ANNUAL REPORT UPDATE

Reporting Period
1 July 2023 to 30 June 2024 (Due 1 October 2024)

Arlington National Cemetery

1 Memorial Drive
Arlington, VA 22211

VPDES Permit Number: VAR40139
Permit Effective Date: November 1, 2023
Permit Expiration Date: October 31, 2028

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DRAFT – MS4 ANNUAL REPORT

Arlington National Cemetery
Arlington, Virginia

Prepared for:

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Arlington National Cemetery
1 Memorial Avenue
Arlington, VA 22211

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Submitted: September 2024

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General Information

Permittee: Arlington National Cemetery
System Name: Arlington National Cemetery
Permit Number: VPDES Permit VAR40139
Reporting Period: 1 July 2023 to 30 June 2024

Authorized Program Signature Certification

Certification, as required by Virginia Administrative Code (9VAC25-890-40)[1]:

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

Name: WIKER.ANDREW.JACOB.1059327182 Digitally signed by WIKER.ANDREW.JACOB.1059327182 Date: 2024.09.30 13:34:39 -04'00'

Title: Colonel, Director of Engineering, Arlington National Cemetery

Date: 30 September 2024

[1]For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this chapter, a principal executive officer of a public agency includes: (1) The chief executive officer of the agency, or (2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

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1.0 INTRODUCTION

Arlington National Cemetery (ANC) submits this Annual Report in accordance with the General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s) (9 Virginia Administrative Code [VAC] 25-890-1, et seq.) Part I D. The Annual Report contains an evaluation of ANC's MS4 program implementation, a review of each minimum control measure, and the status of the Total Maximum Daily Load (TMDL) Action Plan.

Each section below describes the effectiveness of ANC's MS4 program and a discussion of whether or not ANC must update the MS4 Program Plan.

2.0 MINIMUM CONTROL MEASURE REPORTING AND EVALUATION

2.1 Public Education and Outreach

(1) ANC addressed the following high-priority stormwater issues in the public education and outreach program:		
Illicit Discharge Detection and Elimination; Good Housekeeping; Minimizing Potential Pollutants		
(2) ANC used the following strategies to communicate each high-priority stormwater issue:		
Strategies	**Strategies used by ANC (check all used during permit year)**	**Issue addressed**
Traditional written materials	☒ Informational brochures and flyers (English and Spanish)	ANC prepared information brochures during previous reporting years. Brochures continue to be distributed each year to new employees as well as Joint Base Myers-Henderson Hall (an interconnected MS4). This information addresses illicit discharge detection and elimination and good housekeeping. **Appendix A-1** contains supporting documentation.
	☒ Flyers posted in employee common areas (e.g., break rooms, restrooms, information bulletin boards)	ANC posts MS4 flyers on bulletin boards by breakrooms and in hallways. These flyers focus on good housekeeping and minimizing potential pollutants.
	☒ Facility-wide emails or newsletters	ANC distributed the DoD Chesapeake Bay Program Journal, Summer 2024 Edition electronically to DoD employees. This edition included an article (p. 4) discussing ANC's Memorial Arboretum tour for Earth Day. The tour focused on ANC's MS4 program, their BMPs, and educated attendees on how BMPs minimize potential pollutants. **Appendix A-2** contains supporting documentation.
Alternative materials	☐ Printed water bottles for employees	
	☐ Stickers or magnets distributed at employee training events and/or tours for the visiting public	

Signage	☐ Mark storm drains with "Dump No Waste Drains to Chesapeake Bay"	**No new drains were marked this year**; however, ANC's road projects include a standard inlet style to include "Dump No Waste Drains to Chesapeake Bay." These markings support ANC's goals of eliminating illicit discharges and minimizing potential pollutants. **Appendix A-3** contains supporting documentation.
	☐ Signs posted in employee common areas (e.g., break rooms, restrooms, information bulletin boards)	
	☐ Temporary signs at construction sites highlighting new stormwater management facilities or strategies	
Media materials	☒ Information disseminated through electronic media, radio, televisions, movie theater, or newspaper	Since 2019, ANC has distributed informational videos about rain gardens and sustainable practices at ANC on its website and social media sites. These videos describe the importance of ANC's rain gardens for capturing and filtering pollutants in stormwater runoff. The videos support ANC's goal of minimizing potential pollutants. Link to rain garden video: https://www.youtube.com/watch?v=Z4I4Zdr6cC8 Link to sustainable practices video: https://www.youtube.com/watch?v=rd0ISNFPTyI ANC uses their official social media pages on Facebook, Instagram, X, and Flickr to promote general environmental awareness and ANC's initiatives. ANC shared posts promoting Clean the Bay Day, Earth Day, and Arbor Day and announcing their Arboretum tours. Examples of social media posts are included in **Appendix A-4**. This information supports ANC's goals of minimizing potential pollutants.

Speaking engagements	☒ Host educational arboretum and rain garden tours and events for the visiting public and distribute brochures to attendees	ANC hosted five public walking tours focused on horticulture and the Arboretum. The Earth Day tour included information about ANC's rain gardens and supported ANC's goal of minimizing potential pollutants. ANC announced tour dates on social media and linked to a post on their website. An example, of the tour announcement post on X is provided in **Appendix A-5**.
Curriculum materials	☒ Host educational arboretum and rain garden tours and events geared toward visiting children and school groups	ANC prepared "The Environment at ANC" educational modules, with materials available for download from ANC's Education Program website. There are lesson plans for elementary, middle, and high school students related to landscape management and design, and seasonal guides to the Arboretum. Specifically, the Designing a Cemetery module includes a lesson on designing a cemetery section. This lesson discusses the importance of stormwater management systems and minimizing pollutants in runoff. A copy of the Designing a Cemetery module is provided in **Appendix A-6**. ANC announced these materials on their website and through links posted on social media. Link to educational materials: https://education.arlingtoncemetery.mil/Themes/The-Environment-at-ANC
Training materials	☒ Employee training presentations focused on stormwater management, spill response, recognition and reporting of illicit discharges, good housekeeping, and pollution prevention	Section 2.6 discusses training. ANC maintains a stormwater training presentation. Training was conducted using existing training materials during this reporting period. Training addressed all three high-priority stormwater issues.

MCM 1 Review and Evaluation Public Education and Outreach				
BMP	**Measurable Goal**	**Evaluation results**	**If not effective, provide discussion of MS4 Program Plan changes required**	**High-priority Stormwater Issue Addressed**
Informational brochures or flyers	Number of brochures or flyers distributed	☒ Effective ☐ Not Effective	N/A	☒ Illicit Discharge Detection and Elimination ☒ Good Housekeeping ☐ Minimizing Potential Pollutants
Facility-wide emails or newsletters	Number of people reached via email	☒ Effective ☐ Not Effective	N/A	☐ Illicit Discharge Detection and Elimination ☐ Good Housekeeping ☒ Minimizing Potential Pollutants
Information disseminated through social media posts and ANC website	Number of people reached	☒ Effective ☐ Not Effective	N/A	☐ Illicit Discharge Detection and Elimination ☐ Good Housekeeping ☒ Minimizing Potential Pollutants
Host educational tours for the visiting public	Number of tours and attendees	☒ Effective ☐ Not Effective	N/A	☐ Illicit Discharge Detection and Elimination ☐ Good Housekeeping ☒ Minimizing Potential Pollutants
Host educational tours and events for school groups	Number of tours and attendees	☒ Effective ☐ Not Effective	N/A	☐ Illicit Discharge Detection and Elimination ☐ Good Housekeeping ☒ Minimizing Potential Pollutants
Training Materials	Number of people trained	☒ Effective ☐ Not Effective	N/A	☒ Illicit Discharge Detection and Elimination ☒ Good Housekeeping ☒ Minimizing Potential Pollutants

2.2 Public Involvement and Participation

(1) Summary of public input on ANC's MS4 program	
Public Input Comment	**ANC's Response**
Any public input or comments on MS4 program via email, phone, or in-person?	None
(2) Webpage link to the ANC's MS4 program and stormwater website:	
ANC MS4 Program documents are available to the public in on its website: https://www.arlingtoncemetery.mil/About/Policies-and-Public-Notices/Public-Notices	

(3) Public involvement activity implemented	(4) Metric to determine if beneficial to water quality	(4) Evaluation of metric as to whether or not the activity is beneficial to improving water quality	(5) Other MS4 permittees who participated with ANC in public involvement opportunities
Clean the Bay Day Event	Number of participants	On 13 June 2024, Army National Military Cemeteries employees participate in the Clean the Bay event around the Southern Expansion Site. This improves water quality by preventing pollutants and debris from entering the stormwater system. Approximately 150 pounds of trash and recyclables were collected and sorted. Event photos are in **Appendix B**.	Joint Base Myer-Henderson Hall, Pentagon
MS4 and Pollution Prevention Tours	Number of participants	ANC presented two tours to people interested in learning about ANC's goal of minimizing pollutants in stormwater. Ten people attended the first tour and seven attended the second.	None

MCM 2 Review and Evaluation Public Involvement and Participation			
BMP	**Measurable Goal**	**Evaluation results**	**If not effective, provide discussion of MS4 Program Plan changes required**
Voluntary Clean-up Days	Number of participants	☒ Effective ☐ Not Effective	N/A
MS4 and Pollution Prevention Tours	Number of participants	☒ Effective ☐ Not Effective	N/A

2.3 Illicit Discharge Detection and Elimination

(1) ANC confirms that the MS4 map and information table are up-to-date as of June 30 of this reporting year.	☒ Confirm ☐ Not Confirmed, ANC will update the MS4 map
(2) ANC performed dry weather screening of outfalls during the reporting period, as part of the dry weather screening program. ANC performs dry weather field screening of all nine MS4 outfalls and interconnections annually. Several discharge points are underground or otherwise inaccessible, and screening occurs at the nearest upstream visible access point. Methods for completing the dry weather screenings include: • Observing outfall or upstream location identified in the MS4 Program Plan and documenting results. • If discharge observed: o Estimate flow rate o Test for chlorine o Look for visual characteristics (e.g., odor, color, clarity, floatables, deposits, stains, vegetation, structural condition, etc.) To investigate potential illicit discharges, ANC will: • Work progressively up from the outfall or interconnection and observe intakes; • Split the facility into equal drainage segments and investigate manholes at strategic points; and/or • Work progressively down the trunk.	Total Outfalls Screened 9 . **Appendix C** contains supporting documentation.

(3) List of illicit discharges to ANC's MS4 including spills reaching ANC's MS4

Source of the illicit discharge	Date		Discovery method of discharge	Investigation resolution(s)	Follow-up activities	Date investigation closed
	Observed	Reported				
Dry weather screenings detected one potential low-priority illicit discharge at OF8-SEC74. The water contained 0.08 mg/L of free chlorine, indicative of a potable water source. Allowable stormwater discharges under the MS4 Permit include landscape irrigation	10/26/2023	N/A	Visual inspection	N/A	Continue to periodically inspect outfall and determine if flow is still present.	N/A

and irrigation water, discharges from potable water sources including waterline flushing, and street wash water. The team did not observe these conditions in the immediate vicinity of the outfall; however, they are common sources of dry weather flow observed historically. **Appendix C** contains spill reporting documentation.						

MCM 3 Review and Evaluation Illicit Discharge Detection and Elimination			
BMP	**Measurable Goal**	**Evaluation results**	**If not effective, provide discussion of MS4 Program Plan changes required**
Update MS4 storm sewer system map and informational table	Accuracy of ANC's storm sewer system map and information table	☒ Effective ☐ Not Effective	N/A
Perform dry weather screening of MS4 outfalls	Number of dry-weather inspections	☒ Effective ☐ Not Effective	N/A
Implement IDDE written procedures when illicit discharges or spills are reported	Number of illicit discharges reported, investigated, and corrected, if needed	☒ Effective ☐ Not Effective	N/A

2.4 Construction Site Stormwater Runoff Control

(1) ANC requires contractors to implement a construction site stormwater runoff program in accordance with the MS4 General Permit Part I E 4 a (3) and (4). ANC, as a federal entity, has not developed their own standards and specifications in accordance with Virginia Erosion and Sediment Control Law (§ 62.144.15:51 et seq. of the Code of Virginia) and Virginia Erosion and Sediment Control Regulations (9VAC25-840). ANC requires contractors to perform inspections for land-disturbing activities as defined in § 62.144.15:51 of the Code of Virginia resulting in disturbance activities greater than 2,500 square feet.	☐ NA, ANC did not conduct land disturbing activities during the reporting period ☒ Confirmed ☐ Not Confirmed (see below) The Southern Expansion project is the only land-disturbing activity conducted at ANC during the reporting period; however, ANC will not take ownership of the property until the project is complete and the site is released to ANC. **Appendix D** contains a table listing ANC's Construction General Permits associated with Southern Expansion.
If one or more of ANC's land disturbing projects were not conducted with the department approved standards and specifications. Explain why the project(s) did not conform to the approved standards and specifications: All land disturbing projects at ANC occurring during the reporting period have been conducted in accordance with the current VDEQ approved standards and specifications for erosions and sediment control.	
(2) Total number of construction site inspections conducted during the reporting period at ANC:	Routine reports: 8 48-hour reports: N/A
(3) Total number of enforcement actions:	0

Number	Enforcement Action(s) Implemented	Type of Enforcement Action(s)
1	N/A	N/A
2	N/A	N/A
3	N/A	N/A

MCM 4 Review and Evaluation Construction Site Stormwater Runoff Control			
BMP	**Measurable Goal**	**Evaluation results**	**If not effective, provide discussion of MS4 Program Plan changes required**
Perform ESC inspections	Number of ESC inspections performed	☒ Effective ☐ Not Effective	N/A
Correct compliance issues when found or reported	Number of issues found and corrected	☒ Effective ☐ Not Effective	N/A

2.5 Post-Construction Stormwater Management for New Development and Development on Prior-Developed Lands

(1) ANC has not developed their own standards and specifications in accordance with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and Virginia Stormwater Management Regulations (9VAC25-870). ANC addresses post-construction stormwater runoff control by requiring compliance with 9VAC25-870.	
(2) Total number of stormwater management facility inspections conducted on stormwater management facilities owned or operated by ANC.	36 **Appendix E** contains Stormwater BMP inspection forms**.**
(3) Description of the significant activities performed on ANC's stormwater management facilities to ensure they continue to perform as designed. (This does not include activities such as grass mowing or trash collection.)	
Underground manufactured treatment devices (MTD) STC-7 and STF-2 were cleaned in June 2024. ANC has an active contract to provide quarterly and bi-annual cleaning of these BMPs. ANC has contracted the cleaning of STC-9 in FY24.	
(4) Confirmation Statements (confirm one)	
☒	ANC submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which ANC was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part I E 5 f.
☐	ANC did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities.
(5) ANC electronically reported BMPs using the VDEQ BMP Warehouse in accordance with Part I E 5 g.	☒ Yes Date submitted: _9/27/2023__ ☐ NA

MCM 5 Review and Evaluation Post-Construction Stormwater Management for New Development and Development on Prior-Developed Lands			
BMP	**Measurable Goal**	**Evaluation results**	**If not effective, provide discussion of MS4 Program Plan changes required**
Inspect stormwater management facilities	Number of stormwater management facility inspections performed	☒ Effective ☐ Not Effective	N/A
Submit stormwater facility database updates to VDEQ	Submit stormwater facility database updates to VDEQ when facilities are added or retrofitted	☒ Effective ☐ Not Effective	N/A

2.6 Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by ANC

(1) Summary of any daily operational procedures developed or modified in accordance with Part I E 6 a during this reporting period:
N/A. **Appendix F** includes SWPPP inspection forms.
(2) Summary of any new SWPPPs developed in accordance Part I E 6 c during this reporting period:
N/A
(3) Summary of any SWPPPs modified in accordance with Part I E 6 f during the reporting period:
ANC's SWPPP was updated in August 2024 and is included in the MS4 Program Plan as a stand-alone document presented in Appendix E of the plan. The SWPPP was modified to include aboveground storage tanks at the Contractor Storage Area. The Contractor Storage Area was previously included as a high-priority area covered by the SWPPP; however, the tanks were added.
(4) Summary of any new turf and landscape nutrient management plans developed:

Location of each land area in nutrient management plan	**Total Acreage of land area**	**Date of plan approval**
No new turf and landscape NMPs were prepared during this reporting cycle.		

(5) Training events conducted in accordance with Part I E 6 m	**(a) The date of the training event**	**(b) Number of employees attending**	**(c) Objective of the training event.**
Quarterly Stormwater Awareness Training for ANC Newcomers	November 2023 February 2024 May 2024	All newly hired staff	Stormwater Awareness Training, Handouts, and Slides cover the following topics: • Recognition and reporting of illicit discharges • Pollution prevention and good housekeeping associated with road, street, and parking lot maintenance • Pollution prevention and good housekeeping associated with maintenance, public works, or recreational facilities • General stormwater topics, and • Spill response. **Appendix F-2** includes stormwater training slides.
Quarterly Stormwater Slides for ANC Town Hall	May 2024	All staff	
Stormwater Handouts for Custodial Personnel	Handouts placed in breakroom	5	

MCM 6 Review and Evaluation Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by ANC			
BMP	**Measurable Goal**	**Evaluation results**	**If not effective, provide discussion of MS4 Program Plan changes required**
NMP Plan implementation	NMP effectiveness	☒ Effective ☐ Not Effective	N/A
SWPPP implementation	SWPPP effectiveness at preventing illicit discharges and promoting good housekeeping	☒ Effective ☐ Not Effective	ANC will investigate compiling SWPPPs into single document following completion of relocation of the service center and southern expansion project (estimated for completion by 2029).
Training program events	Number of attendees at training program events	☒ Effective ☐ Not Effective	N/A

3.0 TMDL ACTION PLAN STATUS REPORT

a. BMPs implemented at ANC during the reporting period but not reported to the VDEQ BMP Warehouse in accordance with Part I E 5 g

BMP Type	Location	Total Load Reductions (lbs/yr)	
		Nitrogen	Phosphorus
Underground Infiltration System (INF-1)	38.886156, -77.065563	214.47	13.06
Proprietary Stormwater Treatment Device (STC-8)	38.881948, -77.075228	5.72	0.86

No new BMPs were implemented or installed during this reporting period. ANC identified two BMPs that were not listed in the Warehouse. These were uploaded 27 September 2023.

b. ANC will meet all required reductions during each reporting period of the permit as shown in its TMDL Action Plan dated September 2023 and will not acquire credits.

ANC updated the Chesapeake Bay TMDL Action Plan in September 2023. The Final General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater, dated 8 February 2023, removed the reduction requirements for TSS for permit cycle 2023 to 2028. The TMDL Action Plan was updated to meet the proposed requirements under 9 VAC 25-890, Part II A and only addresses phosphorus and nitrogen. References to TSS reductions were removed during this update.

ANC has met and exceeded the required 100% reduction of pollutants of concern required by the end of the third permit cycle.

c. ANC meets and exceeds the reductions for total nitrogen and total phosphorus required during this permit term as demonstrated in its TMDL Action Plan. The table below summarizes ANC's pollutant reduction achievements.

	First Permit Cycle	
Pollutant	**Reduction Required in 1st Permit Cycle (lbs/yr)**	**Total Reduction Achieved with BMPs (lbs/yr)**
Nitrogen	21.57	612.73
Phosphorus	1.74	315.25

	Second Permit Cycle	
Pollutant	**Reduction Required in 1st Permit Cycle (lbs/yr)**	**Total Reduction Achieved with BMPs (lbs/yr)**
Nitrogen	178.07	648.95
Phosphorus	14.53	173.26

	Third Permit Cycle	
Pollutant	**Reduction Required in 1st Permit Cycle (lbs/yr)**	**Total Reduction Achieved with BMPs (lbs/yr)**
Nitrogen	445.18	893.99
Phosphorus	36.34	207.03

d. BMPs ANC plans to implement during the next reporting period.

BMP Type	Location
N/A	N/A

4.0 SUMMARY

ANC's MS4 program is effective based on BMPs implemented and measures of effectiveness used.

Appendix A

Public Education and Outreach Supporting Documentation

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Appendix A-1 - Informational Brochure

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What is Stormwater?

Stormwater (i.e., rain or snowmelt) flows over the ground and impervious surfaces, such as parking lots, roads, sidewalks, and rooftops instead of being absorbed into the ground.

Why is Stormwater Runoff a Problem?

As stormwater runoff flows over surfaces, it collects pollutants, such as trash, chemicals, nutrients, and sediment. This untreated runoff flows into storm drains that lead directly to rivers, streams, wetlands, or coastal waters. The runoff carries pollutants into the waterbodies we use for drinking, swimming, and fishing.

- Sediment can cloud the water, making it difficult for aquatic plants to grow.
- Excess nutrients from pesticides and fertilizers can cause algae blooms.
- Bacteria and other pathogens can create health hazards.
- Litter and debris can choke, suffocate, or disable aquatic life such as ducks, fish, crabs, and birds.
- Common pollutants like trash, pesticides, paint, solvents, and motor oil can poison animals and people.

According to the EPA, impervious surfaces in a typical city block generate more than 5x the runoff than a forested area the same size.

What Should I do if There is a Spill?

If the spill is life-threatening, immediately call 911, then the Environmental POC

If not life-threatening, immediately call the Environmental POC

If safe to do so:

- STOP THE FLOW OF PRODUCT
- WARN PERSONNEL
- PROTECT STORMWATER INLETS
- SHUT OFF IGNITION SOURCES
- INITIATE CONTAINMENT
- COMPLETE THE SPILL RESPONSE FORM AND SUBMIT IT TO THE ENVIRONMENTAL POC

What is an Illicit Discharge?

An illicit discharge is any discharge into a storm drain system that is not composed entirely of stormwater.

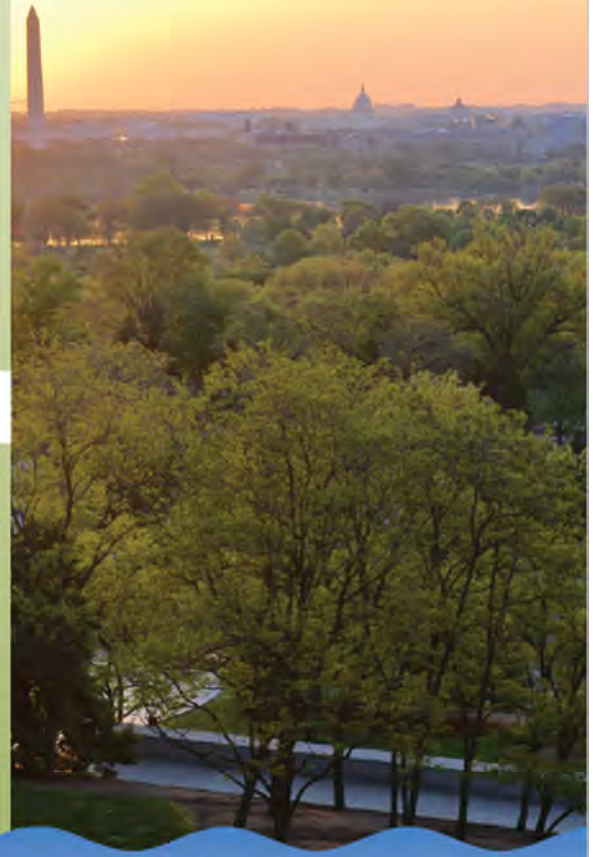
What to look for...

- Water, chemicals, and other fluids flowing in storm drains during dry weather
- Water that is cloudy, dirty, has a sheen, contains debris or litter, has an odor
- Sediment, trash, fuels, and oils on the ground

IF YOU SPILL SOMETHING OR SUSPECT AN ILLICIT DISCHARGE, CONTACT THE ENVIRONMENTAL POC AT 703-614-0520

Stormwater Pollution Prevention

At Arlington National Cemetery



What We're Doing at Arlington National Cemetery

Low-Impact Development (LID)

LID practices are stormwater management practices that mimic natural infiltration or evaporation to remove pollutants and reduce the amount of stormwater runoff.

ANC attempts to manage stormwater as close to its source as possible by preserving and recreating natural landscape features, minimizing impervious areas, and treating stormwater as a resource rather than a waste. To achieve this, ANC uses rain gardens, bioretention ponds, and permeable pavement.

Use and Benefit of Permeable Pavement

Permeable pavement reduces polluted runoff by allowing stormwater to seep through the surface, filtering out pollutants.

Permeable pavement is installed at the Millennium Site and used for sidewalks near the new Chapel Gate and along Eisenhower Avenue.

Pollution Prevention and You

Good Housekeeping

Good housekeeping is the easiest and most effective way you can help reduce or eliminate stormwater pollution.

ANC's GOAL: Keep stormwater from contacting pollutants and entering storm drains.

Keep a look out!

Contact ANC's Environmental POC if you see any of the following:

- Sediment or litter in drains, rain gardens, or bioretention ponds
- Dying vegetation
- Sediment in roads or not contained to construction sites
- Blocked drains
- Significant litter on the ground
- Chemical spills, leaks, or stains

The EPA estimates that polluted stormwater accounts for 65% of pollution in rivers.

How You Can Reduce Your Impact on Stormwater Pollution

At work, at home, anywhere!

- NEVER DUMP ANYTHING DOWN STORM DRAINS!
- Don't litter!
- Maintain your car.

Only rain down the drain!

- Wash your car at a car wash or on your lawn.
- Pick up after your pet.
- Have your gutters discharge to vegetated or grassed areas.
- Reseed lawns to prevent sediment runoff.
- Compost or recycle yard waste.
- Use water-based paints and clean paint brushes in a sink.
- Deliver used oil to recycling centers.
- Use minimal amounts of pesticides and fertilizers.
- Consider using porous/permeable pavers when building patios and walkways.
- Clean up oil and chemical spills upon discovery.

¿Qué es la escorrentía pluvial?

Escorrentía pluvial (i.e., lluvia o nieve derretida) fluye sobre el terreno y superficies impermeables, tal como estacionamientos, carreteras, aceras y azoteas en vez de ser absorbida por el terreno.

¿Por qué la escorrentía pluvial es un problema?

Según la escorrentía pluvial fluye a través de las superficies, recoge contaminantes, tales como basura, compuestos químicos, nutrientes y sedimentos. Esta escorrentía pluvial sin tratamiento fluye hacia los drenajes pluviales que la llevan directamente a los ríos, quebradas, humedales o aguas costeras. La escorrentía pluvial transporta contaminantes hacia los cuerpos de agua que utilizamos para beber, nadar y pescar.

- Los sedimentos pueden poner turbia el agua, lo cual dificulta que las plantas acuáticas crezcan.
- Los nutrientes en exceso provenientes de los pesticidas y fertilizantes pueden causar un sobre crecimiento de algas.
- Las bacterias y otros patógenos pueden crear problemas de salud.
- Los escombros y basura pueden asfixiar, sofocar o inhabilitar la vida acuática tal como patos, peces, cangrejos y pájaros.
- Contaminantes comunes como basura, pesticidas, pintura, solventes y aceite de motor pueden envenenar los animales y las personas.

Según la Agencia de Protección Ambiental (EPA, por sus siglas en inglés), las superficies impermeables dentro de un bloque de una ciudad típica pueden generar hasta 5 veces la escorrentía pluvial comparado con un área boscosa del mismo tamaño.

¿Qué debo hacer si ocurre un derrame?

Si el derrame representa una amenaza a la vida, llame inmediatamente al 911, y después llame a la Persona de Contacto (POC, por sus siglas en inglés) Ambiental.

Si el derrame no representa una amenaza a la vida, llame inmediatamente al POC Ambiental.

De ser seguro hacerlo:

- DETENGA EL FLUJO DEL PRODUCTO
- AVISE AL PERSONAL
- PROTEJA LAS ENTRADAS AL DRENAJE PLUVIAL
- APAGUE LAS FUENTES DE IGNICIÓN
- INICIE LA CONTENCIÓN
- COMPLETE LA FORMA DE RESPUESTA A DERRAMES Y ENTRÉGUELA AL POC AMBIENTAL

¿Qué es una descarga ilegal?

Una descarga ilícita es cualquier descarga a un sistema de drenaje pluvial que no está compuesta en su totalidad por escorrentía pluvial.

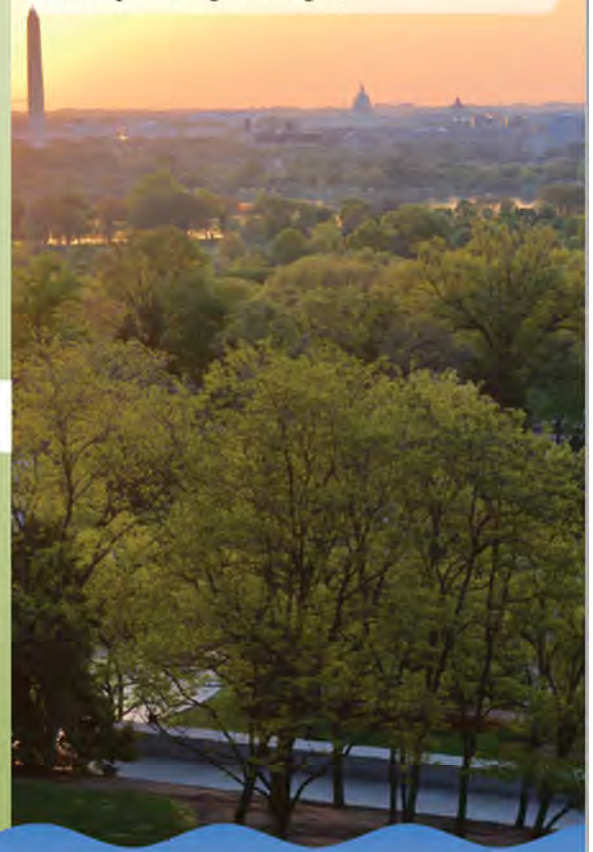
Lo que debe observar…

- Agua, compuestos químicos, y otros fluidos que estén fluyendo hacia los drenajes pluviales durante tiempo seco
- Agua turbia, sucia, que tenga un brillo, contenga escombros o basura, o que tenga un olor
- Sedimentos, basura, combustibles y aceites sobre el terreno

SI USTED DERRAMA ALGO O SOSPECHA UNA DESCARGA ILEGAL, CONTACTE AL POC AMBIENTAL AL SIGUIENTE NÚMERO DE TELÉFONO 703-614-0520

Prevención de Contaminación de la Escorrentía Pluvial

en el Cementerio Nacional de Arlington (ANC, por sus siglas en inglés)



Lo que estamos haciendo en el Cementerio Nacional de Arlington

Desarrollo de Bajo Impacto (LID, por sus siglas en inglés)

Las practicas LID son prácticas de manejo de escorrentía pluvial que imitan la infiltración natural o evaporación para remover los contaminantes y reducir la cantidad de escorrentía pluvial.

El ANC intenta manejar las escorrentías pluviales de la manera más cercana posible a la fuente al preservar y recrear las características naturales del entorno, minimizando las áreas impermeables, y utilizando la escorrentía pluvial como un recurso y no como un desperdicio. Para lograr esto, el ANC utiliza jardines de lluvia, lagunas de bio-retención, y pavimento permeable.

El Uso y Beneficio del Pavimento Permeable

El pavimento permeable reduce las escorrentías contaminadas al permitir que las aguas de escorrentía pluvial se infiltren a través de la superficie, lo cual filtra los contaminantes.

El pavimento permeable se instala en el Sitio del Milenio ("Millenium Site") y se utiliza para las aceras cerca al Portón de la Capilla ("Chapel Gate") y cerca de la Avenida Eisenhower ("Eisenhower Avenue").

Prevención de Contaminación

Su Buen Mantenimiento de las Facilidades

El buen mantenimiento de las facilidades es el método más fácil y efectivo en que usted puede ayudar a reducir o eliminar la contaminación de las escorrentías pluviales.

ALa META del ANC: Prevenir que las escorrentías pluviales entren en contacto con contaminantes y entren a los drenajes pluviales.

¡Manténgase pendiente!

Contacte al POC Ambiental del ANC si usted observa alguno de los siguientes:

- Sedimento o basura en los drenajes, jardines de lluvia o en las lagunas de bio-retención.
- Vegetación que esté decayendo.
- Sedimento en las carreteras o no contenido dentro de los sitios de construcción.
- Drenajes bloqueados.
- Cantidades excesivas de basura sobre el terreno
- Derrames de compuestos químicos, escapes o manchas.

La EPA estima que las escorrentías pluviales contaminadas contribuyen al 65% de la contaminación en los ríos.

Como usted puede reducir su impacto en la contaminación de las escorrentías pluviales

¡En su trabajo, hogar y dondequiera!

- ¡NUNCA TIRE NADA DENTRO DE LOS DRENAJES PLUVIALES!
- No tire basura al piso
- Provea mantenimiento a su vehículo

¡Solamente lluvia por el desagüe!

- Lave su carro en un establecimiento de autolavado o sobre su césped.
- Recoja los desperdicios de su mascota.
- Coloque sus drenajes pluviales para que descarguen a áreas con vegetación o al césped.
- Re-siembre los jardines con césped para evitar que la escorrentía se lleve el sedimento.
- Haga composta o recicle los desechos del jardín.
- Utilice pinturas a base de agua y limpie las brochas dentro del lavadero.
- Entregue sus aceites usados a centros de reciclaje de aceite.
- Utilice cantidades mínimas de pesticidas y fertilizantes.
- Considere utilizar adoquines porosos / permeables cuando vaya a construir patios o aceras.
- Limpie los derrames deaceite o compuestos químicos tan pronto los descubra.

Appendix A-2 - Facility-wide Newsletter

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Summer 2024

DoD Chesapeake Bay Program Journal

Edited by the DoD Chesapeake Bay Program Team

PROTECTING THE CHESAPEAKE BAY FOR MILITARY READINESS, FOR OUR COMMUNITY, FOR FUTURE GENERATIONS

Naval Support Facility Indian Head Beach Clean-up

By William Fabey, Naval Support Facility Indian Head

IMAGE PROVIDED BY WILLIAM FABEY, NSA SOUTH POTOMAC, NSF INDIAN HEAD

Volunteers participate in trash cleanup at NSF Indian Head during Earth Day 2024.

Naval Support Facility (NSF) Indian Head, MD held three events, on April 4th, 5th, and 6th in support of Earth Day and the Potomac River Watershed clean-up sponsored by the Alice Ferguson Foundation. Each of the events focused on a different area of the installation's shoreline. By spreading the events across separate areas and on separate days, NSF Indian Head was able to increase participation and accomplish a good deed for the environment. These events also assist in meeting requirements for the installation's National Pollutant Discharge Elimination System General Permit for discharges from State and Federal Small Municipal Separate Storm Sewer System (MS4) Permit. In the Saturday morning event (April 6th), friends and family joined military and civilian base employees to help with the effort. For 2024, a total of 54 volunteers collected ~1080 lbs. of trash. Trash items included tires, metal debris, Styrofoam, and, of course, an abundance of plastic bottles. Particular items of interest this year included numerous tennis balls.

IMAGE PROVIDED BY WILLIAM FABEY, NSF INDIAN HEAD

Volunteers participate in trash cleanup at NSF Indian Head during Earth Day 2024.

IN THIS ISSUE

Success Stories: Earth Day and Arbor Day Events around the Watershed!

By Angela S. Jones, DoD CBP

Check out some of the installations within the watershed engaging the Chesapeake Bay community during various Earth Day and Arbor Day events!

IMAGE PROVIDED BY JEB LITTLE CREEK – FORT STORY PAO

Joint Expeditionary Base (JEB) Little Creek – Fort Story, Virginia

On April 24, 2024, Earth Day celebrations were held at the Little Creek and Fort Story Child Development Centers (CDCs). The Public Works Department (PWD) Environmental (EV) staff gave a presentation on sea turtles and keeping our waterways clean. Along with PWD EV and CDC staff the event was also attended by U.S. Fleet Forces Command, the Installation Environmental Program Director and the Installation Command Master Chief. There were 25 students in attendance at the Little Creek CDC and 19 students were in attendance at the Fort Story CDC.

NSF Dahlgren Beach Clean-Up and Tree Planting

On April 22, 2024, Environmental staff at NSF Dahlgren teamed up with Dahlgren School teacher Beth Hankins and her fourth and fifth grade students to collect trash and plant trees in celebration of Earth Day. Together, they collected over seven bags of trash from areas around the school, library, gym, and the wastewater treatment plant, preventing approximately 220 pounds of trash from entering Upper Machodoc Creek and the Potomac River. The group planted two trees behind the school, one black oak and one sweet bay magnolia, with Command Master Chief, Phillip Croshaw and Naval Support Activity South Potomac (NSASP) Environmental Program Director, Ken Robitaille in attendance.

IMAGE PROVIDED BY ASHLEIGH BENSON, NSF DAHLGREN

Dahlgren School students planting one of the trees with assistance from Master Chief Phillip Croshaw.

IMAGES PROVIDED BY ABIGAIL ROSS, NSA HAMPTON ROADS

NSA Hampton Roads, Virginia – Earth Day Clean-Up

On April 22, 2024, NSA Hampton Roads PWD and volunteers helped to clean up the Elizabeth River shoreline at Naval Medical Center Portsmouth. Efforts were focused on the northern shore of the medical campus and volunteers managed to collect 14 trash bags full of litter to equal over 350 pounds.

IMAGE PROVIDED BY NNSY PAO

Norfolk Naval Shipyard (NNSY), Virginia – Earth Day Event

On April 25, 2024, NNSY hosted their annual Earth Day celebration. The event promoted the importance of being good stewards to our environment through recycling, energy and natural resource conservation, and water quality improvement activities. The event was a success with 300+ attendees including shipyard employees, senior NAVFAC and Naval Sea Systems Command (NAVSEA) leadership and the Deputy Assistant Secretary of the Navy, Environment and Mission Readiness. External partners such as Dominion Energy, HRSD, and the Norfolk Beekeepers Association had booths available along with the 18 other organizations and DoD commands.

Naval Air Station Oceana (NASO), Virginia – Arbor Day and Month of the Military Child Celebration

On April 30, 2024, NASO celebrated Arbor Day and Month of the Military Child. Children from the Navy Child & Youth Program and the CDC helped the Commanding Officer, Command Master Chief, US Navy Fleet Forces' Stewie the Sea Turtle, a Virginia Department of Forestry Forester and Navy Natural Resources staff plant a ceremonial native Eastern red bud (Cercis canadensis) tree. The NASO celebration had 47 children and 22 adults in attendance. NASO received a Tree City USA award for the 30th consecutive year due to tree stewardship initiatives on the installation. Dam Neck Annex (DNA) also held a similar event the same day with the Executive Officer where the installation also received a Tree City Award for the 24th consecutive year. Nine children and 14 adults were in attendance of DNA's celebration.

IMAGE PROVIDED BY ANDREA ARREDONDO, NAS OCEANA

Fort Gregg-Adams, Virginia - Earth Day Clean-Up 2024

The Fort Gregg-Adams community celebrated Earth Day on April 22, 2024, with a very successful clean-up of an environmentally sensitive area. Over 70 Soldiers, Marines, and local community members volunteered to assist Fort Gregg-Adams Directorate of Public Work's Environmental Management Division in a clean-up project to restore valuable wetland habitat on the Range Complex.

A wetland area was chosen for the cleanup because it is the primary habitat of the Spotted Turtle, a sensitive and protected turtle species found on the installation. Spotted Turtle surveys conducted in the area since 2019 have shown declining turtle health which is believed to be attributed to the significant pollution that flows into the wetland from an adjacent rail line. After a brief introduction to the project and a meet and greet with a Spotted Turtle Ambassador named Spot, volunteers spread out across 38 acres of wetlands and collected 2,254 pounds of trash. This included over 100 water bottles, 29 tires, 35 steel paint cans, 1 tricycle, 1 kitchen sink, and various other debris. Local businesses contributed to the success of this event through their generous donation of lunch for volunteers and acceptance of certain trash items that could not be recycled on base such as tires.

Upon evaluation of the wetland after the cleanup occurred, significant improvements were observed in the turtle population and the wetland habitat. The increase in turtle movement, both Spotted Turtles and other turtle species, was one of the most notable improvements. Areas that were once filled with trash, were now cleared, and allowed turtles to move in and swim freely. An increase in the presence of other aquatic species, such as frogs and salamanders, was also observed. This event was a true success in that it allowed community members to form a deeper connection to nature and aided in the protection of multiple amphibian and reptile species and their habitat.

IMAGES PROVIDED BY ERIKA GILLESPIE, GARRISON PAO

IMAGE PROVIDED BY JEFF KISSLER, NWS YORKTOWN

Naval Weapon Station Yorktown, Virginia – Earth Day Collaboration with Morale Welfare and Recreation's (MWR) Sexual Assault Prevention and Response (SAPR) Run

The PWD EV staff collaborated with MWR by providing three booths to educate the participants and spectators of the MWR SAPR 5k Run on April 26, 2024. EV also partnered with Hampton Roads Sanitation District (HRSD) staff who provided water conservation materials at a booth in support of the Earth Day/5k Run event. Military Natural Resources and Cultural Resources information materials, including trivia, were also available.

Arlington National Cemetery (ANC), Virginia- Earth Day Tour

IMAGE PROVIDED BY ANC

On April 19, 2024, ANC Environmental Specialist Scott Lonesome and Horticulturalist Kelly Wilson led a tour of the cemetery's Memorial Arboretum for Earth Day. Lonesome spoke about the Municipal Separate Storm Sewer System (MS4) permit and its importance for operations at ANC. He also discussed how best management practices (BMPs) play an important role throughout the cemetery. Lonesome emphasized how some best management practices can be beneficial at the neighborhood or home level, including rain gardens, bioretention ponds, rain barrels and permeable pavers. The tour showcased one of ANC's well-established rain gardens as an example of how ANC operates and manages BMPs.

Naval Station Norfolk, Virginia – Navy Exchange Earth Day Display

On April 20, 2024, the PWD EV Water Program Manager Mark Sauer and Natural Resources Manager and Pest Management Coordinator James Micalizzi set up an Earth Day display at the Naval Station Norfolk Navy Exchange. Staff engaged with Exchange customers and had stormwater, DoD Chesapeake Bay Program (CBP), and cultural and natural resources handouts available.

Naval Support Activity (NSA) – Bethesda, Maryland

IMAGE PROVIDED BY CONNOR SMITH, NSA BETHESDA

The environmental team hosted an Earth Day Environmental Information Fair on April 23, 2024. The event provided information regarding local environmental resources including facility environmental activities for base personnel and patients. Participating groups included: Naval Facilities Engineering Systems Command (NAVFAC) EV, Montgomery County Recycling, Montgomery County Master Gardeners, the National Parks Service, and the Washington Headquarters Services Transportation Management Program Office.

IMAGE PROVIDED BY ANGELA JONES, DOD CBP

Using Ecosystem Services to Increase Progress and Quantify Benefits: Enhancing Chesapeake Bay Program Partnership Outcomes

By Aditi Kumar, Brown and Caldwell

Ecosystem services (ES) refer to the benefits that ecosystems provide for human well-being. Natural resources provide food, support clean air to breathe and clean water to drink; they provide for recreational opportunities, and support mental health. Typically, investments in Chesapeake Bay restoration are designed to improve water quality, given the legal requirements of the Clean Water Act. Similarly, the Department of Defense (DoD) invests approximately 50-75% of its Chesapeake Bay Program-related funding to comply with Executive Order (EO) 13508 in clean water projects. However, a narrow focus on water quality can result in the implementation of practices and policies that maximize nutrient and sediment reductions at the expense of feasible alternatives that offer greater ES or multiple benefits to living resources and people. To address this concern, the Chesapeake Bay Program Partnership's (Partnership) Scientific and Technical Advisory Committee (STAC) held a workshop in three sessions between March 2023 and June 2023, to gather input and develop a framework to identify ways to embed ES considerations in holistic project selection decision-making[1]. As DoD installations commit significant resources to meet their 2025 Total Maximum Daily Load (TMDL) targets, they have an opportunity to strategically pursue projects that meet multiple installation objectives that also provide valuable ecosystem service to military personnel, civilian employees, their families and the people in surrounding defense communities.

Background and Urgency

The Bay Agreement outlines a total of 10 goals and 31 outcomes, but only two of these directly address water quality. Despite this, the regulatory requirements of the Chesapeake Bay TMDL places significant emphasis on reducing nitrogen, phosphorus, and sediment. Stakeholders responsible for implementing state Watershed Implementation Plans (WIPs) and local decision-makers often rely on the Chesapeake Assessment Scenario Tool (CAST) to select cost-effective Best Management Practices (BMPs) that align with their water quality regulatory obligations. However, cost is only one factor to consider; it is in the best interest of DoD water quality, natural resource, and climate adaptation managers to consider meeting multiple installation objectives with each project. The Partnership has a variety of tools to support the selection of water quality projects. Integrating ES benefits into these tools can encourage stakeholders to consider and compare the multiple benefits of projects as part of their decision-making process.

While such initiatives have already begun, more work is needed to allow for credible site-specific accounting of co-benefits generated by nutrient and sediment reduction projects or the total benefits of restoration actions. Adding urgency to this task is the Biden Administration's February 2024 guidance to "advance and strengthen" accounting for ES in government decision-making[2]. The guidance directs agencies to be thorough in accounting for the ES benefits and harms of proposed actions but also asks agencies to develop their own specific methods to monetize, quantify, or describe benefits.

Quantification of Ecosystem Services Benefits

One way to accelerate progress towards the full suite of Bay Agreement goals is by showing how Bay restoration and conservation actions can align with the local headwater communities' priorities. Based on research conducted by the Environmental Protection Agency (EPA) Regional Sustainability and Environmental Sciences Program, specific BMPs were identified that relate to 1) habitat restoration or creation, 2) Watershed Agreement goals lagging in implementation, and 3) issues in upstream or headwater communities. Selected BMPs included impervious surface reduction, urban forest buffers, urban forest planting, urban tree planting, wetland creation, and wetland restoration. The study also identified the ecosystem services provided by these BMPs as illustrated in **Figure 1.**

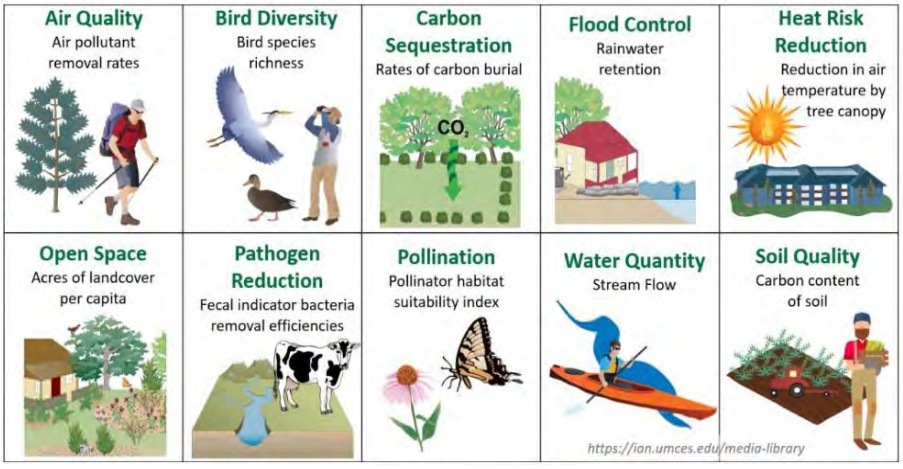

Figure 1: Ecosystem services (ES) considered in analysis of restoration related BMPs[1]

Ultimately, it was established in the study that each of the selected BMPs would result in new acres of landcover based on the Bay Conservancy 2013-2014 landcover types assigned in CAST. **Figure 2** shows the connections between BMPs and benefits through ES with the Watershed Agreement outcomes. This quantification can help DoD installations understand co-benefits of different BMPs to participate in restoration efforts that address their local priorities and work towards the overall goals of the Bay Agreement at the same time.

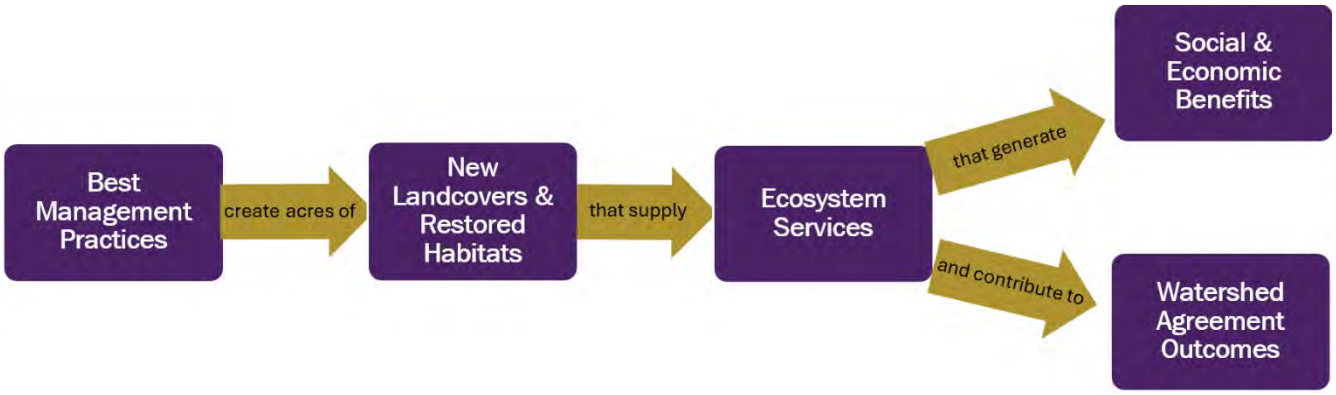

Figure 2: Connections between selected BMPs and benefits through ES with the Watershed Agreement outcomes[1]

Model-based Tracking and Integrated Valuation of Ecosystem Services (MoTIVES) Research

There is ongoing MoTIVES research being conducted at Fort Belvoir, VA that aims to assess, enhance, and communicate the monetary value of ES delivered to neighboring communities. This research was piloted at the Eglin Air Force Base, FL, where it demonstrated proof of concept that current installation management provides approximately $110 million in ES to surrounding defense communities per year, $40 million more than a scenario where no base was present, and $90 million more than a scenario where no base management was occurring. The MoTIVES model is being designed to provide similar data on installation, management-driven ecosystem services provided to the public.

2024 STAC Report Recommendations and DoD CBP and Installation Applications

- **Water Quality, Natural Resources, and Climate Resilience Subject Matter Experts can work more closely to choose projects that meet multiple objectives to support the integration of ES throughout the Chesapeake Bay Program.**
- **Develop a framework for quantifying the ecosystem service impacts of BMPs.**
- **Identify and follow pathways to improve institutional structures and supporting policies to better integrate ecosystem services into the next phase of the Chesapeake Bay Program beyond 2025.**

Several of DoD's ongoing watershed protection and restoration initiatives achieve multiple goals, while enhancing ES and military readiness. Implementation of on-base Integrated Natural Resource Management Plans safeguard the abundant natural resources under the DoD's care and these activities provide a plethora of ES that have been documented to benefit adjacent defense communities. DoD land conservation efforts, such as the Readiness and Environmental Protection Integration (REPI) program and Sentinel Landscapes Partnership programs, aim to strengthen military readiness while conserving defense community natural resources, supporting agricultural and forestry economies, enhancing outdoor recreation, and increasing resilience to climate change.

By integrating ES into selection of BMPs to meet TMDL goals, installations can achieve greater and more lasting progress toward Chesapeake Bay Agreement goals and outcomes (especially those whose progress is lagging). These efforts create an environment supporting mission readiness while effectively meeting multiple DoD goals despite funding and resource constraints.

References

[1]Using Ecosystem Services to Increase Progress Toward and Quantify the Benefits of Multiple CBP Outcomes. STAC Workshop Report 2024. https://www.chesapeake.org/stac/wp-content/uploads/2024/02/FINAL_Report_Ecosystem-Services_24_003.pdf

[2]GUIDANCE FOR ASSESSING CHANGES IN ENVIRONMENTAL AND ECOSYSTEM SERVICES IN BENEFIT-COST ANALYSIS. Office of Information and Regulatory Affairs. Office of Management and Budget. https://www.whitehouse.gov/wp-content/uploads/2024/02/ESGuidance.pdf

Success Story: Engaging in Citizen Stewardship, Fort Walker, Virginia

By Amanda Thompson, Fort Walker

The Fort Walker Environmental Team and Natural Resources Division celebrated Earth Day the entire month of April with three outreach events for environmental stewardship. These events served as part of Fort Walker's continued community engagement mission with the public and highlighted the importance of natural resource management on and off the installation.

For the first event, Fort Walker Environmental joined the Bowling Green Elementary' s Community Day, featuring small business owners, community organizations, and local families. Environmental staff taught the kids and their families about the installation's Environmental Department and local plant and animal species.

The second event, "Earth Day on the Rappahannock", held by Fredericksburg Parks and Recreation saw thousands of visitors gather at Old Mill Park. Since 2003, the mission of the Earth Day Festival has been to provide an enjoyable and engaging family-friendly event devoted to environmental awareness and stewardship.

IMAGE PROVIDED BY FORT WALKER, ENVIRONMENTAL STAFF

Fort Walker Environmental Team behind their Earth Day Booth

This "Certified Green" event was filled with interactive activities, live music and shows, food vendors, and much more. The Fort Walker Environmental Team set up an interactive booth of furs, antlers, preserved insects, turtle shells, and many more educational items, creating the display to educate visitors about species found on the base, spread awareness on the environmental work at the installation, and inform the public on environmental stewardship activities conducted by the Army. At the event, Fredericksburg Parks and Recreation presented three awards; of the 74 organizations with displays, Fort Walker took home the award for "Best Hands-On Display".

The final event, a two-day event held by Fort Walker in honor of Earth Day, hosted 200+ students from Caroline High School, local environmental exhibitors, military unit displays, and several teaching stations. At these stations, Fort Walker Environmental staff taught the students about protecting the installation's environmental resources and staff's everyday environmental work. Students were immersed in the world of this Army environmental work with first-hand experience - tree coring and identifying trees with the Forestry Department, holding native fish species, and learning about endangered Virginia wildlife with the Fisheries & Wildlife Department, digging with soil augers and identifying wetland plants with the Water Quality Program, and excavating at an archaeological site with the Cultural Resources Department.

IMAGE PROVIDED BY CHRISTOPHER HALL, FORT WALKER

Claire Wilmore and Robin Didlake with Friends of the Rappahannock describe how oysters naturally filter water.

The students also engaged with the local environmental exhibitors with whom Fort Walker partnered - Rappahannock Sierra Club, Friends of the Rappahannock, Rappahannock Electric Cooperative, and American Water. These organizations provided students with resources to get involved and contribute to the preservation and protection of their community and local environment. Regarding the events, Fort Walker Environmental Division Chief Gef Fisher said, "I am very proud to see the Environmental Division team representing the Army and Fort Walker. Events like these emphasize the importance of integrating hands-on learning for the future of not just Army Environmental, but environmental management overall".

DoD/DON Chesapeake Bay Program Office
1510 Gilbert Street
Building N-26, Room 3300
Norfolk, VA 23511

Images Provided by:

1. *Shannon Scully, Fort Gregg-Adams*
2. *Norfolk Naval Shipyard PAO*
3. *Abigail Ross, NSA Hampton Roads*
4. *William Fabey, NSA South Potomac, NSF Indian Head*
5. *William Fabey, NSA South Potomac, NSF Indian Head*
6. *Shannon Scully, Fort Gregg-Adams*
7. *Jeff Kissler, NWS Yorktown*
8. *Andrea Arredondo, NAS Oceana*
9. *Elizabeth Fraser, Arlington National Cemetery*

This newsletter is produced by Brown and Caldwell under NAVFAC Atlantic A-E Contract N62470-19-D-4001 in support of the Safe Drinking Water Act and Clean Water Act Environmental Compliance Program. For more information or to be added to the email distribution list, please contact the DoD Chesapeake Bay Program: http://www.denix.osd.mil/chesapeake/home.

Appendix A-3 – Design Plans Depicting “Dump No Waste Drains to Chesapeake Bay” Markers

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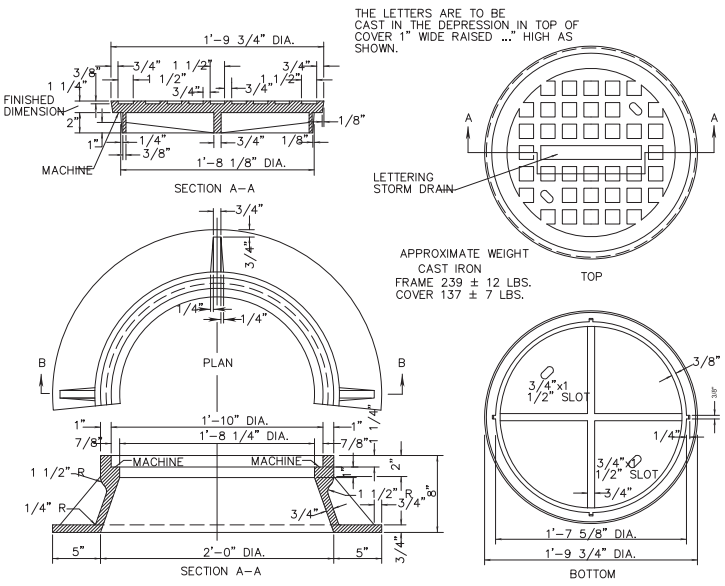
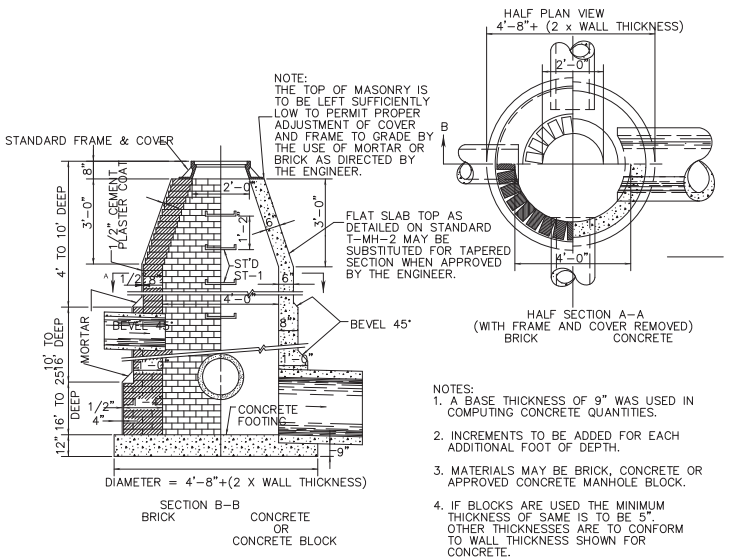


STANDARD MANHOLE FRAME & COVER

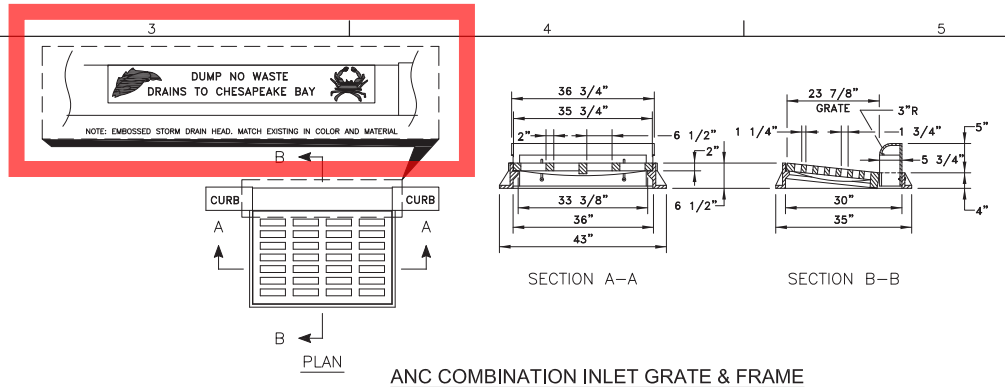
NOT TO SCALE



NOTES:
1. A BASE THICKNESS OF 9" WAS USED IN COMPUTING CONCRETE QUANTITIES.
2. INCREMENTS TO BE ADDED FOR EACH ADDITIONAL FOOT OF DEPTH.
3. MATERIALS MAY BE BRICK, CONCRETE OR APPROVED CONCRETE MANHOLE BLOCK.
4. IF BLOCKS ARE USED THE MINIMUM THICKNESS OF SAME IS TO BE 5". OTHER THICKNESSES ARE TO CONFORM TO WALL THICKNESS SHOWN FOR CONCRETE.
5. ALL CONCRETE TO BE CLASS A3.

MANHOLE FOR 12"- 48" PIPE CULVERTS

NOT TO SCALE



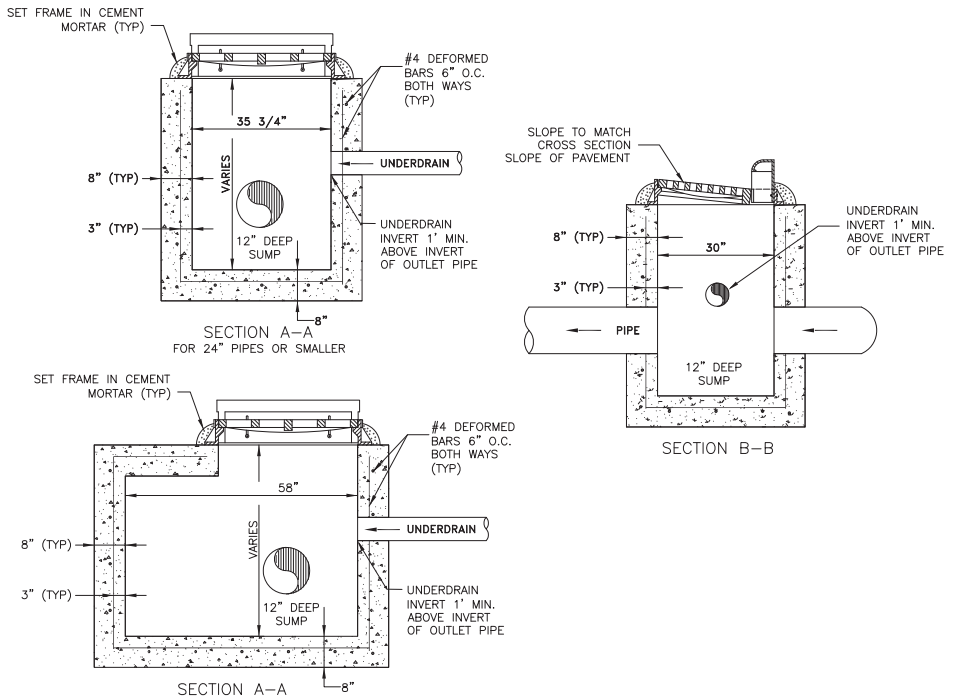
ANC COMBINATION INLET GRATE & FRAME

NOT TO SCALE

NOTES:

1. ALL NEW COMBINATION INLETS SHALL BE ENVIRONMENTALLY FRIENDLY WITH EMBOSSED MESSAGES AND IMAGE OF FISH (EMBOSSED) UPON CASTING. MESSAGES SHALL READ "DUMP NO WASTE" AND "DRAINS TO WATERWAYS". CASTINGS FOR COMBINATION INLETS SHALL BE SIMILAR TO EAST JORDAN FOUNDRY PRODUCT NO. 00703041C12, RATED FOR HEAVY DUTY TRAFFIC AND CONFORMS TO ASTM A48 CERTIFICATION. MATERIALS FOR FRAME, GRATE AND HOOD SHALL BE PAINTED BLACK. CONTRACTOR MAY SUBMIT SIMILAR ALTERNATE (WITH EMBOSSED INFO ON CASTING) COMBINATION GRATE AND FRAME FOR EVALUATION FOR USE ON THIS PROJECT.

2. JOINTS (EXPANSION AND CONTRACTION) IN CONCRETE CURBS, GUTTERS, ETC. SHALL BE SEALED WITH SEALANT PER SPECIFICATIONS.



ANC COMBINATION INLET

NOT TO SCALE

US Army Corps of Engineers
Norfolk District

NO.	DESCRIPTION	BY	APP.	DATE

DESIGNED: DBR
DRAWN: DBR
CHECKED: CAP
SUPERVISED: DBR
DATE: 22-JAN-2020
SCALE: AS SHOWN
PROJECT NO.
DRAWING NO.
NORFOLK DISTRICT FILE NO.
SPECIFICATION NO.
Last Worked on:
File name:
Plot scale: 1:1

NORFOLK DISTRICT
CORPS OF ENGINEERS
NORFOLK, VIRGINIA

RTA SUBMITTAL
JANUARY 22, 2020

McPHERSON AREA ROAD REPAIRS
ARLINGTON NATIONAL CEMETERY
ARLINGTON, VA

STORM DRAIN DETAILS

SHEET REFERENCE NUMBER
C-504
SHEET 61 OF 78

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Appendix A-4 - Social Media Posts

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Arlington National Cemetery
June 13 ·

ANC employees participated in "Clean the Bay" Day by cleaning up around the Southern Expansion Site. Clean the Bay Day has been a staple for Virginia's Chesapeake Bay community since its inception over three decades ago. This tradition is an annual opportunity for individuals, families, military installations, businesses, clubs, and civic and church groups to give back to their local waterways, including the Chesapeake Bay watershed.

arlingtonnatl · Follow

arlingtonnatl ANC employees participated in "Clean the Bay" Day by cleaning up around the Southern Expansion Site. Clean the Bay Day has been a staple for Virginia's Chesapeake Bay community since its inception over three decades ago. This tradition is an annual opportunity for individuals, families, military installations, businesses, clubs, and civic and church groups to give back to their local waterways, including the Chesapeake Bay watershed.
Edited · 10w

lmverga Thank you so much us
10w Reply

augsmittygirl Thank you!
10w 1 like Reply

ceuta1180 us
10w 1 like Reply

arlingtonnatl More photos from today and other ANC events can be found at our Flickr page: Flickr.com/ArlingtonNatl
10w 1 like Reply

464 likes
June 13

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Appendix A-5 - Tour Announcements

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Arlington National Cemetery @ArlingtonNatl · Mar 27

Spring has sprung at Arlington National Cemetery!

Join us for our spring horticulture tours, where our staff will teach you about our Level III Accredited Memorial Arboretum and the plants that inhabit our 639-acre grounds.

Learn more: arlingtoncemetery.mil/Media/News/Pos...

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Appendix A-6 - Designing a Cemetery Module

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LESSON PLAN:
DESIGNING A CEMETERY SECTION

High school (9-12)

OVERVIEW

In this lesson, students will discuss the impacts of human activity on watersheds and biodiversity, through the lens of landscape management and design at Arlington National Cemetery. Students will have the opportunity to plan a new section of the cemetery using a menu of options related to plantings, stormwater management, parking lots and walkways, fertilizer and pesticide. As they make their choices, students will be asked to consider the needs of the environment, the interests of cemetery visitors, and a budget, reflecting real-world challenges faced by Arlington National Cemetery administration.

Resources include a PowerPoint, student packet, student worksheets, reflection sheet and grading rubric.

Estimated time: 2 class periods (90-120 minutes) with some homework

STANDARDS

Content standards vary by state. This lesson can be used to teach the following state standards and similar wording may be found in your state standards.

AP Environmental Science Learning Objectives:

- STB-1.B: Describe methods for mitigating problems related to urban runoff.
- STB-3.B: Describe the impacts of human activities on aquatic ecosystems.
- STB-3.F: Explain the environmental effects of excessive use of fertilizers and detergents on aquatic ecosystems.
- EIN-4.C: Explain how human activities affect biodiversity and strategies to combat the problem.

Virginia Environmental Science Course Content and Process Guidelines:

The student will investigate and understand the human impact on our environment. Key content includes

- Population ecology, carrying capacity, human population dynamics, impacts of population growth advantages and disadvantages of balancing short term interests with long term welfare of society;
- **individual activities and decisions can have an impact on the environment;**
- **people impact their environment through the use of natural resources to include how agriculture, forestry, ranching, mining, urbanization, transportation, and fishing impact the land, water, air, and organisms; and**

- the allocation of state and federal lands.

The student will investigate and understand civic responsibility and environmental policies. Key content includes

- consumer choices in Virginia impacts jobs, resources, pollution, and waste here and around the world;
- **political, legal, social, and economic decisions may affect global and local ecosystems;**
- the impact of media on public opinion and public policy;
- individuals and interest groups influence public policy;
- **cost-benefit analysis and trade-offs in conservation policy;** and
- compare methods used to protect the environment by local, state, national, and international governments and organizations

LEARNING OBJECTIVES

- Students will design a section of Arlington National Cemetery using a provided collection of options that demonstrates balance in the needs of the environment and interests of visitors.
- Students will write a short reflection critiquing and justifying their choices and the impact they would have on the environment.

RESOURCES NEEDED

- PowerPoint
- Student packet (1 per student)
- "My Section Design" worksheet (1 per student)
- Graph paper worksheet (1 per student)
- "Designing a Cemetery Section Reflection" sheet (1 per student)

LESSON ACTIVITIES

Introduction: 5-10 minutes

- Prime students with a quick discussion: The United States has rules and regulations in place to protect the environment, and when companies or organizations develop new pieces of land they have to abide by those rules. Based on other concepts we've discussed in class, what are some things you would have to consider when developing land? *Responses will vary, but encourage students to consider impacts on the watershed, biodiversity and climate change.*

Class Lecture: 10-15 minutes

- Slide 2: Environmental Concerns at ANC
    - Looking at this satellite map of Arlington National Cemetery and pictures of its grounds, what do you think might be some environmental concerns there? *Responses will vary*
        - Introduce Arlington National Cemetery with the following information, as necessary:
            - Operated by the U.S. Army since 1864

- Located along the Potomac River in northern Virginia
- Over 600 acres and about 400,000 graves of American military service members and their families
- More than 3 million people visit each year

- Slide 3: Operating within Many Requirements
  - Arlington National Cemetery holds a special place in American society, but it is still required to abide by a number of regulations from a variety of entities.
    - Environmental: ANC must abide by applicable environmental protection laws, and the Army even promotes a Sustainable Design and Development Policy, which is meant to balance current needs with the ability for future generations to continue enjoying environmental resources.
    - Historic preservation: As a historic site, ANC is required to preserve historic features
    - Level III Accredited Arboretum: The Morton Arboretum of Lisle, Illinois, accredits arboreta around the world through the ArbNet accreditation program. In 2015, ANC achieved the second of four levels of accreditation by meeting several professional criteria. In 2018, ANC advanced to Level III by demonstrating that it maintains a collection of 500 species of woody plants, presents substantial educational programming, collaborates with other arboreta, and participates in tree science and conservation.
  - In addition to the many regulations, administration at Arlington National Cemetery must consider their mission to honor America's military dead as well as the interests and needs of visitors.
- Slide 4: Horticulture at ANC
  - The Horticulture team at ANC has the job of balancing all these different requirements while they plan, manage, and maintain the landscape at the cemetery. Some ways they are doing this right now:
    - Designing conservation-oriented landscapes that serve an ecological function and are aesthetically pleasing.
    - Creating gardens that thrive without continuous irrigation. Native plants often take center stage in these types of landscapes. Non-invasive, non-natives can fill that niche as well.
    - Selecting trees not only for their aesthetic and wildlife qualities, but also for their disease resistance. This is especially important with dogwood, cherry and crabapple trees, all of which are particularly vulnerable to both diseases and insects.
    - Incorporating rain gardens to reduce nutrient and sediment run-off.
    - Striving for diversity in all plantings — a key factor in sustainable landscapes.

Activity: 10 minutes + homework

- Slide 5: Developing a Cemetery Section

  - ANC recently acquired two pieces of land that they are developing into additional cemetery space. In the real world, an entire team would spend years analyzing the land and putting together plans for development, like you can see on the slide. Today, though, you are going to get to put together a plan for a new section all by yourself, just in a class period.
- Slide 6: Instructions
  - Using the Development Options packet, you are going to design a new section of Arlington National Cemetery. Just like in the real world, each option you choose is going to have an impact on the environment and the visitor experience, and it's going to cost money and take up space in the cemetery. You're going to design your section on the piece of graph paper and keep track of your budget, points, and other details on the worksheet. You need to spend between $25,000-$100,000 on your design.
  - Let's look at the options:
    - Plantings: Each planting has a short description of the plant as well as information on whether it is native or nonnative to northern Virginia, the kinds of wildlife it attracts, the seasons it looks best in, and how much water it requires. Each also comes with a price and takes up a certain number of squares on your graph paper.
    - Stormwater Management Systems: You can choose to install stormwater management systems in your section to decrease runoff. Each type will give you a certain number of environment points and visitor points, and also comes with a price and takes up a certain number of squares on your graph paper.
    - Parking Lots: You can choose to build parking lots in your section to make it easier for guests to visit. The type of material you choose for your parking lot will have different effects on the environment and visitor experience, though. Each type will give you a certain number of environment points and visitor points, and also comes with a price and takes up a certain number of squares on your graph paper.
    - Walking Paths: You can choose to build walking paths in your section to make it easier for guests to visit. The type of material you choose for your paths will have different effects on the environment and visitor experience, though. Each type will give you a certain number of environment points and visitor points, and also comes with a price and takes up a certain number of squares on your graph paper.
    - Fertilizer and Pesticide: You can choose to use fertilizer and/or pesticide to decrease the cost of your plantings, but you should consider what you may need to do to make sure they don't negatively impact the watershed…
    - Street Sweeping: You can choose to pay for street sweeping, which reduces the amount of pollutants in stormwater runoff, and adds 10 environment points to each of your parking lots or walking paths.
  - After everyone has completed their designs, we're going to talk about your choices and some additional considerations that could affect your points. Some things to think about:
    - This is a cemetery – does my design leave plenty of space for graves?
    - Is it better to have a variety of plants or all the same? Should they all be native?

- How do your plantings look year-round?
- Is there a balance between things that are good for the watershed and things that are bad for the watershed?
- What do you like to see when visiting a cemetery or park? Would YOU want to visit this section you have designed?

Post-Activity: 20 minutes

- Slide 7: Your Section Designs
  - Survey the class for information such as:
    - Who had the highest environmental score?
    - Who had the highest visitor score?
    - Whose design was most expensive? Least expensive?
    - Whose plantings required the most water? The least amount of water?
    - What was the most popular planting? Why?
- Slide 8: If Your Design Has…
  - You were tasked with trying to keep track of and balance many different factors. In the real world, those factors are constantly shifting and the information you need to make choices is not always packaged nicely for you. So here are some additional considerations:
    - Arlington National Cemetery is, first and foremost, a cemetery, so it is important that there is plenty of space for graves. Subtract your total number of squares used from 2,000 (the number of squares on the graph paper). If your design has more than 1,500 empty squares, give yourself 20 more visitor points. If your design has fewer than 1,000 squares, subtract 20 visitor points.
    - The grounds of Arlington National Cemetery receive little irrigation, so plants must be able to survive on their own in hot summers with little water. If your water total was less than 60, give yourself 20 more environment and 10 visitor points. If your water total was more than 80, you lose 20 environment and 10 visitor points.
    - Horticulturists at ANC strive for a diversity in planting. If you have more than 10 types of different plantings, give yourself 20 more environment points. If you have fewer than 5 types of different plantings, you lose 20 environment points.
    - ANC horticulturists also try to choose a mix of plantings that will look good year-round. If you have at least five plantings in each season, give yourself 10 more visitor points.
    - Native plants are well-adapted to thrive in the area and support native wildlife populations. If you have at least 10 native plantings, give yourself 10 more environment points.
    - It is important that plants at ANC support local wildlife populations. For each insect-, bird-, or mammal-friendly planting, give yourself 1 more environment point.

        - Fertilizer and pesticides can help plants grow faster and make maintenance cheaper, but if the chemicals in them are not filtered out of runoff they can be harmful to the watershed. This is why stormwater management systems are important, especially if you use fertilizer and/or pesticide. Look at your total number of spaces used for stormwater management.
            - If you used organic fertilizer and the number is less than 50, you lose 30 environment points.
            - If you used chemical fertilizer and the number is less than 80, you lose 30 environment points.
            - If you used pesticide and the number is less than 60, you lose 30 environment points.
            - If you used pesticide and organic fertilizer and the number is less than 110, or if you used pesticide and chemical fertilizer and the number is less than 140, you lose 60 environment points.
    - Ask the class if anyone's points drastically changed and lead a discussion about the experience of making these various development choices.

Reflection Activity: 20-30 minutes

- Have students complete the "Designing a Cemetery Section Reflection," a 300-500 word essay describing:
    - Which factors were most important to you while you made your section design choices,
    - The impact your choices could have on biodiversity in the local area, and
    - The impact your choices could have on aquatic ecosystems.
- If applicable, provide students a vocabulary list of words you would like them to incorporate into their essays.

EXTENSIONS ACTIVITIES

- Share pictures of your students' section designs with us on Facebook, Twitter, and Instagram. Tag Arlington National Cemetery using @ArlingtonNatl and hashtags #ANCEducation and #ANCEnvironment.
- Take a look at the environmental assessment prepared by the Army Corps of Engineers for Arlington National Cemetery's Southern Expansion project. Notice the types of impacts considered and solutions proposed. The document is available to the public here: https://www.arlingtoncemetery.mil/Portals/0/Docs/Public-Notices/Final-EA-ANC-Southern-Expansion.pdf
- Check out other Arlington National Cemetery public notices and environmental reports here: https://www.arlingtoncemetery.mil/About/Policies-and-Public-Notices/Public-Notices

PLANNING A VISIT TO ARLINGTON NATIONAL CEMETERY?

You can prepare to notice and appreciate the horticulture and conservation efforts at Arlington National Cemetery by checking out the Memorial Arboretum web page: https://www.arlingtoncemetery.mil/Explore-the-Cemetery/Memorial-Arboretum-and-Horticulture/Welcome

There is also a horticulture-specific walking tour available on the ANC Education website: https://education.arlingtoncemetery.mil/

My Section Design

Use this worksheet to keep track of the development options you chose

Organic Fertilizer: (Yes) or No
Decrease plantings price by 10%

Chemical Fertilizer: Yes or (No)
Decrease planting price by 20%

Pesticide: Yes or (No)
Decrease plantings price by 20%

Street sweeping: (Yes) or No
Add $1,000 to your total price and 10 environment points to each parking lot or walking path

Stormwater Management Systems

Total number of spaces used: 20 + 40 + 32 = 62

Rain Gardens: (1) 2 3 4 5 6 7 8 9
Total price: 5000
Total environment points: 50
Total visitor points: 20

Bioswales: 1 (2) 3 4 5 6 7 8 9
Total price: 4000
Total environment points: 100
Total visitor points: 20

Stormwater Filtration Devices: (1) 2 3 4 5
Total price: 8000
Total environment points: 200
Total visitor points: 0

Parking Lots

Total number of spaces used: 98

Gravel: 1 2 3 4 5
Street-sweeping: Yes or No
Total price:
Total environment points:
Total visitor points:

Asphalt concrete: (1) 2 3 4 5
Street-sweeping: (Yes) or No
Total price: 20,000
Total environment points: 25+10
Total visitor points: 150

Permeable pavement: 1 2 3 4 5
Street-sweeping: Yes or No
Total price:
Total environment points:
Total visitor points:

Walking Paths

Total number of spaces used: 40

Gravel: 1 2 3 4 5 6 7 8 9
Street-sweeping: Yes or No
Total price:
Total environment points:
Total visitor points:

Concrete: 1 2 3 4 5 6 7 8 9
Street-sweeping: Yes or No
Total price:
Total environment points:
Total visitor points:

Permeable pavement: 1 2 3 (4) 5 6 7 8 9
Street-sweeping: (Yes) or No
Total price: 12,000
Total environment points: 80 + 40 = 120
Total visitor points: 160

Total environment points: 50+100+200+35+120 = 505 + 20 + 10 (Native) + 20 + 12 + 10 (Wildlife) = 577

Total visitor points: 20+20+150+160 = 350 + 20 + 10 + 10 (Water) = 410

Total price: (1040 − 104) + 1000 (Street sweeping) + 5000 + 4000 + 8000 + 20,000 (squares) + 12,000 (Water seasons) = 50,936

Total number of spaces used: 114 + 62 + 98 + 40 = 314
(Plantings + fertilizer)

My Section Design

Use this worksheet to keep track of the development options you chose

Plantings

Total native plantings: 1+5+2+2+4+1+1=16
Total nonnative plantings: 2+6=8
Total bug-friendly plantings: 1+5+6+2+4+1+1=20
Total bird-friendly plantings: 1+2+5+2+1+1=12
Total mammal-friendly plantings: 2+5+2+1=10

Total spring plantings: 1+2+5+6+2+2+4+1+1=24
Total summer plantings: 1+2+5+6+2+2+4+1+1=24
Total fall plantings: 1+2+5+6+2+1+1=18
Total winter plantings: 1+2+6=9
Total water used: 2+8+15+6+2+8+8+3+3=55

American Holly: (1) 2 3 4 5
Total water: 2
Total price: 80
Total # spaces: 9

Douglas-fir: 1 (2) 3 4 5
Total water: 8
Total price: 140
Total # spaces: 32

Flowering Dogwood: 1 2 3 4 (5)
Total water: 15
Total price: 250
Total # spaces: 20

Kwanzan Cherry: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Moss Phlox: 1 (2) 3 4 5 6 7 8 9
Total water: 2
Total price: 20
Total # spaces: 2

Smooth Hydrangea: 1 2 3 (4) 5
Total water: 8
Total price: 160
Total # spaces: 16

White Oak: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Basswood: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Dwarf Fothergilla: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Gro-low Sumac: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Leyland Cypress: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Red Maple: 1 (2) 3 4 5
Total water: 8
Total price: 200
Total # spaces: 18

Tulip Poplar: (1) 2 3 4 5
Total water: 3
Total price: 110
Total # spaces: 9

Yoshino Cherry: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Common Boxwood: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Eastern Redbud: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Japanese Red Maple: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Liriope: 1 2 3 4 5 (6) 7 8 9
Total water: 6
Total price: 60
Total # spaces: 6

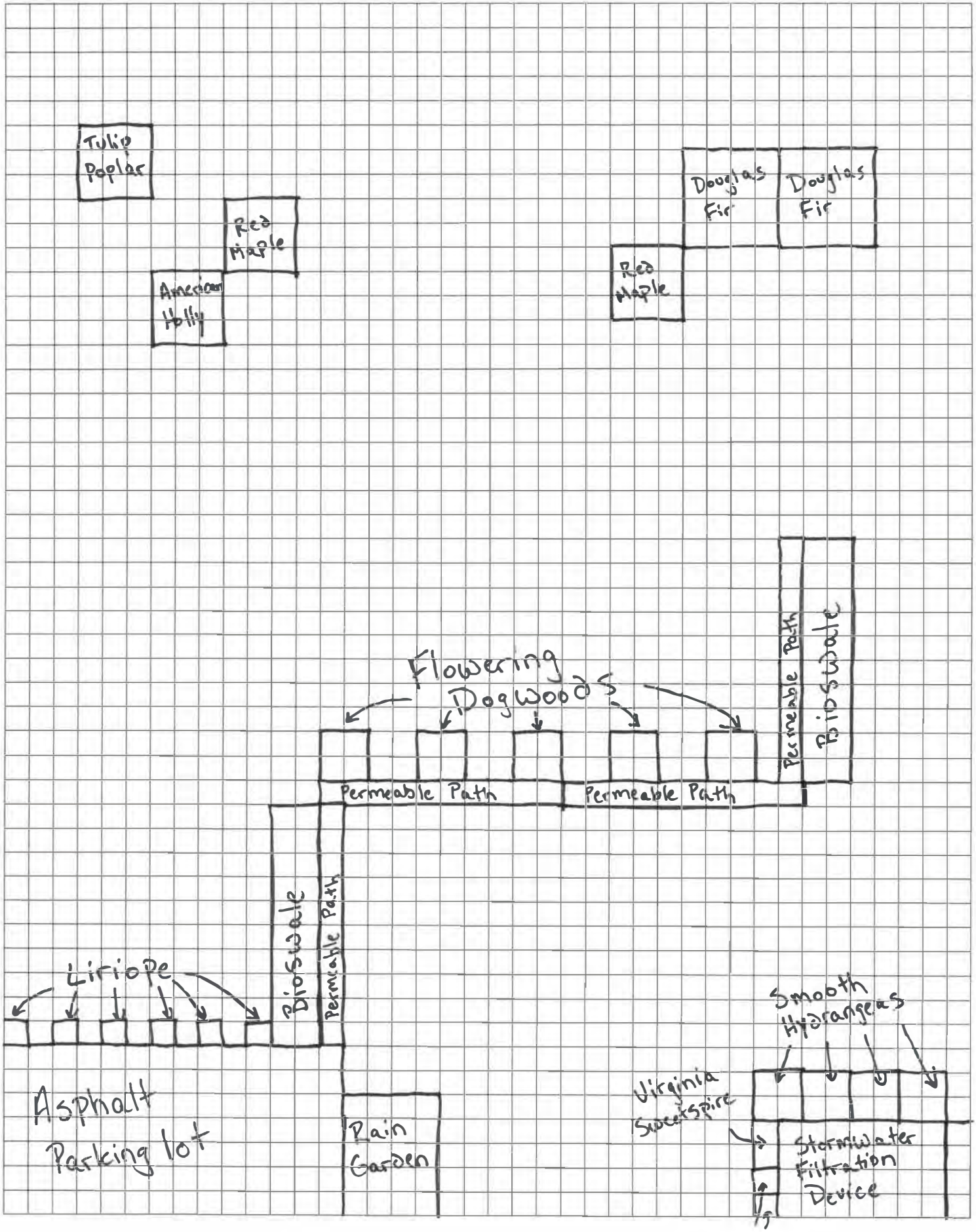
River Birch: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Virginia Sweetspire: (1) 2 3 4 5
Total water: 3
Total price: 20
Total # spaces: 2

Total Plantings Price:
80+140+250+60+20+200+160+110+20
$1040

Total Plantings Space:
9+32+20+6+2+18+16+9+2=114

Name:



MY SECTION DESIGN

CEMETERY SECTION DESIGN RUBRIC

Use this rubric to assess student achievement of expectations.

Criteria	1	2	3	4	Feedback
Student drew and labeled their section design.					
Student recorded their design choices and tracked their points earned.					
Student made choices that reflect they considered multiple competing factors – biodiversity, sustainability, the interests of visitors, and budget.					
Student appropriately described the impact their choices could have on biodiversity.					
Student appropriately described the impact their choices could have on aquatic ecosystems.					
	Total:				

1 = criteria not met; 2 = criteria partially met; 3 = criteria met; 4 = exceeds expectations

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IMAGES

Slide 1: Elizabeth Fraser, Spring at ANC 2021, March 29, 2021, Arlington National Cemetery. https://flic.kr/p/2kQ9ioV

Slide 2: Elizabeth Fraser, Aerial Photography of Arlington National Cemetery, April 18, 2018, Arlington National Cemetery, https://flic.kr/p/24ihiof

Slide 2: Elizabeth Fraser, Memorial Day Weekend 2020, May 23, 2020, Arlington National Cemetery, https://flic.kr/p/2j5hCSu

Slide 2: Elizabeth Fraser, Section 62, April 27, 2020, Arlington National Cemetery, https://flic.kr/p/2iVfm4K

Slide 2: Google Earth Pro 9.139.0.0 (October 8, 2020), Arlington National Cemetery, Arlington, VA. 38*52'48"N 77*03'03"W, Eye alt 600m. Accessed June 28, 2021. http://www.google.com/earth/index.html

Slide 4: Elizabeth Fraser, Fall foliage in Section 21, October 28, 2020, Arlington National Cemetery, https://flic.kr/p/2k14of7

Slide 4: Elizabeth Fraser, Rain gardens at ANC, July 29, 2019, Arlington National Cemetery, https://flic.kr/p/2gNky6X

Slide 4: Elizabeth Fraser, Spring 2020, April 8, 2020, Arlington National Cemetery, https://flic.kr/p/2iNZ1P7

Slide 4: Elizabeth Fraser, Winter Horticulture Highlights, March 2, 2021, Arlington National Cemetery, https://flic.kr/p/2kGt326

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Appendix B

Public Involvement and Participation Supporting Documentation

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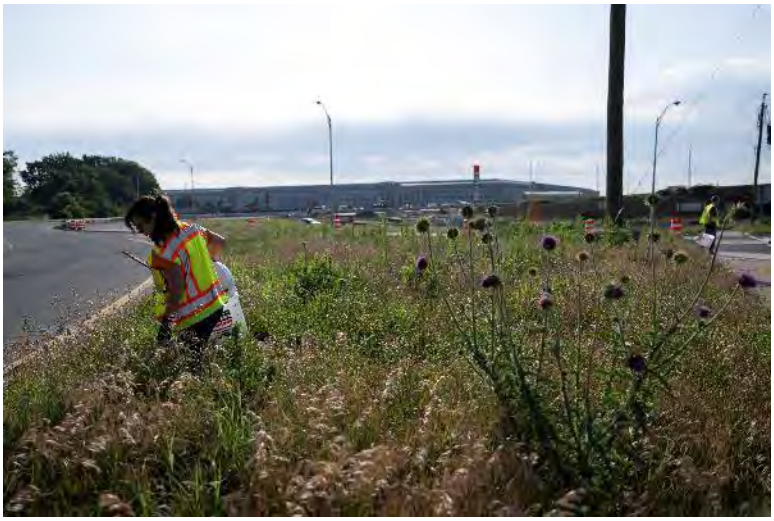
Arlington National Cemet... + Follow

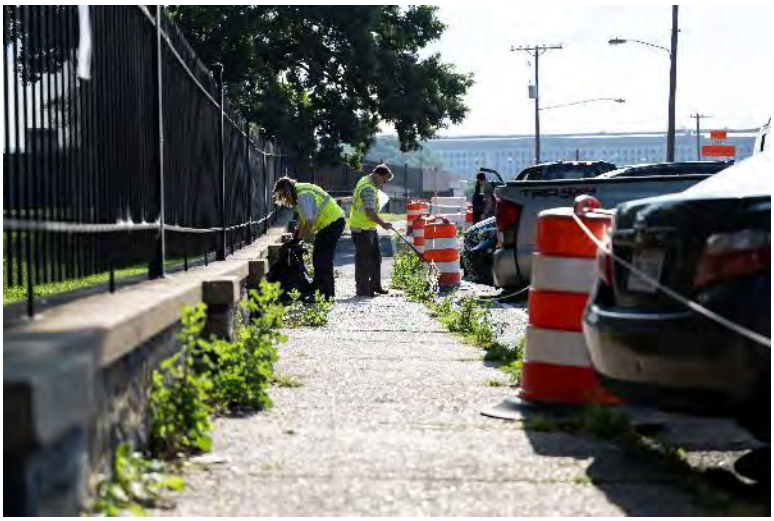
PRO

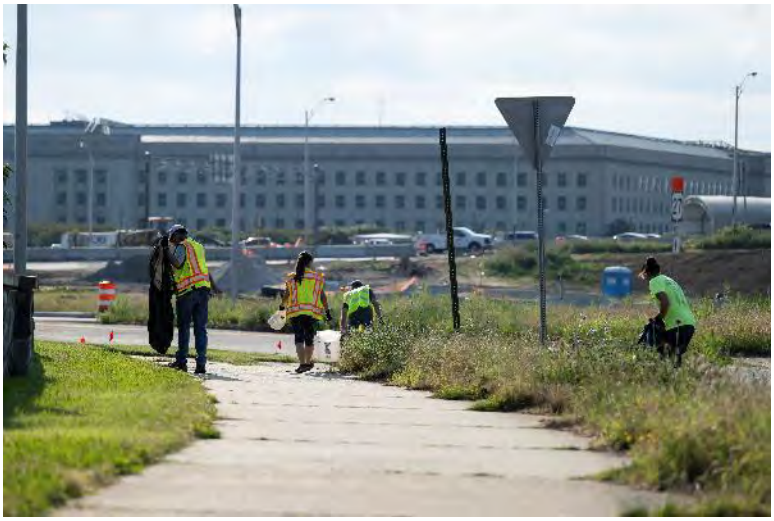
Clean the Bay Event at Arlington National Cemetery

Army National Military Cemeteries employees participate in the U.S. Department of Defense's June Clean the Bay event around the Southern Expansion Site of Arlington National Cemetery, Arlington, Va., June 13, 2024. Clean the Bay Day has been a staple for Virginia's Chesapeake Bay community since its inception over three decades ago. This tradition is an annual opportunity for individuals, families, military installations, businesses, clubs, and civic and church groups to give back to their local waterways, including the Chesapeake Bay watershed. (U.S. Army photo by Elizabeth Fraser / Arlington National Cemetery / released)


EXIT







Appendix C

Illicit Discharge Detection and Elimination Supporting Documentation

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Appendix C-1 - Inspection Summary Table

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Summary of October 2023 IDS Results						
ID Number	**Date**	**Time**	**Flow?**	**Chlorine Result**	**Suspected Illicit Discharge?**	**Notes**
MS4 Outfall						
OF8-SEC74	10/26/2023	11:25	Yes	0.08 mg/L	No	Water was clear, no odor.
Interconnections to Adjacent MS4s						
IN1A-SEC52	10/26/2023	10:05	Yes	None	No	Water was clear, no odor.
IN1B-SEC52	10/26/2023	10:15	Yes	None	No	Water was clear, no odor. Concrete cracked below outfall (not a new condition).
IN6-PG North	10/26/2023	11:48	No	-	-	Inlet pipe is wet, but no flow.
IN7-PG South	10/26/2023	11:53	No	-	-	Small amount of standing water, no flow.
IN9-SEC69	10/26/2023	09:45	No	-	-	
IN10-B123	10/26/2023	10:53	Yes	None	No	Dripping water is present from pipe entering side of structure. Standing water in the main pipe through the bottom, as is typical for this location. No odor.
IN11-SEC8	10/26/2023	10:45	No	-	-	
IN12-SEC29	10/26/2023	10:33	No	-	-	

OF8-SEC74 contained 0.08 mg/L of free chlorine, indicative of a potable water source. Allowable stormwater discharges under the MS4 Permit include landscape irrigation and irrigation water, discharges from potable water sources including waterline flushing, and street wash water. The team did not observe these conditions in the immediate vicinity of the outfall; however, they are common sources of dry weather flow observed historically. The flow could also be from a water line leak in the area; therefore, it should be investigated; however, it is not a high priority.

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Appendix C-2 - Spill Reporting Documentation

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Appendix D
Construction Site Stormwater Table

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ARLINGTON NATIONAL CEMETERY
CONSTRUCTION GENERAL PERMITS
1 JULY 2023 - 30 JUNE 2024

PERMIT	CONTRACTOR	PROJECT
VAR10S884	Manhattan Construction Co	ANC Southern Expansion Phase II Operations Complex
VAR10T204	Metro Paving Corp	Road Restoration and Storm Structure Pipe Upgrades
VAR10Q441	Kokosing Construction Co	VA-ST-ANC(1) - Arlington National Cemetery Southern Expansion Defense Access Road

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Appendix E
BMP Inspection Checklists

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Arlington National Cemetery Post-Construction Inspection Checklist			CHAMBER/MTD/SAND FILTER
Inspector Name: Molly Horning, Molly Reynolds (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2020		Type: ☐ Pre-Treatment ☒ Storage ☐ Other	
BMP #: INF-1	Location: Section 52	As-Built Plans available: ☐ Yes ☒ No	

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
None	NA	NA

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ☒ No			
Pipe or joint breaks or cracks	☐ Yes ☒ No			
Access cover missing, cracked, damaged, or unable to open	☐ Yes ☒ No			
Sediment Level				
Sediment accumulation in forebay	☐ Yes ☒ No ☐ N/A			
Sediment depth on vault floor greater than 15% of diameter or interior depth of vault	☐ Yes ☒ No			
Standing water inside chamber for more than 24 hours after storm	☐ Yes ☒ No			
Scum line present	☐ Yes ☒ No			
Chamber cracked (cracks wider than ½ inch), collapsed, or bent out of shape	☐ Yes ☒ No			
Upstream and Drainage Area				
Oil, fuel, or chemical spills	☐ Yes ☒ No ☐ N/A			
Sediment on pavement	☐ Yes ☒ No ☐ N/A			
Trash, debris, bare soil, and/or erosion	☐ Yes ☒ No ☐ N/A			

Additional Observations or Comments:

Some standing water in cleanout.

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	☐ **Yes** ☒ **No**

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Reynolds, Molly Horning (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2018		Underdrain Present: ▣ Yes ☐ No	
BMP #: MBR-1	Location: Gifford Shelter North	As-Built Plans available: ☐ Yes ▣ No	

ROUTINE MAINTENANCE ACTIVITIES		
Activity	**Frequency**	**Completed**
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	▣ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	▣ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3” layer • Prune trees and shrubs	Annually	▣ Yes ☐ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☐ Yes ▣ No ☐ Not due
Replace the mulch layer	Every 3 years	▣ Yes ☐ No ☐ Not due

FIELD INSPECTION CHECKLIST				
Criteria	**Maintenance Required?**	**ANC or Professional fix**	**Comments**	**Date Repaired**
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ▣ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☐ Yes ▣ No			

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ▣ No			
Outlet				
Erosion or sediment build-up	☐ Yes ▣ No			
Grate or spillway condition	☐ Yes ▣ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ▣ No			
Clogged underdrains	☐ Yes ▣ No		Could not open all, some on too tight.	
Observation well caps present	☐ Yes ▣ No ☐ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	▣ Yes ☐ No	ANC	Minor amount of debris in channel under sidewalk	
Inflow hindered by vegetation	☐ Yes ▣ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ▣ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ▣ No			
Additional Observations or Comments:				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ▣ No**


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Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Horning, Molly Reynolds (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2018		Underdrain Present: ☒ Yes ☐ No	
BMP #: MBR-2	Location: Gifford Shelter South	As-Built Plans available: ☐ Yes ☒ No	

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	☒ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	☒ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3" layer • Prune trees and shrubs	Annually	☒ Yes ☐ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☒ Yes ☐ No ☐ Not due
Replace the mulch layer	Every 3 years	☒ Yes ☐ No ☐ Not due

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ☒ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☐ Yes ☒ No			

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ▣ No			
Outlet				
Erosion or sediment build-up	☐ Yes ▣ No			
Grate or spillway condition	☐ Yes ▣ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ▣ No			
Clogged underdrains	☐ Yes ▣ No		Clean outs were dry, could not open all	
Observation well caps present	☐ Yes ▣ No ☐ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☐ Yes ▣ No			
Inflow hindered by vegetation	☐ Yes ▣ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ▣ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ▣ No			
Additional Observations or Comments:				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ▣ No**

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Arlington National Cemetery Post-Construction Inspection Checklist			PERMEABLE and POROUS PAVEMENT
Inspector Name: Molly Horning, Molly Reynolds (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2012		Underdrain Present: ☐ Yes ▣ No	
BMP #: PP-1	Location: Sidewalk along Eisenhower Dr	As-Built Plans available: ☐ Yes ▣ No	

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Dry-weather vacuum sweeping	Annually	▣ Yes ☐ No

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Deterioration (e.g., sinking, spalling, cracking, broken pavers)	☐ Yes ▣ No			
Erosion and/or bare or exposed soil in grid paver areas	☐ Yes ▣ No			
Presence of loose material, sediment deposits, or ponding	☐ Yes ▣ No			
Drainage and Adjacent Upstream Areas				
Vegetation encroachment	☐ Yes ▣ No			
Trash, debris, bare soil, and/or erosion	☐ Yes ▣ No			
Inlets/Outlets				
Erosion	☐ Yes ▣ No ☐ N/A			
Clogged or obstructed	☐ Yes ▣ No ☐ N/A			
Observation Wells				
Caps present	☐ Yes ▣ No ☐ N/A			
Standing water in well (3 days after storm event >½ inch)	☐ Yes ▣ No ☐ N/A			

Additional Observations or Comments:

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	**☐ Yes ▣ No**

Arlington National Cemetery Post-Construction Inspection Checklist			PERMEABLE and POROUS PAVEMENT
Inspector Name: Molly Reynolds, Molly Horning (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2014		Underdrain Present: ☐ Yes ▣ No	
BMP #: PP-2	Location: Sidewalk along Megis Dr	As-Built Plans available: ☐ Yes ▣ No	

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Dry-weather vacuum sweeping	Annually	▣ Yes ☐ No

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Deterioration (e.g., sinking, spalling, cracking, broken pavers)	▣ Yes ☐ No	ANC	Sinking spot that exposed metal side of pavement	
Erosion and/or bare or exposed soil in grid paver areas	☐ Yes ▣ No			
Presence of loose material, sediment deposits, or ponding	☐ Yes ▣ No			
Drainage and Adjacent Upstream Areas				
Vegetation encroachment	☐ Yes ▣ No			
Trash, debris, bare soil, and/or erosion	☐ Yes ▣ No			
Inlets/Outlets				
Erosion	☐ Yes ▣ No ☐ N/A			
Clogged or obstructed	☐ Yes ▣ No ☐ N/A			
Observation Wells				
Caps present	☐ Yes ▣ No ☐ N/A			
Standing water in well (3 days after storm event >½ inch)	☐ Yes ▣ No ☐ N/A			

Additional Observations or Comments:

One spot that appear to be patched with a different material.

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	**☐ Yes ▣ No**

Arlington National Cemetery Post-Construction Inspection Checklist		PERMEABLE and POROUS PAVEMENT
Inspector Name: Molly Horning, Molly Reynolds (Bluestone)	Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75	Time since last rainfall: >3 days	

BMP INFORMATION

BMP Installation Date: 2018		Underdrain Present: ☐ Yes ☒ No
BMP #: PP-3	Location: Millenium	As-Built Plans available: ☐ Yes ☒ No

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Dry-weather vacuum sweeping	Annually	☒ Yes ☐ No

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Deterioration (e.g., sinking, spalling, cracking, broken pavers)	☐ Yes ☒ No			
Erosion and/or bare or exposed soil in grid paver areas	☐ Yes ☒ No			
Presence of loose material, sediment deposits, or ponding	☐ Yes ☒ No			
Drainage and Adjacent Upstream Areas				
Vegetation encroachment	☐ Yes ☒ No			
Trash, debris, bare soil, and/or erosion	☐ Yes ☒ No			
Inlets/Outlets				
Erosion	☐ Yes ☒ No ☐ N/A			
Clogged or obstructed	☐ Yes ☒ No ☐ N/A			
Observation Wells				
Caps present	☐ Yes ☒ No ☐ N/A			
Standing water in well (3 days after storm event >½ inch)	☐ Yes ☒ No ☐ N/A			

Additional Observations or Comments:

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	**☐ Yes ☒ No**

Arlington National Cemetery Post-Construction Inspection Checklist			CHAMBER/MTD/SAND FILTER
Inspector Name: Molly Reynolds, Molly Horning (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 1996		Type: ☒ Pre-Treatment ☐ Storage ☐ Other	
BMP #: PT-UTD	Location: Bldg 123	As-Built Plans available: ☐ Yes ☒ No	

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
None	NA	NA

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ☒ No			
Pipe or joint breaks or cracks	☐ Yes ☒ No			
Access cover missing, cracked, damaged, or unable to open	☐ Yes ☒ No			
Sediment Level				
Sediment accumulation in forebay	☐ Yes ☒ No ☐ N/A			
Sediment depth on vault floor greater than 15% of diameter or interior depth of vault	☐ Yes ☒ No		3-4 inches of sediment accumulation	
Standing water inside chamber for more than 24 hours after storm	☐ Yes ☒ No		As designed	
Scum line present	☐ Yes ☒ No			
Chamber cracked (cracks wider than ½ inch), collapsed, or bent out of shape	☐ Yes ☒ No			
Upstream and Drainage Area				
Oil, fuel, or chemical spills	☐ Yes ☒ No ☐ N/A			
Sediment on pavement	☒ Yes ☐ No ☐ N/A	ANC	Some sediment as typical	
Trash, debris, bare soil, and/or erosion	☐ Yes ☒ No ☐ N/A			

Additional Observations or Comments:

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	☐ **Yes** ☒ **No**

Arlington National Cemetery **Post-Construction Inspection Checklist**		**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Reynolds, Molly Horning (Bluestone)	Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny 75	Time since last rainfall: >3 days	

BMP INFORMATION

BMP Installation Date: 2012		Underdrain Present: ☒ Yes ☐ No
BMP #: RG-1	Location: Bldg 123	As-Built Plans available: ☐ Yes ☒ No

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	☒ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	☒ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3" layer • Prune trees and shrubs	Annually	☒ Yes ☐ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☒ Yes ☐ No ☒ Not due
Replace the mulch layer	Every 3 years	☒ Yes ☐ No ☐ Not due

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ☒ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☐ Yes ☒ No			

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ☒ No			
Outlet				
Erosion or sediment build-up	☐ Yes ☒ No			
Grate or spillway condition	☐ Yes ☒ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ☒ No			
Clogged underdrains	☐ Yes ☒ No			
Observation well caps present	☐ Yes ☐ No ☒ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☒ Yes ☐ No	ANC	Riprap removed from eastern curb cut and piled up, unclear why. Inlet has rubber curb blocking inflow.	
Inflow hindered by vegetation	☐ Yes ☒ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ☒ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ☒ No			
Additional Observations or Comments:				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ☒ No**

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Arlington National Cemetery **Post-Construction Inspection Checklist**		**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Reynolds, Molly Horning (Bluestone)	Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75	Time since last rainfall: >3 days	

BMP INFORMATION

BMP Installation Date: 2012		Underdrain Present: ☒ Yes ☐ No
BMP #: RG-2	Location: Bldg 123	As-Built Plans available: ☐ Yes ☒ No

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	☒ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	☒ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3" layer • Prune trees and shrubs	Annually	☒ Yes ☐ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☒ Yes ☐ No ☐ Not due
Replace the mulch layer	Every 3 years	☒ Yes ☐ No ☐ Not due

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ☒ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☐ Yes ☒ No			

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ☒ No			
Outlet				
Erosion or sediment build-up	☐ Yes ☒ No			
Grate or spillway condition	☐ Yes ☒ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ☒ No			
Clogged underdrains	☐ Yes ☒ No			
Observation well caps present	☐ Yes ☐ No ☒ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☐ Yes ☒ No			
Inflow hindered by vegetation	☐ Yes ☒ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ☒ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ☒ No			
Additional Observations or Comments:				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ☒ No**

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Arlington National Cemetery **Post-Construction Inspection Checklist**		**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Horning, Molly Reynolds (Bluestone)	Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75	Time since last rainfall: >3 days	

BMP INFORMATION

BMP Installation Date: 2012		Underdrain Present: ☒ Yes ☐ No
BMP #: RG-3	Location: Bldg 123	As-Built Plans available: ☐ Yes ☒ No

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	☒ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	☒ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3" layer • Prune trees and shrubs	Annually	☒ Yes ☐ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☐ Yes ☒ No ☐ Not due
Replace the mulch layer	Every 3 years	☒ Yes ☐ No ☐ Not due

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ☒ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☐ Yes ☒ No			

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ☒ No			
Outlet				
Erosion or sediment build-up	☐ Yes ☒ No			
Grate or spillway condition	☐ Yes ☒ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ☒ No			
Clogged underdrains	☐ Yes ☒ No			
Observation well caps present	☐ Yes ☒ No ☐ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☒ Yes ☐ No	ANC	Materials stored in front of inlet that are blocking it and sediment build up at curb cut	
Inflow hindered by vegetation	☐ Yes ☒ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☒ Yes ☐ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☒ Yes ☐ No			
Additional Observations or Comments:				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ☒ No**

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Arlington National Cemetery **Post-Construction Inspection Checklist**		**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Horning, Molly Reynolds (Bluestone)	Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75	Time since last rainfall: >3 days	

BMP INFORMATION

BMP Installation Date: 2018		Underdrain Present: ☒ Yes ☐ No
BMP #: RG-4	Location: Lewis Shelter	As-Built Plans available: ☐ Yes ☒ No

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	☒ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	☒ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3" layer • Prune trees and shrubs	Annually	☒ Yes ☐ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☐ Yes ☒ No ☐ Not due
Replace the mulch layer	Every 3 years	☐ Yes ☒ No ☐ Not due

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☒ Yes ☐ No	ANC	High grass	
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☒ Yes ☐ No	ANC	Some areas mulch is missing	

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ☒ No			
Outlet				
Erosion or sediment build-up	☐ Yes ☒ No			
Grate or spillway condition	☐ Yes ☒ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ☒ No			
Clogged underdrains	☐ Yes ☒ No			
Observation well caps present	☐ Yes ☒ No ☐ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☒ Yes ☐ No	ANC	Sediment build up in front of inflow pipe and at curb cuts	
Inflow hindered by vegetation	☐ Yes ☒ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ☒ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ☒ No			
Additional Observations or Comments:				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ☒ No**

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Arlington National Cemetery **Post-Construction Inspection Checklist**		**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Horning, Molly Reynolds (Bluestone)	Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75	Time since last rainfall: >3 days	

BMP INFORMATION

BMP Installation Date: 2018		Underdrain Present: ☒ Yes ☐ No
BMP #: RG-5	Location: Columbarium 12	As-Built Plans available: ☐ Yes ☒ No

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	☒ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	☒ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3" layer • Prune trees and shrubs	Annually	☒ Yes ☐ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☒ Yes ☐ No ☐ Not due
Replace the mulch layer	Every 3 years	☒ Yes ☐ No ☐ Not due

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ☒ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☐ Yes ☒ No			

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ☒ No			
Outlet				
Erosion or sediment build-up	☐ Yes ☒ No			
Grate or spillway condition	☐ Yes ☒ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ☒ No			
Clogged underdrains	☐ Yes ☒ No			
Observation well caps present	☐ Yes ☒ No ☐ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☐ Yes ☒ No			
Inflow hindered by vegetation	☐ Yes ☒ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ☒ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ☒ No			
Additional Observations or Comments:				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ☒ No**

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Arlington National Cemetery **Post-Construction Inspection Checklist**		**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Reynolds, Molly Reynolds (Bluestone)	Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny 75	Time since last rainfall: >3 days	

BMP INFORMATION		
BMP Installation Date: 2018		Underdrain Present: ☒ Yes ☐ No
BMP #: RG-6	Location: Columbarium 13	As-Built Plans available: ☐ Yes ☒ No

ROUTINE MAINTENANCE ACTIVITIES		
Activity	**Frequency**	**Completed**
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	☒ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	☒ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3" layer • Prune trees and shrubs	Annually	☒ Yes ☐ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☒ Yes ☐ No ☐ Not due
Replace the mulch layer	Every 3 years	☒ Yes ☐ No ☐ Not due

FIELD INSPECTION CHECKLIST				
Criteria	**Maintenance Required?**	**ANC or Professional fix**	**Comments**	**Date Repaired**
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ☒ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☒ Yes ☐ No	ANC	Mulch thin in some areas	

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ☐ No			
Outlet				
Erosion or sediment build-up	☐ Yes ☐ No			
Grate or spillway condition	☐ Yes ☐ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ☒ No			
Clogged underdrains	☐ Yes ☐ No		Did not attempt to open due to foxes	
Observation well caps present	☐ Yes ☐ No ☒ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☐ Yes ☒ No			
Inflow hindered by vegetation	☐ Yes ☒ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ☒ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ☒ No			
Additional Observations or Comments: Fox pups living in BMP				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ☒ No**

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Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Horning, Molly Reynolds (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2018		Underdrain Present: ☒ Yes ☐ No	
BMP #: RG-7	Location: Admin South Parking Lot	As-Built Plans available: ☐ Yes ☒ No	

ROUTINE MAINTENANCE ACTIVITIES		
Activity	**Frequency**	**Completed**
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	☒ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	☐ Yes ☒ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3" layer • Prune trees and shrubs	Annually	☐ Yes ☒ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☒ Yes ☐ No ☐ Not due
Replace the mulch layer	Every 3 years	☐ Yes ☒ No ☐ Not due

FIELD INSPECTION CHECKLIST				
Criteria	**Maintenance Required?**	**ANC or Professional fix**	**Comments**	**Date Repaired**
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☒ Yes ☐ No	ANC	Weeding required	
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☒ Yes ☐ No	ANC	Add mulch, some bare soil/old mulch	

Arlington National Cemetery **Post-Construction Inspection Checklist**				**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ▣ No			
Outlet				
Erosion or sediment build-up	☐ Yes ▣ No			
Grate or spillway condition	☐ Yes ▣ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ▣ No			
Clogged underdrains	☐ Yes ▣ No			
Observation well caps present	☐ Yes ▣ No ☐ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☐ Yes ▣ No			
Inflow hindered by vegetation	☐ Yes ▣ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ▣ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ▣ No			
Additional Observations or Comments:				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ▣ No**

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Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Horning, Molly Reynolds (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2018		Underdrain Present: ☒ Yes ☐ No	
BMP #: RG-8	Location: Admin South Parking Lot	As-Built Plans available: ☐ Yes ☒ No	

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	☒ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	☒ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3" layer • Prune trees and shrubs	Annually	☒ Yes ☐ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☒ Yes ☐ No ☐ Not due
Replace the mulch layer	Every 3 years	☒ Yes ☐ No ☐ Not due

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ☒ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☐ Yes ☒ No			

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ☒ No			
Outlet				
Erosion or sediment build-up	☐ Yes ☒ No			
Grate or spillway condition	☐ Yes ☒ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ☒ No			
Clogged underdrains	☐ Yes ☒ No			
Observation well caps present	☐ Yes ☒ No ☐ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☐ Yes ☒ No			
Inflow hindered by vegetation	☐ Yes ☒ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ☒ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ☒ No			
Additional Observations or Comments:				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ☒ No**

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Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Reynolds, Molly Horning (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2018		Underdrain Present: ☐ Yes ▣ No	
BMP #: RG-9	Location: Admin North Parking Lot	As-Built Plans available: ☐ Yes ▣ No	

ROUTINE MAINTENANCE ACTIVITIES		
Activity	**Frequency**	**Completed**
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	▣ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	▣ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3” layer • Prune trees and shrubs	Annually	☐ Yes ▣ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	▣ Yes ☐ No ☐ Not due
Replace the mulch layer	Every 3 years	☐ Yes ▣ No ☐ Not due

FIELD INSPECTION CHECKLIST				
Criteria	**Maintenance Required?**	**ANC or Professional fix**	**Comments**	**Date Repaired**
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ▣ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	▣ Yes ☐ No	ANC	Some areas of bare soil could use more mulch.	

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ▣ No			
Outlet				
Erosion or sediment build-up	☐ Yes ▣ No			
Grate or spillway condition	☐ Yes ▣ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ▣ No			
Clogged underdrains	☐ Yes ▣ No		One clean out had minimal standing water. Could not open others because partially buried.	
Observation well caps present	☐ Yes ☐ No ▣ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☐ Yes ▣ No			
Inflow hindered by vegetation	☐ Yes ▣ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ▣ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ▣ No			
Additional Observations or Comments:				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ▣ No**

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Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Horning, Molly Reynolds (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2018		Underdrain Present: ☒ Yes ☐ No	
BMP #: RG-10	Location: East Employee Parking Lot	As-Built Plans available: ☐ Yes ☒ No	

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	☒ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	☒ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3" layer • Prune trees and shrubs	Annually	☐ Yes ☒ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☐ Yes ☒ No ☐ Not due
Replace the mulch layer	Every 3 years	☐ Yes ☒ No ☐ Not due

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ☒ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☒ Yes ☐ No	ANC	No mulch seen in some areas, exposed soil	

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ☒ No			
Outlet				
Erosion or sediment build-up	☐ Yes ☒ No			
Grate or spillway condition	☐ Yes ☒ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ☒ No			
Clogged underdrains	☐ Yes ☒ No			
Observation well caps present	☐ Yes ☒ No ☐ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☐ Yes ☒ No			
Inflow hindered by vegetation	☐ Yes ☒ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ☒ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ☒ No			
Additional Observations or Comments:				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ☒ No**

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Arlington National Cemetery Post-Construction Inspection Checklist			OTHER BMPS
Inspector Name, Title, Affiliation: Molly Reynolds, Molly Horning (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2016		Type: Stream Restoration	
BMP #: SR	Location: Millennium Stream	As-Built Plans available: ☐ Yes ■ No ☐ N/A	

OBSERVATIONS AND RECOMMENDATIONS

Observations:

Dense vegetation. Grape vines over growing some areas that are less shaded. No erosion observed. Water levels low.

Recommendations:

None

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	☐ **Yes** ■ **No**

Arlington National Cemetery Post-Construction Inspection Checklist			OTHER BMPS
Inspector Name, Title, Affiliation: Molly Reynolds, Molly Horning (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2013		Type: Street Sweeping	
BMP #: SS	Location: ANC Roads	As-Built Plans available: ☐ Yes ☐ No ■ N/A	
OBSERVATIONS AND RECOMMENDATIONS			
Observations: Roads were generally free of sediment/leaves/debris.			
Recommendations: None			
ANNUAL REPORTING			
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)			☐ **Yes** ■ **No**

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Arlington National Cemetery Post-Construction Inspection Checklist			HYDRODYNAMIC SEPARATOR
Inspector Name, Title, Affiliation: Molly Horning, Molly Reynolds (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2002		Model: ☐ 900 ☐ 1200 ■ 1800 ☐ 2400	
BMP #: STC-1	Location: Columbarium 7	As-Built Plans available: ■ Yes ☐ No	

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
None	NA	NA

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ■ No			
Pipe or joint breaks or cracks	☐ Yes ■ No			
Access portals cracked, damaged, or unable to open	☐ Yes ■ No			
Sediment Levels				
Sediment depth of the following values (sampling procedures provided below): *Model # / Depth (in.)* STC 900 / 6 STC 1200 / 7 STC 1800 / 12 STC 2400 / 12 FD-6 / 18 DD 8-ft / 30	■ Yes ☐ No	Professional	Greater than 12 inches of sediment	
Oil Levels				
Oil greater than 1" (sampling procedures provided below):	☐ Yes ■ No			
Upstream and Drainage Area				
Oil, fuel, or chemical spills	☐ Yes ■ No ☐ N/A			
Sediment on pavement	☐ Yes ■ No ☐ N/A			
Trash, debris, bare soil, and/or erosion	☐ Yes ■ No ☐ N/A			

Additional Observations or Comments:

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	☐ **Yes** ■ **No**

Sediment Level Sampling Procedures:

1. Lower clear plastic sampling tube through the 24-inch discharge opening until it hits bottom of unit.
2. Raise tube to view sediment level.
3. Take average of three samples.
4. If sediment is present in depths listed in table below, perform maintenance/vacuum truck cleaning.

Contech Stormceptor Model #	*Depth (in.)*
900	6
1200	7
1800	12
2400	12
Hydro International First Defense Model #	*Depth (in.)*
FD-6	18
Hydro International Downstream Defender Model #	*Depth (in.)*
8-ft	*30*

Oil Level Sampling Procedures:

1. Lower sampling tube through 6-inch vent pipe into upper portion of separation tank.
2. Remove tube to examine water column.
3. If more than 1-inch of oil is present, remove oil.


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Arlington National Cemetery Post-Construction Inspection Checklist			HYDRODYNAMIC SEPARATOR
Inspector Name, Title, Affiliation: Molly Reynolds, Molly Horning (Bluestone)	Date: 6/12/24	Date of last inspection: 6/12/23	
Weather/site conditions: Sunny, 75	Time since last rainfall: >3 days		

BMP INFORMATION

BMP Installation Date: 2002		Model: ☐ 900 ☐ 1200 ■ 1800 ☐ 2400
BMP #: STC-2	Location: Columbarium 8	As-Built Plans available: ■ Yes ☐ No

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
None	NA	NA

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ■ No			
Pipe or joint breaks or cracks	☐ Yes ■ No			
Access portals cracked, damaged, or unable to open	☐ Yes ■ No			
Sediment Levels				
Sediment depth of the following values (sampling procedures provided below): *Model # / Depth (in.)* STC 900 — 6 STC 1200 — 7 STC 1800 — 12 STC 2400 — 12 FD-6 — 18 DD 8-ft — 30	☐ Yes ■ No		3-4 inches sediment	
Oil Levels				
Oil greater than 1" (sampling procedures provided below):	☐ Yes ■ No			
Upstream and Drainage Area				
Oil, fuel, or chemical spills	☐ Yes ■ No ☐ N/A			
Sediment on pavement	☐ Yes ■ No ☐ N/A			
Trash, debris, bare soil, and/or erosion	☐ Yes ■ No ☐ N/A			

Additional Observations or Comments:

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	☐ **Yes** ■ **No**

Sediment Level Sampling Procedures:

1. Lower clear plastic sampling tube through the 24-inch discharge opening until it hits bottom of unit.
2. Raise tube to view sediment level.
3. Take average of three samples.
4. If sediment is present in depths listed in table below, perform maintenance/vacuum truck cleaning.

Contech Stormceptor Model #	*Depth (in.)*
900	6
1200	7
1800	12
2400	12
Hydro International First Defense Model #	*Depth (in.)*
FD-6	18
Hydro International Downstream Defender Model #	*Depth (in.)*
8-ft	*30*

Oil Level Sampling Procedures:

1. Lower sampling tube through 6-inch vent pipe into upper portion of separation tank.
2. Remove tube to examine water column.
3. If more than 1-inch of oil is present, remove oil.

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Arlington National Cemetery Post-Construction Inspection Checklist			HYDRODYNAMIC SEPARATOR
Inspector Name, Title, Affiliation: Molly Horning, Molly Reynolds (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2013		Model: ■ 900 ☐ 1200 ☐ 1800 ☐ 2400	
BMP #: STC-3	Location: Columbarium 9 N	As-Built Plans available: ■ Yes ☐ No	

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
None	NA	NA

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ■ No			
Pipe or joint breaks or cracks	☐ Yes ■ No			
Access portals cracked, damaged, or unable to open	☐ Yes ■ No			
Sediment Levels				
Sediment depth of the following values (sampling procedures provided below): *Model # / Depth (in.)* STC 900 / 6 STC 1200 / 7 STC 1800 / 12 STC 2400 / 12 FD-6 / 18 DD 8-ft / 30	☐ Yes ■ No		1 inch of sediment	
Oil Levels				
Oil greater than 1" (sampling procedures provided below):	☐ Yes ■ No			
Upstream and Drainage Area				
Oil, fuel, or chemical spills	☐ Yes ■ No ☐ N/A			
Sediment on pavement	☐ Yes ■ No ☐ N/A			
Trash, debris, bare soil, and/or erosion	☐ Yes ■ No ☐ N/A			

Additional Observations or Comments:

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	☐ **Yes** ■ **No**

Sediment Level Sampling Procedures:

1. Lower clear plastic sampling tube through the 24-inch discharge opening until it hits bottom of unit.
2. Raise tube to view sediment level.
3. Take average of three samples.
4. If sediment is present in depths listed in table below, perform maintenance/vacuum truck cleaning.

Contech Stormceptor Model #	*Depth (in.)*
900	6
1200	7
1800	12
2400	12
Hydro International First Defense Model #	*Depth (in.)*
FD-6	18
Hydro International Downstream Defender Model #	*Depth (in.)*
8-ft	*30*

Oil Level Sampling Procedures:

1. Lower sampling tube through 6-inch vent pipe into upper portion of separation tank.
2. Remove tube to examine water column.
3. If more than 1-inch of oil is present, remove oil.

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Arlington National Cemetery
Post-Construction Inspection Checklist

HYDRODYNAMIC SEPARATOR

Inspector Name, Title, Affiliation: Molly Horning, Molly Reynolds (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	

BMP INFORMATION

BMP Installation Date: 2013		Model: ■ 900 ☐ 1200 ☐ 1800 ☐ 2400
BMP #: STC-4	Location: Columbarium 9 S	As-Built Plans available: ■ Yes ☐ No

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
None	NA	NA

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ■ No			
Pipe or joint breaks or cracks	☐ Yes ■ No			
Access portals cracked, damaged, or unable to open	■ Yes ☐ No	ANC	Grass covering edges of manhole, difficult to open and close	
Sediment Levels				
Sediment depth of the following values (sampling procedures provided below): *Model # / Depth (in.)* STC 900: 6 STC 1200: 7 STC 1800: 12 STC 2400: 12 FD-6: 18 DD 8-ft: 30	☐ Yes ■ No		4 inches of sediment	
Oil Levels				
Oil greater than 1" (sampling procedures provided below):	☐ Yes ■ No			
Upstream and Drainage Area				
Oil, fuel, or chemical spills	☐ Yes ■ No ☐ N/A			
Sediment on pavement	☐ Yes ■ No ☐ N/A			
Trash, debris, bare soil, and/or erosion	☐ Yes ■ No ☐ N/A			

Additional Observations or Comments:

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	☐ **Yes** ■ **No**

Sediment Level Sampling Procedures:

1. Lower clear plastic sampling tube through the 24-inch discharge opening until it hits bottom of unit.
2. Raise tube to view sediment level.
3. Take average of three samples.
4. If sediment is present in depths listed in table below, perform maintenance/vacuum truck cleaning.

Contech Stormceptor Model #	*Depth (in.)*
900	6
1200	7
1800	12
2400	12
Hydro International First Defense Model #	*Depth (in.)*
FD-6	18
Hydro International Downstream Defender Model #	*Depth (in.)*
8-ft	*30*

Oil Level Sampling Procedures:

1. Lower sampling tube through 6-inch vent pipe into upper portion of separation tank.
2. Remove tube to examine water column.
3. If more than 1-inch of oil is present, remove oil.

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Arlington National Cemetery Post-Construction Inspection Checklist			HYDRODYNAMIC SEPARATOR
Inspector Name, Title, Affiliation: Molly Horning, Molly Reynolds (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	

BMP INFORMATION

BMP Installation Date: 2006		Model: ☐ 900 ☐ 1200 ☐ 1800 ■ 2400
BMP #: STC-5	Location: Section 76	As-Built Plans available: ■ Yes ☐ No

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
None	NA	NA

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ■ No			
Pipe or joint breaks or cracks	☐ Yes ■ No			
Access portals cracked, damaged, or unable to open	■ Yes ☐ No	ANC	Manhole completely covered in mulch and under a bush	
Sediment Levels				
Sediment depth of the following values (sampling procedures provided below): *Model # / Depth (in.)* STC 900 / 6 STC 1200 / 7 STC 1800 / 12 STC 2400 / 12 FD-6 / 18 DD 8-ft / 30	■ Yes ☐ No	Professional	Top of sediment a few inches below water surface, couldn't measure to bottom. Needs to be cleaned out.	
Oil Levels				
Oil greater than 1" (sampling procedures provided below):	☐ Yes ■ No			
Upstream and Drainage Area				
Oil, fuel, or chemical spills	☐ Yes ■ No ☐ N/A			
Sediment on pavement	☐ Yes ■ No ☐ N/A			
Trash, debris, bare soil, and/or erosion	☐ Yes ■ No ☐ N/A			

Additional Observations or Comments:

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	■ **Yes** ☐ **No**

Sediment Level Sampling Procedures:

1. Lower clear plastic sampling tube through the 24-inch discharge opening until it hits bottom of unit.
2. Raise tube to view sediment level.
3. Take average of three samples.
4. If sediment is present in depths listed in table below, perform maintenance/vacuum truck cleaning.

Contech Stormceptor Model #	*Depth (in.)*
900	6
1200	7
1800	12
2400	12
Hydro International First Defense Model #	*Depth (in.)*
FD-6	18
Hydro International Downstream Defender Model #	*Depth (in.)*
8-ft	*30*

Oil Level Sampling Procedures:

1. Lower sampling tube through 6-inch vent pipe into upper portion of separation tank.
2. Remove tube to examine water column.
3. If more than 1-inch of oil is present, remove oil.

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Arlington National Cemetery Post-Construction Inspection Checklist			HYDRODYNAMIC SEPARATOR
Inspector Name, Title, Affiliation: Molly Reynolds, Molly Horning (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2006		Model: ☐ 900 ☐ 1200 ■ 1800 ☐ 2400	
BMP #: STC-6	Location: Section 73	As-Built Plans available: ■ Yes ☐ No	

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
None	NA	NA

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ■ No			
Pipe or joint breaks or cracks	☐ Yes ■ No			
Access portals cracked, damaged, or unable to open	☐ Yes ■ No			
Sediment Levels				
Sediment depth of the following values (sampling procedures provided below): *Model # / Depth (in.)* STC 900 / 6 STC 1200 / 7 STC 1800 / 12 STC 2400 / 12 FD-6 / 18 DD 8-ft / 30	■ Yes ☐ No	Professional	Sediment depth ~18 inches, inlet berm filled with rocks. Recommend cleanout	
Oil Levels				
Oil greater than 1" (sampling procedures provided below):	☐ Yes ■ No			
Upstream and Drainage Area				
Oil, fuel, or chemical spills	☐ Yes ■ No ☐ N/A			
Sediment on pavement	☐ Yes ■ No ☐ N/A			
Trash, debris, bare soil, and/or erosion	☐ Yes ■ No ☐ N/A			

Additional Observations or Comments:

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	☐ **Yes** ■ **No**

Sediment Level Sampling Procedures:

1. Lower clear plastic sampling tube through the 24-inch discharge opening until it hits bottom of unit.
2. Raise tube to view sediment level.
3. Take average of three samples.
4. If sediment is present in depths listed in table below, perform maintenance/vacuum truck cleaning.

Contech Stormceptor Model #	*Depth (in.)*
900	6
1200	7
1800	12
2400	12
Hydro International First Defense Model #	*Depth (in.)*
FD-6	18
Hydro International Downstream Defender Model #	*Depth (in.)*
8-ft	*30*

Oil Level Sampling Procedures:

1. Lower sampling tube through 6-inch vent pipe into upper portion of separation tank.
2. Remove tube to examine water column.
3. If more than 1-inch of oil is present, remove oil.

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Arlington National Cemetery Post-Construction Inspection Checklist			**HYDRODYNAMIC SEPARATOR**
Inspector Name, Title, Affiliation: Matt Hartman		Date: 6/18/2024	Date of last inspection: 9/12/2022
Weather/site conditions: Clear, 80		Time since last rainfall: Unknown	
BMP INFORMATION			
BMP Installation Date: 1998		Model: ☐ 900 ■ 1200 ☐ 1800 ☐ 2400	
BMP #: STC-7	Location: York Dr/Marshall Dr	As-Built Plans available: ■ Yes ☐ No	

ROUTINE MAINTENANCE ACTIVITIES		
Activity	**Frequency**	**Completed**
None	NA	NA

FIELD INSPECTION CHECKLIST				
Criteria	**Maintenance Required?**	**ANC or Professional fix**	**Comments**	**Date Repaired**
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ■ No			
Pipe or joint breaks or cracks	☐ Yes ■ No			
Access portals cracked, damaged, or unable to open	☐ Yes ■ No			
Sediment Levels				
Sediment depth of the following values (sampling procedures provided below): *Model # / Depth (in.)* STC 900 / 6 STC 1200 / 7 STC 1800 / 12 STC 2400 / 12 FD-6 / 18 DD 8-ft / 30	☐ Yes ■ No		All sediment removed on 6/18/2024.	
Oil Levels				
Oil greater than 1" (sampling procedures provided below):	☐ Yes ■ No			
Upstream and Drainage Area				
Oil, fuel, or chemical spills	☐ Yes ■ No ☐ N/A			
Sediment on pavement	☐ Yes ■ No ☐ N/A			
Trash, debris, bare soil, and/or erosion	☐ Yes ■ No ☐ N/A			

Additional Observations or Comments:

All sediment removed on 18 June 2024. Photos are following cleaning, no structural damage observed.

ANNUAL REPORTING	
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	☐ **Yes** ■ **No**

Sediment Level Sampling Procedures:

1. Lower clear plastic sampling tube through the 24-inch discharge opening until it hits bottom of unit.
2. Raise tube to view sediment level.
3. Take average of three samples.
4. If sediment is present in depths listed in table below, perform maintenance/vacuum truck cleaning.

Contech Stormceptor Model #	*Depth (in.)*
900	6
1200	7
1800	12
2400	12
Hydro International First Defense Model #	*Depth (in.)*
FD-6	18
Hydro International Downstream Defender Model #	*Depth (in.)*
8-ft	*30*

Oil Level Sampling Procedures:

1. Lower sampling tube through 6-inch vent pipe into upper portion of separation tank.
2. Remove tube to examine water column.
3. If more than 1-inch of oil is present, remove oil.

Arlington National Cemetery Post-Construction Inspection Checklist			HYDRODYNAMIC SEPARATOR
Inspector Name, Title, Affiliation: Molly Reynolds, Molly Horning (Bluestone)	Date: 6/12/24	Date of last inspection: 6/12/23	
Weather/site conditions: Sunny, 75	Time since last rainfall: >3 days		

BMP INFORMATION

BMP Installation Date: 2018	Model: Hydro Int'l First Defense FD-6	
BMP #: STC-8	Location: Chaffee Parking lot	As-Built Plans available: ☐ Yes ■ No

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
None	NA	NA

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ■ No			
Pipe or joint breaks or cracks	☐ Yes ■ No			
Access portals cracked, damaged, or unable to open	☐ Yes ■ No			
Sediment Levels				
Sediment depth of the following values (sampling procedures provided below): *Model # / Depth (in.)* STC 900 / 6 STC 1200 / 7 STC 1800 / 12 STC 2400 / 12 FD-6 / 18 DD 8-ft / 30	■ Yes ☐ No	Professional	About 18 inches of sediment, recommend cleaning out	
Oil Levels				
Oil greater than 1" (sampling procedures provided below):	☐ Yes ■ No			
Upstream and Drainage Area				
Oil, fuel, or chemical spills	☐ Yes ■ No ☐ N/A			
Sediment on pavement	☐ Yes ■ No ☐ N/A			
Trash, debris, bare soil, and/or erosion	☐ Yes ■ No ☐ N/A			

Additional Observations or Comments:

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	☐ **Yes** ■ **No**

Sediment Level Sampling Procedures:

1. Lower clear plastic sampling tube through the 24-inch discharge opening until it hits bottom of unit.
2. Raise tube to view sediment level.
3. Take average of three samples.
4. If sediment is present in depths listed in table below, perform maintenance/vacuum truck cleaning.

Contech Stormceptor Model #	*Depth (in.)*
900	6
1200	7
1800	12
2400	12
Hydro International First Defense Model #	*Depth (in.)*
FD-6	18
Hydro International Downstream Defender Model #	*Depth (in.)*
8-ft	*30*

Oil Level Sampling Procedures:

1. Lower sampling tube through 6-inch vent pipe into upper portion of separation tank.
2. Remove tube to examine water column.
3. If more than 1-inch of oil is present, remove oil.


NO STEP

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Arlington National Cemetery Post-Construction Inspection Checklist			HYDRODYNAMIC SEPARATOR
Inspector Name, Title, Affiliation: Molly Horning, Molly Reynolds (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2020		Model: Hydro Int'l Downstream Defender 8-ft	
BMP #: STC-9	Location: Section 52	As-Built Plans available: ☐ Yes ■ No	

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
None	NA	NA

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ■ No			
Pipe or joint breaks or cracks	☐ Yes ■ No			
Access portals cracked, damaged, or unable to open	☐ Yes ■ No			
Sediment Levels				
Sediment depth of the following values (sampling procedures provided below): *Model # / Depth (in.)* STC 900 / 6 STC 1200 / 7 STC 1800 / 12 STC 2400 / 12 FD-6 / 18 DD 8-ft / 30	■ Yes ☐ No	Professional	At least 30 inches of sediment	
Oil Levels				
Oil greater than 1" (sampling procedures provided below):	☐ Yes ■ No			
Upstream and Drainage Area				
Oil, fuel, or chemical spills	☐ Yes ■ No ☐ N/A			
Sediment on pavement	☐ Yes ■ No ☐ N/A			
Trash, debris, bare soil, and/or erosion	☐ Yes ■ No ☐ N/A			

Additional Observations or Comments:

ANNUAL REPORTING

Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	☐ **Yes** ■ **No**

Sediment Level Sampling Procedures:

1. Lower clear plastic sampling tube through the 24-inch discharge opening until it hits bottom of unit.
2. Raise tube to view sediment level.
3. Take average of three samples.
4. If sediment is present in depths listed in table below, perform maintenance/vacuum truck cleaning.

Contech Stormceptor Model #	*Depth (in.)*
900	6
1200	7
1800	12
2400	12
Hydro International First Defense Model #	*Depth (in.)*
FD-6	18
Hydro International Downstream Defender Model #	*Depth (in.)*
8-ft	*30*

Oil Level Sampling Procedures:

1. Lower sampling tube through 6-inch vent pipe into upper portion of separation tank.
2. Remove tube to examine water column.
3. If more than 1-inch of oil is present, remove oil.

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Arlington National Cemetery Post-Construction Inspection Checklist			CHAMBER/MTD/SAND FILTER
Inspector Name: Molly Reynolds, Molly Horning (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2018		Type: ☐ Pre-Treatment ☒ Storage ☐ Other	
BMP #: STCP-1	Location: Chaffee Parking Lot	As-Built Plans available: ☐ Yes ☒ No	

ROUTINE MAINTENANCE ACTIVITIES		
Activity	**Frequency**	**Completed**
None	NA	NA

FIELD INSPECTION CHECKLIST				
Criteria	**Maintenance Required?**	**ANC or Professional fix**	**Comments**	**Date Repaired**
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ☒ No			
Pipe or joint breaks or cracks	☐ Yes ☒ No			
Access cover missing, cracked, damaged, or unable to open	☐ Yes ☒ No			
Sediment Level				
Sediment accumulation in forebay	☐ Yes ☒ No ☐ N/A			
Sediment depth on vault floor greater than 15% of diameter or interior depth of vault	☐ Yes ☒ No		Less than an inch of sediment	
Standing water inside chamber for more than 24 hours after storm	☐ Yes ☒ No		Small amount of standing water	
Scum line present	☐ Yes ☒ No			
Chamber cracked (cracks wider than ½ inch), collapsed, or bent out of shape	☐ Yes ☒ No			
Upstream and Drainage Area				
Oil, fuel, or chemical spills	☐ Yes ☒ No ☐ N/A			
Sediment on pavement	☐ Yes ☒ No ☐ N/A			
Trash, debris, bare soil, and/or erosion	☐ Yes ☒ No ☐ N/A			
Additional Observations or Comments:				

ANNUAL REPORTING	
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	**☐ Yes ☒ No**

Arlington National Cemetery Post-Construction Inspection Checklist				STORMFILTER
Inspector Name: Molly Reynolds, Molly Horning (Bluestone)			Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny 75			Time since last rainfall: >3 days	
BMP INFORMATION				
BMP Installation Date: 2018			Type: ☒ Vault ☐ Manhole ☐ Linear ☐ Other	
BMP #: STF-1	Location: East Employee Parking Lot		As-Built Plans available: ☐ Yes ☒ No	

ROUTINE MAINTENANCE ACTIVITIES		
Activity	**Frequency**	**Completed**
None	NA	NA

FIELD INSPECTION CHECKLIST				
Criteria	**Maintenance Required?**	**ANC or Professional fix**	**Comments**	**Date Repaired**
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ☒ No			
Pipe or joint breaks or cracks	☐ Yes ☒ No			
Access grates cracked, damaged, or unable to open	☐ Yes ☒ No			
Sediment Level and Cartridges				
Sediment accumulation in forebay	☐ Yes ☒ No ☐ N/A			
Sediment depth on vault floor greater than 4”	☐ Yes ☒ No		~3 inches of sediment and leaves, similar to last year.	
Sediment depth on top of cartridges greater than 0.25”	☐ Yes ☒ No			
Cartridges submerged with greater than 4” water for more than 24 hours after storm	☐ Yes ☒ No			
Filter media plugged (no pore space) or in bypass condition during storm	☐ Yes ☒ No			
Scum line present above top cap	☐ Yes ☒ No			
Upstream and Drainage Area				
Oil, fuel or chemical spills	☐ Yes ☒ No ☐ N/A			
Sediment on pavement	☐ Yes ☒ No ☐ N/A			
Trash, debris, bare soil, and/or erosion	☐ Yes ☒ No ☐ N/A			
Additional Observations or Comments:				

ANNUAL REPORTING	
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	**☐ Yes ☒ No**


C.A.TECH

Arlington National Cemetery Post-Construction Inspection Checklist				STORMFILTER
Inspector Name: Matt Hartman			Date: 6/18/24	Date of last inspection: 9/22/22
Weather/site conditions: Clear, 80			Time since last rainfall: Unknown	
BMP INFORMATION				
BMP Installation Date: 2016			Type: ☒ Vault ☐ Manhole ☐ Linear ☐ Other	
BMP #: STF-2	Location: Bldg 129		As-Built Plans available: ☒ Yes ☐ No	

ROUTINE MAINTENANCE ACTIVITIES		
Activity	**Frequency**	**Completed**
None	NA	NA

FIELD INSPECTION CHECKLIST				
Criteria	**Maintenance Required?**	**ANC or Professional fix**	**Comments**	**Date Repaired**
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ☒ No			
Pipe or joint breaks or cracks	☐ Yes ☒ No			
Access grates cracked, damaged, or unable to open	☐ Yes ☒ No			
Sediment Level and Cartridges				
Sediment accumulation in forebay	☐ Yes ☒ No ☐ N/A		All sediment removed 6/18/2024	
Sediment depth on vault floor greater than 4”	☐ Yes ☒ No			
Sediment depth on top of cartridges greater than 0.25”	☐ Yes ☒ No			
Cartridges submerged with greater than 4” water for more than 24 hours after storm	☐ Yes ☒ No			
Filter media plugged (no pore space) or in bypass condition during storm	☐ Yes ☒ No		Filters replaced 6/18/2024	
Scum line present above top cap	☐ Yes ☒ No			
Upstream and Drainage Area				
Oil, fuel or chemical spills	☐ Yes ☒ No ☐ N/A			
Sediment on pavement	☐ Yes ☒ No ☐ N/A			
Trash, debris, bare soil, and/or erosion	☐ Yes ☒ No ☐ N/A			

Additional Observations or Comments:

All sediment removed and filters replaced on 6/18/2024. Photos are after cleaning.

ANNUAL REPORTING	
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	**☐ Yes ☒ No**

Arlington National Cemetery **Post-Construction Inspection Checklist**		**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Reynolds, Molly Horning (Bluestone)	Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny 75	Time since last rainfall: >3 days	

BMP INFORMATION

BMP Installation Date: 2018		Underdrain Present: ☒ Yes ☐ No
BMP #: URG-1	Location: Columbarium 10	As-Built Plans available: ☐ Yes ☒ No

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	☒ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	☒ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3" layer • Prune trees and shrubs	Annually	☒ Yes ☐ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☐ Yes ☒ No ☐ Not due
Replace the mulch layer	Every 3 years	☐ Yes ☒ No ☐ Not due

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ☒ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☒ Yes ☐ No	ANC	A few areas with bare mulch	

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ☒ No			
Outlet				
Erosion or sediment build-up	☐ Yes ☒ No		See comment below.	
Grate or spillway condition	☐ Yes ☒ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ☒ No			
Clogged underdrains	☐ Yes ☒ No			
Observation well caps present	☐ Yes ☒ No ☐ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☐ Yes ☒ No			
Inflow hindered by vegetation	☐ Yes ☒ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ☒ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ☒ No			

Additional Observations or Comments:

Standing water in bottom of some structures, pipes are likely clogged with mulch. May need pipe cleaning in the future. Fabric under some grates same as before.

ANNUAL REPORTING	
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	**☐ Yes ☒ No**

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Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Horning, Molly Reynolds (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 2018		Underdrain Present: ☐ Yes ▣ No	
BMP #: URG-2	Location: Columbarium 11	As-Built Plans available: ☐ Yes ▣ No	

ROUTINE MAINTENANCE ACTIVITIES		
Activity	**Frequency**	**Completed**
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	▣ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	▣ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3” layer • Prune trees and shrubs	Annually	▣ Yes ☐ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	▣ Yes ☐ No ☐ Not due
Replace the mulch layer	Every 3 years	▣ Yes ☐ No ☐ Not due

FIELD INSPECTION CHECKLIST				
Criteria	**Maintenance Required?**	**ANC or Professional fix**	**Comments**	**Date Repaired**
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ▣ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☐ Yes ▣ No			

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ☒ No			
Outlet				
Erosion or sediment build-up	☐ Yes ☒ No			
Grate or spillway condition	☐ Yes ☒ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ☒ No			
Clogged underdrains	☐ Yes ☒ No			
Observation well caps present	☐ Yes ☒ No ☐ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☐ Yes ☒ No			
Inflow hindered by vegetation	☐ Yes ☒ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ☒ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ☒ No			
Additional Observations or Comments: Some clogged inlets with some standing water				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ☒ No**

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Arlington National Cemetery **Post-Construction Inspection Checklist**		**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Horning, Molly Reynolds (Bluestone)	Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny, 75	Time since last rainfall: >3 days	

BMP INFORMATION

BMP Installation Date: 2018		Underdrain Present: ☐ Yes ☒ No
BMP #: URG-3	Location: Columbarium 12	As-Built Plans available: ☐ Yes ☒ No

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	☒ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	☒ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3" layer • Prune trees and shrubs	Annually	☒ Yes ☐ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☒ Yes ☐ No ☐ Not due
Replace the mulch layer	Every 3 years	☒ Yes ☐ No ☐ Not due

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ☒ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☐ Yes ☒ No			

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ☒ No			
Outlet				
Erosion or sediment build-up	☐ Yes ☒ No			
Grate or spillway condition	☐ Yes ☒ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ☒ No			
Clogged underdrains	☐ Yes ☒ No			
Observation well caps present	☐ Yes ☐ No ☒ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☐ Yes ☒ No		Mulch clogging some drains, stones placed around drains	
Inflow hindered by vegetation	☐ Yes ☒ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ☒ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ☒ No			
Additional Observations or Comments:				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				**☐ Yes ☒ No**

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Arlington National Cemetery **Post-Construction Inspection Checklist**		**BIORETENTION AND RAIN GARDEN** (with or without underdrain)
Inspector Name: Molly Reynolds, Molly Horning (Bluestone)	Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny 75	Time since last rainfall: >3 days	

BMP INFORMATION

BMP Installation Date: 2018		Underdrain Present: ☐ Yes ☒ No
BMP #: URG-4	Location: Columbarium 13	As-Built Plans available: ☐ Yes ☒ No

ROUTINE MAINTENANCE ACTIVITIES

Activity	Frequency	Completed
Mowing grass filter strips and bioretention turf cover	At least 4 times a year	☒ Yes ☐ No
Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season	☒ Yes ☐ No
• Spring visual inspection and cleanup • Supplement mulch to maintain a 3" layer • Prune trees and shrubs	Annually	☒ Yes ☐ No
Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years	☐ Yes ☒ No ☐ Not due
Replace the mulch layer	Every 3 years	☒ Yes ☐ No ☐ Not due

FIELD INSPECTION CHECKLIST

Criteria	Maintenance Required?	ANC or Professional fix	Comments	Date Repaired
Surface				
Vegetation • Vegetation species inconsistent with design specs • Less than 75-90% cover (mulch plus vegetation) • High grass • Dying or dead vegetation • Vegetation killed by salt or winter elements	☐ Yes ☒ No			
Filter Media/Mulch Layer • Too low, too compacted, and/or clogged • Older than 3 years and/or in poor condition • Ponding • Chemicals, fertilizers, oil, grease, trash, debris, sediment, sand • Erosion, exposed soil • Topsoil in poor condition	☐ Yes ☒ No			

Arlington National Cemetery **Post-Construction Inspection Checklist**			**BIORETENTION AND RAIN GARDEN** (with or without underdrain)	
Pre-treatment • Trash, sediment, debris, oil, grease • Clogging, standing water • Odor, algae, floating vegetation • Dead vegetation or exposed soil	☐ Yes ☒ No			
Outlet				
Erosion or sediment build-up	☐ Yes ☒ No		See comment below.	
Grate or spillway condition	☐ Yes ☒ No			
Proper Drainage, Underdrains and Observation Wells				
Does not dewater between storms or ponding for more than 48 hours after rain event	☐ Yes ☒ No			
Clogged underdrains	☐ Yes ☒ No			
Observation well caps present	☐ Yes ☐ No ☒ N/A			
Inlets				
Sediment build-up, trash, debris, or erosion at curb cuts, pavement edges, and/or bypassing	☐ Yes ☒ No			
Inflow hindered by vegetation	☐ Yes ☒ No			
Drainage and Adjacent Upstream Areas				
Adequate vegetation	☐ Yes ☒ No			
Trash, debris, bare soil, signs of scour, oil, grease, and/or erosion	☐ Yes ☒ No			
Additional Observations or Comments: Standing water in bottom of most outlet structures, likely clogged with mulch but not causing flooding				
ANNUAL REPORTING				
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)				☐ **Yes** ☒ **No**

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Arlington National Cemetery Post-Construction Inspection Checklist			CHAMBER/MTD/SAND FILTER
Inspector Name: Molly Reynolds, Molly Horning (Bluestone)		Date: 6/12/24	Date of last inspection: 6/12/23
Weather/site conditions: Sunny 75		Time since last rainfall: >3 days	
BMP INFORMATION			
BMP Installation Date: 1996		Type: ☐ Pre-Treatment ☒ Storage ☐ Other	
BMP #: UTD	Location: Bldg 123	As-Built Plans available: ☐ Yes ☒ No	

ROUTINE MAINTENANCE ACTIVITIES		
Activity	**Frequency**	**Completed**
None	NA	NA

FIELD INSPECTION CHECKLIST				
Criteria	**Maintenance Required?**	**ANC or Professional fix**	**Comments**	**Date Repaired**
Inlet/Outlet/Access				
Pipe blockages	☐ Yes ☒ No			
Pipe or joint breaks or cracks	☐ Yes ☒ No			
Access cover missing, cracked, damaged, or unable to open	☐ Yes ☒ No			
Sediment Level				
Sediment accumulation in forebay	☐ Yes ☒ No ☐ N/A			
Sediment depth on vault floor greater than 15% of diameter or interior depth of vault	☐ Yes ☒ No			
Standing water inside chamber for more than 24 hours after storm	☐ Yes ☒ No			
Scum line present	☐ Yes ☒ No			
Chamber cracked (cracks wider than ½ inch), collapsed, or bent out of shape	☐ Yes ☒ No			
Upstream and Drainage Area				
Oil, fuel, or chemical spills	☐ Yes ☒ No ☐ N/A			
Sediment on pavement	☒ Yes ☐ No ☐ N/A	ANC	Minimal in surrounding area as is typical	
Trash, debris, bare soil, and/or erosion	☐ Yes ☒ No ☐ N/A			
Additional Observations or Comments:				

ANNUAL REPORTING	
Are significant maintenance activities required for the stormwater management facility to perform as designed? (does not activities such as grass mowing or trash collection)	**☐ Yes ☒ No**

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Appendix F

Pollution Prevention and Good Housekeeping Supporting Documentation

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Appendix F-1 - Comprehensive Site Compliance Evaluation Checklists

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Arlington National Cemetery Comprehensive Site Compliance Evaluation	
Site: Contractor Yard	
Date: 25 June 2024	**Reporting Period:** 30 June 2023 - 30 June 2024

Inspection Report	Results
Review of High-Priority Areas and SWPPP Availability	
Are there any new high-priority areas and/or activities that must be added to the SWPPP?	YES ☐ NO ☑
Any changes to activities such that an area is no longer classified as high-priority?	YES ☐ NO ☑
If YES, describe SWPPP modifications needed.	
SWPPP (hard-copy or electronic copy) available to employees at high-priority areas?	YES ☑ NO ☐
If NO, describe action required and expected date of completion.	
Are SWPPP updates required?	**YES ☐ NO ☑**
Site-Specific Source Controls Inspections	
Dates of inspections: 25 June 2024	
Were all site-specific source control inspections completed?	YES ☑ NO ☐
Dates of inspections: Q1: _____ Q2: _____ Q3: _____ Q4: 6/25/2024	
If NO, describe action required and expected date of completion. Annual site-specific inspections required under SWPPP.	
Were any corrective actions required?	YES ☑ NO ☐
If YES, were corrective actions completed?	YES ☑ NO ☐
If NO, describe action required and expected date of completion. Motor oil containers stored outdoors.	
Are all potential pollutants accurately described and included in the SWPPP?	YES ☐ NO ☑
If NO, describe. Two 528-gallon diesel aboveground storage tanks (ASTs) are stored in the yard. In addition, contractors utilize truck-mounted tanks which are stored in the yard. These need to be added to the SWPPP.	
Are all source controls in place and effective for minimizing pollutants in stormwater?	YES ☑ NO ☐
If NO, describe.	
SWPPP updates required?	**YES ☑ NO ☐**

Inspection Report	Results
Stormwater Management Facilities (Structural BMPs) Inspections	
Inspection Date(s): 12 June 2024	
Were any corrective actions required?	YES ☐ NO ☑
If YES, were corrective actions completed?	YES ☐ NO ☑
If NO, describe action required and expected date of completion.	
Are all stormwater management facilities in place and effective for minimizing pollutants in stormwater?	YES ☑ NO ☐
If NO, describe.	
SWPPP updates required?	**YES ☐ NO ☑**
Illicit Discharge Inspections	
Were any illicit discharged detected during the reporting period?	YES ☐ NO ☑
Was the source of the illicit discharge identified and eliminated?	YES ☐ NO ☐
If NO, describe.	
SWPPP updates required?	**YES ☐ NO ☑**
Spills and Leaks Reporting	
Did any reportable spills occur during the reporting period?	YES ☐ NO ☑
Were any corrective actions required?	YES ☐ NO ☑
If YES, were corrective actions completed?	YES ☐ NO ☐
If NO, describe action required and expected date of completion.	
SWPPP updates required?	**YES ☐ NO ☑**
SWPPP Compliance	
Is the SWPPP accurate and effective for the facility?	YES ☐ NO ☑
If NO, describe. ASTs and truck-mounted tanks need to be added to the SWPPP.	
Is the SWPPP compliant with the terms and conditions of the permit?	YES ☑ NO ☐
If NO, describe.	

Arlington National Cemetery Comprehensive Site Compliance Evaluation	
Site: Service Complex	
Date: 25 June 2024	**Reporting Period:** 30 June 2023 - 30 June 2024

Inspection Report	Results
Review of High-Priority Areas and SWPPP Availability	
Are there any new high-priority areas and/or activities that must be added to the SWPPP?	YES ☐ NO ☑
Any changes to activities such that an area is no longer classified as high-priority?	YES ☐ NO ☑
If YES, describe SWPPP modifications needed.	
SWPPP (hard-copy or electronic copy) available to employees at high-priority areas?	YES ☑ NO ☐
If NO, describe action required and expected date of completion.	
Are SWPPP updates required?	**YES** ☐ **NO** ☑
Site-Specific Source Controls Inspections	
Dates of inspections: 25 June 2024	
Were all site-specific source control inspections completed?	YES ☑ NO ☐
Dates of inspections: Q1: _____ Q2: _____ Q3: _____ Q4: 6/25/2024	
If NO, describe action required and expected date of completion. Annual inspection required under the SWPPP.	
Were any corrective actions required?	YES ☑ NO ☐
If YES, were corrective actions completed?	YES ☐ NO ☑
If NO, describe action required and expected date of completion. Sediment throughout Service Complex, specifically in front of the sand storage building and in the eastern corner of the south parking lot. In addition, a street sweeper is leaking hydraulic fluid. Spill needs to be cleaned and the leak repaired. Expected completion by 31 December 2024.	
Are all potential pollutants accurately described and included in the SWPPP?	YES ☑ NO ☐
If NO, describe.	
Are all source controls in place and effective for minimizing pollutants in stormwater?	YES ☑ NO ☐
If NO, describe.	
SWPPP updates required?	**YES** ☐ **NO** ☑

Inspection Report	Results
Stormwater Management Facilities (Structural BMPs) Inspections	
Inspection Date(s): 12 June 2024	
Were any corrective actions required?	YES ☐ NO ☑
If YES, were corrective actions completed?	YES ☐ NO ☐
If NO, describe action required and expected date of completion.	
Are all stormwater management facilities in place and effective for minimizing pollutants in stormwater?	YES ☑ NO ☐
If NO, describe.	
SWPPP updates required?	**YES ☐ NO ☑**
Illicit Discharge Inspections	
Were any illicit discharged detected during the reporting period?	YES ☐ NO ☑
Was the source of the illicit discharge identified and eliminated?	YES ☐ NO ☐
If NO, describe.	
SWPPP updates required?	**YES ☐ NO ☑**
Spills and Leaks Reporting	
Did any reportable spills occur during the reporting period?	YES ☐ NO ☑
Were any corrective actions required?	YES ☐ NO ☑
If YES, were corrective actions completed?	YES ☐ NO ☐
If NO, describe action required and expected date of completion.	
SWPPP updates required?	**YES ☐ NO ☑**
SWPPP Compliance	
Is the SWPPP accurate and effective for the facility?	YES ☑ NO ☐
If NO, describe.	
Is the SWPPP compliant with the terms and conditions of the permit?	YES ☑ NO ☐
If NO, describe.	

Arlington National Cemetery Comprehensive Site Compliance Evaluation	
Site: Spoils Yard	
Date: 25 June 2024	**Reporting Period:** 30 June 2023 - 30 June 2024

Inspection Report	Results
Review of High-Priority Areas and SWPPP Availability	
Are there any new high-priority areas and/or activities that must be added to the SWPPP?	YES ☐ NO ☑
Any changes to activities such that an area is no longer classified as high-priority?	YES ☐ NO ☑
If YES, describe SWPPP modifications needed.	
SWPPP (hard-copy or electronic copy) available to employees at high-priority areas?	YES ☑ NO ☐
If NO, describe action required and expected date of completion.	
Are SWPPP updates required?	**YES** ☐ **NO** ☑
Site-Specific Source Controls Inspections	
Dates of inspections: 25 June 2024	
Were all site-specific source control inspections completed?	YES ☑ NO ☐
Dates of inspections: Q1: _____ Q2: _____ Q3: _____ Q4: 6/25/2024	
If NO, describe action required and expected date of completion. Annual site-specific inspections required under the SWPPP. One 5-gallon fuel containers (presumed to be diesel) is stored next to the pond drainage pump, exposed to the environment.	
Were any corrective actions required?	YES ☑ NO ☐
If YES, were corrective actions completed?	YES ☑ NO ☐
If NO, describe action required and expected date of completion.	
Are all potential pollutants accurately described and included in the SWPPP?	YES ☑ NO ☐
If NO, describe.	
Are all source controls in place and effective for minimizing pollutants in stormwater?	YES ☑ NO ☐
If NO, describe.	
SWPPP updates required?	**YES** ☐ **NO** ☑

Inspection Report	Results
Stormwater Management Facilities (Structural BMPs) Inspections	
Inspection Date(s): 12 June 2024	
Were any corrective actions required?	YES ☐ NO ☑
If YES, were corrective actions completed?	YES ☐ NO ☐
If NO, describe action required and expected date of completion.	
Are all stormwater management facilities in place and effective for minimizing pollutants in stormwater?	YES ☑ NO ☐
If NO, describe.	
SWPPP updates required?	**YES** ☐ **NO** ☑
Illicit Discharge Inspections	
Were any illicit discharged detected during the reporting period?	YES ☐ NO ☑
Was the source of the illicit discharge identified and eliminated?	YES ☐ NO ☐
If NO, describe.	
SWPPP updates required?	**YES** ☐ **NO** ☑
Spills and Leaks Reporting	
Did any reportable spills occur during the reporting period?	YES ☐ NO ☑
Were any corrective actions required?	YES ☐ NO ☑
If YES, were corrective actions completed?	YES ☐ NO ☐
If NO, describe action required and expected date of completion.	
SWPPP updates required?	**YES** ☐ **NO** ☐
SWPPP Compliance	
Is the SWPPP accurate and effective for the facility?	YES ☑ NO ☐
If NO, describe.	
Is the SWPPP compliant with the terms and conditions of the permit?	YES ☑ NO ☐
If NO, describe.	

Arlington National Cemetery Site-Specific Source Controls Inspection Log
Name: Renee Lavinsky
Date: 25 June 2024
Weather/site conditions: Sunny, 85 degrees

Operations Complex					
Pollutant Source (Location)	**Potential Pollutants**	**Source Controls**	**Observations**	**Corrective Action Required?**	**Status**
Fueling station	• Gasoline (4,000 gallons) • Diesel (6,000 gallons) • Used oil (500 gallons) • Used antifreeze (500 gallons) • Vehicle petroleum, oil, and lubricants (POLs)	• Double-walled tanks • Leak detection systems • Annual tank inspections • Restricted access to dispensing units • Spill kits at station and on fuel delivery trucks • Written Spill Prevention, Control, and Countermeasure (SPCC) plan	None	☐ YES ☑ NO	Completion date:__ /__ / __
Vehicle and equipment washing	• Surfactants • POLs • Grease	• Washing conducted indoors • Vehicle wash rack at Building 114 drains to an oil/water separator (OWS) and then sanitary sewer • Heavy equipment wash rack at Building 128 has a closed-loop water recycling system and sump pit to collect sediment	None	☐ YES ☑ NO	Completion date:__ /__ / __
Loading dock and hydraulic lift	• Hazardous materials • Hydraulic fluid • POLs	• Spill kit at dock and on trucks • Written SPCC plan	None	☐ YES ☑ NO	Completion date:__ /__ / __
Pesticide storage	• Pesticide (includes herbicide, insecticide, fungicide, and rodenticide)	• Stored inside buildings and/or flammable storage cabinets • Spill kit near storage • Written Integrated Pest Management Plan (IPMP) and Nutrient Management Plan (NMP)	None	☐ YES ☑ NO	Completion date:__ /__ / __

Operations Complex					
Pollutant Source (Location)	**Potential Pollutants**	**Source Controls**	**Observations**	**Corrective Action Required?**	**Status**
Carpentry shop	• Sawdust	• Closed sawdust collection bag • Stormwater drains to pretreatment device and stormwater chamber BMPs (PT-UTD/UTD)	None	☐ YES ☑ NO	Completion date:__ /__ / __
Hazardous materials storage	• Hazardous materials • POLs	• Stored indoors, outdoors under cover, and/or in flammable storage cabinets • Stored on secondary containment per SPCC Plan • For indoor storage areas with floor drains, discharges flow through an OWS and underground oil recovery tank to sanitary sewer • Floor drains in central maintenance shop, paint shop, plumbing shop, and carpentry shop plugged • Spill kits near storage • Hazard Communication (HAZCOM) Program	None	☐ YES ☑ NO	Completion date:__ /__ / __
Hazardous waste storage	• Hazardous waste	• Stored indoors, outdoors under cover, and/or in flammable storage cabinets • Any discharges from building would flow into pretreatment device and stormwater chamber BMPs • Written Hazardous Waste Management Plan	None	☐ YES ☑ NO	Completion date:__ /__ / __
Field operations equipment – indoor storage	• POLs Grease	• Equipment stored indoors to the extent practicable • Spill kits near storage • Written Maintenance SOP Safety and Risk Management	None	☐ YES ☑ NO	Completion date:__ /__ / __

Operations Complex					
Pollutant Source (Location)	**Potential Pollutants**	**Source Controls**	**Observations**	**Corrective Action Required?**	**Status**
Field operations equipment – outdoor storage	• POLs • Grease	• Stored, to the extent possible, inside bays with no floor drains • Storm drain inlets in courtyard direct stormwater to pretreatment device and stormwater chamber BMPs (PT-UTD/UTD) • Spill kits near storage • Maintenance SOP Safety and Risk Management	None	☐ YES ☑ NO	Completion date:__ /__ / __
Sewer pump station owned by ANC with emergency generator (diesel belly tank) owned by Dominion	• Untreated sanitary wastewater • POLs	• Pump station alarm for failures and overflows • Double-walled generator belly tank • Spill kit near pump station	None	☐ YES ☑ NO	Completion date:__ /__ / __
Soil, sand, and salt storage bays	• Soil • Sand • Salt • POLs	• Stored in enclosed building with no floor drains • Bays swept, not washed • Bay floors sloped back to prevent pollutants from leaving building • Stormwater drains to StormFilter manufactured treatment device (MTD) (STF-2) or pretreatment device and stormwater chamber BMPs (PT-UTD/UTD)	Sediment throughout service complex parking lots. Street sweeping and sediment removal recommended.	☑ YES ☐ NO	Completion date:__ /__ / __

Arlington National Cemetery Site-Specific Source Controls Inspection Log
Personnel: Renee Lavinsky
Date: 25 June 2024
Weather/site conditions: Sunny, 85 degrees

Spoils Area					
Pollutant Source (Location)	**Potential Pollutants**	**Source Controls**	**Observations**	**Corrective Action Required?**	**Status**
Spoils storage	• Spoils • Unusable soils/green waste • Sifted dirt/sediment	• Vegetated berm surrounding entire area • Debris from sifted soils and landscaping materials stored in roll-off dumpster • Sifted soil is stored in storage bay for reuse during internment • Clean fill unusable for internment is used for fill elsewhere onsite or transported offsite for reuse via USACE contract • Unusable soils are disposed of by offsite contractor • Storm drain inlets outside of Spoils Area entrances on Halsey Drive and Marshall Drive drain to MTD Stormceptor 7 (STC-7) (cleaned quarterly)	None related to spoils storage; however, one 5-gallon fuel container (presumed to contain diesel) is stored adjacent to the pond drainage pump and is exposed to the environment.	☑ YES ☐ NO	Completion date:__ /__ / __
Vehicle and equipment washing	• Surfactants • POLs • Grease	• Wash racks for earth-moving equipment drain to basin within Spoils Area	None	☐ YES ☑ NO	Completion date:__ /__ / __
Heavy equipment	• POLs • Grease	• Vegetated berm surrounding entire area	**None**	☐ YES ☑ NO	Completion date:__ /__ / __

Arlington National Cemetery Site-Specific Source Controls Inspection Log
Name: Renee Lavinsky
Date: 25 June 2024
Weather/site conditions: Sunny, 85 degrees

Contractor Storage Area					
Pollutant Source (Location)	**Potential Pollutants**	**Source Controls**	**Observations**	**Corrective Action Required?**	**Status**
Contractor materials storage (Conex boxes)	• Magnesium sulfate (ice melt) • Grass seed • Fertilizer	• Materials stored on pallets in Conex boxes	None	☐ YES ☑ NO	Completion date:__ /__ / __
Pesticide mixing and application	• Pesticide • POLs	• Mixing conducted in secondary containment structure • Application tanks stored empty or on secondary containment • Written IPMP • Spill kits near storage and on equipment/vehicles	None	☐ YES ☑ NO	Completion date:__ /__ / __
Landscaping materials storage	• Topsoil • Tree/plant waste • Mulch • POLs • Grease	• Topsoil and mulch contained on three sides by jersey barriers and covered with tarp or plastic • Chipped tree waste stored in roll-off dumpster • Trash and landscaping debris stored in roll-off dumpster (contractor disposal) • Storm drain inlets outside of CSA entrance on Halsey Drive drain to MTD STC-5	None	☐ YES ☑ NO	Completion date:__ /__ / __
Contractor-owned heavy equipment storage	• POLs • Grease	• Drip plans placed beneath equipment during fueling	None	☐ YES ☑ NO	Completion date:__ /__ / __

Contractor Storage Area					
Pollutant Source (Location)	**Potential Pollutants**	**Source Controls**	**Observations**	**Corrective Action Required?**	**Status**
Small equipment (e.g., lawn mowers, chipper, all-terrain vehicles)	• POLs • Grease • Sediment • Yard waste	• Stored in Conex boxes or under cover • Drip plans placed beneath equipment during fueling • Stormwater runoff to inlets outside of CSA entrance on Halsey Drive drain to MTD STC-5	None	☐ YES ☑ NO	Completion date:__ /__ / __
Small POL containers	• POLs	• Stored in flammable storage cabinets and/or Conex box • Stored on drip pans or secondary containment during daily shift use	Motor oil containers stored outdoors. Two 528-gallon ASTs and three truck-mounted tanks are not identified in the SWPPP. Spill controls present for these containers.	☐ YES ☑ NO	Completion date:__ /__ / __
Mobile generator with diesel day tank	• POLs • Grease	• Drip pan placed under unit • Spill kit on generator trailer	None	☐ YES ☑ NO	Completion date:__ /__ / __

Arlington National Cemetery Site-Specific Source Controls Inspection Log
Name: Renee Lavinsky
Date: 25 June 2024
Weather/site conditions: Sunny, 85 degrees

Facility-wide					
Pollutant Source (Location)	**Potential Pollutants**	**Source Controls**	**Observations**	**Corrective Action Required?**	**Status**
Paved roads and parking lots	• POLs • Grease • Animal waste • Litter • Deicing chemicals/salt • Sediment	• Street sweeping of all roads twice per week, 45 weeks per year with vacuum truck • Trash bins with rain bonnets placed throughout site • Horses followed by grounds crew to immediately remove animal waste from roads • Structural BMPs installed throughout site • Water sprayed for dust suppression	None	☐ YES ☑ NO	Completion date:__ /__ / __
Unpaved access roads	• POLs • Grease • Sediment	• Gravel placed at entrances to minimize tracking and slow runoff • Structural BMPs installed throughout site	None	☐ YES ☑ NO	Completion date:__ /__ / __
High-traffic visitor areas	• Litter	• Trash bins with rain bonnets placed throughout site • Grounds crew collects litter during daily maintenance • Structural BMPs installed throughout site • Water sprayed for dust suppression	None	☐ YES ☑ NO	Completion date:__ /__ / __

Facility-wide					
Pollutant Source (Location)	**Potential Pollutants**	**Source Controls**	**Observations**	**Corrective Action Required?**	**Status**
Turf management and disturbed areas	• Sediment • Pesticide • Fertilizer • POLs Grease	• Written Nutrient Management Plan (NMP) • Inlet protection placed on storm drains downstream of ground disturbance, removed after new grass mowed three times • Silt fence used if disturbed area is greater than 3:1 slope • Grass buffer maintained between disturbed area and roads • Reseeding conducted as soon as possible • Structural BMPs installed throughout site	None	☐ YES ☑ NO	Completion date:__ /__ / __
Headstone, monument, sidewalk, and building cleaning	• Surfactants • Sediment • POLs • Grease • Litter	• Cold water used in pressure washer • Water directed to areas where it can infiltrate, to the extent possible • Washing not conducted in areas with disturbed soil • Litter collected prior to washing • Structural BMPs installed throughout site	None	☐ YES ☑ NO	Completion date:__ /__ / __
Active burial sites	• Sediment • POLs • Grease • Litter	• Disturbed area minimized • Grass buffers maintained between site and roads • Reseeding conducted as soon as possible • Grounds crew collects litter during daily maintenance • Structural BMPs installed throughout site	None	☐ YES ☑ NO	Completion date:__ /__ / __

Facility-wide					
Pollutant Source (Location)	**Potential Pollutants**	**Source Controls**	**Observations**	**Corrective Action Required?**	**Status**
Pesticide application	• Pesticide	• Encourage hand removal of invasive plants • Pesticide not applied near streams • Written IPMP • Licensed contractor used for all pesticide application • Structural BMPs installed throughout site	None	☐ YES ☑ NO	Completion date:__ /__ / __
Utility and small project construction	• Sediment	• Follow Minimum Standard 16 (9 VAC 25-840-40) for linear utility excavation practices • Follow Virginia Department of Environmental Quality (VDEQ) Guidance Memo No. 15-2003 for linear utility projects (23 April 2015) • Follow Environmental Protection Agency (EPA) Stormwater BMP for Concrete Washout (EPA 833-F-11-006, Feb. 2012)	None	☐ YES ☑ NO	Completion date:__ /__ / __
Solid waste management	• Litter/debris • Soil • Yard waste	• Construction and demolition debris (CDD) roll-off dumpsters in Spoils Area • Two municipal solid waste dumpsters • Two single stream recycling contracts • Headstone recycling contract • Trash and recycling bins throughout site	None	☐ YES ☑ NO	Completion date:__ /__ / __

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Appendix F-2 - Training Module

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Arlington National Cemetery

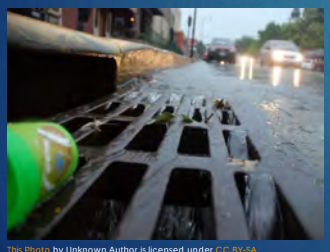
STORMWATER TRAINING 2024

1

What is Stormwater Pollution?

2

- Stormwater
- Precipitation - rain, snow, sleet, freezing rain
- Runs over pavement and grass and can pick up pollutants



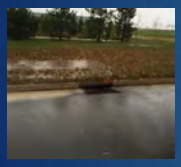
- Pollutant = Sediment, dredged spoil, sewage, garbage, chemical wastes, oil/grease, biological materials, heat, rock, sand, soil, etc.
- Common ANC pollutant sources:
  - Sediment/spoil
  - Littering
  - Oil and chemical spills/leaks
  - Washing
  - Fertilizers and pesticides

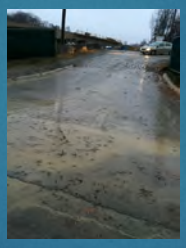
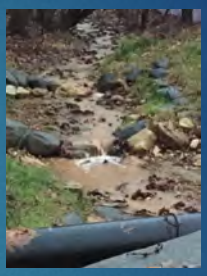
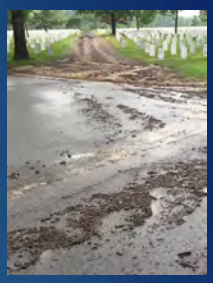
2

Key Risks

3

ANC storm drains discharge to Boundary Channel and Pentagon Lagoon, and ultimately to the Potomac River and Chesapeake Bay.



Stormwater entering storm drains is not treated!

If regulations are not followed:
- Employees and/or public could be exposed to contaminated water
- Costly to achieve compliance again

3

Municipal Separate Storm Sewer System (MS4) Permit and Program

4

ANC's permit requires a MS4 Program Plan. This Plan includes:

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management for New Development and Development on Prior Developed Lands
- Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by ANC
  - Stormwater Pollution Prevention Plan (SWPPP)

The VDEQ-approved Plan is "law" at ANC!

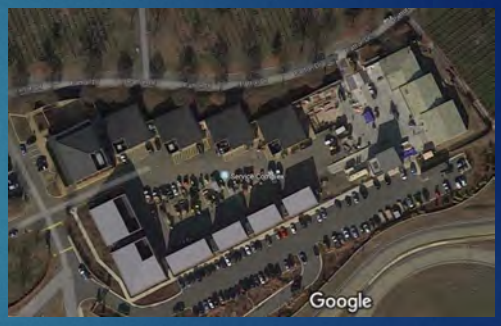
4

SWPPP and Good Housekeeping

5

SWPPP includes:

- Inventory of Potential Pollutants
- Best Management Practices (BMPs)
- Inspection Requirements
- Illicit Discharge Detection
- Training Requirements
- Reporting Requirements



5

SWPPP and Good Housekeeping

6

High Priority Areas at ANC	Potential Pollutants
Building 123 Complex	Sand, salt, sediment, petroleum, oil, lubricants, pesticides and fertilizers, hazardous materials and wastes, saw dust, litter
High-Traffic Visitor Areas	Litter
Spoils Area and Contractor Storage Area	Spoils, unusable soils, green waste, dirt, concrete dust, solid waste, petroleum, oil, lubricants, pesticides and fertilizers
Active Construction Sites	Sediment, petroleum, oil, lubricants, hazardous materials, solid and construction wastes
Parking Lots, Vehicle and Equipment Storage	Petroleum, oil, lubricants, litter
Reseeding and Landscaping Areas	Sediment, petroleum, oil, lubricants, pesticides and fertilizers

6

SWPPP and Good Housekeeping

7

Best Practices at ANC

- Good housekeeping
- Performing maintenance and inspections to prevent and identify leaks
- Sediment and erosion control
- Spill response planning (SPCC plan)
- Street sweeping with vacuum truck
- Rain gardens and bioretention basins
- Stormceptors and storm filters
- Permeable and porous pavement
- Pre-treatment and underground treatment chambers

7

SWPPP and Good Housekeeping

8

See Something!
Say Something!

What should you look for?

- Water backing up, overflowing
- Sediment or litter in BMPs or drains
- Dying vegetation
- Water bypassing BMP
- Sediment in road, not contained to site
- Blocked drains
- Litter on the ground
- Stains or chemical spills
- Improperly stored materials

8

Illicit Discharge Detection and Elimination

9

What is an Illicit Discharge?

- Any discharge into a storm drain system that is not composed entirely of stormwater

Look for…

- Water flowing during dry weather
- Potable water, chemicals, other fluids flowing in storm drains during dry weather
- Water that is cloudy, dirty, has a sheen or foam/soap, contains debris or litter, has an odor
- Sediment, trash, fuels, and oils

PERMIT
ANC is required to track all observed discharges and spills.

9

Spill Response Procedures

10

Spill Reporting Form

Facility name and address:	Arlington National Cemetery, 1 Memorial Drive, Arlington, VA 22211	
Facility phone number:	703-614-0520	
Person reporting spill:	Name:	Phone:
Form completed:	Date:	Time:

Weather conditions:		
Spill location:		
Type of material spilled:		
Estimated total quantity spilled:		
Source of spill:		
Spill occurred or first observed:	Date:	Time:
Duration of spill:		
Cause of the spill (if known)		
Actions used to stop, remove, or mitigate the spill:		

Affected media:	Water (including onsite streams, swales, ditches, and storm drains)	☐ Yes ☐ No
	Soil	☐ Yes ☐ No
If yes, describe:		
Injured or fatalities		☐ Yes ☐ No
If yes, number and type:		
Any anticipated health risks anticipated from spill:		☐ Yes ☐ No
If yes, describe		
Is evacuation required:		☐ Yes ☐ No
If yes, describe		
Damages to property:		☐ Yes ☐ No
If yes, describe		

If there is a threat to human health or the environment, immediately call 911 then the Environmental POC

If the spill is not life-threatening, immediately call the Environmental POC 703-614-0520

If safe to do so:

- Stop the flow of product
- Warn personnel
- Shut off ignition sources
- Initiate containment
- Complete spill report form and submit it to the Environmental POC

10

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