility ID	STMF0090080	Type of Inspection: Initial Inspection	
Location	Lat: 38.747968 Long: -77.460524	Watershed	Lower Bull Run	Previous 48 Hour Precipitation Total	0.35"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/ Owner's Representative	City of Manassas
Inspectors	gky_mfreeman	Date of Inspection	6/28/2023	Date of Last Inspection	3/29/2022
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
	3	Routine Maintenance Needed	Facility is functional but preventative maintenance is required. Examples includes vegetation management, minor erosion, or trash/debris removal.		
4	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. <u>Repair Immediately</u>		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
Significant portions of the facility's gravel bed were clogged and standing water was observed on the surface of the facility. A Cost Estimate was not generated due to overall facility condition.					
Inspection Items					
Score	Description		Comment(s) / Corrective Action(s)		Reference Image
Overall					
1	Inadequate access to complete thorough inspection				
1	Fences are damaged or have vegetation growing on them				
1	Missing or damaged safety signage				
1	Surrounding drainage area trash/debris/unauthorized substances that might affect facility				
1	Surrounding drainage area erosion that might be related to facility				
Surface Trench Components					
Gravel Bed Surface					
1	Trench Eliminated				
1	Gravel Not Found Under Turf				
1	Gravel Footprint				
1	Condition of Grass or Fabric				
1	Signs of erosion or exposed soil				
4	Evidence of clogging		The majority of the facility's surface was overgrown with sod or clogged with sediment.		4801, 4802, 4805, 4811, 4813
1	Filter Fabric Needs Repair				
Observation Well/ Cleanout (s)					
1	Missing/ Not Found				
1	Cap Missing/ Stuck				
1	Water/ Sediment Observed in Well				



Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam/Berm and Emergency Spillway			
1	Woody vegetation on embankment		
1	Shrubby, low growing vegetation, and/or vine material growing on embankment		
1	Sparse vegetative coverage		
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
1	Evidence of nuisance animals		
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Surface Inflow and Roof Drains			
1	Evidence of Blockage		
1	Signs of Erosion		
1	Buildup of trash or debris		
1	Shrubby, low growing vegetation, and/or vine material growing around inflow		
Pre-Treatment and Energy Dissipators			
1	Structures missing, non functional, or inconsistent with plan		
1	Evidence of deterioration or damage		
1	Buildup of trash, debris, and sediment		
Underground Trench Component			
Control Structure			
1	Buildup of trash and debris		
1	Evidence of standing water or blockage		
1	Silt and sedimentation buildup		
1	Missing or nonfunctional structures: low flow orifice and trash rack, higher flow orifice/ weir, and outlet pipe		
1	Signs of erosion around structures		
Detention Pipe/ Vault			
1	Evidence of standing water or blockage		
1	Buildup of trash, debris, or sedimentation		
1	Evidence of spalling or deterioration		
1	Separation or misalignment of detention pipe		
Outfall Structure/ Other			
Outfall Structure and Channel			
1	Outfall structure is damaged or rusting		
1	Woody vegetation growing within 5' of outlet and barrel		
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		

Facility ID: STMF0090080
Facility Name: Fairview Riverdale

Inspection Date: 06/28/2023





4800: Facility Overall.



4801: Close-up showing the Gravel Detail. Evidence of clogging (Immediate Repair Needed).



4802: Closeup of the Gravel Bed. Evidence of clogging (Immediate Repair Needed).



4803: Facility overall.



4804: Facility Overall.



4805: Another close-up showing the Gravel detail. Evidence of clogging (Immediate Repair Needed).



4806: Facility Overall.



4807: Another close-up showing the Gravel Detail.



4811: Gravel detected approximately 3" beneath the surface. Evidence of clogging (Immediate Repair Needed).



4812: Facility Overall.



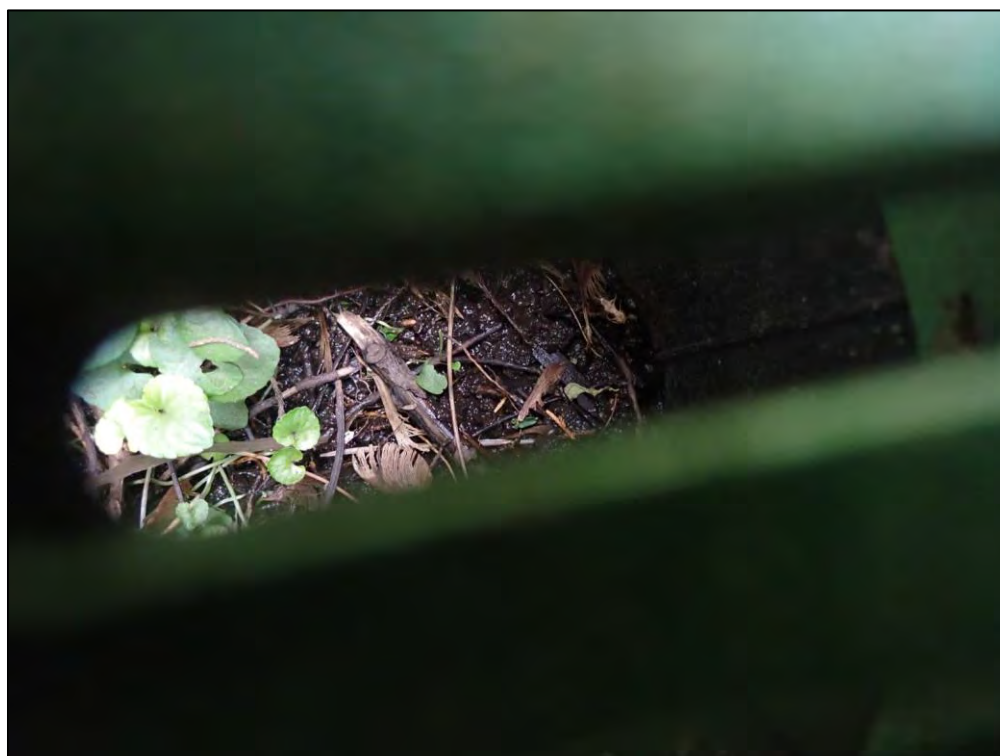
4813: Another close-up showing the Gravel Detail. Evidence of clogging (Immediate Repair Needed).



4814: Grate, top.



4815: Grate, closeup.



4816: Inside the Grate.



4817: Inside the Grate.



4818: Inside the Grate.



4819: Facility Overall.





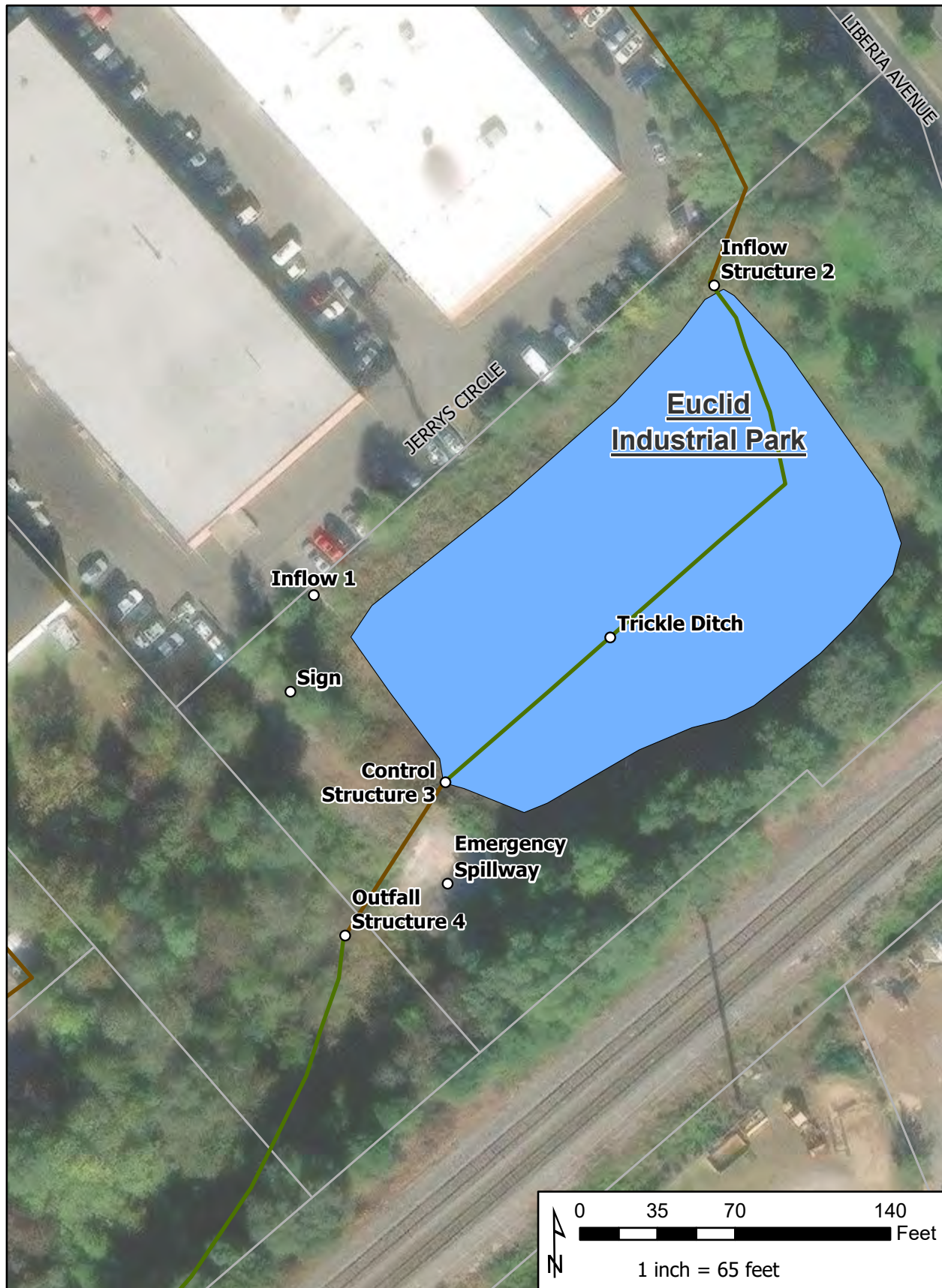
Extended Detention Pond Inspection Report					
Facility Name	Euclid Industrial Park	Facility ID	STMF0090081	Type of Inspection: Initial Inspection	
Location	Lat: 38.757331 Long: -77.454149	Watershed	Lower Bull Run	Previous 48 Hour Precipitation Total	0.00"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/ Owner's Representative	City of Manassas
Inspectors	gky_mfreeman	Date of Inspection	4/11/2023	Date of Last Inspection	3/25/2021
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
	3	Routine Maintenance Needed	Facility is functional but preventative maintenance is required. Examples includes vegetation management, minor erosion, or trash/debris removal.		
4	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. <u>Repair Immediately</u>		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
The BMP device is not in place. Undesired vegetation (Cattails) was observed growing within the facility (Not included in the Cost Estimate).					
Inspection Items					
Score	Description	Comment(s) / Corrective Action(s)	Reference Image		
Overall					
1	Inadequate access to complete thorough inspection				
1	Fences are damaged or have vegetation growing on them				
1	Missing or damaged safety signage				
1	Mosquitos				
1	Surrounding drainage area trash/debris/unauthorized substances that might affect facility				
1	Surrounding drainage area erosion that might be related to facility				
Pre-Treatment					
1	Buildup of trash or debris				
1	Signs of erosion or exposed soil				
1	Sediment in forebay has reached 50% or more of capacity				
1	Evidence of clogging				
1	Vegetation does not match original design				
Inlet					
3	Buildup of trash, debris, and sediment	Trash, debris, and overgrown vegetation observed at Inflow 1 (5 Cubic Feet, 30 Square Feet).	2852, 2854		
1	Evidence of erosion or undermining around inlet				
3	Woody growth around inlet structure	Trees observed growing adjacent to Inflow 1 (4, 2-6" trees).	2851		
1	Evidence of nuisance animals				
3	Damage to inlet pipe or structure	Joint separation observed in Inflow Structure 2 (12.57 Linear Feet).	2856, 2857		



Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam Embankment (Includes emergency spillway if applicable)			
3	Woody vegetation on embankment	Trees observed growing on the dam and spillway (20, 2-6" trees)	2846, 2847, 2848
1	Shrubbery, low growing vegetation, and/or vine material growing on embankment		
1	Sparse vegetative coverage		
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
1	Evidence of nuisance animals		
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Outlet/Riser Structure			
1	Low-flow orifice is blocked		
1	BMP device is deteriorated, misaligned, and/or damaged		
4	BMP device is missing	BMP orifice plate with 4.875" orifice is not in place in Control Structure 3.	2837, 2841
1	Low-level gate drain is accessible and operational. Drain has been exercised in last three years.		
3	Trash, debris, or other material in BMP device	Trash and debris observed in and adjacent to Control Structure 3 (12 Cubic Feet)	2836
Principal Spillway Pipe			
1	Spillway is blocked by debris or sediment		
1	Evidence of leaking joints		
1	One or more sections of the pipe have settled to the point that it threatens the integrity of the dam		
Impoundment Area and Side Slopes			
1	Buildup of trash and debris		
3	Silt and sedimentation buildup	Sediment observed covering the trickle ditch. Remove sediment in the trickle ditch (180 Linear Feet)	2849
3	Ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic vegetation, or turbidity)	Cattails observed growing within the facility (8,250 Square Feet).	2859, 2861
1	Signs of erosion along shoreline		
1	Low-flow ditch is clogged with sediment/debris		
1	Sections of low-flow ditch are cracked or showing signs of undercutting		
1	Sparse vegetation or erosion		
1	Evidence of nuisance animals		
Outfall Structure and Channel			
1	Outflow is causing undercutting or erosion		
1	Outfall structure has separated more than three inches from principal spillway barrel		
1	Outfall structure is damaged or rusting		
3	Woody vegetation growing within 5' of outlet and barrel	Trees observed growing adjacent to Outfall Structure 4 (6, 2-6" trees)	2843
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		

Facility ID: STMF0090081
Facility Name: Euclid Industrial Park

Inspection Date: 04/11/2023





2836: Control Structure 3, front. Trash, debris, or other material in BMP device (Routine Maintenance Needed).



2837: Control Structure 3, low-flow orifice close-up. BMP Orifice Plate is missing (Immediate Repair Needed).



2838: Control Structure 3, closeup of the Weir.



2839: Control Structure 3, Weir top.



2840: Inside Control Structure 3.



2841: Inside Control Structure 3, looking upstream toward the low-flow orifice. Orifice Plate is missing (Immediate Repair Needed).



2842: Inside Control Structure 3, looking downstream.



2843: Outfall Structure 4, front. Woody vegetation growing within 5' of outlet and barrel (Routine Maintenance Needed).



2844: Inside Outfall Structure 4.



2845: From Outfall Structure 4, looking downstream.



2846: Looking upstream along the Emergency Spillway. Woody vegetation on the embankment (Routine Maintenance Needed).



2847: Looking downstream along the Emergency Spillway. Woody vegetation on the embankment (Routine Maintenance Needed).



2848: Emergency Spillway, overall. Woody vegetation on the embankment (Routine Maintenance Needed).



2849: Looking upstream along the Trickle Ditch toward Inflow Structure 2. Sediment observed within the trickle ditch. (Routine Maintenance Needed).



2850: Looking downstream along the Trickle Ditch toward Control Structure 3.



2851: Looking upstream along Inflow 1. Woody growth around inlet structure (Routine Maintenance Needed).



2852: Inflow 1, Overall. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



2853: From Inflow 1, looking downstream.



2854: Inflow Structure 2, Overall. Buildup of trash, debris, and sediment (Monitor).



2855: Inflow Structure 2, front.



2856: Inflow Structure 2, closeup. Joint separation observed (Routine Maintenance Needed).



2857: Inside Inflow Structure 2. Joint separation observed (Routine Maintenance Needed).



2858: From Inflow Structure 2, looking downstream.



2859: Facility Overall. The ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic vegetation, or turbidity (Routine Maintenance Needed)).



2860: Facility Overall.



2861: Facility Overall. The ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic vegetation, or turbidity) (Routine Maintenance Needed).



2862: Sign, closeup.





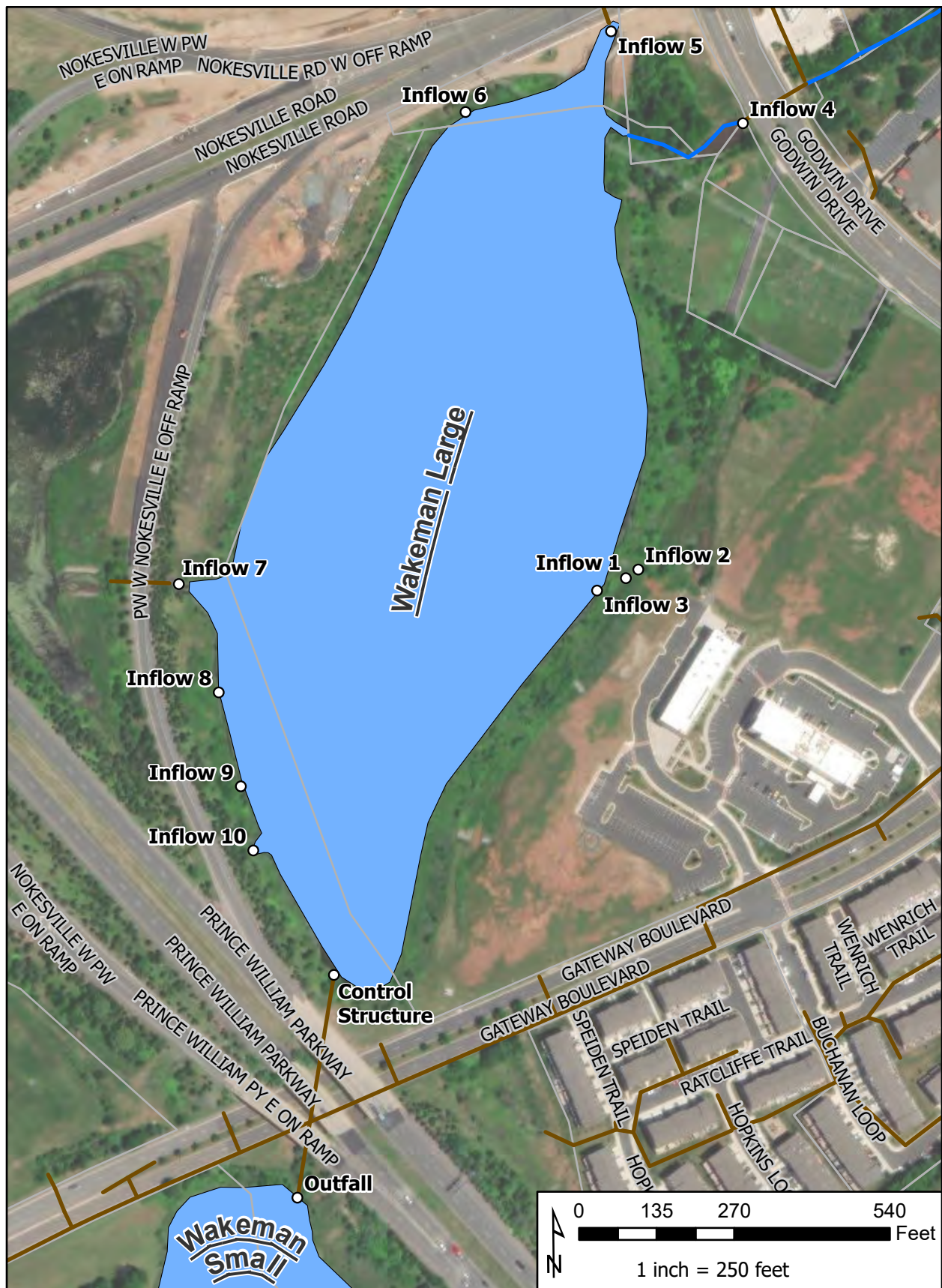
Wet Pond Inspection Report					
Facility Name	Wakeman Large	Facility ID	STMF0090086	Type of Inspection: Initial Inspection	
Location	Lat: 38.741433 Long: -77.514429	Watershed	Rocky Branch-Broad Run	Previous 48 Hour Precipitation Total	0.00"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/Owner's Representative	City of Manassas
Inspector	gky_mfreeman	Date of Inspection	4/11/2023	Date of Last Inspection	6/18/2021
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
3	3	Routine Maintenance Needed	Facility is functional but preventative maintenance is required. Examples includes vegetation management, minor erosion, or trash/debris removal.		
	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. Repair Immediately		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
Damage was observed to the interior of the pipe at Inflow 9 (Not included in Cost Estimate).					
Inspection Items					
Score	Description		Comment(s) / Corrective Action(s)		Reference Image
Overall					
1	Inadequate access to complete thorough inspection				
1	Fences are damaged or have vegetation growing on them				
1	Missing or damaged safety signage				
1	Mosquitos				
1	Surrounding drainage area trash/debris/ unauthorized substances that might affect facility				
1	Surrounding drainage area erosion that might be related to facility				
Pre-Treatment					
1	Buildup of trash or debris				
1	Signs of erosion or exposed soil				
1	Sediment in forebay has reached 50% or more of capacity				
1	Evidence of clogging				
1	Vegetation does not match original design				
Inlet					
3	Buildup of trash, debris, and sediment		Trash, debris, and sediment accumulating adjacent to Inflow 1 (6 Cubic Feet), Inflow 4 (45 Cubic Feet), Inflow 7 (3 Cubic Feet), Inflow 8 (15 Cubic Feet), and Inflow 10 (4 Cubic Feet). Overgrown vegetation adjacent to Inflow 1 (25 Square Feet), Inflow 2 (25 Square Feet), Inflow 3 (25 Square Feet).		2769, 2771, 2774, 2775, 2777, 2780, 2781, 2782, 2783, 2784, 2800, 2804, 2805, 2814
1	Evidence of erosion or undermining around inlet				
3	Woody growth around inlet structure		Trees observed growing adjacent to Inflow 8 (3, 2-6" trees) and Inflow 10 (7, 2-6" trees).		2808, 2812, 2815
3	Evidence of nuisance animals		An animal hole was observed adjacent to Inflow 8 (3 Cubic Feet).		2806, 2807
3	Damage to inlet pipe or structure		The pipe inside Inflow 9 is cracked.		2810



Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam Embankment (Includes emergency spillway if applicable)			
3	Woody vegetation on embankment	Trees observed growing on the dam adjacent to the Control Structure and PSPs (17, 7-12" trees).	2767, 2768
1	Shrubby, low growing vegetation, and/or vine material growing on embankment		
1	Sparse vegetative coverage		
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
1	Evidence of nuisance animals		
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Outlet/Riser Structure			
1	Low-flow orifice is blocked		
1	BMP device is deteriorated, misaligned, and/or damaged		
1	BMP device is missing		
1	Low-level gate drain is accessible and operational. Drain has been exercised in last three years.		
1	Trash, debris, or other material in BMP device		
Principal Spillway Pipe			
1	Spillway is blocked by debris or sediment		
1	Evidence of leaking joints		
1	One or more sections of the pipe have settled to the point that it threatens the integrity of the dam		
Impoundment Area and Side Slopes			
1	Buildup of trash and debris		
1	Silt and sedimentation buildup		
1	Ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic vegetation, or turbidity)		
1	Signs of erosion along shoreline		
1	Sparse vegetation or erosion		
1	Evidence of nuisance animals		
Outfall Structure and Channel			
1	Outflow is causing undercutting or erosion		
1	Outfall structure has separated more than three inches from principal spillway barrel		
1	Outfall structure is damaged or rusting		
1	Woody vegetation growing within 5' of outlet and barrel		
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		

Facility ID: STMF0090086
Facility Name: Wakeman Large

Inspection Date: 04/11/2023





2749: Outfall, front.



2750: From the Outfall, looking downstream.



2761: Facility Overall.



2762: Control Structure, front.



2763: Inside the Control Structure, looking downstream along the Eastern PSP.



2764: Inside the Control Structure, looking along the middle PSP.



2765: Inside the Control Structure, looking along the Western PSP



2766: From the Control Structure, looking upstream.



2767: Dam overall. Woody vegetation on the embankment (Routine Maintenance Needed).



2768: Dam overall. Woody vegetation on the embankment (Routine Maintenance Needed).



2769: Inflow 1, front. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



2770: Inside Inflow 1.



2771: Inside Inflow 1, looking downstream. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



2772: Inflow 2, front. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



2773: Inside Inflow 2.



2774: From Inflow 2, looking downstream. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



2775: Inflow 3, front. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



2776: Inside Inflow 3.



2777: Inflow 3, downstream. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



2778: Facility Overall.



2779: Facility Overall.



2780: Inflow 4, front. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



2781: Inside Inflow 4, looking along the Northern pipe. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



2782: Inside Inflow 4, looking along the Middle pipe. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



2783: Inside Inflow 4, looking along the Southern pipe. Buildup of trash, debris, and sediment (Immediate Repair Needed).



2784: From Inflow 4, looking downstream. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



2785: Inflow 5, front.



2786: Inside Inflow 5, looking along the Eastern pipe.



2787: Inside Inflow 5, looking along the Middle Eastern pipe.



2788: Inside Inflow 5, looking along the Middle pipe



2789: Inside Inflow 5, looking along the Middle Western pipe.



2790: Inside Inflow 5, looking along the Western pipe.



2791: From Inflow 5, looking downstream.



2792: From Inflow 5, looking downstream toward the sediment boom.



2793: Facility Overall.



2794: Inflow 6, front.



2795: Inside Inflow 6.



2796: From Inflow 6, looking downstream.



2797: Facility Overall.



2798: Facility Overall.



2799: Facility Overall.



2800: Inflow 7, front.



2801: Inside Inflow 7, looking along the Northern pipe.



2802: Inside Inflow 7, looking along the Middle pipe.



2803: Inside Inflow 7, looking along the Southern pipe.



2804: From Inflow 7, looking downstream. Buildup of trash, debris, and sediment (Monitor).



2805: Inflow 8, overall. Buildup of trash, debris, and sediment (Immediate Repair Needed).



2806: Inflow 8, closeup. Evidence of nuisance animals (Routine Maintenance Needed).



2807: Inflow 8, closeup. Evidence of nuisance animals (Routine Maintenance Needed).



2808: From Inflow 8, looking downstream. Woody growth around inlet structure, 3, 2-6" trees growing adjacent to the str. (Routine Maintenance Needed).



2809: Inflow 9, front.



2810: Inside Inflow 9. Damage to inlet pipe or structure (Routine Maintenance Needed).



2811: From Inflow 9, looking downstream.



2812: Inflow 10, overall. Woody growth around inlet structure (Routine Maintenance Needed).



2813: Inside Inflow 10.



2814: From Inflow 10, looking downstream. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



2815: Inflow 10, front. Woody growth around inlet structure (Routine Maintenance Needed).



NON-ROUTINE MAINTENANCE COST ESTIMATE

STMF0090086 / Wakeman Large

FY2023 Public BMP Inspections

Date of Inspection: 04/11/2023

Date of Estimate: 09/05/2023

Estimate Prepared by: GKY

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
1	Mowing / Clearing (includes removal & proper disposal of all woody stock, brush, & trees up to 2-inch diameter)	0.01	0.1 acre	\$ 74.00	\$ 0.74
2	Pond Control Structure/Riser Clearing (includes removal & disposal of trash, debris, floatables, & other material from directly around and on top of the control structure/riser)		CY	\$ 30.00	\$ -
3	Pond Low-Flow Channel Clearing (25' Radius) (includes removal & disposal of trash, debris, floatables, & other material from pond channels & trash rack within 25' radius of control structure/riser)		EA	\$ 181.00	\$ -
4	Shoreline Clean-Up (includes removal & disposal of trash & debris from 15' of wet side and 15' of dry side of WSE)		0.1 acre	\$ 750.00	\$ -
5	Trash/Debris Removal & Disposal		CY	\$ 164.00	\$ -
6	Repair/Replace Facility Sign		EA	\$ 247.00	\$ -
7	Repair/Replace Facility Sign and Post Installation		EA	\$ 329.00	\$ -
16	Hydroseeder (400 - 600 Gallon) with Upland Seed Mix		HR	\$ 217.00	\$ -
17	Hydroseeder (400 - 600 Gallon) with Wetland Seed Mix		HR	\$ 411.00	\$ -
18	Hydroseeder (400 - 600 Gallon) w/ Co. Supplied Seed Mix		HR	\$ 90.00	\$ -
29	Pond Low-Flow Channel Clearing (per 25') (includes removal & disposal of sediment, trash, debris, floatables, & other material using handheld equipment from the pond low-flow channel)		25 FT	\$ 156.00	\$ -
30	Tree Removal (2" to 6" DBH)	10.00	EA	\$ 1,316.00	\$ 13,160.00
31	Tree Removal (7" to 12" DBH)	17.00	EA	\$ 2,961.00	\$ 50,337.00
32	Tree Removal (13" to 24" DBH)		EA	\$ 4,930.00	\$ -
33	Tree Removal (25" to 36" DBH)		EA	\$ 6,250.00	\$ -
34	Stump Removal & Grinding (up to 12")		EA	\$ 576.00	\$ -
39	Excavation of Sediment (includes removal & disposal of sediment from the bottom of the existing pond using mechanical means; assumed potentially hazardous waste)		CY	\$ 150.00	\$ -
40	Animal Burrow Repair	1.00	EA	\$ 1,316.00	\$ 1,316.00
53	VDOT Class I Rip-Rap with Fabric Liner		TON	\$ 156.00	\$ -
54	VDOT Class II Rip-Rap with Fabric Liner		TON	\$ 176.00	\$ -
58	Concrete Removal and Disposal		SF	\$ 39.00	\$ -
59	Grouting Cracks and Joints		LF	\$ 189.00	\$ -
62	Parging (per 50lb bag)		EA	\$ 452.00	\$ -
70	Seed Mix (includes straw mulch and water)		0.1 acre	\$ 286.00	\$ -
79	Topsoil (3")		CY	\$ 74.00	\$ -
N/A	Remove & Dispose of Sediment / Debris from Inside Drainage Structures and Pipes	73.00	CF	\$ 30.00	\$ 2,190.00
N/A	Install Grouted Class I Rip-Rap		SY	\$ 90.00	\$ -
N/A	Install Grouted Class II Rip-Rap		SY	\$ 141.00	\$ -
N/A	Fabricate & Install Low-Flow BMP Plate		EA	\$ 500.00	\$ -
N/A	Fabricate & Install Low-Flow Trash Rack		EA	\$ 500.00	\$ -
N/A	Install HR-2 Handrail		LF	\$ 100.00	\$ -
N/A	Install Access Road Gate		EA	\$ 2,100.00	\$ -
N/A	Install Post and Cable Barrier		EA	\$ 750.00	\$ -
N/A	Install Removable Locking Bollard		EA	\$ 950.00	\$ -

Sub-Total = \$ 67,003.74

Mobilization (5%) = \$ 3,350.19

Cost Estimate is for reference purposes only.

Actual contractor costs may vary.

Total Estimated Cost = \$ 70,353.93



Wet Pond Inspection Report					
Facility Name	Wakeman Small	Facility ID	STMF0090087	Type of Inspection: Initial Inspection	
Location	Lat: 38.737716 Long: -77.515342	Watershed	Rocky Branch-Broad Run	Previous 48 Hour Precipitation Total	0.00"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/Owner's Representative	City of Manassas
Inspector	gky_mfreeman	Date of Inspection	4/11/2023	Date of Last Inspection	6/18/2021
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
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	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. <u>Repair Immediately</u>		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
Inspection Items					
Score	Description		Comment(s) / Corrective Action(s)	Reference Image	
Overall					
1	Inadequate access to complete thorough inspection				
1	Fences are damaged or have vegetation growing on them				
1	Missing or damaged safety signage				
1	Mosquitos				
1	Surrounding drainage area trash/debris/unauthorized substances that might affect facility				
1	Surrounding drainage area erosion that might be related to facility				
Pre-Treatment					
1	Buildup of trash or debris				
1	Signs of erosion or exposed soil				
1	Sediment in forebay has reached 50% or more of capacity				
1	Evidence of clogging				
1	Vegetation does not match original design				
Inlet					
3	Buildup of trash, debris, and sediment		Trash, debris, and sediment accumulation at Inflow 4 (12 Cubic Feet).	2754, 2755	
3	Evidence of erosion or undermining around inlet		Erosion was noted upstream of Inflow 1 (2.7 CY). Stabilize the area (150 SQ FT).	2739	
1	Woody growth around inlet structure				
1	Evidence of nuisance animals				
1	Damage to inlet pipe or structure				



Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam Embankment (Includes emergency spillway if applicable)			
3	Woody vegetation on embankment	Trees observed growing on the dam (1, 2-6" tree and 4, 7-12" trees).	2734, 2737
1	Shrubbery, low growing vegetation, and/or vine material growing on embankment		
1	Sparse vegetative coverage		
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
1	Evidence of nuisance animals		
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Outlet/Riser Structure			
1	Low-flow orifice is blocked		
1	BMP device is deteriorated, misaligned, and/or damaged		
1	BMP device is missing		
1	Low-level gate drain is accessible and operational. Drain has been exercised in last three years.		
1	Trash, debris, or other material in BMP device		
Principal Spillway Pipe			
1	Spillway is blocked by debris or sediment		
1	Evidence of leaking joints		
1	One or more sections of the pipe have settled to the point that it threatens the integrity of the dam		
Impoundment Area and Side Slopes			
1	Buildup of trash and debris		
1	Silt and sedimentation buildup		
1	Ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic vegetation, or turbidity)		
1	Signs of erosion along shoreline		
1	Sparse vegetation or erosion		
3	Evidence of nuisance animals	Animal holes were observed along the side slopes of the facility, Animal Hole 1 (3.5 Cubic Feet), Animal Hole 2 (2 Cubic Feet).	2745, 2746, 2747, 2748
Outfall Structure and Channel			
1	Outflow is causing undercutting or erosion		
1	Outfall structure has separated more than three inches from principal spillway barrel		
1	Outfall structure is damaged or rusting		
1	Woody vegetation growing within 5' of outlet and barrel		
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		

Facility ID: STMF0090087
Facility Name: Wakeman Small

Inspection Date: 04/11/2023





2724: Sign, closeup.



2725: Facility Overall.



2726: Facility Overall.



2728: Control Structure, Overall.



2729: Control Structure, looking along the Weir.



2730: Control Structure, looking toward the Weir and dewatering valve.



2731: Control Structure, looking upstream toward the Weir.



2732: Control Structure, looking upstream toward the Weir.



2733: From the Control Structure, looking downstream.



2734: Dam Overall, back slope. Woody vegetation on the embankment (Routine Maintenance Needed).



2735: Dam Overall, back slope.



2736: Dam Overall, top.



2737: Dam, closeup. Woody vegetation on the embankment (Routine Maintenance Needed).



2738: Dam Overall, front slope.



2739: Looking upstream along Inflow 1. Evidence of erosion or undermining around inlet (Routine Maintenance Needed).



2740: From Inflow 1, looking downstream.



2743: Facility Overall.



2744: Facility Overall.



2745: Animal Hole 1, overall. Evidence of nuisance animals (Routine Maintenance Needed).



2746: Animal Hole 1, closeup. Evidence of nuisance animals (Routine Maintenance Needed).



2747: Animal Hole 2, overall. Evidence of nuisance animals (Routine Maintenance Needed).



2748: Animal Hole 2, closeup. Evidence of nuisance animals (Routine Maintenance Needed).



2749: Inflow 2, front.



2750: From Inflow 2, looking downstream.



2751: Inflow 3, front.



2753: Facility Overall.



2754: Inflow 4, front. Buildup of trash, debris, and sediment (Routine Maintenance Needed). Woody growth around inlet structure, Non-woody overgrown veg. (Routine Maintenance Needed).



2755: Inside Inflow 4. Buildup of trash, debris, and sediment (Routine Maintenance Needed). Woody growth around inlet structure, Non-woody overgrown veg. (Routine Maintenance Needed).



2756: From Inflow 4, looking downstream.



2757: Facility Overall.



2758: Facility Overall.



2759: Control Structure, closeup of the Dewatering Valve Apparatus.



NON-ROUTINE MAINTENANCE COST ESTIMATE

STMF0090087 / Wakeman Small

FY2023 Public BMP Inspections

Date of Inspection: 04/11/2023

Date of Estimate: 09/05/2023

Estimate Prepared by: GKY

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
1	Mowing / Clearing (includes removal & proper disposal of all woody stock, brush, & trees up to 2-inch diameter)		0.1 acre	\$ 74.00	\$ -
2	Pond Control Structure/Riser Clearing (includes removal & disposal of trash, debris, floatables, & other material from directly around and on top of the control structure/riser)		CY	\$ 30.00	\$ -
3	Pond Low-Flow Channel Clearing (25' Radius) (includes removal & disposal of trash, debris, floatables, & other material from pond channels & trash rack within 25' radius of control structure/riser)		EA	\$ 181.00	\$ -
4	Shoreline Clean-Up (includes removal & disposal of trash & debris from 15' of wet side and 15' of dry side of WSE)		0.1 acre	\$ 750.00	\$ -
5	Trash/Debris Removal & Disposal		CY	\$ 164.00	\$ -
6	Repair/Replace Facility Sign		EA	\$ 247.00	\$ -
7	Repair/Replace Facility Sign and Post Installation		EA	\$ 329.00	\$ -
16	Hydroseeder (400 - 600 Gallon) with Upland Seed Mix		HR	\$ 217.00	\$ -
17	Hydroseeder (400 - 600 Gallon) with Wetland Seed Mix		HR	\$ 411.00	\$ -
18	Hydroseeder (400 - 600 Gallon) w/ Co. Supplied Seed Mix		HR	\$ 90.00	\$ -
29	Pond Low-Flow Channel Clearing (per 25') (includes removal & disposal of sediment, trash, debris, floatables, & other material using handheld equipment from the pond low-flow channel)		25 FT	\$ 156.00	\$ -
30	Tree Removal (2" to 6" DBH)	1.00	EA	\$ 1,316.00	\$ 1,316.00
31	Tree Removal (7" to 12" DBH)	4.00	EA	\$ 2,961.00	\$ 11,844.00
32	Tree Removal (13" to 24" DBH)		EA	\$ 4,930.00	\$ -
33	Tree Removal (25" to 36" DBH)		EA	\$ 6,250.00	\$ -
34	Stump Removal & Grinding (up to 12")		EA	\$ 576.00	\$ -
39	Excavation of Sediment (includes removal & disposal of sediment from the bottom of the existing pond using mechanical means; assumed potentially hazardous waste)		CY	\$ 150.00	\$ -
40	Animal Burrow Repair	2.00	EA	\$ 1,316.00	\$ 2,632.00
53	VDOT Class I Rip-Rap with Fabric Liner		TON	\$ 156.00	\$ -
54	VDOT Class II Rip-Rap with Fabric Liner		TON	\$ 176.00	\$ -
58	Concrete Removal and Disposal		SF	\$ 39.00	\$ -
59	Grouting Cracks and Joints		LF	\$ 189.00	\$ -
62	Parging (per 50lb bag)		EA	\$ 452.00	\$ -
70	Seed Mix (includes straw mulch and water)	0.10	0.1 acre	\$ 286.00	\$ 28.60
79	Topsoil (3")	2.70	CY	\$ 74.00	\$ 199.80
N/A	Remove & Dispose of Sediment / Debris from Inside Drainage Structures and Pipes	12.00	CF	\$ 30.00	\$ 360.00
N/A	Install Grouted Class I Rip-Rap		SY	\$ 90.00	\$ -
N/A	Install Grouted Class II Rip-Rap		SY	\$ 141.00	\$ -
N/A	Fabricate & Install Low-Flow BMP Plate		EA	\$ 500.00	\$ -
N/A	Fabricate & Install Low-Flow Trash Rack		EA	\$ 500.00	\$ -
N/A	Install HR-2 Handrail		LF	\$ 100.00	\$ -
N/A	Install Access Road Gate		EA	\$ 2,100.00	\$ -
N/A	Install Post and Cable Barrier		EA	\$ 750.00	\$ -
N/A	Install Removable Locking Bollard		EA	\$ 950.00	\$ -

Sub-Total = \$ 16,380.40

Mobilization (5%) = \$ 819.02

Cost Estimate is for reference purposes only.

Actual contractor costs may vary.

Total Estimated Cost = \$ 17,199.42



Extended Detention Pond Inspection Report					
Facility Name	Jackson Manor	Facility ID	STMF0090089	Type of Inspection: Initial Inspection	
Location	Lat: 38.728910 Long: -77.493859	Watershed	Rocky Branch-Broad Run	Previous 48 Hour Precipitation Total	0.00"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/ Owner's Representative	City of Manassas
Inspectors	gky_mfreeman	Date of Inspection	4/13/2023	Date of Last Inspection	2/23/2022
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
3	3	Routine Maintenance Needed	Facility is functional but preventative maintenance is required. Examples includes vegetation management, minor erosion, or trash/debris removal.		
	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. <u>Repair Immediately</u>		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
Inspection Items					
Score	Description	Comment(s) / Corrective Action(s)		Reference Image	
Overall					
1	Inadequate access to complete thorough inspection				
1	Fences are damaged or have vegetation growing on them				
1	Missing or damaged safety signage				
1	Mosquitos				
1	Surrounding drainage area trash/debris/unauthorized substances that might affect facility				
1	Surrounding drainage area erosion that might be related to facility				
Pre-Treatment					
1	Buildup of trash or debris				
1	Signs of erosion or exposed soil				
1	Sediment in forebay has reached 50% or more of capacity				
1	Evidence of clogging				
1	Vegetation does not match original design				
Inlet					
3	Buildup of trash, debris, and sediment	Trash, debris, and sediment are beginning to accumulate downstream of Inflow Structure A1 (3 Cubic Feet).		9282, 9284	
1	Evidence of erosion or undermining around inlet				
1	Woody growth around inlet structure				
1	Evidence of nuisance animals				
3	Damage to inlet pipe or structure	Joint separation was observed inside Inflow Structure A1 (9.42 Linear Feet).		9283, 9285	



Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam Embankment (Includes emergency spillway if applicable)			
1	Woody vegetation on embankment		
1	Shrubby, low growing vegetation, and/or vine material growing on embankment		
3	Sparse vegetative coverage	Bare spots were observed on the Dam and side slopes. (300 Square Feet).	9279, 9280
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
1	Evidence of nuisance animals		
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Outlet/Riser Structure			
3	Low-flow orifice is blocked	Trash, debris, and sediment are beginning to	9262
3	BMP device is deteriorated, misaligned, and/or damaged	The trash rack on the Southern upper orifice is damaged.	9265
1	BMP device is missing		
1	Low-level gate drain is accessible and operational. Drain has been exercised in last		
1	Trash, debris, or other material in BMP device		
Principal Spillway Pipe			
1	Spillway is blocked by debris or sediment		
1	Evidence of leaking joints		
1	One or more sections of the pipe have settled to the point that it threatens the integrity of		
Impoundment Area and Side Slopes			
1	Buildup of trash and debris		
1	Silt and sedimentation buildup		
1	Ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic		
1	Signs of erosion along shoreline		
1	Low-flow ditch is clogged with sediment/debris		
1	Sections of low-flow ditch are cracked or showing signs of undercutting		
1	Sparse vegetation or erosion		
1	Evidence of nuisance animals		
Outfall Structure and Channel			
1	Outflow is causing undercutting or erosion		
1	Outfall structure has separated more than three inches from principal spillway barrel		
3	Outfall structure is damaged or rusting	Spalling and exposed brick observed in the downstream end of the structure. (2 bags of concrete).	9275
1	Woody vegetation growing within 5' of outlet and barrel		
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		

Facility ID: STMF0090089
Facility Name: Jackson Manor

Inspection Date: 04/13/2023





9259: Facility Overall.



9260: Facility Overall.



9261: Sign, closeup.



9262: Control Structure B2, front. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



9263: Control Structure B2, low-flow orifice close-up.



9264: Control Structure B2, Northern upper orifice close-up.



9265: Control Structure B2, Southern upper orifice close-up. Damage to trash rack. (Routine Maintenance Needed).



9266: Control Structure B2, top trash rack.



9267: Inside Control Structure B2.



9268: Inside Control Structure B2, looking upstream toward the low-flow orifice.



9269: Inside Control Structure B2, looking downstream.



9270: Outfall Structure B1, From dam.



9271: Outfall Structure B1, top.



9272: Inside Outfall Structure B1.



9273: Inside Outfall Structure B1, looking upstream.



9274: Inside Outfall Structure B1, looking downstream.



9275: Inside Outfall Structure B1, looking downstream. Spalling (Routine Maintenance Needed).



9276: Dam Overall.



9277: Dam Overall.



9278: Dam Overall.



9279: Bare Spot, Overall. Sparse vegetative coverage (Routine Maintenance Needed).



9280: Bare Spot, Overall. Sparse vegetative coverage (Routine Maintenance Needed).



9282: Inflow Structure A1, front. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



9283: Inside Inflow Structure A1. Joint Separation (Routine Maintenance Needed).



9284: From Inflow Structure A1, looking downstream. Buildup of trash, debris, and sediment (Monitor).



9285: Inflow Structure A1, closeup. Joint Separation (Routine Maintenance Needed).



NON-ROUTINE MAINTENANCE COST ESTIMATE

STMF0090089 / Jackson Manor
FY2023 Public BMP Inspections

Date of Inspection: 04/13/2023

Date of Estimate: 09/05/2023

Estimate Prepared by: GKY

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
1	Mowing / Clearing (includes removal & proper disposal of all woody stock, brush, & trees up to 2-inch diameter)		0.1 acre	\$ 74.00	\$ -
2	Pond Control Structure/Riser Clearing (includes removal & disposal of trash, debris, floatables, & other material from directly around and on top of the control structure/riser)		CY	\$ 30.00	\$ -
3	Pond Low-Flow Channel Clearing (25' Radius) (includes removal & disposal of trash, debris, floatables, & other material from pond channels & trash rack within 25' radius of control structure/riser)		EA	\$ 181.00	\$ -
4	Shoreline Clean-Up (includes removal & disposal of trash & debris from 15' of wet side and 15' of dry side of WSE)		0.1 acre	\$ 750.00	\$ -
5	Trash/Debris Removal & Disposal		CY	\$ 164.00	\$ -
6	Repair/Replace Facility Sign		EA	\$ 247.00	\$ -
7	Repair/Replace Facility Sign and Post Installation		EA	\$ 329.00	\$ -
16	Hydroseeder (400 - 600 Gallon) with Upland Seed Mix		HR	\$ 217.00	\$ -
17	Hydroseeder (400 - 600 Gallon) with Wetland Seed Mix		HR	\$ 411.00	\$ -
18	Hydroseeder (400 - 600 Gallon) w/ Co. Supplied Seed Mix		HR	\$ 90.00	\$ -
29	Pond Low-Flow Channel Clearing (per 25') (includes removal & disposal of sediment, trash, debris, floatables, & other material using handheld equipment from the pond low-flow channel)		25 FT	\$ 156.00	\$ -
30	Tree Removal (2" to 6" DBH)		EA	\$ 1,316.00	\$ -
31	Tree Removal (7" to 12" DBH)		EA	\$ 2,961.00	\$ -
32	Tree Removal (13" to 24" DBH)		EA	\$ 4,930.00	\$ -
33	Tree Removal (25" to 36" DBH)		EA	\$ 6,250.00	\$ -
34	Stump Removal & Grinding (up to 12")		EA	\$ 576.00	\$ -
39	Excavation of Sediment (includes removal & disposal of sediment from the bottom of the existing pond using mechanical means; assumed potentially hazardous waste)		CY	\$ 150.00	\$ -
40	Animal Burrow Repair		EA	\$ 1,316.00	\$ -
53	VDOT Class I Rip-Rap with Fabric Liner		TON	\$ 156.00	\$ -
54	VDOT Class II Rip-Rap with Fabric Liner		TON	\$ 176.00	\$ -
58	Concrete Removal and Disposal		SF	\$ 39.00	\$ -
59	Grouting Cracks and Joints	9.42	LF	\$ 189.00	\$ 1,780.38
62	Parging (per 50lb bag)	2.00	EA	\$ 452.00	\$ 904.00
70	Seed Mix (includes straw mulch and water)	0.10	0.1 acre	\$ 286.00	\$ 28.60
79	Topsoil (3")		CY	\$ 74.00	\$ -
N/A	Remove & Dispose of Sediment / Debris from Inside Drainage Structures and Pipes	9.00	CF	\$ 30.00	\$ 270.00
N/A	Install Grouted Class I Rip-Rap		SY	\$ 90.00	\$ -
N/A	Install Grouted Class II Rip-Rap		SY	\$ 141.00	\$ -
N/A	Fabricate & Install Low-Flow BMP Plate		EA	\$ 500.00	\$ -
N/A	Fabricate & Install Low-Flow Trash Rack	1.00	EA	\$ 500.00	\$ 500.00
N/A	Install HR-2 Handrail		LF	\$ 100.00	\$ -
N/A	Install Access Road Gate		EA	\$ 2,100.00	\$ -
N/A	Install Post and Cable Barrier		EA	\$ 750.00	\$ -
N/A	Install Removable Locking Bollard		EA	\$ 950.00	\$ -

Sub-Total = \$ 3,482.98

Mobilization (5%) = \$ 174.15

Cost Estimate is for reference purposes only.

Actual contractor costs may vary.

Total Estimated Cost = \$ 3,657.13



Extended Detention Pond Inspection Report					
Facility Name	Lee Manor	Facility ID	STMF0090090	Type of Inspection: Initial Inspection	
Location	Lat: 38.731148 Long: -77.496319	Watershed	Rocky Branch-Broad Run	Previous 48 Hour Precipitation Total	0.00"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/ Owner's Representative	City of Manassas
Inspectors	gky_mfreeman	Date of Inspection	4/13/2023	Date of Last Inspection	2/23/2022
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
	3	Routine Maintenance Needed	Facility is functional but preventative maintenance is required. Examples includes vegetation management, minor erosion, or trash/debris removal.		
4	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. <u>Repair Immediately</u>		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
Portions of the low-flow orifices are blocked, causing standing water within the pond.					
Inspection Items					
Score	Description	Comment(s) / Corrective Action(s)	Reference Image		
Overall					
1	Inadequate access to complete thorough inspection				
1	Fences are damaged or have vegetation growing on them				
1	Missing or damaged safety signage				
1	Mosquitos				
1	Surrounding drainage area trash/debris/unauthorized substances that might affect facility				
1	Surrounding drainage area erosion that might be related to facility				
Pre-Treatment					
1	Buildup of trash or debris				
1	Signs of erosion or exposed soil				
1	Sediment in forebay has reached 50% or more of capacity				
1	Evidence of clogging				
1	Vegetation does not match original design				
Inlet					
2	Buildup of trash, debris, and sediment	Trash, debris, and sediment beginning to accumulate downstream of Inflow Structures D5 (2 Cubic Feet).	9322		
3	Evidence of erosion or undermining around inlet	Erosion was observed adjacent to Inflow Structures D5 (4 Cubic Feet).	9323, 9324, 9325		
1	Woody growth around inlet structure				
1	Evidence of nuisance animals				
1	Damage to inlet pipe or structure				



Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam Embankment (Includes emergency spillway if applicable)			
1	Woody vegetation on embankment		
2	Shrubbery, low growing vegetation, and/or vine material growing on embankment	Vegetation growing in the riprap on the Emergency Spillway (50 Square Feet).	9309, 9310, 9311, 9312
1	Sparse vegetative coverage		
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
1	Evidence of nuisance animals		
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Outlet/Riser Structure			
4	Low-flow orifice is blocked	Trash, debris, and sediment are blocking many of the low-flow orifices in Control Structure D4 (4 Cubic Feet).	9294, 9295, 9296, 9297, 9300, 9301
1	BMP device is deteriorated, misaligned, and/or damaged		
1	BMP device is missing		
1	Low-level gate drain is accessible and operational. Drain has been exercised in last three years.		
1	Trash, debris, or other material in BMP device		
Principal Spillway Pipe			
1	Spillway is blocked by debris or sediment		
1	Evidence of leaking joints		
1	One or more sections of the pipe have settled to the point that it threatens the integrity of the dam		
Impoundment Area and Side Slopes			
1	Buildup of trash and debris		
1	Silt and sedimentation buildup		
1	Ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic vegetation, or turbidity)		
1	Signs of erosion along shoreline		
2	Low-flow ditch is clogged with sediment/debris	Sediment and debris beginning to accumulate in and adjacent to the Trickle Ditch (4 Cubic Feet).	9326, 9327
3	Sections of low-flow ditch are cracked or showing signs of undercutting	Erosion was observed adjacent to the Trickle Ditch (10 Cubic Feet). Apply topsoil to the eroded areas and stabilize.	9330, 9331
1	Sparse vegetation or erosion		
1	Evidence of nuisance animals		
Outfall Structure and Channel			
1	Outflow is causing undercutting or erosion		
1	Outfall structure has separated more than three inches from principal spillway barrel		
1	Outfall structure is damaged or rusting		
1	Woody vegetation growing within 5' of outlet and barrel		
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		

Facility ID: STMF0090090
Facility Name: Lee Manor

Inspection Date: 04/13/2023





9287: Facility Overall.



9288: Facility Overall.



9289: Facility Overall.



9290: Facility Overall.



9291: Control Structure D4, overall.



9292: Control Structure D4, overall.



9293: Control Structure D4, top trash rack.



9294: Inside Control Structure D4, looking upstream toward the low-flow orifices. The low-flow orifices are blocked (Immediate Repair Needed).



9295: Inside Control Structure D4, looking upstream toward the low-flow orifices. The low-flow orifices are blocked (Immediate Repair Needed).



9296: Inside Control Structure D4, looking upstream toward the low-flow orifices. The low-flow orifices are blocked (Immediate Repair Needed).



9297: Inside Control Structure D4, looking upstream toward the low-flow orifices. The low-flow orifices are blocked (Immediate Repair Needed).



9298: Inside Control Structure D4, looking downstream along the Northern PSP.



9299: Inside Control Structure D4, looking downstream along the Southern PSP.



9300: Inside Control Structure D4. The low-flow orifices are blocked (Immediate Repair Needed).



9301: Inside Control Structure D4. The low-flow orifices are blocked (Immediate Repair Needed).



9302: Outfall Structure D3, From dam.



9303: Outfall Structure D3, front.



9304: Inside Outfall Structure D3, looking along the Northern PSP.



9305: Inside Outfall Structure D3, looking along the Southern PSP.



9306: From Outfall Structure D3, looking downstream.



9307: Dam Overall.



9308: Dam Overall.



9309: Emergency Spillway, Overall. Shrubby, low-growing vegetation, and/or vine material growing on the embankment (Monitor).



9310: Emergency Spillway, Overall. Shrubby, low-growing vegetation, and/or vine material growing on the embankment (Monitor).



9311: From the Emergency Spillway, looking upstream. Shrubbery, low-growing vegetation, and/or vine material growing on the embankment (Monitor).



9312: Looking downstream along the Emergency Spillway. Shrubbery, low-growing vegetation, and/or vine material growing on the embankment (Monitor).



9313: Sign, closeup.



9314: Dam Overall.



9315: Dam Overall.



9316: Facility Overall.



9318: Facility Overall, South.



9320: Inflow Structure D5, front.



9321: Inside Inflow Structure D5.



9322: From Inflow Structure D5, looking downstream. Buildup of trash, debris, and sediment (Monitor).



9323: Inflow Structure D5, overall. Evidence of erosion or undermining around inlet (Routine Maintenance Needed).



9324: Inflow Structure D5, closeup. Evidence of erosion or undermining around inlet (Routine Maintenance Needed).



9326: From the Trickle Ditch, looking upstream toward Inflow Structure D5. The low-flow ditch is clogged with sediment/debris (Monitor).



9327: Looking downstream along the Trickle Ditch. The low-flow ditch is clogged with sediment/debris (Monitor).



9330: Trickle Ditch, overall. Sections of the low-flow ditch are cracked or showing signs of undercutting (Routine Maintenance Needed).



9331: Trickle Ditch, close-up. Sections of the low-flow ditch are cracked or showing signs of undercutting (Routine Maintenance Needed).

NON-ROUTINE MAINTENANCE COST ESTIMATE

STMFO090090 / Lee Manor
FY2023 Public BMP Inspections

Date of Inspection: 04/13/2023

Date of Estimate: 09/05/2023

Estimate Prepared by: GKY



ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
1	Mowing / Clearing (includes removal & proper disposal of all woody stock, brush, & trees up to 2-inch diameter)	0.10	0.1 acre	\$ 74.00	\$ 7.40
2	Pond Control Structure/Riser Clearing (includes removal & disposal of trash, debris, floatables, & other material from directly around and on top of the control structure/riser)	0.15	CY	\$ 30.00	\$ 4.50
3	Pond Low-Flow Channel Clearing (25' Radius) (includes removal & disposal of trash, debris, floatables, & other material from pond channels & trash rack within 25' radius of control structure/riser)		EA	\$ 181.00	\$ -
4	Shoreline Clean-Up (includes removal & disposal of trash & debris from 15' of wet side and 15' of dry side of WSE)		0.1 acre	\$ 750.00	\$ -
5	Trash/Debris Removal & Disposal		CY	\$ 164.00	\$ -
6	Repair/Replace Facility Sign		EA	\$ 247.00	\$ -
7	Repair/Replace Facility Sign and Post Installation		EA	\$ 329.00	\$ -
16	Hydroseeder (400 - 600 Gallon) with Upland Seed Mix		HR	\$ 217.00	\$ -
17	Hydroseeder (400 - 600 Gallon) with Wetland Seed Mix		HR	\$ 411.00	\$ -
18	Hydroseeder (400 - 600 Gallon) w/ Co. Supplied Seed Mix		HR	\$ 90.00	\$ -
29	Pond Low-Flow Channel Clearing (per 25') (includes removal & disposal of sediment, trash, debris, floatables, & other material using handheld equipment from the pond low-flow channel)		25 FT	\$ 156.00	\$ -
30	Tree Removal (2" to 6" DBH)		EA	\$ 1,316.00	\$ -
31	Tree Removal (7" to 12" DBH)		EA	\$ 2,961.00	\$ -
32	Tree Removal (13" to 24" DBH)		EA	\$ 4,930.00	\$ -
33	Tree Removal (25" to 36" DBH)		EA	\$ 6,250.00	\$ -
34	Stump Removal & Grinding (up to 12")		EA	\$ 576.00	\$ -
39	Excavation of Sediment (includes removal & disposal of sediment from the bottom of the existing pond using mechanical means; assumed potentially hazardous waste)		CY	\$ 150.00	\$ -
40	Animal Burrow Repair		EA	\$ 1,316.00	\$ -
53	VDOT Class I Rip-Rap with Fabric Liner		TON	\$ 156.00	\$ -
54	VDOT Class II Rip-Rap with Fabric Liner		TON	\$ 176.00	\$ -
58	Concrete Removal and Disposal		SF	\$ 39.00	\$ -
59	Grouting Cracks and Joints		LF	\$ 189.00	\$ -
62	Parging (per 50lb bag)		EA	\$ 452.00	\$ -
70	Seed Mix (includes straw mulch and water)	0.10	0.1 acre	\$ 286.00	\$ 28.60
79	Topsoil (3")	0.52	CY	\$ 74.00	\$ 38.48
N/A	Remove & Dispose of Sediment / Debris from Inside Drainage Structures and Pipes	6.00	CF	\$ 30.00	\$ 180.00
N/A	Install Grouted Class I Rip-Rap		SY	\$ 90.00	\$ -
N/A	Install Grouted Class II Rip-Rap		SY	\$ 141.00	\$ -
N/A	Fabricate & Install Low-Flow BMP Plate		EA	\$ 500.00	\$ -
N/A	Fabricate & Install Low-Flow Trash Rack		EA	\$ 500.00	\$ -
N/A	Install HR-2 Handrail		LF	\$ 100.00	\$ -
N/A	Install Access Road Gate		EA	\$ 2,100.00	\$ -
N/A	Install Post and Cable Barrier		EA	\$ 750.00	\$ -
N/A	Install Removable Locking Bollard		EA	\$ 950.00	\$ -

Sub-Total = \$ 258.98

Mobilization (5%) = \$ 12.95

Cost Estimate is for reference purposes only.
Actual contractor costs may vary.

Total Estimated Cost = \$ 271.93



Extended Detention Pond Inspection Report					
Facility Name	Round Elementary School	Facility ID	STMF0090091	Type of Inspection: Initial Inspection	
Location	Lat: 38.733611 Long: -77.497617	Watershed	Rocky Branch-Broad Run	Previous 48 Hour Precipitation Total	0.00"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/ Owner's Representative	City of Manassas
Inspectors	gky_mfreeman	Date of Inspection	4/13/2023	Date of Last Inspection	3/19/2021
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
	3	Routine Maintenance Needed	Facility is functional but preventative maintenance is required. Examples includes vegetation management, minor erosion, or trash/debris removal.		
4	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. <u>Repair Immediately</u>		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
The low-flow orifices at the Control Structure were partially blocked.					
Inspection Items					
Score	Description	Comment(s) / Corrective Action(s)		Reference Image	
Overall					
1	Inadequate access to complete thorough inspection				
1	Fences are damaged or have vegetation growing on them				
1	Missing or damaged safety signage				
1	Mosquitos				
1	Surrounding drainage area trash/debris/unauthorized substances that might affect facility				
1	Surrounding drainage area erosion that might be related to facility				
Pre-Treatment					
1	Buildup of trash or debris				
1	Signs of erosion or exposed soil				
1	Sediment in forebay has reached 50% or more of capacity				
1	Evidence of clogging				
1	Vegetation does not match original design				
Inlet					
2	Buildup of trash, debris, and sediment	Trash, debris, and sediment are beginning to accumulate downstream of Inflow Structure D1. (3 Cubic Feet).		9371, 9374	
1	Evidence of erosion or undermining around inlet				
3	Woody growth around inlet structure	Trees were observed growing adjacent to Inflow Structure D1 (1, 2-6" and 1, 7-12" trees).		9375	
1	Evidence of nuisance animals				
1	Damage to inlet pipe or structure				

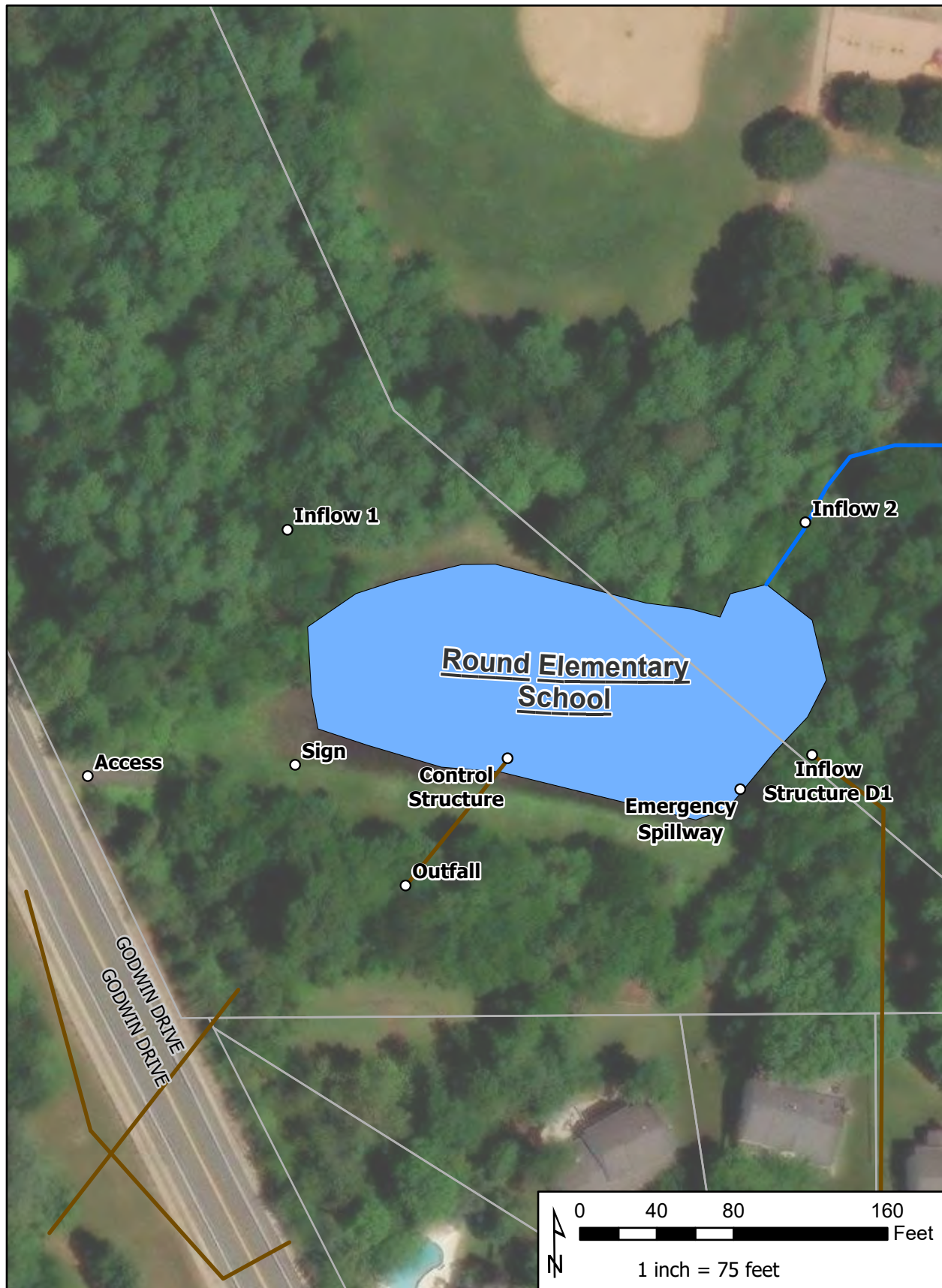




Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam Embankment (Includes emergency spillway if applicable)			
3	Woody vegetation on embankment	Trees were observed growing on the dam (35, 2-6"; 15, 7-12"; and 2, 13-24" trees), and on the emergency spillway (14, 2-6" and 3, 7-12" trees).	9351, 9353, 9355, 9356, 9357, 9358, 9359, 9360
1	Shrubby, low growing vegetation, and/or vine material growing on embankment		
2	Sparse vegetative coverage	Bare spots were observed along the top of the dam (150 Square Feet).	9350, 9352
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
1	Evidence of nuisance animals		
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Outlet/Riser Structure			
4	Low-flow orifice is blocked	The low-flow orifices were observed to be partially blocked (0.22 Cubic Yards).	9337, 9341, 9342, 9343
1	BMP device is deteriorated, misaligned, and/or damaged		
1	BMP device is missing		
1	Low-level gate drain is accessible and operational. Drain has been exercised in last three years.		
1	Trash, debris, or other material in BMP device		
Principal Spillway Pipe			
1	Spillway is blocked by debris or sediment		
1	Evidence of leaking joints		
1	One or more sections of the pipe have settled to the point that it threatens the integrity of the dam		
Impoundment Area and Side Slopes			
1	Buildup of trash and debris		
1	Silt and sedimentation buildup		
1	Ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic vegetation, or turbidity)		
1	Signs of erosion along shoreline		
1	Low-flow ditch is clogged with sediment/debris		
1	Sections of low-flow ditch are cracked or showing signs of undercutting		
1	Sparse vegetation or erosion		
1	Evidence of nuisance animals		
Outfall Structure and Channel			
1	Outflow is causing undercutting or erosion		
3	Outfall structure has separated more than three inches from principal spillway barrel	The outfall structure is beginning to separate from the PSP (9.42 Linear Feet).	9347
1	Outfall structure is damaged or rusting		
3	Woody vegetation growing within 5' of outlet and barrel	A tree was observed growing adjacent to the outfall structure (1, 7-12" tree).	9349
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		

Facility ID: STMF0090091
Facility Name: Round Elementary School

Inspection Date: 04/13/2023





9333: Facility Overall.



9334: Facility Overall.



9335: Facility Overall.



9336: Control Structure, front.



9337: Control Structure, low-flow orifice close-up. The low-flow orifices are blocked (Immediate Repair Needed).



9338: Control Structure, top trash rack.



9339: Inside the Control Structure.



9340: Inside the Control Structure, looking upstream toward the upper orifices.



9341: Inside the Control Structure, looking upstream toward the Eastern low-flow orifice. The low-flow orifices are blocked (Immediate Repair Needed).



9342: Inside Control Structure, looking upstream toward the Northern low-flow orifice. The low-flow orifice is blocked (Immediate Repair Needed).



9343: Inside the Control Structure, looking upstream toward the Northeastern low-flow orifice. The low-flow orifices are blocked (Immediate Repair Needed).



9344: Inside the Control Structure, looking downstream.



9345: Outfall, From dam.



9346: Outfall, front.



9347: Inside the Outfall. The outfall structure has separated from the principal spillway barrel (Routine Maintenance Needed).



9348: From the Outfall, looking downstream.



9349: Outfall, Overall. Woody vegetation growing within 5' of outlet and barrel (Routine Maintenance Needed).



9350: Dam, Overall. Sparse vegetative coverage (Monitor).



9351: Dam, Overall. Woody vegetation on the embankment (Routine Maintenance Needed).



9352: Dam, Overall. Sparse vegetative coverage (Monitor).



9353: Dam Overall.



9354: Sign, closeup.



9355: Emergency Spillway, Overall. Woody vegetation on the embankment (Routine Maintenance Needed).



9356: Emergency Spillway, Overall. Woody vegetation on the embankment (Routine Maintenance Needed).



9357: Looking upstream from the Emergency Spillway. Woody vegetation on the embankment (Routine Maintenance Needed).



9358: Looking downstream along the Emergency Spillway. Woody vegetation on the embankment (Routine Maintenance Needed).



9359: Emergency Spillway, Overall. Woody vegetation on the embankment (Routine Maintenance Needed).



9360: Emergency Spillway, Overall. Woody vegetation on the embankment (Routine Maintenance Needed).



9361: Looking downstream from the Emergency Spillway.



9362: Facility Overall.



9363: Facility Overall.



9364: Facility Overall.



9365: Looking upstream along Inflow 1.



9366: Looking downstream along Inflow 1.



9367: Facility Overall.



9368: Facility Overall.



9369: Facility Overall.



9370: Looking upstream along Inflow 2.



9371: From Inflow 2, looking downstream. Buildup of trash, debris, and sediment (Monitor).



9372: Inflow Structure D1, front.



9373: Inside Inflow Structure D1.



9374: From Inflow Structure D1, looking downstream. Buildup of trash, debris, and sediment (Monitor).



9375: Inflow Structure D1, closeup. Woody growth around the inlet structure (Routine Maintenance Needed).



9376: Facility Overall.



9377: Facility Overall.



9378: Facility Overall.



9379: Access road entrance, Overall.



9380: Close-up of the Access road entrance, Padlock not attached to the bollard.



9381: Close-up of the Access road entrance.



9382: Close-up of the Access road entrance.



NON-ROUTINE MAINTENANCE COST ESTIMATE

STMF0090091/ Round Elementary School

FY2023 Public BMP Inspections

Date of Inspection: 04/13/2023

Date of Estimate: 09/06/2023

Estimate Prepared by: GKY

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
1	Mowing / Clearing (includes removal & proper disposal of all woody stock, brush, & trees up to 2-inch diameter)		0.1 acre	\$ 74.00	\$ -
2	Pond Control Structure/Riser Clearing (includes removal & disposal of trash, debris, floatables, & other material from directly around and on top of the control structure/riser)	0.22	CY	\$ 30.00	\$ 6.60
3	Pond Low-Flow Channel Clearing (25' Radius) (includes removal & disposal of trash, debris, floatables, & other material from pond channels & trash rack within 25' radius of control structure/riser)		EA	\$ 181.00	\$ -
4	Shoreline Clean-Up (includes removal & disposal of trash & debris from 15' of wet side and 15' of dry side of WSE)		0.1 acre	\$ 750.00	\$ -
5	Trash/Debris Removal & Disposal		CY	\$ 164.00	\$ -
6	Repair/Replace Facility Sign		EA	\$ 247.00	\$ -
7	Repair/Replace Facility Sign and Post Installation		EA	\$ 329.00	\$ -
16	Hydroseeder (400 - 600 Gallon) with Upland Seed Mix		HR	\$ 217.00	\$ -
17	Hydroseeder (400 - 600 Gallon) with Wetland Seed Mix		HR	\$ 411.00	\$ -
18	Hydroseeder (400 - 600 Gallon) w/ Co. Supplied Seed Mix		HR	\$ 90.00	\$ -
29	Pond Low-Flow Channel Clearing (per 25') (includes removal & disposal of sediment, trash, debris, floatables, & other material using handheld equipment from the pond low-flow channel)		25 FT	\$ 156.00	\$ -
30	Tree Removal (2" to 6" DBH)	50.00	EA	\$ 1,316.00	\$ 65,800.00
31	Tree Removal (7" to 12" DBH)	20.00	EA	\$ 2,961.00	\$ 59,220.00
32	Tree Removal (13" to 24" DBH)	2.00	EA	\$ 4,930.00	\$ 9,860.00
33	Tree Removal (25" to 36" DBH)		EA	\$ 6,250.00	\$ -
34	Stump Removal & Grinding (up to 12")		EA	\$ 576.00	\$ -
39	Excavation of Sediment (includes removal & disposal of sediment from the bottom of the existing pond using mechanical means; assumed potentially hazardous waste)		CY	\$ 150.00	\$ -
40	Animal Burrow Repair		EA	\$ 1,316.00	\$ -
53	VDOT Class I Rip-Rap with Fabric Liner		TON	\$ 156.00	\$ -
54	VDOT Class II Rip-Rap with Fabric Liner		TON	\$ 176.00	\$ -
58	Concrete Removal and Disposal		SF	\$ 39.00	\$ -
59	Grouting Cracks and Joints	9.42	LF	\$ 189.00	\$ 1,780.38
62	Parging (per 50lb bag)		EA	\$ 452.00	\$ -
70	Seed Mix (includes straw mulch and water)	0.10	0.1 acre	\$ 286.00	\$ 28.60
79	Topsoil (3")		CY	\$ 74.00	\$ -
N/A	Remove & Dispose of Sediment / Debris from Inside Drainage Structures and Pipes	3.00	CF	\$ 30.00	\$ 90.00
N/A	Install Grouted Class I Rip-Rap		SY	\$ 90.00	\$ -
N/A	Install Grouted Class II Rip-Rap		SY	\$ 141.00	\$ -
N/A	Fabricate & Install Low-Flow BMP Plate		EA	\$ 500.00	\$ -
N/A	Fabricate & Install Low-Flow Trash Rack		EA	\$ 500.00	\$ -
N/A	Install HR-2 Handrail		LF	\$ 100.00	\$ -
N/A	Install Access Road Gate		EA	\$ 2,100.00	\$ -
N/A	Install Post and Cable Barrier		EA	\$ 750.00	\$ -
N/A	Install Removable Locking Bollard		EA	\$ 950.00	\$ -

Sub-Total = \$ 136,785.58

Mobilization (5%) = \$ 6,839.28

Cost Estimate is for reference purposes only.

Actual contractor costs may vary.

Total Estimated Cost = \$ 143,624.86



Extended Detention Pond Inspection Report					
Facility Name	Signal Hill Richmond	Facility ID	STMF0090096	Type of Inspection: Initial Inspection	
Location	Lat: 38.752237 Long: -77.450476	Watershed	Lower Bull Run	Previous 48 Hour Precipitation Total	0.35"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/ Owner's Representative	City of Manassas
Inspectors	gky_mfreeman	Date of Inspection	6/28/2023	Date of Last Inspection	4/26/2021
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
3	3	Routine Maintenance Needed	Facility is functional but preventative maintenance is required. Examples includes vegetation management, minor erosion, or trash/debris removal.		
	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. Repair Immediately		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
The top trash rack on the riser was not padlocked.(Not included in the Cost Estimate) Low-Flow Structure 37A is completely submerged.					
Inspection Items					
Score	Description		Comment(s) / Corrective Action(s)	Reference Image	
Overall					
1	Inadequate access to complete thorough inspection				
3	Fences are damaged or have vegetation growing on them		The fence surrounding the facility is damaged in multiple places. (Not included in Cost Estimate)	4768, 4790	
1	Missing or damaged safety signage				
1	Mosquitos				
1	Surrounding drainage area trash/debris/unauthorized substances that might affect facility				
1	Surrounding drainage area erosion that might be related to facility				
Pre-Treatment					
1	Buildup of trash or debris				
1	Signs of erosion or exposed soil				
1	Sediment in forebay has reached 50% or more of capacity				
1	Evidence of clogging				
1	Vegetation does not match original design				
Inlet					
1	Buildup of trash, debris, and sediment				
1	Evidence of erosion or undermining around inlet				
4	Woody growth around inlet structure		1, 13-24" tree was observed adjacent to Inflow Structure 1. Remove woody vegetation and vines adjacent to inflow structure (200 Square Feet).	4793	
1	Evidence of nuisance animals				
3	Damage to inlet pipe or structure		A joint separation was noted in Inflow	4797	



Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam Embankment (Includes emergency spillway if applicable)			
1	Woody vegetation on embankment		
1	Shrubby, low growing vegetation, and/or vine material growing on embankment		
1	Sparse vegetative coverage		
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
4	Evidence of nuisance animals	An animal hole was observed adjacent to the control structure.	4788, 4789
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Outlet/Riser Structure			
1	Low-flow orifice is blocked		
1	BMP device is deteriorated, misaligned, and/or damaged		
1	BMP device is missing		
1	Low-level gate drain is accessible and operational. Drain has been exercised in last three years.		
3	Trash, debris, or other material in BMP device	Trash and debris observed adjacent to the control structure (2 Cubic Feet).	4775, 4776, 4778
Principal Spillway Pipe			
1	Spillway is blocked by debris or sediment		
1	Evidence of leaking joints		
1	One or more sections of the pipe have settled to the point that it threatens the integrity of the dam		
Impoundment Area and Side Slopes			
1	Buildup of trash and debris		
1	Silt and sedimentation buildup		
1	Ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic vegetation, or turbidity)		
1	Signs of erosion along shoreline		
1	Low-flow ditch is clogged with sediment/debris		
1	Sections of low-flow ditch are cracked or showing signs of undercutting		
3	Sparse vegetation or erosion	Bare spots observed on the eastern bank of the facility (480 Square Feet).	4771, 4772
1	Evidence of nuisance animals		
Outfall Structure and Channel			
1	Outflow is causing undercutting or erosion		
1	Outfall structure has separated more than three inches from principal spillway barrel		
3	Outfall structure is damaged or rusting	Spalling observed on the outfall pipe face (1 bag of concrete).	4783
1	Woody vegetation growing within 5' of outlet and barrel		
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		

Facility ID: STMF0090096
Facility Name: Signal Hill Richmond

Inspection Date: 06/28/2023





4768: Access, Overall. Fence is damaged (Routine Maintenance Needed).



4769: Sign, closeup.



4770: Facility Overall.



4771: Impoundment Area, Overall. Sparse vegetation or erosion (Routine Maintenance Needed).



4772: Impoundment Area, Overall. Sparse vegetation or erosion (Routine Maintenance Needed).



4773: Control Structure 37, front.



4774: From Control Structure 37, looking upstream toward Low-Flow Structure 37A.



4775: Control Structure 37, overall looking toward the upper orifice. Trash, debris, or other material in BMP device (Routine Maintenance Needed).



4776: Control Structure 37, top trash rack. Trash, debris, or other material in BMP device (Routine Maintenance Needed).



4777: Inside Control Structure 37.



4778: Inside Control Structure 37, looking upstream toward the upper orifice. Trash, debris, or other material in BMP device (Routine Maintenance Needed).



4779: Inside Control Structure 37, looking upstream toward Low-Flow Structure 37A.



4780: Inside Control Structure 37, looking downstream.



4781: Outfall Structure 36, From dam.



4782: Outfall Structure 36, front.



4783: Outfall Structure 36, close-up. The outfall structure is damaged, Spalling(Routine Maintenance Needed).



4784: Inside Outfall Structure 36.



4785: From Outfall Structure 36, looking downstream.



4786: Dam Overall.



4787: Dam Overall.



4788: Animal hole, overall. Evidence of nuisance animals (Immediate Repair Needed).



4789: Animal hole, closeup. Evidence of nuisance animals (Immediate Repair Needed).



4790: Fence, Overall. Fence is damaged (Routine Maintenance Needed).



4791: Inflow Structure 1, front. Overgrown Vegetation is present (Routine Maintenance Needed).



4792: Inside Inflow Structure 1.



4793: From Inflow Structure 1, looking downstream. Woody growth around inlet structure (Routine Maintenance Needed).



4794: Facility Overall.



4795: Facility Overall.



4796: Inflow Structure 21, front.



4797: Inside Inflow Structure 21. Joint misalignment and separation. (Routine Maintenance Needed).



4798: From Inflow Structure 21, looking downstream.



4799: Facility Overall.



NON-ROUTINE MAINTENANCE COST ESTIMATE

STMF0090096 / Signal Hill Richmond

FY2023 Public BMP Inspections

Date of Inspection: 06/28/2023

Date of Estimate: 09/01/2023

Estimate Prepared by: GKY

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
1	Mowing / Clearing (includes removal & proper disposal of all woody stock, brush, & trees up to 2-inch diameter)	0.10	0.1 acre	\$ 74.00	\$ 7.40
2	Pond Control Structure/Riser Clearing (includes removal & disposal of trash, debris, floatables, & other material from directly around and on top of the control structure/riser)	2.00	CY	\$ 30.00	\$ 60.00
3	Pond Low-Flow Channel Clearing (25' Radius) (includes removal & disposal of trash, debris, floatables, & other material from pond channels & trash rack within 25' radius of control structure/riser)		EA	\$ 181.00	\$ -
4	Shoreline Clean-Up (includes removal & disposal of trash & debris from 15' of wet side and 15' of dry side of WSE)		0.1 acre	\$ 750.00	\$ -
5	Trash/Debris Removal & Disposal		CY	\$ 164.00	\$ -
6	Repair/Replace Facility Sign		EA	\$ 247.00	\$ -
7	Repair/Replace Facility Sign and Post Installation		EA	\$ 329.00	\$ -
16	Hydroseeder (400 - 600 Gallon) with Upland Seed Mix		HR	\$ 217.00	\$ -
17	Hydroseeder (400 - 600 Gallon) with Wetland Seed Mix		HR	\$ 411.00	\$ -
18	Hydroseeder (400 - 600 Gallon) w/ Co. Supplied Seed Mix		HR	\$ 90.00	\$ -
29	Pond Low-Flow Channel Clearing (per 25') (includes removal & disposal of sediment, trash, debris, floatables, & other material using handheld equipment from the pond low-flow channel)		25 FT	\$ 156.00	\$ -
30	Tree Removal (2" to 6" DBH)		EA	\$ 1,316.00	\$ -
31	Tree Removal (7" to 12" DBH)		EA	\$ 2,961.00	\$ -
32	Tree Removal (13" to 24" DBH)	1.00	EA	\$ 4,930.00	\$ 4,930.00
33	Tree Removal (25" to 36" DBH)		EA	\$ 6,250.00	\$ -
34	Stump Removal & Grinding (up to 12")		EA	\$ 576.00	\$ -
39	Excavation of Sediment (includes removal & disposal of sediment from the bottom of the existing pond using mechanical means; assumed potentially hazardous waste)		CY	\$ 150.00	\$ -
40	Animal Burrow Repair	1.00	EA	\$ 1,316.00	\$ 1,316.00
53	VDOT Class I Rip-Rap with Fabric Liner		TON	\$ 156.00	\$ -
54	VDOT Class II Rip-Rap with Fabric Liner		TON	\$ 176.00	\$ -
58	Concrete Removal and Disposal		SF	\$ 39.00	\$ -
59	Grouting Cracks and Joints	5.00	LF	\$ 189.00	\$ 945.00
62	Parging (per 50lb bag)	1.00	EA	\$ 452.00	\$ 452.00
70	Seed Mix (includes straw mulch and water)	0.10	0.1 acre	\$ 286.00	\$ 28.60
79	Topsoil (3")		CY	\$ 74.00	\$ -
N/A	Remove & Dispose of Sediment / Debris from Inside Drainage Structures and Pipes		CF	\$ 30.00	\$ -
N/A	Install Grouted Class I Rip-Rap		SY	\$ 90.00	\$ -
N/A	Install Grouted Class II Rip-Rap		SY	\$ 141.00	\$ -
N/A	Fabricate & Install Low-Flow BMP Plate		EA	\$ 500.00	\$ -
N/A	Fabricate & Install Low-Flow Trash Rack		EA	\$ 500.00	\$ -
N/A	Install HR-2 Handrail		LF	\$ 100.00	\$ -
N/A	Install Access Road Gate		EA	\$ 2,100.00	\$ -
N/A	Install Post and Cable Barrier		EA	\$ 750.00	\$ -
N/A	Install Removable Locking Bollard		EA	\$ 950.00	\$ -

Sub-Total = \$ 7,739.00

Mobilization (5%) = \$ 386.95

Cost Estimate is for reference purposes only.
Actual contractor costs may vary.

Total Estimated Cost = \$ 8,125.95



Wet Pond Inspection Report					
Facility Name	Hospital	Facility ID	STMF0090098	Type of Inspection: Initial Inspection	
Location	Lat: 38.766598 Long: -77.489830	Watershed	Middle Bull Run	Previous 48 Hour Precipitation Total	0.35"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/Owner's Representative	City of Manassas
Inspector	gky_mfreeman	Date of Inspection	6/29/2023	Date of Last Inspection	3/23/2021
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
	3	Routine Maintenance Needed	Facility is functional but preventative maintenance is required. Examples includes vegetation management, minor erosion, or trash/debris removal.		
4	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. <u>Repair Immediately</u>		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
A solid metal plate was observed over the 6" perforation of the weir wall. The approved plan details show a steel plate and trash rack with a 1" diameter orifice. The facility was marked immediate repair needed due to this issue.					
Inspection Items					
Score	Description	Comment(s) / Corrective Action(s)	Reference Image		
Overall					
1	Inadequate access to complete thorough inspection				
1	Fences are damaged or have vegetation growing on them				
3	Missing or damaged safety signage	The facility sign is faded Sign 1 (replace sign) and Sign 2 (replace sign).	4469, 4493		
1	Mosquitos				
1	Surrounding drainage area trash/debris/unauthorized substances that might affect facility				
1	Surrounding drainage area erosion that might be related to facility				
Pre-Treatment					
3	Buildup of trash or debris	Debris, sediment, and vegetation accumulating and growing in the forebay weir (0.22 Cubic Yards and 80 Square Feet).	4474, 4475		
1	Signs of erosion or exposed soil				
1	Sediment in forebay has reached 50% or more of capacity				
1	Evidence of clogging				
1	Vegetation does not match original design				
Inlet					
4	Buildup of trash, debris, and sediment	Debris and sediment have almost fully blocked Inflow Structure 3A (50 Cubic Feet).	4464, 4465		
1	Evidence of erosion or undermining around inlet				
4	Woody growth around inlet structure	Overgrown vegetation was observed in the planned location of Inflow 1 (80 Square Feet), Inflow 2 (80 Square Feet), and Inflow Structure 8 (80 Square Feet). Woody vegetation is growing adjacent to the planned location of Inflow Structure 6 (100 Square Feet).	4448, 4449, 4451, 4452, 4480, 4481,4486		
1	Evidence of nuisance animals				
1	Damage to inlet pipe or structure				





Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam Embankment (Includes emergency spillway if applicable)			
1	Woody vegetation on embankment		
3	Shrubby, low growing vegetation, and/or vine material growing on embankment	Low-growing and viny vegetation was observed growing on the front slope of the dam (200 Square Feet).	4430, 4431
1	Sparse vegetative coverage		
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
1	Evidence of nuisance animals		
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Outlet/Riser Structure			
1	Low-flow orifice is blocked		
1	BMP device is deteriorated, misaligned, and/or damaged		
4	BMP device is missing	No orifice in the plate install over the 6" perforation in the weir wall.	4442
1	Low-level gate drain is accessible and operational. Drain has been exercised in last three years.		
2	Trash, debris, or other material in BMP device	Debris is beginning to accumulate inside Control Structure 11 (0.30 Cubic Yards).	4434
Principal Spillway Pipe			
1	Spillway is blocked by debris or sediment		
1	Evidence of leaking joints		
1	One or more sections of the pipe have settled to the point that it threatens the integrity of the dam		
Impoundment Area and Side Slopes			
1	Buildup of trash and debris		
1	Silt and sedimentation buildup		
1	Ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic vegetation, or turbidity)		
1	Signs of erosion along shoreline		
1	Sparse vegetation or erosion		
1	Evidence of nuisance animals		
Outfall Structure and Channel			
1	Outflow is causing undercutting or erosion		
1	Outfall structure has separated more than three inches from principal spillway barrel		
1	Outfall structure is damaged or rusting		
1	Woody vegetation growing within 5' of outlet and barrel		
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		

Facility ID: STMF0090098
Facility Name: Hospital

Inspection Date: 06/27/2023





4424: Outfall Structure 10, front.



4425: Inside Outfall Structure 10, looking upstream along the Southern PSP.



4426: Inside Outfall Structure 10, looking upstream along the Northern PSP.



4427: From Outfall Structure 10, looking downstream.



4428: Dam Overall, back slope.



4429: Dam Overall, back slope.



4430: Dam Overall, front slope. Shrubbery, low-growing vegetation, and/or vine material growing on the embankment (Routine Maintenance Needed).



4431: Dam Overall, front slope. Shrubbery, low-growing vegetation, and/or vine material growing on the embankment (Routine Maintenance Needed).



4432: Control Structure 11, Overall.



4433: Inside Control Structure 11.



4434: Inside Control Structure 11. Trash, debris, or other material in BMP device (Monitor).



4435: Inside Control Structure 11.



4436: Control Structure 11, Weir Overall.



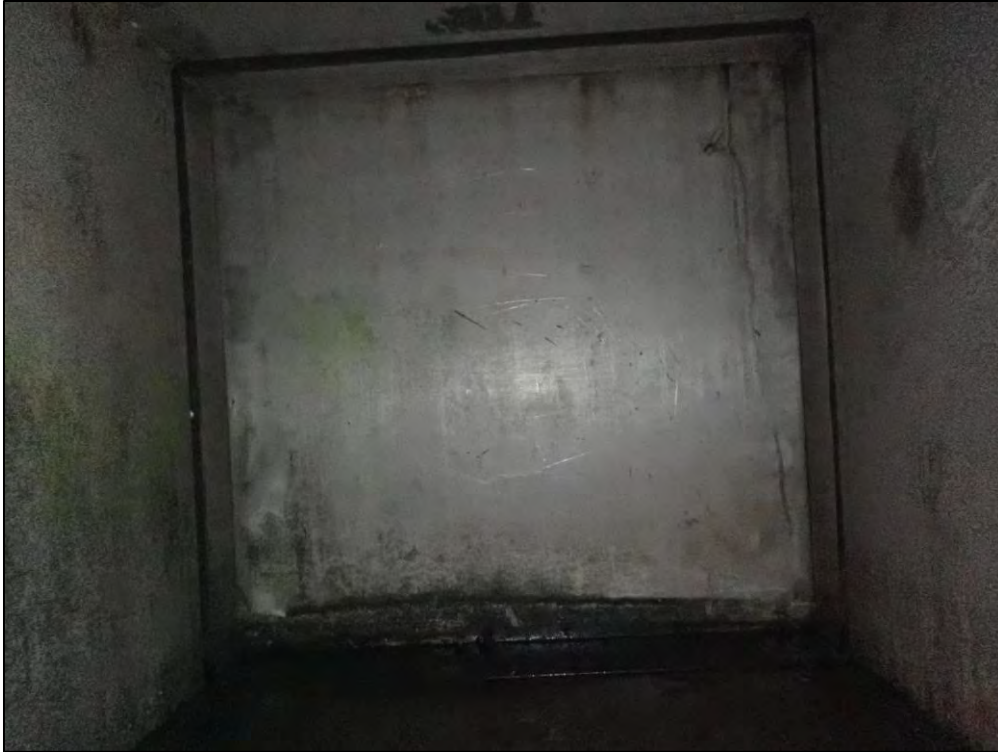
4437: Control Structure 11, looking toward the Weir.



4438: Control Structure 11, Dewatering valve close-up.



4439: Control Structure 11, close-up looking downstream toward the Dewatering Orifice.



4441: Control Structure 11, Dewatering Orifice close-up.



4442: Inside Control Structure 11, looking upstream toward the Dewatering Orifice. The BMP Orifice Plate device is missing (Immediate Repair Needed).



4443: Inside Control Structure 11, looking downstream along the Southern PSP.



4444: Inside Control Structure 11, looking downstream along the Northern PSP.



4445: Facility Overall.



4446: Facility Overall.



4447: Facility Overall.



4448: Inflow 1, Overall. Woody growth around inflow structure (Immediate Repair Needed).



4449: Inflow 1, Overall. Woody growth around inflow structure (Immediate Repair Needed).



4450: Facility Overall.



4451: Inflow 2, Overall. Woody growth around inflow structure (Immediate Repair Needed).



4452: Inflow 2, Overall. Woody growth around inflow structure (Immediate Repair Needed).



4453: Facility Overall.



4454: Facility Overall.



4455: Facility Overall.



4456: Inflow Structure 1, front.



4457: Inside Inflow Structure 1.



4458: From Inflow Structure 1, looking downstream.



4459: Inflow Structure 2, front.



4460: Inside Inflow Structure 2.



4461: From Inflow Structure 2, looking downstream.



4462: Facility Overall.



4463: Inflow Structure 3A, front.



4464: Inflow Structure 3A, closeup. Buildup of trash, debris, and sediment (Immediate Repair Needed).



4465: Inside Inflow Structure 3A. Buildup of trash, debris, and sediment (Immediate Repair Needed).



4466: From Inflow Structure 3A, looking downstream.



4467: Facility Overall.



4468: Facility Overall.



4469: Sign 1, closeup. Damaged safety signage (Routine Maintenance Needed).



4470: Facility Overall.



4471: Facility Overall.



4472: Facility Overall.



4473: Facility Overall.



4474: Weir Overall. Buildup of trash or debris (Routine Maintenance Needed).



4475: Weir Overall. Buildup of trash or debris (Routine Maintenance Needed).



4476: From the Weir, looking upstream.



4477: From the Weir, looking downstream.



4478: Berm Overall.



4479: Berm Overall.



4480: Inflow Structure 6, Overall. Woody growth around inlet structure (Immediate Repair Needed).



4481: Inflow Structure 6, Overall. Woody growth around inlet structure (Immediate Repair Needed).



4482: Forebay Overall.



4483: Forebay Overall.



4484: Forebay Overall.



4485: Facility Overall.



4486: Looking upstream along Inflow 8. Woody growth around inflow structure (Routine Maintenance Needed).



4487: From Inflow 8, looking downstream.



4488: Looking upstream along Inflow 9.



4489: From Inflow 9, looking downstream.



4490: Forebay Overall.



4491: Inflow Structure 8, Overall.



4492: Inflow Structure 8, Overall.



4493: Sign 2, closeup. Damaged safety signage (Routine Maintenance Needed).



NON-ROUTINE MAINTENANCE COST ESTIMATE

STMF0090098 / Hospital
FY2023 Public BMP Inspections

Date of Inspection: 06/29/2023

Date of Estimate: 09/06/2023

Estimate Prepared by: GKY

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
1	Mowing / Clearing (includes removal & proper disposal of all woody stock, brush, & trees up to 2-inch diameter)	0.12	0.1 acre	\$ 74.00	\$ 8.88
2	Pond Control Structure/Riser Clearing (includes removal & disposal of trash, debris, floatables, & other material from directly around and on top of the control structure/riser)	0.30	CY	\$ 30.00	\$ 9.00
3	Pond Low-Flow Channel Clearing (25' Radius) (includes removal & disposal of trash, debris, floatables, & other material from pond channels & trash rack within 25' radius of control structure/riser)		EA	\$ 181.00	\$ -
4	Shoreline Clean-Up (includes removal & disposal of trash & debris from 15' of wet side and 15' of dry side of WSE)		0.1 acre	\$ 750.00	\$ -
5	Trash/Debris Removal & Disposal		CY	\$ 164.00	\$ -
6	Repair/Replace Facility Sign	2.00	EA	\$ 247.00	\$ 494.00
7	Repair/Replace Facility Sign and Post Installation		EA	\$ 329.00	\$ -
16	Hydroseeder (400 - 600 Gallon) with Upland Seed Mix		HR	\$ 217.00	\$ -
17	Hydroseeder (400 - 600 Gallon) with Wetland Seed Mix		HR	\$ 411.00	\$ -
18	Hydroseeder (400 - 600 Gallon) w/ Co. Supplied Seed Mix		HR	\$ 90.00	\$ -
29	Pond Low-Flow Channel Clearing (per 25') (includes removal & disposal of sediment, trash, debris, floatables, & other material using handheld equipment from the pond low-flow channel)		25 FT	\$ 156.00	\$ -
30	Tree Removal (2" to 6" DBH)		EA	\$ 1,316.00	\$ -
31	Tree Removal (7" to 12" DBH)		EA	\$ 2,961.00	\$ -
32	Tree Removal (13" to 24" DBH)		EA	\$ 4,930.00	\$ -
33	Tree Removal (25" to 36" DBH)		EA	\$ 6,250.00	\$ -
34	Stump Removal & Grinding (up to 12")		EA	\$ 576.00	\$ -
39	Excavation of Sediment (includes removal & disposal of sediment from the bottom of the existing pond using mechanical means; assumed potentially hazardous waste)	0.22	CY	\$ 150.00	\$ 33.00
40	Animal Burrow Repair		EA	\$ 1,316.00	\$ -
53	VDOT Class I Rip-Rap with Fabric Liner		TON	\$ 156.00	\$ -
54	VDOT Class II Rip-Rap with Fabric Liner		TON	\$ 176.00	\$ -
58	Concrete Removal and Disposal		SF	\$ 39.00	\$ -
59	Grouting Cracks and Joints		LF	\$ 189.00	\$ -
62	Parging (per 50lb bag)		EA	\$ 452.00	\$ -
70	Seed Mix (includes straw mulch and water)		0.1 acre	\$ 286.00	\$ -
79	Topsoil (3")		CY	\$ 74.00	\$ -
N/A	Remove & Dispose of Sediment / Debris from Inside Drainage Structures and Pipes	50.00	CF	\$ 30.00	\$ 1,500.00
N/A	Install Grouted Class I Rip-Rap		SY	\$ 90.00	\$ -
N/A	Install Grouted Class II Rip-Rap		SY	\$ 141.00	\$ -
N/A	Fabricate & Install Low-Flow BMP Plate	1.00	EA	\$ 500.00	\$ 500.00
N/A	Fabricate & Install Low-Flow Trash Rack		EA	\$ 500.00	\$ -
N/A	Install HR-2 Handrail		LF	\$ 100.00	\$ -
N/A	Install Access Road Gate		EA	\$ 2,100.00	\$ -
N/A	Install Post and Cable Barrier		EA	\$ 750.00	\$ -
N/A	Install Removable Locking Bollard		EA	\$ 950.00	\$ -

Sub-Total = \$ 2,544.88

Cost Estimate is for reference purposes only. Mobilization (5%) = \$ 127.24

Actual contractor costs may vary.

Total Estimated Cost = \$ 2,672.12



Extended Detention Pond Inspection Report					
Facility Name	Fairview Baintdridge	Facility ID	STMF0090101	Type of Inspection: Initial Inspection	
Location	Lat: 38.745773 Long: -77.459698	Watershed	Lower Bull Run	Previous 48 Hour Precipitation Total	0.00"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/ Owner's Representative	City of Manassas
Inspectors	gky_mfreeman	Date of Inspection	6/28/2023	Date of Last Inspection	3/29/2022
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
3	3	Routine Maintenance Needed	Facility is functional but preventative maintenance is required. Examples includes vegetation management, minor erosion, or trash/debris removal.		
	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. Repair Immediately		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
Damage was observed to the principal spillway pipe (Not included in the Cost Estimate).					
Inspection Items					
Score	Description	Comment(s) / Corrective Action(s)		Reference Image	
Overall					
1	Inadequate access to complete thorough inspection				
1	Fences are damaged or have vegetation growing on them				
1	Missing or damaged safety signage				
1	Mosquitos				
1	Surrounding drainage area trash/debris/unauthorized substances that might affect facility				
1	Surrounding drainage area erosion that might be related to facility				
Pre-Treatment					
1	Buildup of trash or debris				
1	Signs of erosion or exposed soil				
1	Sediment in forebay has reached 50% or more of capacity				
1	Evidence of clogging				
1	Vegetation does not match original design				
Inlet					
3	Buildup of trash, debris, and sediment	Debris and sediment accumulating in and downstream of Inflow Structure D1 (8 Cubic Feet) and Inflow Structure A1 (6 Cubic Feet).		4738, 4752	
3	Evidence of erosion or undermining around inlet	Erosion was observed adjacent to Inflow Structure D1 (4 Cubic Feet).		4739	
1	Woody growth around inlet structure				
1	Evidence of nuisance animals				
3	Damage to inlet pipe or structure	Spalling was observed on the front of Inflow Structure B1 (1 bag of concrete).		4744	



Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam Embankment (Includes emergency spillway if applicable)			
1	Woody vegetation on embankment		
3	Shrubbery, low growing vegetation, and/or vine material growing on embankment	Overgrown vegetation was observed in the spillway (250 Square Feet).	4735
2	Sparse vegetative coverage	Bare spots were observed on the top of the dam (140 Square Feet).	4732, 4733, 4736, 4750
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
1	Evidence of nuisance animals		
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Outlet/Riser Structure			
1	Low-flow orifice is blocked		
1	BMP device is deteriorated, misaligned, and/or damaged		
1	BMP device is missing		
1	Low-level gate drain is accessible and operational. Drain has been exercised in last three years.		
1	Trash, debris, or other material in BMP device		
Principal Spillway Pipe			
1	Spillway is blocked by debris or sediment		
3	Evidence of leaking joints	Cracks were observed inside the PSP.	4726
1	One or more sections of the pipe have settled to the point that it threatens the integrity of the dam		
Impoundment Area and Side Slopes			
1	Buildup of trash and debris		
1	Silt and sedimentation buildup		
1	Ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic vegetation, or turbidity)		
1	Signs of erosion along shoreline		
1	Low-flow ditch is clogged with sediment/debris		
1	Sections of low-flow ditch are cracked or showing signs of undercutting		
1	Sparse vegetation or erosion		
1	Evidence of nuisance animals		
Outfall Structure and Channel			
1	Outflow is causing undercutting or erosion		
1	Outfall structure has separated more than three inches from principal spillway barrel		
1	Outfall structure is damaged or rusting		
1	Woody vegetation growing within 5' of outlet and barrel		
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		

Facility ID: STMF0090101
Facility Name: Fairview Baindridge

Inspection Date: 06/28/2023





4722: Facility Overall.



4723: Facility Overall.



4724: Control Structure, front.



4725: Control Structure, closeup.



4726: Inside the Control Structure. Evidence of damaged joint (Routine Maintenance Needed).



4727: From the Control Structure, upstream.



4728: Outfall, From dam.



4729: Outfall, front.



4730: Inside the Outfall.



4731: From the Outfall, looking downstream.



4732: Dam Overall. Sparse vegetative coverage (Monitor).



4733: Dam Overall. Sparse vegetative coverage (Monitor).



4734: From the Emergency Spillway, looking upstream.



4735: Looking downstream along the Emergency Spillway. Shrubbery, low-growing vegetation, and/or vine material growing on the embankment (Routine Maintenance Needed).



4736: Dam Overall. Sparse vegetative coverage (Monitor).



4737: Inflow Structure D1, front.



4738: Inside Inflow Structure D1. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



4739: Inflow Structure D1, closeup. Evidence of erosion or undermining around inlet (Routine Maintenance Needed).



4740: From Inflow Structure D1, looking downstream.



4741: Sign, closeup.



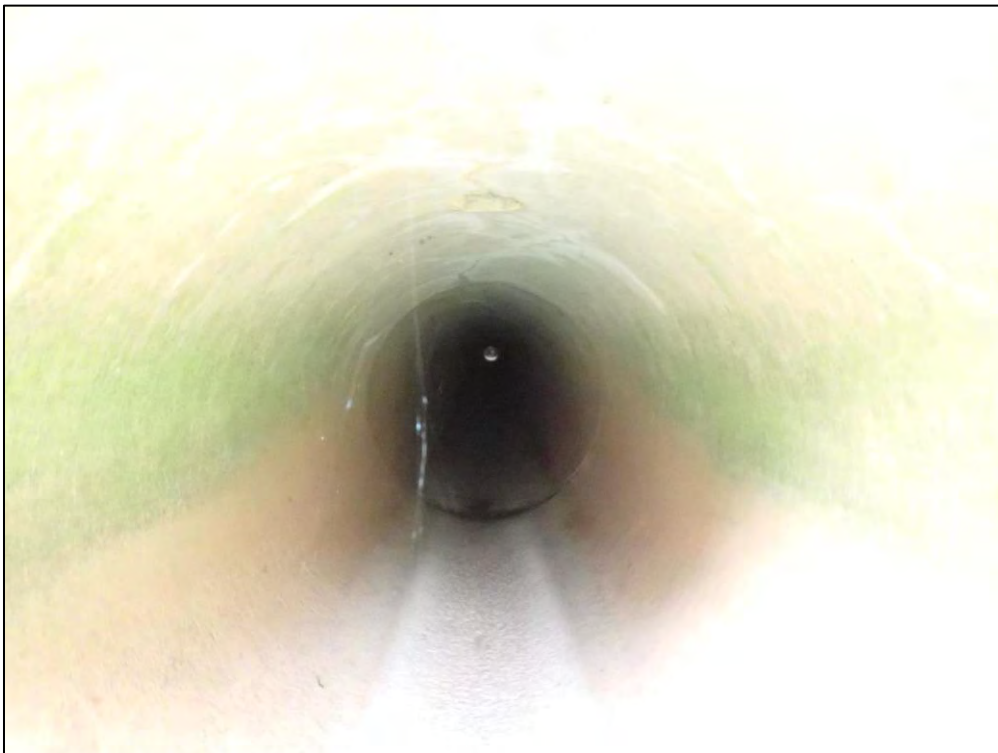
4742: Facility Overall.



4743: Inflow Structure B1, front.



4744: Inflow Structure B1, closeup. Damage to inlet pipe or structure (Routine Maintenance Needed).



4745: Inside Inflow Structure B1.



4746: From Inflow Structure B1, looking downstream.



4750: Inflow Structure A1, front. Sparse vegetative coverage (Monitor).



4751: Inflow Structure A1, closeup.



4752: Inside Inflow Structure A1. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



4753: From Inflow Structure A1, looking downstream.



4754: Sign 2, closeup.



4755: Access, overall.



NON-ROUTINE MAINTENANCE COST ESTIMATE

STMF0090101 / Fairview Baidndridge

FY2023 Public BMP Inspections

Date of Inspection: 06/28/2023

Date of Estimate: 09/06/2023

Estimate Prepared by: GKY

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
1	Mowing / Clearing (includes removal & proper disposal of all woody stock, brush, & trees up to 2-inch diameter)	0.10	0.1 acre	\$ 74.00	\$ 7.40
2	Pond Control Structure/Riser Clearing (includes removal & disposal of trash, debris, floatables, & other material from directly around and on top of the control structure/riser)		CY	\$ 30.00	\$ -
3	Pond Low-Flow Channel Clearing (25' Radius) (includes removal & disposal of trash, debris, floatables, & other material from pond channels & trash rack within 25' radius of control structure/riser)		EA	\$ 181.00	\$ -
4	Shoreline Clean-Up (includes removal & disposal of trash & debris from 15' of wet side and 15' of dry side of WSE)		0.1 acre	\$ 750.00	\$ -
5	Trash/Debris Removal & Disposal		CY	\$ 164.00	\$ -
6	Repair/Replace Facility Sign		EA	\$ 247.00	\$ -
7	Repair/Replace Facility Sign and Post Installation		EA	\$ 329.00	\$ -
16	Hydroseeder (400 - 600 Gallon) with Upland Seed Mix		HR	\$ 217.00	\$ -
17	Hydroseeder (400 - 600 Gallon) with Wetland Seed Mix		HR	\$ 411.00	\$ -
18	Hydroseeder (400 - 600 Gallon) w/ Co. Supplied Seed Mix		HR	\$ 90.00	\$ -
29	Pond Low-Flow Channel Clearing (per 25') (includes removal & disposal of sediment, trash, debris, floatables, & other material using handheld equipment from the pond low-flow channel)		25 FT	\$ 156.00	\$ -
30	Tree Removal (2" to 6" DBH)		EA	\$ 1,316.00	\$ -
31	Tree Removal (7" to 12" DBH)		EA	\$ 2,961.00	\$ -
32	Tree Removal (13" to 24" DBH)		EA	\$ 4,930.00	\$ -
33	Tree Removal (25" to 36" DBH)		EA	\$ 6,250.00	\$ -
34	Stump Removal & Grinding (up to 12")		EA	\$ 576.00	\$ -
39	Excavation of Sediment (includes removal & disposal of sediment from the bottom of the existing pond using mechanical means; assumed potentially hazardous waste)		CY	\$ 150.00	\$ -
40	Animal Burrow Repair		EA	\$ 1,316.00	\$ -
53	VDOT Class I Rip-Rap with Fabric Liner		TON	\$ 156.00	\$ -
54	VDOT Class II Rip-Rap with Fabric Liner		TON	\$ 176.00	\$ -
58	Concrete Removal and Disposal		SF	\$ 39.00	\$ -
59	Grouting Cracks and Joints		LF	\$ 189.00	\$ -
62	Parging (per 50lb bag)	1.00	EA	\$ 452.00	\$ 452.00
70	Seed Mix (includes straw mulch and water)	0.10	0.1 acre	\$ 286.00	\$ 28.60
79	Topsoil (3")	0.15	CY	\$ 74.00	\$ 11.10
N/A	Remove & Dispose of Sediment / Debris from Inside Drainage Structures and Pipes	14.00	CF	\$ 30.00	\$ 420.00
N/A	Install Grouted Class I Rip-Rap		SY	\$ 90.00	\$ -
N/A	Install Grouted Class II Rip-Rap		SY	\$ 141.00	\$ -
N/A	Fabricate & Install Low-Flow BMP Plate		EA	\$ 500.00	\$ -
N/A	Fabricate & Install Low-Flow Trash Rack		EA	\$ 500.00	\$ -
N/A	Install HR-2 Handrail		LF	\$ 100.00	\$ -
N/A	Install Access Road Gate		EA	\$ 2,100.00	\$ -
N/A	Install Post and Cable Barrier		EA	\$ 750.00	\$ -
N/A	Install Removable Locking Bollard		EA	\$ 950.00	\$ -

Sub-Total = \$ 919.10

Mobilization (5%) = \$ 45.96

Cost Estimate is for reference purposes only.

Actual contractor costs may vary.

Total Estimated Cost = \$ 965.06



Extended Detention Pond Inspection Report					
Facility Name	Cannon	Facility ID	STMF0090102	Type of Inspection: Initial Inspection	
Location	Lat: 38.732871 Long: -77.522064	Watershed	Rocky Branch-Broad Run	Previous 48 Hour Precipitation Total	0.00"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/ Owner's Representative	City of Manassas
Inspectors	gky_mfreeman	Date of Inspection	4/11/2023	Date of Last Inspection	12/22/2021
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
3	3	Routine Maintenance Needed	Facility is functional but preventative maintenance is required. Examples includes vegetation management, minor erosion, or trash/debris removal.		
	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. Repair Immediately		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
Inspection Items					
Score	Description		Comment(s) / Corrective Action(s)	Reference Image	
Overall					
1	Inadequate access to complete thorough inspection				
1	Fences are damaged or have vegetation growing on them				
1	Missing or damaged safety signage				
1	Mosquitos				
1	Surrounding drainage area trash/debris/unauthorized substances that might affect facility				
1	Surrounding drainage area erosion that might be related to facility				
Pre-Treatment					
1	Buildup of trash or debris				
1	Signs of erosion or exposed soil				
1	Sediment in forebay has reached 50% or more of capacity				
1	Evidence of clogging				
1	Vegetation does not match original design				
Inlet					
4	Buildup of trash, debris, and sediment		Trash, debris, and sediment were observed accumulating in and downstream of Inflow Structure 4 (4 Cubic Feet).	2720, 2721	
1	Evidence of erosion or undermining around inlet				
3	Woody growth around inlet structure		Trees growing adjacent to Inflow Structure D9 (2, 2-6" trees).	2717	
1	Evidence of nuisance animals				
1	Damage to inlet pipe or structure				



Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam Embankment (Includes emergency spillway if applicable)			
3	Woody vegetation on embankment	Trees were observed growing in and adjacent to the Emergency Spillway (13, 2-6" trees).	2704, 2705
1	Shrubbery, low growing vegetation, and/or vine material growing on embankment		
1	Sparse vegetative coverage		
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
1	Evidence of nuisance animals		
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Outlet/Riser Structure			
1	Low-flow orifice is blocked		
1	BMP device is deteriorated, misaligned, and/or damaged		
1	BMP device is missing		
1	Low-level gate drain is accessible and operational. Drain has been exercised in last three years.		
3	Trash, debris, or other material in BMP device	Debris was observed in the Control Structure (0.25 Cubic Yards).	2695, 2696, 2697
Principal Spillway Pipe			
1	Spillway is blocked by debris or sediment		
1	Evidence of leaking joints		
1	One or more sections of the pipe have settled to the point that it threatens the integrity of the dam		
Impoundment Area and Side Slopes			
3	Buildup of trash and debris	Cattails and overgrown vegetation were observed throughout the facility (8,500 Square Feet).	2691, 2700, 2701, 2702, 2708, 2719, 2723
1	Silt and sedimentation buildup		
1	Ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic vegetation, or turbidity)		
1	Signs of erosion along shoreline		
1	Low-flow ditch is clogged with sediment/debris		
1	Sections of low-flow ditch are cracked or showing signs of undercutting		
1	Sparse vegetation or erosion		
1	Evidence of nuisance animals		
Outfall Structure and Channel			
1	Outflow is causing undercutting or erosion		
1	Outfall structure has separated more than three inches from principal spillway barrel		
1	Outfall structure is damaged or rusting		
4	Woody vegetation growing within 5' of outlet and barrel	Woody vegetation was observed growing adjacent to the outfall (1, 2-6" tree and 2, 2-6" shrubs).	2698
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		

Facility ID: STMF0090102
Facility Name: Cannon

Inspection Date: 04/11/2023





2690: Facility Overall.



2691: Facility Overall. Overgrown vegetation was observed on the pond floor (Routine Maintenance Needed).



2692: Facility Overall.



2693: Control Structure, front.



2694: Control Structure, low-flow close-up.



2695: Inside the Control Structure. Trash, debris, or other material in the BMP device (Routine Maintenance Needed).



2696: Inside the Control Structure, looking downstream toward the Southern pipe. Trash, debris, or other material in the BMP device (Routine Maintenance Needed).



2697: Inside the Control Structure, looking downstream toward the Northern pipe. Trash, debris, or other material in the BMP device (Routine Maintenance Needed).



2698: Outfall, Overall. Woody vegetation growing within 5' of outlet and barrel (Immediate Repair Needed).



2699: Outfall, close-up.



2700: From the Outfall, looking downstream. Overgrown vegetation was observed on the pond floor (Routine Maintenance Needed).



2701: Facility Overall. Overgrown vegetation was observed on the pond floor (Routine Maintenance Needed).



2702: Facility Overall. Overgrown vegetation was observed on the pond floor (Routine Maintenance Needed).



2703: Dam Overall.



2704: Dam Overall. Woody vegetation on the embankment (Routine Maintenance Needed).



2705: Emergency Spillway, Overall. Woody vegetation on the embankment (Routine Maintenance Needed).



2706: Looking upstream from the Emergency Spillway.



2707: Looking downstream from the Emergency Spillway.



2708: Facility Overall. Overgrown vegetation was observed on the pond floor (Routine Maintenance Needed).



2709: Looking upstream from the Trickle Ditch.



2710: Looking downstream along the Trickle Ditch.



2717: Inflow Structure D9, front. Woody growth around inlet structure (Routine Maintenance Needed).



2718: Inside Inflow Structure D9.



2719: From Inflow Structure D9, looking downstream. Overgrown vegetation was observed on the pond floor (Routine Maintenance Needed).



2720: Inflow Structure 4, front. Buildup of trash, debris, and sediment (Immediate Repair Needed).



2721: Inside Inflow Structure 4, looking downstream. Buildup of trash, debris, and sediment (Immediate Repair Needed).



2722: Facility Overall.



2723: Facility Overall. Overgrown vegetation was observed on the pond floor (Routine Maintenance Needed).



NON-ROUTINE MAINTENANCE COST ESTIMATE

STMF0090102 / Cannon
FY2023 Public BMP Inspections

Date of Inspection: 04/11/2023

Date of Estimate: 09/06/2023

Estimate Prepared by: GKY

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
1	Mowing / Clearing (includes removal & proper disposal of all woody stock, brush, & trees up to 2-inch diameter)	2.00	0.1 acre	\$ 74.00	\$ 148.00
2	Pond Control Structure/Riser Clearing (includes removal & disposal of trash, debris, floatables, & other material from directly around and on top of the control structure/riser)	0.25	CY	\$ 30.00	\$ 7.50
3	Pond Low-Flow Channel Clearing (25' Radius) (includes removal & disposal of trash, debris, floatables, & other material from pond channels & trash rack within 25' radius of control structure/riser)		EA	\$ 181.00	\$ -
4	Shoreline Clean-Up (includes removal & disposal of trash & debris from 15' of wet side and 15' of dry side of WSE)		0.1 acre	\$ 750.00	\$ -
5	Trash/Debris Removal & Disposal		CY	\$ 164.00	\$ -
6	Repair/Replace Facility Sign		EA	\$ 247.00	\$ -
7	Repair/Replace Facility Sign and Post Installation		EA	\$ 329.00	\$ -
16	Hydroseeder (400 - 600 Gallon) with Upland Seed Mix		HR	\$ 217.00	\$ -
17	Hydroseeder (400 - 600 Gallon) with Wetland Seed Mix		HR	\$ 411.00	\$ -
18	Hydroseeder (400 - 600 Gallon) w/ Co. Supplied Seed Mix		HR	\$ 90.00	\$ -
29	Pond Low-Flow Channel Clearing (per 25') (includes removal & disposal of sediment, trash, debris, floatables, & other material using handheld equipment from the pond low-flow channel)		25 FT	\$ 156.00	\$ -
30	Tree Removal (2" to 6" DBH)	18.00	EA	\$ 1,316.00	\$ 23,688.00
31	Tree Removal (7" to 12" DBH)		EA	\$ 2,961.00	\$ -
32	Tree Removal (13" to 24" DBH)		EA	\$ 4,930.00	\$ -
33	Tree Removal (25" to 36" DBH)		EA	\$ 6,250.00	\$ -
34	Stump Removal & Grinding (up to 12")		EA	\$ 576.00	\$ -
39	Excavation of Sediment (includes removal & disposal of sediment from the bottom of the existing pond using mechanical means; assumed potentially hazardous waste)		CY	\$ 150.00	\$ -
40	Animal Burrow Repair		EA	\$ 1,316.00	\$ -
53	VDOT Class I Rip-Rap with Fabric Liner		TON	\$ 156.00	\$ -
54	VDOT Class II Rip-Rap with Fabric Liner		TON	\$ 176.00	\$ -
58	Concrete Removal and Disposal		SF	\$ 39.00	\$ -
59	Grouting Cracks and Joints		LF	\$ 189.00	\$ -
62	Parging (per 50lb bag)		EA	\$ 452.00	\$ -
70	Seed Mix (includes straw mulch and water)		0.1 acre	\$ 286.00	\$ -
79	Topsoil (3")		CY	\$ 74.00	\$ -
N/A	Remove & Dispose of Sediment / Debris from Inside Drainage Structures and Pipes	4.00	CF	\$ 30.00	\$ 120.00
N/A	Install Grouted Class I Rip-Rap		SY	\$ 90.00	\$ -
N/A	Install Grouted Class II Rip-Rap		SY	\$ 141.00	\$ -
N/A	Fabricate & Install Low-Flow BMP Plate		EA	\$ 500.00	\$ -
N/A	Fabricate & Install Low-Flow Trash Rack		EA	\$ 500.00	\$ -
N/A	Install HR-2 Handrail		LF	\$ 100.00	\$ -
N/A	Install Access Road Gate		EA	\$ 2,100.00	\$ -
N/A	Install Post and Cable Barrier		EA	\$ 750.00	\$ -
N/A	Install Removable Locking Bollard		EA	\$ 950.00	\$ -

Cost Estimate is for reference purposes only.
Actual contractor costs may vary.

Sub-Total = \$ 23,963.50
Mobilization (5%) = \$ 1,198.18
Total Estimated Cost = \$ 25,161.68



Extended Detention Pond Inspection Report					
Facility Name	Kao Euclid Ave	Facility ID	STMF0090650	Type of Inspection: Initial Inspection	
Location	Lat: 38.760603 Long: -77.448917	Watershed	Lower Bull Run	Previous 48 Hour Precipitation Total	0.00"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/ Owner's Representative	City of Manassas
Inspectors	gky_mfreeman	Date of Inspection	4/11/2023	Date of Last Inspection	3/25/2021
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
3	3	Routine Maintenance Needed	Facility is functional but preventative maintenance is required. Examples includes vegetation management, minor erosion, or trash/debris removal.		
	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. <u>Repair Immediately</u>		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
Inspection Items					
Score	Description	Comment(s) / Corrective Action(s)		Reference Image	
Overall					
1	Inadequate access to complete thorough inspection				
1	Fences are damaged or have vegetation growing on them				
1	Missing or damaged safety signage				
1	Mosquitos				
1	Surrounding drainage area trash/debris/unauthorized substances that might affect facility				
1	Surrounding drainage area erosion that might be related to facility				
Pre-Treatment					
1	Buildup of trash or debris				
1	Signs of erosion or exposed soil				
1	Sediment in forebay has reached 50% or more of capacity				
1	Evidence of clogging				
1	Vegetation does not match original design				
Inlet					
3	Buildup of trash, debris, and sediment	Trash, debris, and sediment were observed downstream of Inflow Structure 3A (8 Cubic Feet).		2827	
1	Evidence of erosion or undermining around inlet				
3	Woody growth around inlet structure	Trees were observed adjacent to Inflow Structure 2A (5, 2-6" trees), and Inflow Structure 1A (5, 2-6" trees).		2828, 2831, 2833	
1	Evidence of nuisance animals				
1	Damage to inlet pipe or structure				

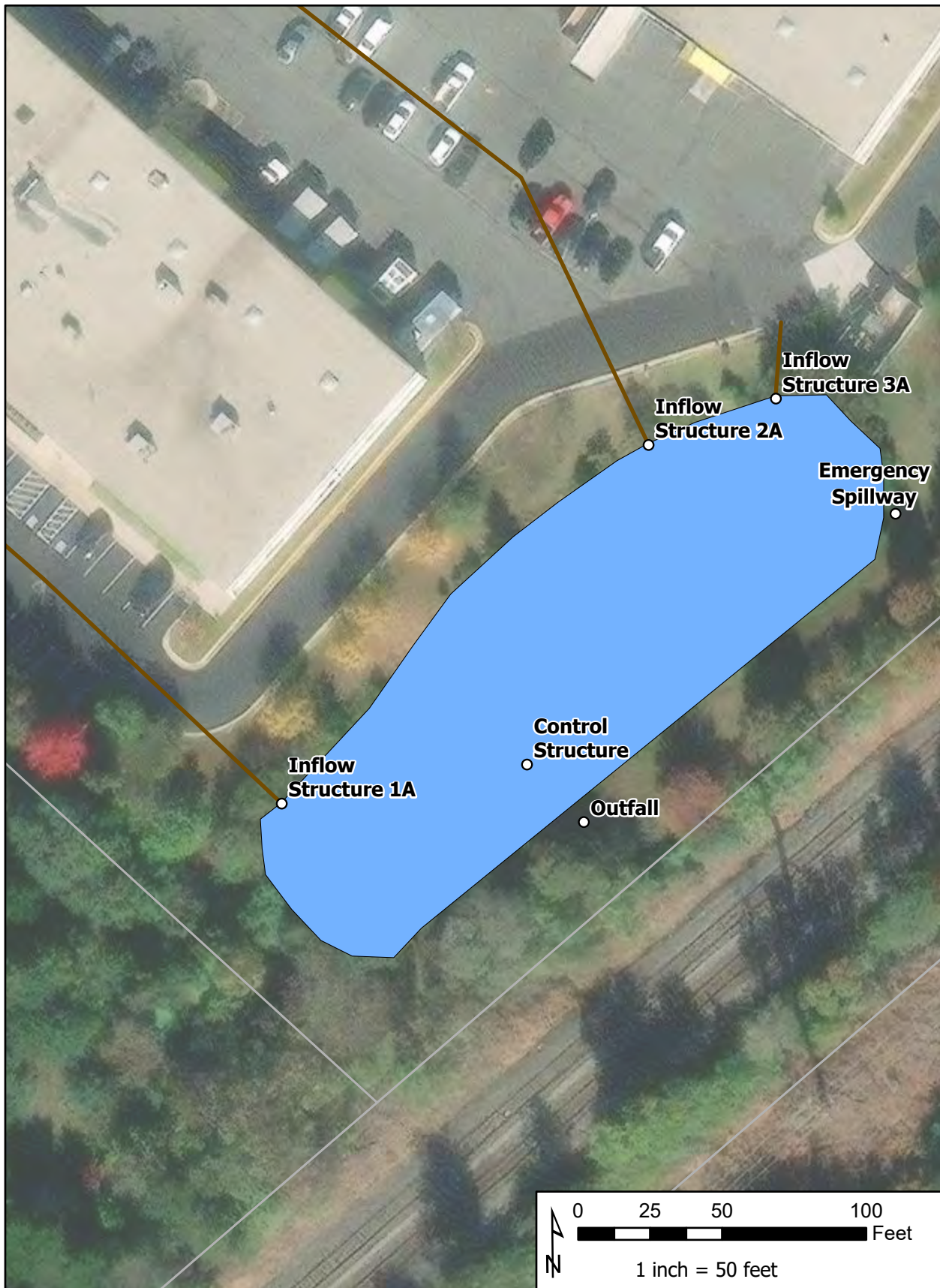




Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam Embankment (Includes emergency spillway if applicable)			
1	Woody vegetation on embankment		
1	Shrubbery, low growing vegetation, and/or vine material growing on embankment		
1	Sparse vegetative coverage		
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
1	Evidence of nuisance animals		
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Outlet/Riser Structure			
1	Low-flow orifice is blocked		
1	BMP device is deteriorated, misaligned, and/or damaged		
1	BMP device is missing		
1	Low-level gate drain is accessible and operational. Drain has been exercised in last three years.		
1	Trash, debris, or other material in BMP device		
Principal Spillway Pipe			
1	Spillway is blocked by debris or sediment		
3	Evidence of leaking joints	Joint separation was observed in the PSP adjacent to the outfall (5.50 Linear Feet).	2818
1	One or more sections of the pipe have settled to the point that it threatens the integrity of the dam		
Impoundment Area and Side Slopes			
3	Buildup of trash and debris	Trash was observed on the Northern bank of the facility (0.15 Cubic Yards).	2834, 2835
1	Silt and sedimentation buildup		
1	Ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic vegetation, or turbidity)		
1	Signs of erosion along shoreline		
1	Low-flow ditch is clogged with sediment/debris		
1	Sections of low-flow ditch are cracked or showing signs of undercutting		
1	Sparse vegetation or erosion		
1	Evidence of nuisance animals		
Outfall Structure and Channel			
1	Outflow is causing undercutting or erosion		
1	Outfall structure has separated more than three inches from principal spillway barrel		
1	Outfall structure is damaged or rusting		
1	Woody vegetation growing within 5' of outlet and barrel		
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		

Facility ID: STMF0090650
Facility Name: Kao Euclid Ave

Inspection Date: 04/11/2023





2816: Control Structure 1, Overall.



2817: Outfall, front.



2818: Inside the Outfall. Damage to inlet pipe or structure (Routine Maintenance Needed).



2819: From the Outfall, looking downstream.



2820: Dam Overall.



2821: Facility Overall.



2822: Facility Overall.



2823: Looking upstream from the Emergency Spillway.



2824: Looking downstream along the Emergency Spillway.



2825: Inflow Structure 3A, front.



2826: Inside Inflow Structure 3A.



2827: From Inflow Structure 3A, looking downstream. Buildup of trash, debris, and sediment (Routine Maintenance Needed).



2828: Inflow Structure 2A, closeup. Woody growth around inflow structure (Routine Maintenance Needed).



2829: Inside Inflow Structure 2A.



2830: From Inflow Structure 2A, looking downstream.



2831: Inflow Structure 1A, Overall. Woody growth around inflow structure (Routine Maintenance Needed).



2832: Inside Inflow Structure 1A.



2833: From Inflow Structure 1A, looking downstream. Woody growth around inflow structure (Routine Maintenance Needed).



2834: Facility Overall. Buildup of trash and debris (Routine Maintenance Needed).



2835: Facility Overall. Buildup of trash and debris (Routine Maintenance Needed).

NON-ROUTINE MAINTENANCE COST ESTIMATE

00XX / 00XXXX

FY2023 Public BMP Inspections

Date of Inspection: xx/xx/2023

Date of Estimate: xx/xx/2023

Estimate Prepared by: GKY



ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
1	Mowing / Clearing (includes removal & proper disposal of all woody stock, brush, & trees up to 2-inch diameter)		0.1 acre	\$ 74.00	\$ -
2	Pond Control Structure/Riser Clearing (includes removal & disposal of trash, debris, floatables, & other material from directly around and on top of the control structure/riser)		CY	\$ 30.00	\$ -
3	Pond Low-Flow Channel Clearing (25' Radius) (includes removal & disposal of trash, debris, floatables, & other material from pond channels & trash rack within 25' radius of control structure/riser)		EA	\$ 181.00	\$ -
4	Shoreline Clean-Up (includes removal & disposal of trash & debris from 15' of wet side and 15' of dry side of WSE)		0.1 acre	\$ 750.00	\$ -
5	Trash/Debris Removal & Disposal	0.15	CY	\$ 164.00	\$ 24.60
6	Repair/Replace Facility Sign		EA	\$ 247.00	\$ -
7	Repair/Replace Facility Sign and Post Installation		EA	\$ 329.00	\$ -
16	Hydroseeder (400 - 600 Gallon) with Upland Seed Mix		HR	\$ 217.00	\$ -
17	Hydroseeder (400 - 600 Gallon) with Wetland Seed Mix		HR	\$ 411.00	\$ -
18	Hydroseeder (400 - 600 Gallon) w/ Co. Supplied Seed Mix		HR	\$ 90.00	\$ -
29	Pond Low-Flow Channel Clearing (per 25') (includes removal & disposal of sediment, trash, debris, floatables, & other material using handheld equipment from the pond low-flow channel)		25 FT	\$ 156.00	\$ -
30	Tree Removal (2" to 6" DBH)	10.00	EA	\$ 1,316.00	\$ 13,160.00
31	Tree Removal (7" to 12" DBH)		EA	\$ 2,961.00	\$ -
32	Tree Removal (13" to 24" DBH)		EA	\$ 4,930.00	\$ -
33	Tree Removal (25" to 36" DBH)		EA	\$ 6,250.00	\$ -
34	Stump Removal & Grinding (up to 12")		EA	\$ 576.00	\$ -
39	Excavation of Sediment (includes removal & disposal of sediment from the bottom of the existing pond using mechanical means; assumed potentially hazardous waste)		CY	\$ 150.00	\$ -
40	Animal Burrow Repair		EA	\$ 1,316.00	\$ -
53	VDOT Class I Rip-Rap with Fabric Liner		TON	\$ 156.00	\$ -
54	VDOT Class II Rip-Rap with Fabric Liner		TON	\$ 176.00	\$ -
58	Concrete Removal and Disposal		SF	\$ 39.00	\$ -
59	Grouting Cracks and Joints	5.50	LF	\$ 189.00	\$ 1,039.50
62	Parging (per 50lb bag)		EA	\$ 452.00	\$ -
70	Seed Mix (includes straw mulch and water)		0.1 acre	\$ 286.00	\$ -
79	Topsoil (3")		CY	\$ 74.00	\$ -
N/A	Remove & Dispose of Sediment / Debris from Inside Drainage Structures and Pipes	8.00	CF	\$ 30.00	\$ 240.00
N/A	Install Grouted Class I Rip-Rap		SY	\$ 90.00	\$ -
N/A	Install Grouted Class II Rip-Rap		SY	\$ 141.00	\$ -
N/A	Fabricate & Install Low-Flow BMP Plate		EA	\$ 500.00	\$ -
N/A	Fabricate & Install Low-Flow Trash Rack		EA	\$ 500.00	\$ -
N/A	Install HR-2 Handrail		LF	\$ 100.00	\$ -
N/A	Install Access Road Gate		EA	\$ 2,100.00	\$ -
N/A	Install Post and Cable Barrier		EA	\$ 750.00	\$ -
N/A	Install Removable Locking Bollard		EA	\$ 950.00	\$ -

Sub-Total = \$ 14,464.10

Mobilization (5%) = \$ 723.21

Cost Estimate is for reference purposes only.

Actual contractor costs may vary.

Total Estimated Cost = \$ 15,187.31



Constructed Wetland Inspection Report					
Facility Name	Winters Branch Wetland	Facility ID	STMF0091650	Type of Inspection: Initial Inspection	
Location	Lat: 38.742152 Long: -77.490318	Watershed	Rocky Branch-Broad Run	Previous 48 Hour Precipitation Total	0.35"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/ Owner's Representative	City of Manassas
Inspectors	gky_mfreeman	Date of Inspection	6/29/2023	Date of Last Inspection	1/22/2021
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
3	3	Routine Maintenance Needed	Facility is functional but preventative maintenance is required. Examples includes vegetation management, minor erosion, or trash/debris removal.		
	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. <u>Repair Immediately</u>		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
Inspection Items					
Score	Description		Comment(s) / Corrective Action(s)	Reference Image	
Overall					
1	Inadequate access to complete thorough inspection				
1	Fences are damaged or have vegetation growing on them				
1	Missing or damaged safety signage				
1	Mosquitos				
1	Surrounding drainage area trash/debris/unauthorized substances that might affect facility				
1	Surrounding drainage area erosion that might be related to facility				
Forebay					
1	Buildup of trash or debris				
1	Signs of erosion or exposed soil				
1	Sediment in forebay has reached 50% or more of capacity				
1	Evidence of clogging				
3	Vegetation does not match original design		Cattails were observed growing in the Forebay when no vegetation was called for in the plans (700 Square Feet).	4967, 4973	
Inlet					
1	Buildup of trash, debris, and sediment				
1	Evidence of clogging				
1	Evidence of erosion or undermining around inlet				
1	Woody growth around inlet structure				
1	Evidence of nuisance animals				
1	Damage to inlet pipe or structure				



Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam Embankment (Includes emergency spillway if applicable)			
1	Woody vegetation on embankment		
1	Shrubbery, low growing vegetation, and/or vine material growing on embankment		
1	Sparse vegetative coverage		
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
1	Evidence of nuisance animals		
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Outlet/Riser Structure			
1	Low-flow orifice is blocked		
1	BMP device is deteriorated, misaligned, and/or damaged		
1	BMP device is missing		
1	Low-level gate drain is accessible and operational. Drain has been exercised in last three years.		
1	Trash, debris, or other material in BMP device		
Principal Spillway Pipe			
1	Spillway is blocked by debris or sediment		
1	Evidence of leaking joints		
1	One or more sections of the pipe have settled to the point that it threatens the integrity of the dam		
Impoundment Area and Side Slopes			
1	Buildup of trash and debris		
1	Silt and sedimentation buildup		
1	Ponding area is showing signs of poor health (i.e. nutrient overload, excess aquatic vegetation, or turbidity)		
1	Signs of erosion along shoreline		
1	Sparse vegetation or erosion		
1	Evidence of nuisance animals		
Outfall Structure and Channel			
1	Outflow is causing undercutting or erosion		
1	Outfall structure has separated more than three inches from principal spillway barrel		
1	Outfall structure is damaged or rusting		
1	Woody vegetation growing within 5' of outlet and barrel		
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		
Wetland Habitat			
1	Buildup of trash, debris, and sediment		
3	Undesired Vegetation (Cattails/Phragmites)	Cattails were observed throughout the wetland habitat (3650 Square Feet).	4983, 4984, 4985, 4987, 4989, 4993
1	Overgrown with Vegetation, woody shrubs		
1	Inconsistent with plans		

Facility ID: STMF0091650
Facility Name: Winters Branch Wetland

Inspection Date: 06/29/2023





4962: Control Structure, Overall.



4963: Control Structure, Overall.



4964: Control Structure, Overall.



4965: From the Control Structure, looking upstream.



4966: From the Control Structure, looking downstream.



4967: Forebay Overall. Vegetation does not match the original design (Routine Maintenance Needed).



4968: Forebay Overall.



4969: Forebay Overall.



4970: Facility Overall.



4971: Facility Overall.



4972: Sign, closeup.



4973: Forebay Overall. Vegetation does not match the original design (Routine Maintenance Needed).



4974: Forebay Overall.



4975: Forebay Overall.



4976: Facility Overall.



4977: Forebay Overall.



4978: Forebay Overall.



4979: Facility Overall.



4980: Looking upstream along Inflow 1.



4981: From Inflow 1, looking downstream.



4982: Facility Overall.



4983: Wetland habitat, Overall. Undesired Vegetation (Cattails/Phragmites) (Routine Maintenance Needed).



4984: Wetland habitat, Overall. Undesired Vegetation (Cattails/Phragmites) (Routine Maintenance Needed).



4985: Looking upstream into the Wetland Habitat. Undesired Vegetation (Cattails/Phragmites) (Routine Maintenance Needed).



4986: From the Wetland Habitat, looking downstream toward the Forebay.



4987: Facility Overall. Undesired Vegetation (Cattails/Phragmites) (Routine Maintenance Needed).



4988: Facility Overall.



4989: Wetland habitat, Overall. Undesired Vegetation (Cattails/Phragmites) (Routine Maintenance Needed).



4990: Facility Overall.



4991: Looking upstream along Inflow 2.



4992: From Inflow 2, looking downstream.



4993: Facility Overall. Undesired Vegetation (Cattails/Phragmites) (Routine Maintenance Needed).



NON-ROUTINE MAINTENANCE COST ESTIMATE

STMF0091650 / Winters Branch Wetland

FY2023 Public BMP Inspections

Date of Inspection: 06/29/2023

Date of Estimate: 09/06/2023

Estimate Prepared by: GKY

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
1	Mowing / Clearing (includes removal & proper disposal of all woody stock, brush, & trees up to 2-inch diameter)		0.1 acre	\$ 74.00	\$ -
2	Pond Control Structure/Riser Clearing (includes removal & disposal of trash, debris, floatables, & other material from directly around and on top of the control structure/riser)		CY	\$ 30.00	\$ -
3	Pond Low-Flow Channel Clearing (25' Radius) (includes removal & disposal of trash, debris, floatables, & other material from pond channels & trash rack within 25' radius of control structure/riser)		EA	\$ 181.00	\$ -
4	Shoreline Clean-Up (includes removal & disposal of trash & debris from 15' of wet side and 15' of dry side of WSE)	0.10	0.1 acre	\$ 750.00	\$ 75.00
5	Trash/Debris Removal & Disposal		CY	\$ 164.00	\$ -
6	Repair/Replace Facility Sign		EA	\$ 247.00	\$ -
7	Repair/Replace Facility Sign and Post Installation		EA	\$ 329.00	\$ -
16	Hydroseeder (400 - 600 Gallon) with Upland Seed Mix		HR	\$ 217.00	\$ -
17	Hydroseeder (400 - 600 Gallon) with Wetland Seed Mix		HR	\$ 411.00	\$ -
18	Hydroseeder (400 - 600 Gallon) w/ Co. Supplied Seed Mix		HR	\$ 90.00	\$ -
29	Pond Low-Flow Channel Clearing (per 25') (includes removal & disposal of sediment, trash, debris, floatables, & other material using handheld equipment from the pond low-flow channel)		25 FT	\$ 156.00	\$ -
30	Tree Removal (2" to 6" DBH)		EA	\$ 1,316.00	\$ -
31	Tree Removal (7" to 12" DBH)		EA	\$ 2,961.00	\$ -
32	Tree Removal (13" to 24" DBH)		EA	\$ 4,930.00	\$ -
33	Tree Removal (25" to 36" DBH)		EA	\$ 6,250.00	\$ -
34	Stump Removal & Grinding (up to 12")		EA	\$ 576.00	\$ -
39	Excavation of Sediment (includes removal & disposal of sediment from the bottom of the existing pond using mechanical means; assumed potentially hazardous waste)		CY	\$ 150.00	\$ -
40	Animal Burrow Repair		EA	\$ 1,316.00	\$ -
53	VDOT Class I Rip-Rap with Fabric Liner		TON	\$ 156.00	\$ -
54	VDOT Class II Rip-Rap with Fabric Liner		TON	\$ 176.00	\$ -
58	Concrete Removal and Disposal		SF	\$ 39.00	\$ -
59	Grouting Cracks and Joints		LF	\$ 189.00	\$ -
62	Parging (per 50lb bag)		EA	\$ 452.00	\$ -
70	Seed Mix (includes straw mulch and water)		0.1 acre	\$ 286.00	\$ -
79	Topsoil (3")		CY	\$ 74.00	\$ -
N/A	Remove & Dispose of Sediment / Debris from Inside Drainage Structures and Pipes		CF	\$ 30.00	\$ -
N/A	Install Grouted Class I Rip-Rap		SY	\$ 90.00	\$ -
N/A	Install Grouted Class II Rip-Rap		SY	\$ 141.00	\$ -
N/A	Fabricate & Install Low-Flow BMP Plate		EA	\$ 500.00	\$ -
N/A	Fabricate & Install Low-Flow Trash Rack		EA	\$ 500.00	\$ -
N/A	Install HR-2 Handrail		LF	\$ 100.00	\$ -
N/A	Install Access Road Gate		EA	\$ 2,100.00	\$ -
N/A	Install Post and Cable Barrier		EA	\$ 750.00	\$ -
N/A	Install Removable Locking Bollard		EA	\$ 950.00	\$ -

Sub-Total = \$ 75.00

Mobilization (5%) = \$ 3.75

Cost Estimate is for reference purposes only.

Actual contractor costs may vary.

Total Estimated Cost = \$ 78.75



Infiltration Trench Inspection Report					
Facility Name	Metz Middle School 1	Facility ID	STMF0092392	Type of Inspection: Initial Inspection	
Location	Lat: 38.729216 Long: -77.471337	Watershed	Rocky Branch-Broad Run	Previous 48 Hour Precipitation Total	0.35"
Materials available for inspection	N/A	Owner Notification Date	N/A	Owners/ Owner's Representative	City of Manassas
Inspectors	gky_mfreeman	Date of Inspection	6/28/2023	Date of Last Inspection	4/19/2021
Overall Condition Score					
	1	Adequate	No deficiencies identified.		
	2	Monitor	No maintenance may be needed at the time, but might become an issue in the future. Will revisit next inspection. Examples include minor erosion, small sediment accumulation, or small structural issues of facility components.		
	3	Routine Maintenance Needed	Facility is functional but preventative maintenance is required. Examples includes vegetation management, minor erosion, or trash/debris removal.		
4	4	Immediate Repair Needed	Facility is close to or currently not carrying out intended function. Examples include major erosion, significant sediment accumulation , or structural component failure. <u>Repair Immediately</u>		
	N/A	Not Applicable	Does not pertain to this facility.		
Remarks					
Inspection Items					
Score	Description		Comment(s) / Corrective Action(s)	Reference Image	
Overall					
1	Inadequate access to complete thorough inspection				
1	Fences are damaged or have vegetation growing on them				
1	Missing or damaged safety signage				
3	Surrounding drainage area trash/debris/unauthorized substances that might affect facility		Turf mats were observed obstructing portions of the facility.	4589	
1	Surrounding drainage area erosion that might be related to facility				
Surface Trench Components					
Gravel Bed Surface					
1	Trench Eliminated				
1	Gravel Not Found Under Turf				
1	Gravel Footprint				
1	Condition of Grass or Fabric				
1	Signs of erosion or exposed soil				
4	Evidence of clogging		Sediment accumulation and vegetation were observed in the trench area.	4583, 4584, 4587, 4588, 4590	
1	Filter Fabric Needs Repair				
Observation Well/ Cleanout (s)					
1	Missing/ Not Found				
1	Cap Missing/ Stuck				
1	Water/ Sediment Observed in Well				



Score	Description	Comment(s) / Corrective Action(s)	Reference Image
Dam/Berm and Emergency Spillway			
1	Woody vegetation on embankment		
1	Shrubby, low growing vegetation, and/or vine material growing on embankment		
1	Sparse vegetative coverage		
1	Signs of erosion, settlement, piping, or slope slippage		
1	Signs of seepage, soft spots, and sinkhole formation		
1	Evidence of nuisance animals		
1	Buildup of trash or debris on embankment		
1	Trash, debris, or obstructions in emergency spillway		
Surface Inflow and Roof Drains			
1	Evidence of Blockage		
1	Signs of Erosion		
1	Buildup of trash or debris		
1	Shrubby, low growing vegetation, and/or vine material growing around inflow		
Pre-Treatment and Energy Dissipators			
1	Structures missing, non functional, or inconsistent with plan		
1	Evidence of deterioration or damage		
1	Buildup of trash, debris, and sediment		
Underground Trench Component			
Control Structure			
1	Buildup of trash and debris		
1	Evidence of standing water or blockage		
1	Silt and sedimentation buildup		
1	Missing or nonfunctional structures: low flow orifice and trash rack, higher flow orifice/ weir, and outlet pipe		
1	Signs of erosion around structures		
Detention Pipe/ Vault			
1	Evidence of standing water or blockage		
1	Buildup of trash, debris, or sedimentation		
1	Evidence of spalling or deterioration		
1	Separation or misalignment of detention pipe		
Outfall Structure/ Other			
Outfall Structure and Channel			
1	Outfall structure is damaged or rusting		
1	Woody vegetation growing within 5' of outlet and barrel		
1	Buildup of trash, debris, and sediment around outfall or in channel		
1	Signs of erosion around outfall or channel		

Facility ID: STMF0092392
Facility Name: Metz Middle School 1

Inspection Date: 06/28/2023





4582: Facility Overall.



4583: Close-up showing the Gravel Detail. Evidence of clogging (Immediate Repair Needed).



4584: Another close-up showing the Gravel Detail. Evidence of clogging (Immediate Repair Needed).



4585: Facility Overall.



4586: Facility Overall.



4587: Another close-up showing the Gravel Detail. Evidence of clogging (Immediate Repair Needed).



4588: Another close-up showing the Gravel Detail. Evidence of clogging (Immediate Repair Needed).



4589: Encroachment overall. Storage observed within the facility (Immediate Repair Needed).



4590: Infiltration Trench Surface. Overgrown Vegetation Present (Immediate Repair Needed).



4591: Overland Inflow, overall.



4592: Overland Inflow, overall.



4593: Overland Inflow, overall.



4594: Overland Inflow, overall.



4595: Overland Inflow, overall.



4596: Berm Overall.



4597: Berm Overall.



4598: Control Structure I-29-017, top.



4599: Inside Control Structure I-29-017.



4600: Inside Control Structure I-29-017, looking upstream along the Northern underdrain. Debris observed within the underdrain (Immediate Repair Needed).



4601: Inside Control Structure I-29-017, upstream toward the Southern underdrain.



4602: Inside Control Structure I-29-017, looking upstream.



4603: Inside Control Structure I-29-017, looking downstream.



4604: Outfall Structure E9-EW-1, front.



4605: Inside Outfall Structure E9-EW-1.



4606: From Outfall Structure E9-EW-1, looking downstream.