APPENDIX C:

WETLAND DELINEATION AND FOREST STAND DELINEATION REPORTS

WETLAND DELINEATION REPORT Bureau of Engraving and Printing Beltsville Agricultural Research Center Traffic Mitigation Beltsville, Maryland



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TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	STUDY PURPOSE	1
1.2	STUDY AREA	1
2	METHODS	2
2.1	DATA COLLECTION AND ANALYSIS	2
2.2	WETLAND DELINEATION	2
2.3	GLOBAL POSITIONING SYSTEM (GPS) METHODOLOGY	2
3	RESULTS	3
3.1	GENERAL WETLAND FINDINGS	3
3.1.1	VEGETATION	3
3.1.2	GENERAL SOIL CHARACTERISTICS	3
3.1.3	HYDROLOGY	1
3.2	STREAMS	1
3.3	WETLANDS	5
4	CONCLUSIONS	7
5	REFERENCES	1
6	ACRONYMS AND ABBREVIATIONS	3

LIST OF TABLES

Table 3-1.	Soils at BEP Traffic Mitigation Sites	4
Table 3-2.	Streams at BEP Traffic Mitigation Sites	5
Table 3-3.	Wetlands at BEP Traffic Mitigation Sites	7

APPENDICES

Appendix A: Figures
Figure 1: BEP Traffic and Utility Mitigation Vicinity Map 2023
Figure 2: BEP Traffic and Utility Mitigation Soils Map (East) 2023
Figure 3: BEP Traffic and Utility Mitigation Soils Map (North/Northwest) 2023
Figure 4: BEP Traffic and Utility Mitigation Soils Map (Southwest) 2023
Figure 5: BEP Traffic Mitigation and Utility Mitigation Wetlands 2023
Figure 6: BEP Traffic Mitigation and Utility Mitigation Wetlands 2023
Figure 7: BEP Traffic Mitigation and Utility Mitigation Streams 2023
Appendix B: Routine Wetland Data Forms
Appendix C: Photographs
Appendix D: Cowardin Classification Key

1 INTRODUCTION

1.1 STUDY PURPOSE

The U.S. Army Corps of Engineers (USACE), Baltimore District, Planning Division prepared this report at the request of the United States Department of the Treasury, Bureau of Engraving and Printing (BEP), to identify and delineate waters of the U.S. (WUS) (i.e., wetlands and streams) found within the proposed site boundaries.

BEP proposes to construct and operate a new currency production facility (CPF) within the existing Beltsville Agricultural Research Center (BARC) in Prince George's County, Maryland. The new facility would replace BEP's current CPF located in Washington, D.C., with a more modern facility that meets production needs.

This report follows a 2019 wetland delineation conducted as part of the Environmental Impact Statement (EIS) for the Proposed Replacement CPF. To address traffic and utility measures identified since the EIS was completed, a supplemental Environmental Assessment (EA) is being prepared. The proposed action for this supplemental EA includes various improvements to the roadways and seven (7) intersections identified in the EIS as requiring mitigation to minimize delays and reduce queue lengths. It also includes utility infrastructure improvements required to accommodate the replacement CPF and additional improvements for the CPF that are outside of the limits of disturbance identified in the EIS. (Figure 1). In addition, current access to two wells located just east of Poultry Road would be blocked by the new CPF, so a road has been proposed to access these wells.

The study purpose was achieved through (1) collection and synthesis of existing wetlands and waters of the U.S. information; (2) a site visit to conduct routine wetland delineations as prescribed in the 1987 *Corps of Engineers Wetland Delineation Manual* and the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: Atlantic and Gulf Coastal Plain Region; and (3) preparation of a report of findings.

1.2 STUDY AREA

The study area is approximately 93 acres and is in Beltsville, Maryland. The areas described below were surveyed for the traffic mitigation action that proposes to improve the intersections as well as construct a well access road (Figure 1, Appendix A). The first project area runs along Edmonston Road beginning just north of Powder Mill Road, running south to Sunnyside Avenue, and encompasses the intersections of Edmonston Road and Powder Mill Road, Edmonston Road and Beaver Dam Road, and Edmonston Road and Sunnyside Avenue. This Edmonston Road project area amounts to approximately 32 acres. A large, forested wetland system runs along the western edge of Edmonston Road, eventually draining into Indian Creek (USFWS, 2015). BARC agricultural fields lie to the east of Edmonston Road, the Sanitary Sewer Alternative Two runs northeast through these fields, connecting to the laydown area. Another portion of the project area includes 16 acres of land along Powder Mill Road expanding north, in the vicinity of Animal Husbandry Road (Figure 6, Appendix A). This area primarily consists of mowed and maintained lawn with no previously mapped wetlands.

The third project area is a 4-acre area surrounding the intersections of Powder Mill Road and the Baltimore-Washington Parkway and Powder Mill Road and Springfield Road. This area is primarily mowed, with forest on the outskirts and no known wetlands.

The fourth project area is a 1.8-acre Sanitary Sewer Alternative One area north of Odell Road and northeast of Poultry Road. This area primarily consists of a small, forested section on the north end and mowed lawns associated with occupied housing towards the south (Figure 7, Appendix A). Eighteen (18) specimen trees were identified within traffic mitigation areas. All other specimen trees were documented outside of traffic mitigation areas.

The geology at the proposed sites consists of Lower Cretaceous sediments of the Potomac Group, which consists of the Patuxent, the Arundel, and the Patapsco Formations, respectively decreasing in age. The Patuxent and Patapsco Formations are composed primarily of sand and gravel and comprise the most prevalent water bearing aquifers in Prince George's County. The Arundel is mostly clay and creates artesian conditions in the underlying Patuxent Formation in some locations.

2 METHODS

2.1 DATA COLLECTION AND ANALYSIS

Existing wetland information and GIS data was collected from various sources for preliminary analysis and identification of potential wetland areas within the study area. Sources of data include: U.S. Geological Survey (USGS) topographic quadrangles (USGS, 1977), U.S. Department of Agriculture (USDA) web soil survey (USDA, 2011), and U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) maps (including aerial photography) (USFWS, 2015).

2.2 WETLAND DELINEATION

The wetland delineation was performed pursuant to the 1987 *Corps of Engineers Wetland Delineation Manual* and the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: *Atlantic and Gulf Coastal Plain Region*, as Federal and state agencies require use of these documents for jurisdictional investigations. The delineation field work was conducted April through May 2021, with additional surveys in August and September 2023. All delineations were conducted by a team from USACE, Baltimore District, Planning Division. Data points were completed for each wetland. Wetland boundaries were marked with consecutively numbered pink survey flagging. Photographs of streams and wetlands are included in Appendix C.

2.3 GLOBAL POSITIONING SYSTEM (GPS) METHODOLOGY

The field survey was completed using a Trimble TDC 150 handheld Global Positioning System (GPS). The objective of the GPS survey was to collect location data for each wetland delineation flag and soil sample point. This survey horizontally references the North American Datum of 1983 (NAD83). This data was then transferred into ArcGIS Pro 3.0.1 for analysis and mapping.

3 RESULTS

3.1 GENERAL WETLAND FINDINGS

Wetlands are defined by the presence of three parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. Methods for determining if each of the three parameters are met are described in the 1987 Corps of Engineers Wetland Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region.

Preliminary analysis of topographic maps, soils and NWI wetland mapping indicated the presence of wetlands and streams within the study area, specifically in the first project area along Edmonston Road. Elkton silt loam, listed as hydric on the hydric soils list (USDA, 2015) is associated with coastal plains. The Edmonston Road project area touches areas that are deemed regulatory floodways on its eastern border (Zone AE). The remaining project areas are areas of minimal flood risk (Zone X) according to the FEMA flood map (FEMA, 2020).

The USACE team placed numbered flags along the limits of six wetlands and six WUS between three project areas: Edmonston Road, Powder Mill Road and Animal Husband Road Area, and the Sanitary Sewer Alternative 1/Odell Road area. No wetlands were identified in the project area at Powder Mill Road and the Baltimore-Washington Parkway. The flags were located using GPS survey methods. The wetland areas within LODs amount to over 13 acres of wetlands (Tables 3-2 and 3-3, Section 3.2). Wetland 1 was not delineated in its entirety. The wetland extended well beyond the limit of disturbance (LOD) bordering the intersection; therefore, solely the edge of the wetland bordering the road was delineated. The edge furthest away from the road was not delineated. The map of wetlands delineated at the proposed traffic mitigation and well access sites are shown in Figures 5, 6, and 7 in Appendix A.

3.1.1 VEGETATION

For purposes of wetland identification, many plants are assigned an indicator status by the USFWS, which is useful for determining the probability of their occurrence in wetlands. Wetlands delineated within the study area were dominated by plants normally expected to occur within wetlands. No plant species observed on the site are listed as rare, threatened, or endangered at either a Federal or state level.

3.1.2 GENERAL SOIL CHARACTERISTICS

The USDA web soil survey (USDA, 2015) identifies 15 soil series within the study area, which are shown in Table 3-1 (see Figures 2,3 and 4 in Appendix A). The table lists the soil name, the drainage class, and hydric status.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils,

under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

Drainage class refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized: excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained.

Soil Name	Map	Drainage Class	Hydric	Parcel
Son runne	Symbol	Di annage Chass	inyunc	Present
Christiana-Downer complex, 10 to 15 percent slopes	CcD	Moderately well drained	No	2,4
Christiana-Downer complex, 5 to 10 percent slopes	CcC	Moderately well drained	No	1,2,3,4
Christiana-Downer-Urban land complex, 15 to 25 percent slopes	CdE	Moderately well drained	No	2
Christiana-Downer-Urban land complex, 5 to 15 percent slopes	CdD	Moderately well drained	No	2
Elkton silk loam, 0 to 2 percent slopes	EkA	Poorly Drained	Yes	4
Fallsington sandy loams, 0 to 2 percent slopes, Northern Coastal	FaaA	Poorly drained	Yes	3
Plain				
Hammonton loamy sand, 0 to 2 percent slopes	HaA	Moderately well drained	No	1
Longmarsh and Indiantown soils, frequently flooded	LY	Very poorly drained	Yes	3
Russett-Christiana complex, 0 to 2 percent slopes	RcA	Moderately well drained	No	1,3,4
Russett-Christiana complex, 2 to 5 percent slopes	RcB	Moderately well drained	No	1,2,3,4
Russett-Christiana Urban land complex, 0 to 5 percent slopes	RuB	Moderately well drained	No	1,2,3,4
Sassafras-Urban land complex, 5 to 15 percent slopes	SnD	Well drained	No	1
Udorthents, highway, 0 to 65 percent slopes	UdaF	Well drained	No	3
Udorthents, reclaimed gravel pits, 0 to 5 percent slopes	UdgB	Well drained	No	1
Zekiah and Issue soils, frequently flooded	ZS	Poorly drained	Yes	1

Table 3-1. Soils at BEP Traffic Mitigation Sites

3.1.3 HYDROLOGY

Evidence of wetland hydrology was observed in the areas identified as wetlands during the site investigation, and included water-stained leaves, algal matt or crust, oxidized rhizospheres along living roots, surface water, saturation, sparsely vegetated concave surface, and inundation visible on aerial imagery.

3.2 STREAMS

The dominant hydrologic feature is Indian Creek, which flows south through Wetland 1, following alongside Edmonston Road. The creek is not within the LOD but runs through Wetland 1 and effects the hydrology of the wetland. Indian Creek eventually flows into the Anacostia River, then the Potomac River, and finally the Chesapeake Bay. It is classified as a riverine lower perennial with an unconsolidated bottom of cobble/gravel and sand (R2UB1/2). The northernmost intermittent stream (WUS-1) flows south through Wetland 3, under Powder Mill Road and into Wetland 1. It is classified as a riverine intermittent streambed with a cobble-gravel/sand bottom (R4SB3/4). There is also a culvert with intermittent water on the northeast corner of the Edmonston Road and Powder Mill Road intersection that flows under the intersection, splitting into two streams, directing water to the northwest corner of the intersection (creating Wetland 2) and to the

southwest corner (creating WUS-3). WUS-2 drains southwest from Wetland 2 underneath Powder Mill Road and into Wetland 1. It is classified as a riverine intermittent streambed with a sand/mud bottom (R4SB4/5). WUS-3 drains from the northeast section of the Edmonston Road and Powder Mill Road intersection flowing southwest and into Wetland 1. It is classified as a riverine intermittent streambed with a sand/mud bottom (R4SB4/5). WUS-4 is found on the well access site near Poultry Road and Powder Mill Road. The delineated portion for this report flows west into an off-site 2019 delineated intermittent stream. WUS-4 is classified as a riverine intermittent streambed with a sand/mud bottom (R4SB4/5). WUS-5 and WUS-6 are classified as riverine lower perennial with unconsolidated bottoms of cobble/gravel and sand (R2UB1/2). These are found in the Sanitary Sewer Alternative 1/Odell Road area. WUS-6 flows originates off-site and flows east to west, eventually into Indian Creek. WUS-5 flows north to east, flowing into WUS-6.

Table 3-2. Streams at BEP Traffic Mitigation Sites										
Stream Reach	Classification	Linear Feet (LF) within the site	Average Width (feet)	Connection to Navigable Waters						
WUS-1	R4SB3/4	208	8	Flows to Indian Creek, Anacostia River, Potomac River to Chesapeake Bay						
WUS-2	R4SB4/5	360	3-4	Flows to Indian Creek, Anacostia River, Potomac River to Chesapeake Bay						
WUS-3	R4SB4/5	110	5-6	Flows to Indian Creek, Anacostia River, Potomac River to Chesapeake Bay						
WUS-4	R4SB4/5	130	3-4	Flows to the Anacostia River, Potomac River to Chesapeake Bay						
WUS-5	R2UB1/2	163	3-4	Flows to WUS-6						
WUS-6	R2UB1/2	177	3-4	Flows to Indian Creek						
Indian Creek	R2UB1/2	N/A	15	Flows to Anacostia River, Potomac River to Chesapeake Bay						
	Total	1,148 LF								

Descriptions are provided in Table 3.2.

3.3 WETLANDS

Eight (8) wetlands were delineated within the proposed project areas, amounting to approximately 14 acres. Wetland 6 has been removed from the delineation and mapping because it is no longer located within the proposed LOD and so is not included in the acreage total. Wetland data forms are in Appendix B.

Plants found in and around the wetlands are classified by a regional wetland indicator status based on USDA's National Wetland Plant List. Indicator categories found in the wetlands on this site include:

FAC: Facultative Hydrophyte - Sometimes found in wetlands (34-66% frequency)FACW: Facultative Wet Hydrophyte - Usually found in wetlands (66-99% frequency)OBL: Obligate Hydrophyte - Almost always found in wetlands (99+% frequency)

NI: No Indicator – USDA has not assigned an indicator status for the species

Wetland 1 is a large, forested wetland that extends beyond the LOD of this project to the southwest. The edge of the wetland bordering Edmonston Road and some of Sunnyside Avenue and Powder Mill Road was delineated. The borders outside the LOD were not delineated; the westernmost border in Figure 5 was estimated for mapping purposes. The wetland may extend beyond this estimated western border. The larger wetland system flows south into Indian Creek, spanning over 100 acres total. It is classified as a palustrine forested wetland with broad-leaved deciduous vegetation and a seasonally flooded/saturated water regime (PFO1E). The larger wetland system contains other classifications; however, these are beyond the LOD of this study. Dominant vegetation includes blackgum (Nyssa sylvatica) and red maple (Acer rubrum) in the canopy, beech (Fagus grandifolia), blackgum, white oak (Quercus alba), white fringe tree (Chionanthus virginicus), American holly (Ilex verticillata), and Tatarian honeysuckle (Lonicera tatarica) in the understory, and Japanese stiltgrass (Microstegium vimineum), common greenbrier (Smilax rotundifolia), Virginia creeper (Parthenocissus quinquefolia), and Japanese honeysuckle (Lonicera japonica) in the herbaceous layer. The soil matrix was predominantly a sandy loam with a 10YR 2/2 color and redoximorphic concentrations in the matrix of 10YR 6/2 and 7.5YR 5/6. This chroma meets a depleted matrix hydric soil indicator.

Wetland 2 is classified as an excavated palustrine emergent wetland with persistent vegetation and a temporary flooded water regime (PEM1Ax). The dominant vegetation observed included red maple, tulip poplar (*Liriodendron tulipifera*), southern arrowwood (*Viburnum dentatum*), Tatarian honeysuckle, poison ivy (*Toxicodendron radicans*), fox grape (*Vitis labrusca*), and Virginia creeper. The soil matrix was a silt loam 10YR 4/2 with 2.5YR 5/4 redoximorphic features. This soil matrix met the depleted matrix hydric soil indicator.

Wetland 3 is classified as a palustrine forested wetland with broad-leaved deciduous vegetation and a seasonally flooded/saturated water regime (PFO1E). Wetland 3 drains into Wetland 1 via a culvert under Powder Mill Road. The dominant canopy species observed were red maple and pin oak (*Quercus palustris*). Dominant understory vegetation observed was red maple, sycamore (*Platanus occidentalis*), northern spicebush (*Lindera benzoin*), blackhaw (*Viburnum prunifolium*), creeping bent grass (*Agrostis stolonifera*), and common greenbrier. The soil matrix was primarily a 10 YR4/2 fine sandy loam with 7.5YR 4/4 redoximorphic features. The matrix meets the hydric soil indicator for a depleted matrix.

Wetland 4 is classified as a palustrine forested wetland with broad-leaved deciduous vegetation and a seasonally flooded/saturated water regime (PFO1E). Water from Wetland 4 drains west into Wetland 3 under a culvert, which then drains to Wetland 1. The dominant canopy species observed were willow oak (*Quercus phellos*), and red maple. The dominant understory vegetation consists of tulip poplar, sweetbay magnolia (*Magnolia virginiana*), creeping bentgrass, poison ivy, and common greenbrier. The soil matrix was predominantly a 10YR 4/2 sandy clay loam with redoximorphic features of 7.5YR 4/6 which meets the hydric soil criteria for a depleted matrix.

Wetland 5 is classified as a palustrine forested wetland with broad-leaved deciduous vegetation and a seasonally flooded/saturated water regime (PFO1E). Wetland 5 drains into Indian Creek. The canopy dominant species observed were beech and willow oak. The dominant understory species observed were ironwood (*Carpinus caroliniana*), northern spicebush, and skunk cabbage (*Symplocarpus foetidus*). The soil matrix was primarily a sandy clay loam with a 10YR 5/1 color with redoximorphic features of 7.5YR 4/6. These colors meet the hydric soil depleted matrix indicator.

Wetland 6 – Removed, No longer located within proposed LOD.

Wetland 7 is classified as a palustrine emergent wetland with persistent vegetation and a seasonally flooded/saturated water regime (PEM1E). The dominant vegetation observed was creeping bentgrass (*Agrostis stolonifera*) and reed canary grass (*Phalaris arundinacea*). The soil matrix was predominantly a 10YR 4/2 fine sandy loam with 7.5YR 4/6 redoximorphic features in the pore linings. These soils met the depleted matrix hydric soil indicator.

Wetland 8 is classified as a palustrine emergent wetland with persistent vegetation and a seasonally flooded/saturated water regime (PEM1E). The dominant vegetation observed was broad-leaved cattail (*Typha latifolia*) and soft rush (*Juncus effusus*). A few bald cypress (*Taxiodum distichum*) were growing on the perimeter. The soil matrix was predominantly a 10YR 4/2 sandy loam with 10YR 4/3 redoximorphic features. These soils met the depleted matrix hydric soil indicator.

Descriptions of each wetland are provided in Table 3.3. A Cowardin classification key can be found in Appendix D.

Wetland	Cowardin Classification	Total Acreage	Data Point	Connection to Navigable Waters
Wetland 1	PFO1E	9.8	DP-107 and 113	Drains to Indian Creek
Wetland 2	PEM1Ax	0.07	DP-111	Northwest corner of Edmonston and Powder Mill intersection. Drains southwest to Wetland 1 via WUS-3.
Wetland 3	PFO1E	0.36	DP-110	Just west of Wetland 4, north of Powder Mill Road. Drains south to Wetland 1 via WUS-1
Wetland 4	PFO1E	0.04	DP-105	Centered between Wetland 3 and 2. Drains west to Wetland 3
Wetland 5	PFO1E	3.24	DP-108	Southern portion of Traffic Mitigation Site, drains to Indian Creek
Wetland 6		Removed -	No longer lo	cated within the proposed LOD
Wetland 7	PEM1E	0.14	DP-8	Drains to WUS-4
Wetland 8	PEM1E	0.05	DP-10	Drains to WUS-4
	Total	13.70 Acres		

 Table 3-3. Wetlands at BEP Traffic Mitigation Sites

4 CONCLUSIONS

Eight (8) wetlands and six (6) stream reaches were delineated by USACE, Baltimore District, Planning Division, within the proposed boundary of BEP traffic mitigation sites along Powder Mill Road, Odell Road, and Edmonston Road in Beltsville, Maryland. The delineation was performed April through May 2021, with additional surveys in August and September 2023. Wetland 6 has since been removed due changes in the proposed LOD. The jurisdiction of the wetlands included in this report have not been verified by USACE-Regulatory Branch or Maryland Department of the Environment (MDE). Any future design or construction that may impact these wetlands or the wetland buffers will require coordination with the USACE and MDE, specifically regarding potential permitting actions within Section 404, Section 10, and all other potential permitting actions.

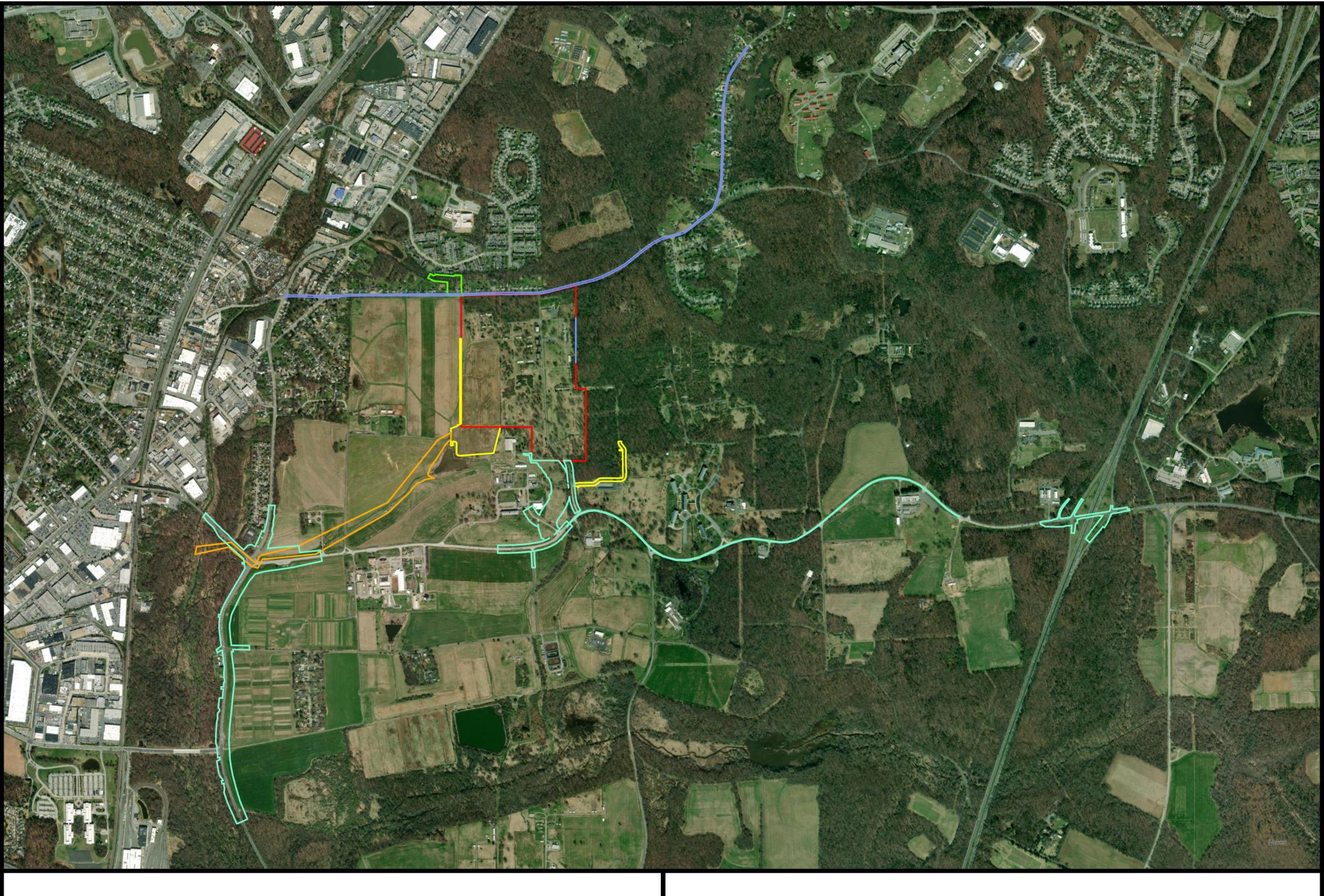
5 REFERENCES

- Cowardin, Lewis M., et. al. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service, Office of Biological Services. Washington, DC.
- Federal Emergency Management Agency. 2020. Flood Insurance Rate Maps. Retrieved from https://msc.fema.gov/portal
- Munsell Color. 1992. *Munsell Color Charts 1992 Revised Edition*. Kollmorgen Corporation. Baltimore, MD. Not paginated.
- Reed, Porter B., Jr. 1988. National List of Plant Species that Occur in Wetlands: Northeast (Region 1). U.S. Fish and Wildlife Service, National Ecology Research Center. Biological Report 88(26.1). Fort Collins, CO. 111p.
- U.S. Department of Agriculture Natural Resources Conservation Service. 2018. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed June 2015.
- U.S. Department of Agriculture Natural Resources Conservation Service. Updated frequently. National Plants Database, available at http://plants.usda.gov/index.html
- U.S. Department of the Army, Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Final Report. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station. St. Petersburg, FL.
- U.S. Department of the Army, Environmental Laboratory. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0). Technical Report 10-20. U.S. Army Engineer Research and Development Center. Vicksburg, MS.
- U.S. Fish and Wildlife Service. 2015. National Wetlands Inventory, Conterminous 48 States. Washington, D.C. Updated continuously.

6 ACRONYMS AND ABBREVIATIONS

BARC BEP	Beltsville Agricultural Research Center Bureau of Engraving and Printing
CPF	Currency Production Facility
EIS	Environmental Impact Statement
FAC	Facultative Hydrophyte
FACW	Facultative Wet Hydrophyte
GPS	Global Positioning System
LOD	Limit of Disturbance
MDE	Maryland Department of the Environment
NAD83	North American Datum of 1983
NI	No Indicator
NTCHS	National Technical Committee for Hydric Soils
NWI	National Wetland Inventory
OBL	Obligate Hydrophyte
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geologic Survey
WUS	Waters of the U.S.

APPENDIX A Figures



BEP Traffic and Utility Mitigation Vicinity Map 2023



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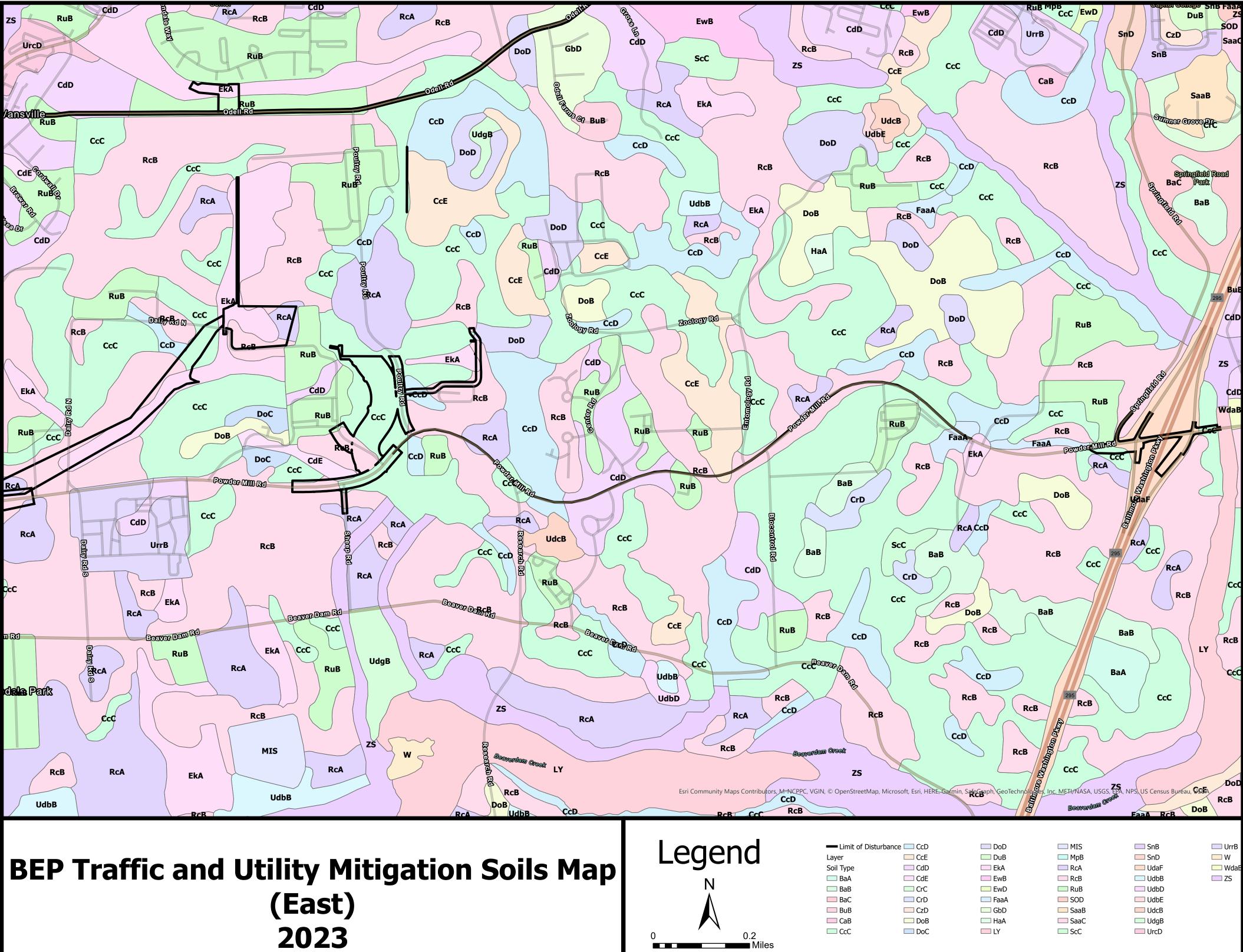
Sanitary Sewer
Alternative 2

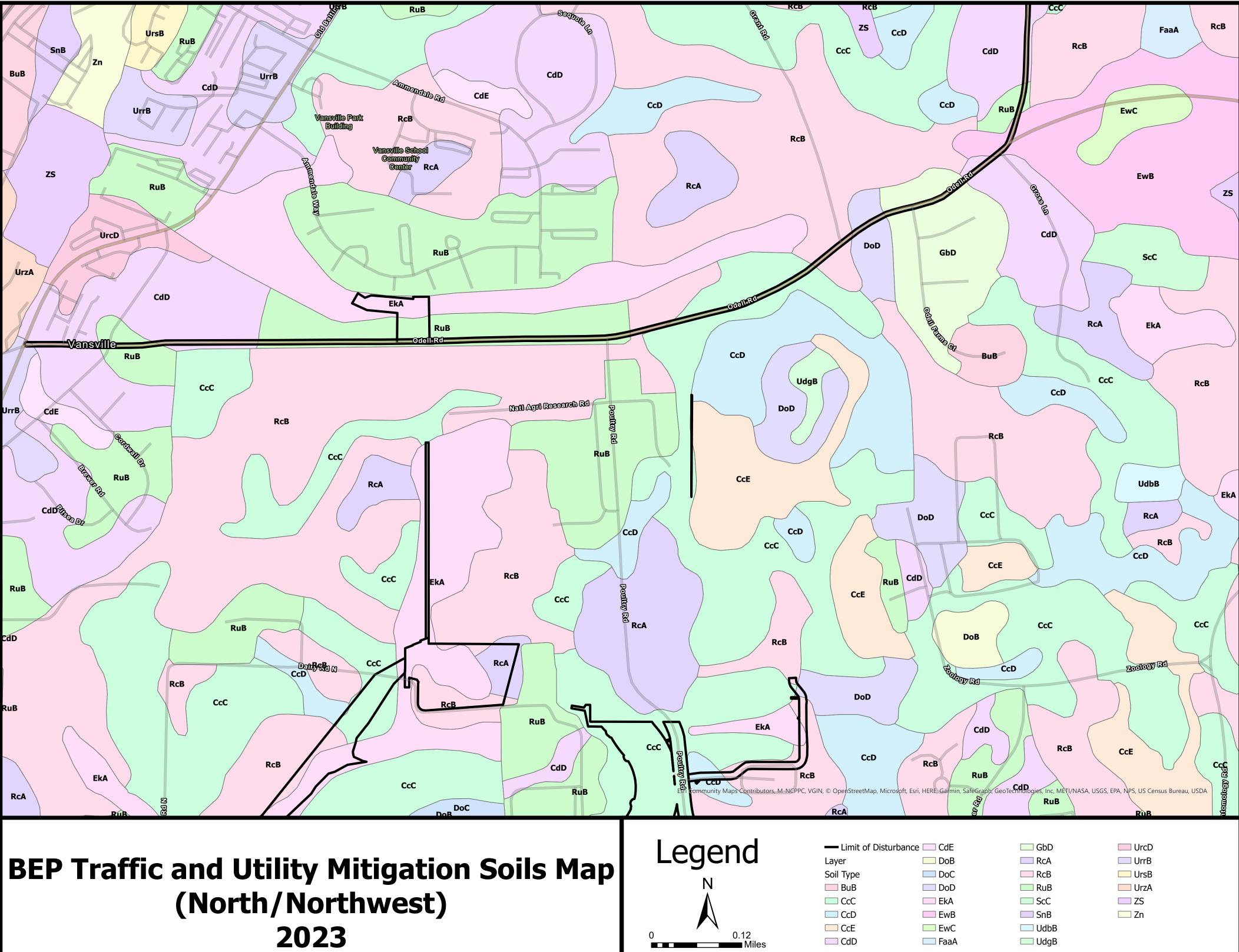


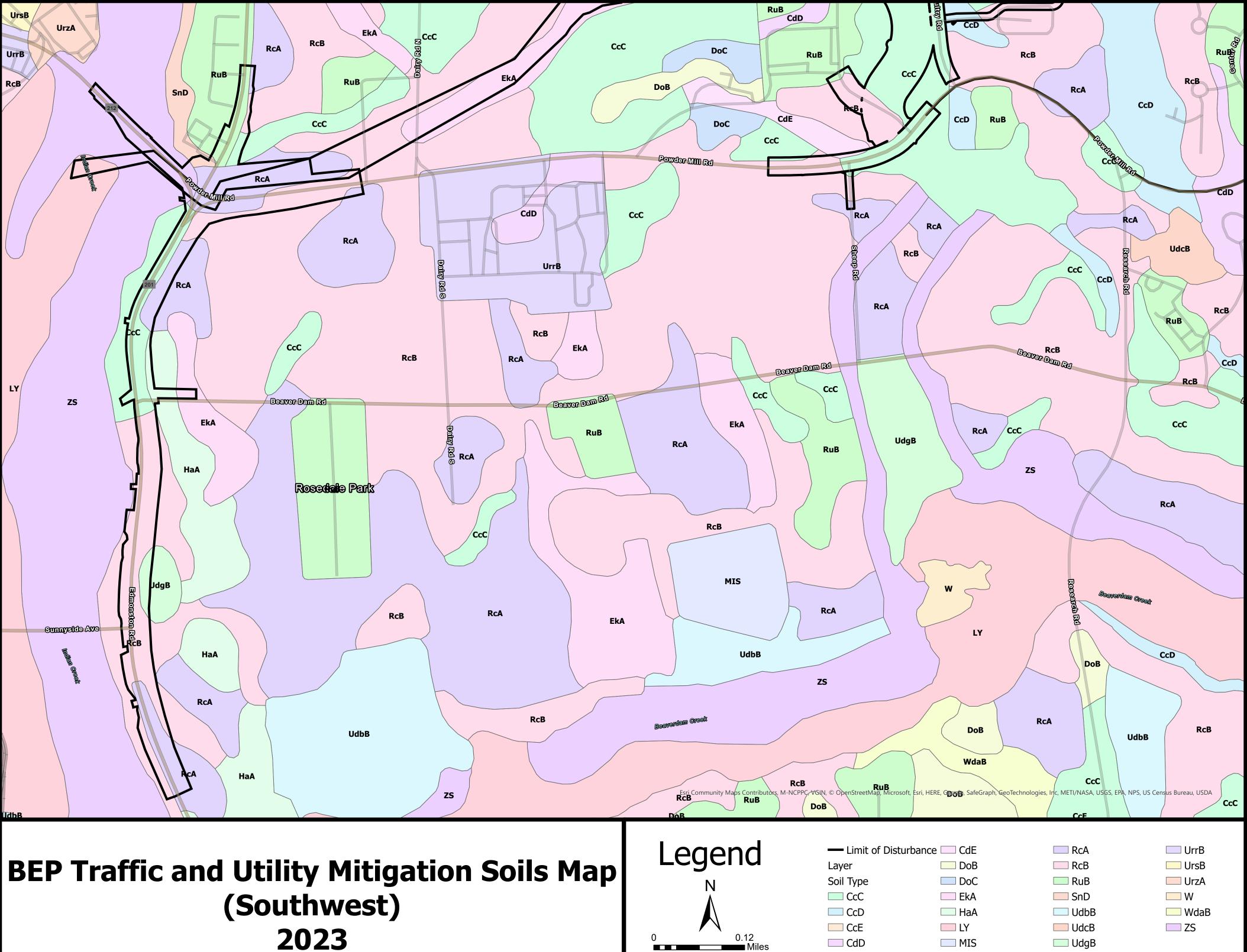


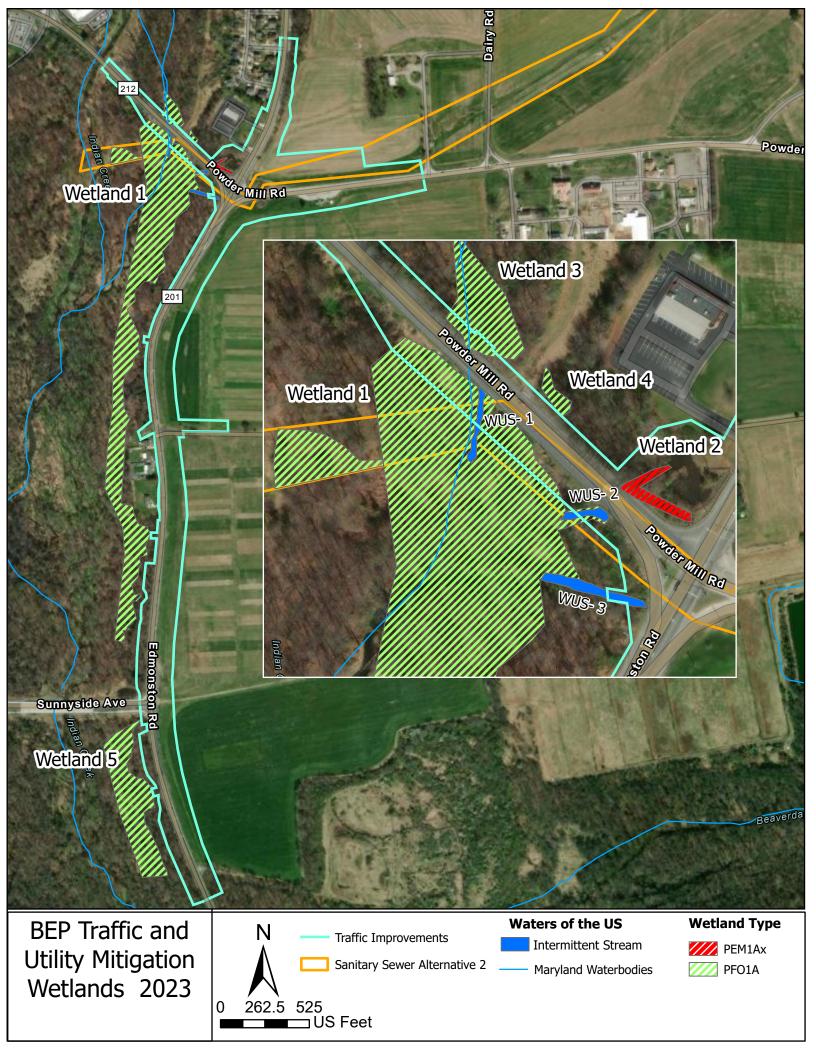


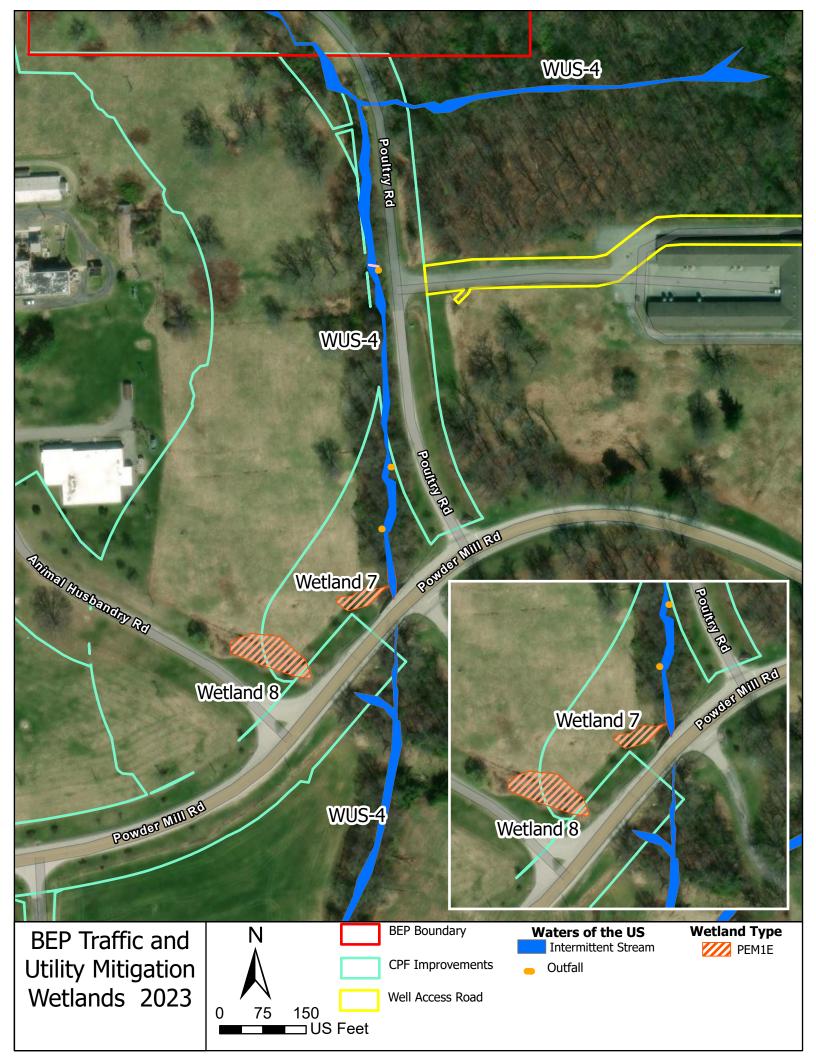
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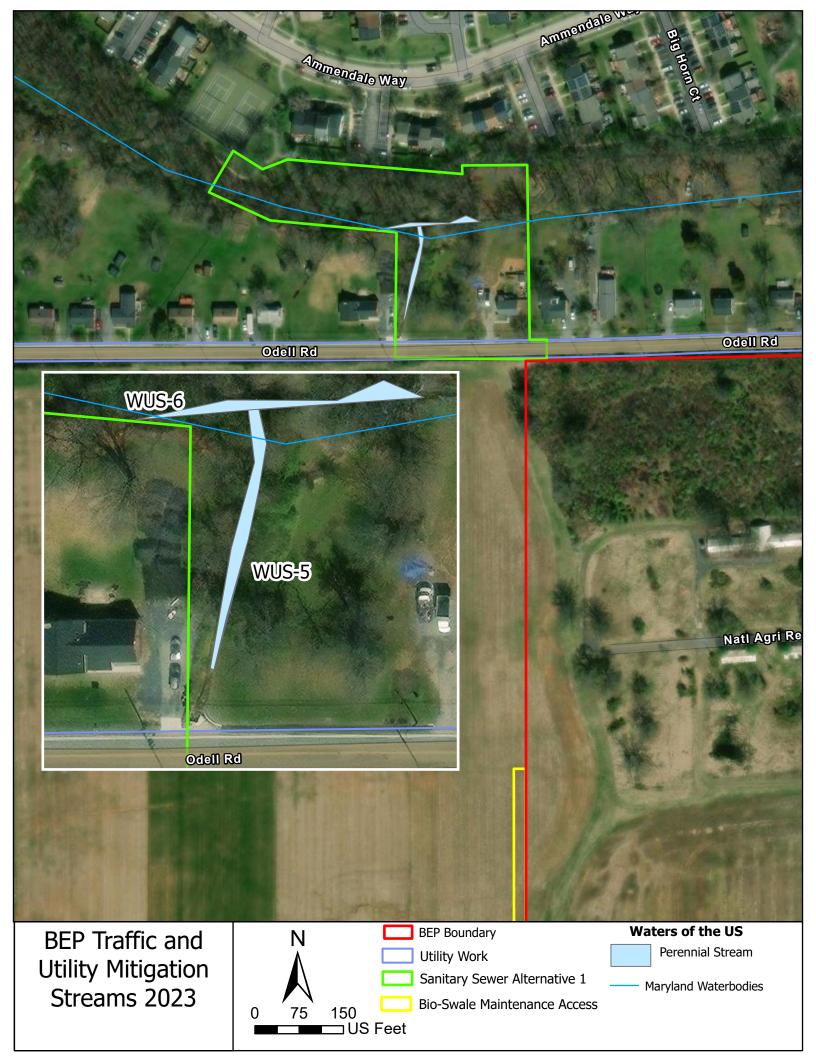












APPENDIX B Routine Wetland Data Forms

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: BEP Traffic Mitigation					City/County:		Prince George's		04/05/2021
Applicant/Owner:	BARC			State:	MD		Sampling Point:	100	
Investigator(s): Landform (hillslop)	DRC/I e. terrace.	EJ		Section	, Townsł	nip, Range	: 		
etc.):	-,,	East Pasture	Local	relief (concave,	convex,	none):	Flat	Slope (%):	1-3
Subregion (LRR o	or MLRA):	LRR R	Lat:	39.033235		Long:	-76.877983	Datum	NAD83
Soil Map Unit Nam	ne: <u>Ch</u>	ristiana and Downer					NWI	classification:	UPL
Are climatic/hydro	logic cond	itions on the site typical for t	his time o	f year?	Yes	s X	No	(If no, explain i	n Remarks)
Are Vegetation	, Soi	, or Hydrology	significa	antly disturbed?	Are "	Normal Cir	cumstances" presen	t? Yes X	No
Are Vegetation _	, Soi	, or Hydrology	naturally	y problematic?	(If ne	eded, exp	ain any answers in F	Remarks.)	

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes _ Yes _ Yes _	X X	No No No	X	Is the Sampled Area within a Wetland?	Yes	No <u>X</u>			
Remarks:										
Isolated area on bench above unna	Remarks: Isolated area on bench above unnamed tributary to Beaver Dam Creek									

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)		
Primary Indicators (minimum of one is required; ch		Surface Soil Cracks (B6)		
X Surface Water (A1)	Aquatic Fauna (B13)	Х	Sparsely Vegetated Concave Surface (B8)	
High Water Table (A2)	Marl Deposits (B15) (LRR U)		Drainage Patterns (B10)	
X Saturation (A3)	Hydrogen Sulfide Odor (C1)		Moss Trim Lines (B16)	
Water Marks (B1)	Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)	
Sediment Deposits (B2)	Presence of Reduced Iron (C4)		Crayfish Burrows (C8)	
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)		Saturation Visible on Aerial Imagery (C9)	
Algal Mat or Crust (B4)	Thin Muck Surface (C7)		Geomorphic Position (D2)	
Iron Deposits (B5)	Other (Explain in Remarks)		Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)			FAC-Neutral Test (D5)	
Water-Stained Leaves (B9)			Sphagnum Moss (D8) (LRR T, U)	

Field Observations:											
Surface Water Present?	Yes	Х	No		Depth (inches):	1-2"					
Water Table Present?	Yes		No	Х	Depth (inches):						
Saturation Present?	-				-		Wetland Hydrology				
(includes capillary fringe)	Yes	Х	No		Depth (inches):	0"	Present?	Yes	Х	No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:											
		,		oning i	well, aeriai priotos,	previous insp	ections), il avallable.				
		,9-,	monik	Sinig	well, aeriai priotos,		ections), il available.				
Remarks:					weil, aenai photos,						
Remarks: Surface water perched on o											

VEGETATION (Five Strata) - Use scientific nam				Sampling Point: 100	
Tree Stratum (Plot Size: 20-foot radius plot)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet	:
1.				Number of Dominant Species	That
2.				Are OBL, FACW, or FAC:	3 (A)
3.					
4.				Total Number of Dominant Sp	pecies
5.				Across All Strata:	З (В)
6.					(2)
		= Total Cover		Percent of Dominant Species	That
50% of total cover	:	20% of total cover:		Are OBL, FACW, or FAC:	<u>100</u> (A/B)
Sapling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index workshee	t:
1. Juncus effusus	25	Y	OBI	Total % Cover of:	Multiply by:
		<u> </u>	001		
2. Phalaris arundinacea	15	Y	FACW	OBL species	x 1 =
3. Typha latifolia	5	N	OBL	FACW species	x 2 =
4. Periscaria pensylvanica	5	N	FACW	FAC species	x 3 =
5.				FACU species	x 4 =
6.				UPL species	x 5 =
-	50	= Total Cover		Column Totals:	(A) (B)
50% of total cover		20% of total cover:	10		_ (1)
		- 20% 01 10(a) 00/01.		Prevalence Index = B/A =	
Shrub Stratum (Plot Size: 20-foot radius plot)					
1				Hydrophytic Vegetation Ind	
2				1 - Rapid Test for H	lydrophytic Vegetation
3.				X 2 - Dominance Tes	t is >50%
4.				3 - Prevalence Inde	x is ≤3.0¹
5.	-			Problematic Hydrop	hytic Vegetation ¹
6.	-				
		= Total Cover			
50% of total cover	:	20% of total cover:		(Explain)	
		-		¹ Indicators of hydric soil and we present, unless disturbed or pro	,,
Herb Stratum (Plot Size: 10-foot radius plot)				F	
1.				Definitions of Five Vegetati	on Strata:
				_	
2				Tree - Woody plants, exclude	
3. 4.		<u> </u>		approximately 20 ft (6 m) or n (7.6 cm) or larger in diameter	at breast height (DBH).
5.				Sapling - Woody plants, excl	udina woodv vines.
6.		·		approximately 20 ft (6 m) or n than 3 in (7.6 cm) DBH.	hore in height and less
7					
8				Shrub – Woody plants, exclu approximately 3 to 20 ft (1 to	
9				approximately 5 to 20 ft (1 to	o m) in neight.
10				Herb - All herbaceous (non-w	
11				herbaceous vines, regardless	
		= Total Cover		plants, except woody vines, lo 3 ft (1 m) in height.	ess than approximately
50% of total cover	:	20% of total cover:		5 it (1 iii) it fleight.	
		-		Woody vine - All woody vine	s, regardless of height.
Woody Vine Stratum (Plot Size: 20-foot radius plo	<u>ot)</u>				
1.					
2					
3.				Remarks: (if observed, list mo	orphological
				adaptations below.)	
		= Total Cover			
E00/ of total action		-		Hydrophytic Yes	X No
50% of total cover		20% of total cover:		Hydrophytic Yes Vegetation Present?	X No

Profile Desc	cription: (Descr	ibe to the	depth neede	d to doc	ument the in	dicator or c	onfirm the abso	ence of indicate	ors.)				
	Matrix					Redox Features							
Depth	Color		Color										
(Inches)	(Moist)	%	(Moist)	%	Type ¹	Loc ²	Texture		Rema	rks			
0-2	10YR 4/3	100					Clay loa	m					
2-10	10YR 5/4	70	10YR 2/1	10	С	М	Clay loa	m					
			7.5 YR 5/8	10	С	М							
								_					
					. <u></u> .								
		<u> </u>											
17 0.0					40.14		21 11 12	<u> </u>					
'Type: C=Cc	oncentration, D=	Depletion,	RM=Reduced	Matrix, I	VIS=Masked S	Sand Grains	. ² Location: PL=	Pore Lining, M=	=Matrix				
Hydric Soil	Indicators:							Indicators f	or Problematic H	ydric Soils ³ :			
Histoso	οl (Δ1)			Polyval	ue Below Sur	face (S8) (I	RRSTIN	1 cm Muck (A9) (LRR O)				
	Epipedon (A2)			•	ark Surface (S	. , .		_ `	A10) (LRR S)				
	Histic (A3)			-	Mucky Miner		.0)	_	rtic (F18) (Outside	-			
	gen Sulfide (A4)			-	Gleyed Matri				oodplain Soils (F1				
	ed Layers (A5)				ed Matrix (F3)				Bright Loamy Soils	(F20)			
	c Bodies (A6) (L		·		Dark Surface				ILRA 153B)				
	lucky Mineral (A		, Τ, U)	Deplete	ed Dark Surfa	ce (F7)			Red Parent Material (TF2)				
Muck F	Presence (A8) (L	.RR U)		Redox	Depressions	(F8)		Very Shallov	ery Shallow Dark Surface (TF12)				
1 cm N	luck (A9) (LRR	P, T)		Marl (F	10) (LRR U)			Other (Expla	ain in Remarks)				
Deplete	ed Below Dark S	Surface (A	11)	Deplete	ed Ochric (F1	1) (MLRA 15	51)						
Thick [Dark Surface (A	12)		Iron-Ma	anganese Ma	sses (F12) (I	LRR O, P, T)	³ Indicators	of hydrophytic veg	etation and			
Coast	Prairie Redox (A	16) (MLR	A 150A)	Umbric	Surface (F13) (LRR P, T	, U)		drology must be pr				
Sandy	Mucky Mineral	(S1) (LRR	O, S)	Delta C	ochric (F17) (I	MLRA 151)	-		r problematic.				
	Gleyed Matrix (· · ·		ed Vertic (F18	-	0A. 150B)						
	Redox (S5)	- /			mont Floodplains Soils (F19) (MLRA 149A)								
	ed Matrix (S6)				nalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)								
	Surface (S7) (LR	ррет		Anoma			20) (MERA 143	A, 1990, 1990)					
		к г, з, т,	0)										
Postrictivo	Layer (if observ	(od):											
Restrictive		veu).			امريا	ria Cail Dra	ant?	(Na	v			
	Type:				нуа	ric Soil Pres	sent?	(es	No	X			
Depth (inches):												
Remarks:			a ha nantiallu f		ما منظلم أما ما								
Soli is nignly	compacted and	appears t	o be partially f	ili materia	ai with high ci	ay content							

Project/Site:	BEP Traffi	c Mitigation	City/Cou	inty:	Prince G	eorge's	Sampling Date:	04/15/2021	
Applicant/Owner:	BARC			State:	MD		Sampling P	oint: 101	
Investigator(s):	DRC/L	EJ		Section,	Township	o, Range:			
Landform (hillslope	e, terrace,	etc.): Slight slope	Local rel	ief (concave, c	convex, no	one):	Concave	Slope (%): 1	
Subregion (LRR or	r MLRA):	LRR R	Lat: 3	9.034162		Long:	-76.877966	Datum:	NAD 83
Soil Map Unit Nam	ne: <u>Chr</u>	istiana and Downer					١	WI classification:	PEM
Are climatic/hydrol	ogic condi	tions on the site typical	for this time of ye	ear?	Yes	Х	No	(If no, explain in F	temarks)
Are Vegetation	, Soil	, or Hydrology	significantl	ly disturbed?	Are "No	ormal Cir	cumstances" pre	sent? Yes X	No
Are Vegetation	, Soil	, or Hydrology	naturally p	oroblematic?	(If nee	ded, expl	ain any answers	in Remarks.)	

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes _ Yes _ Yes _	X X X	No No No		Is the Sampled Area within a Wetland?	Yes _	x	No
Remarks: Connected to wetland area north of	Powder N	1ill RD., cor	ntinues e	ond fence				

HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) X Surface Water (A1) Aquatic Fauna (B13) X Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Drainage Patterns (B10) Marl Deposits (B15) (LRR U) X Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) X Oxidized Rhizospheres along Living Roots (C3) Water Marks (B1) Dry-Season Water Table (C2) Presence of Reduced Iron (C4) Sediment Deposits (B2) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) X Water-Stained Leaves (B9) Sphagnum Moss (D8) (LRR T, U)

Field Observations:											
Surface Water Present?	Yes	Х	No		Depth (inches):	2"					
Water Table Present?	Yes		No	Х	Depth (inches):						
Saturation Present?					-		Wetland Hydrology				
(includes capillary fringe)	Yes	Х	No		Depth (inches):	1.5"	Present?	Yes	Х	No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:											
Remarks:											
. to manife											

VEGETATION (Five Strata) - Use scientific name	s of plants.			Sampling Point:101
Tree Stratum (Plot Size: 20-foot radius plot)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. 2. 3.		· ·		Number of Dominant Species That Are OBL, FACW, or FAC: (A)
4. 5. 6.				Total Number of Dominant Species Across All Strata:(B)
50% of total cover:		= Total Cover 20% of total cover:		Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)
Sapling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index worksheet:
1		· ·		Total % Cover of: Multiply by:
2				OBL species x 1 =
3.		<u> </u>		FACW species x 2 =
4.				FAC species x 3 =
5.				FACU species x 4 =
6.			<u> </u>	UPL species x 5 =
		= Total Cover		Column Totals: (A) (B)
50% of total cover:		20% of total cover:		
Shrub Stratum (Plot Size: 20-foot radius plot)				Prevalence Index = B/A =
				Hydrophytic Vegetation Indicators:
1		· ·		
2.		· ·		1 - Rapid Test for Hydrophytic Vegetation
3				X 2 - Dominance Test is >50%
4		<u> </u>		3 - Prevalence Index is ≤3.0 ¹
5				Problematic Hydrophytic Vegetation ¹
6.				
		= Total Cover		(Eveloie)
50% of total cover:		20% of total cover:		(Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot Size: <u>10-foot radius plot)</u>				
1. Juncus effusus	30	Y	OBL	Definitions of Five Vegetation Strata:
Phalaris arundinacea 2.	15	Y	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
3. 4. 5.				Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH.
6. 7.				Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8.				Herb - All herbaceous (non-woody) plants, including
9.		· ·		herbaceous vines, regardless of size, and woody
10.				plants, except woody vines, less than approximately 3 ft
11.		<u> </u>		(1 m) in height.
	45	= Total Cover	<u> </u>	Woody vine - All woody vines, regardless of height.
50% of total cover:	22.5	20% of total cover:	9	
Woody Vine Stratum (Plot Size: 20-foot radius plot				
3.		· ·		Remarks: (if observed, list morphological adaptations below.)
		= Total Cover		,
50% of total cover:		20% of total cover:		Hydrophytic Yes X No Vegetation Present?

SOIL

Profile Dese	cription: (Descr	ibe to the	depth neede			dicator or c	onfirm the al	bsence of indic	ators.)				
	Matrix	x		Redox	Features								
Depth	Color		Color		- 4		_		_				
(Inches)	(Moist)	%	(Moist)	%	Type ¹	Loc ²	Text		Re	emarks			
0-2"	10YR 5/3	100					Clay l						
2-10"	10YR 5/3	75	10YR 2/1	10	C	М	Clay l	oam					
			10YR 5/8	5	С	М							
¹ Type: C=Co	oncentration, D=	Depletion,	RM=Reduced	l Matrix, I	MS=Masked	Sand Grains	² Location: P	PL=Pore Lining,	M=Matrix				
Hydric Soil	Indicators:							Indicator	s for Problemati	c Hydric Soils ³ :			
Histos	ol (A1)			Polvval	ue Below Su	rface (S8) (L	RR S. T. U)	1 cm Muc	k (A9) (LRR O)				
					ark Surface (S	. , .							
	Histic (A3)				Mucky Miner		-		2 cm Muck (A10) (LRR S) Reduced Vertic (F18) (Outside MLRA 150A, B)				
	gen Sulfide (A4)				Gleyed Matri		•,			(F19) (LRR P, S, T)			
· ·	ed Layers (A5)		X	-	ed Matrix (F3)				•				
	ic Bodies (A6) (L	RRPT			Dark Surface				Anomalous Bright Loamy Soils (F20) (MLRA 153B)				
	Aucky Mineral (A			ed Dark Surfa			-	Red Parent Material (TF2)					
		, 1, 0)						Very Shallow Dark Surface (TF12)					
	Presence (A8) (L			Depressions	(го)				, ,				
	1 cm Muck (A9) (LRR P, T) Marl (F						4	Other (Ex	plain in Remarks)			
	ed Below Dark S		11)		ed Ochric (F1		-						
	Dark Surface (A1		· · · · · · · · · · · · · · · · · · ·		anganese Ma		-	³ Indicato	ors of hydrophytic	vegetation and			
	Prairie Redox (A				Surface (F13		U)		wetland hydrology must be present, unless				
	Mucky Mineral (O, S)		0chric (F17) (I	-		disturbed	d or problematic.				
Sandy	Gleyed Matrix (S4)		Reduce	ed Vertic (F18	B) (MLRA 15	0A, 150B)						
Sandy	Redox (S5)			Piedmo	mont Floodplains Soils (F19) (MLRA 149A)								
Strippe	ed Matrix (S6)			Anoma	alous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)								
Dark S	Surface (S7) (LR	R P, S, T,	U)										
Restrictive	Layer (if observ	ved):											
	Туре:				Hyd	ric Soil Pres	sent?	Yes	X No				
Depth ((inches):												
Remarks:													
Possible fill	with high clay co	ontent											

Project/Site: BARC Traffic Mit	tigation		City/County:	Prince George's	<u> </u>	Sampling Date:	04/12/2021
Applicant/Owner: BARC			State: MD	Sa	ampling Point:	DP-102	
Investigator(s): DRC/LEJ			Section, Towns	hip, Range:			
Landform (hillslope, terrace, etc.):	Hillslope bottom	Local relief (c	oncave, convex	, none): Conve	ex S	Slope (%): 2	
Subregion (LRR or MLRA):	R	Lat: 39.03	3899	Long: -76	.877483	Datum:	NAD 83
Soil Map Unit Name: Christiana	a and Downer				NWI c	lassification:	PEM
Are climatic/hydrologic conditions c	on the site typical for th	nis time of year?	Ye	es <u>X</u> No	((If no, explain in R	emarks)
Are Vegetation, Soil	, or Hydrology	significantly dis	turbed? Are	"Normal Circumsta	inces" present?	Yes X	No
Are Vegetation, Soil	, or Hydrology	naturally proble	ematic? (If n	eeded, explain any	answers in Re	emarks.)	
SUMMARY OF FINDINGS - Attack	h site map showing s	sampling point	locations, trans	ects, important fe	eatures, etc.		
Hydrophytic Vegetation Present?	Yes X	No	ls ti	ne Sampled Area			
Hydric Soil Present?	Yes X	No	with	nin a Wetland?	Yes	X No	
Wetland Hydrology Present?	Yes X	No					
Remarks [.]			1				

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; cl	neck all that apply)	Surface Soil Cracks (B6)			
X Surface Water (A1)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)			
X Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)			
Water Marks (B1)	X Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)			
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)			
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorphic Position (D2)			
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)			
X Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)			

Field Observations:												
Surface Water Present?	face Water Present? Yes No X Depth (inches):											
Water Table Present?	Yes		No	Х	Depth (inches):							
Saturation Present?					-		Wetland Hydrology					
(includes capillary fringe)	Yes	Х	No		Depth (inches):	0.5"	Present?	Yes	Х	No		
Describe Recorded Data (s	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:											
Remarks:												
Remarks.												
Just rained, bottom of hills	ope in l	arge w	/etland	area								
Wetland continues under fe	•	5										

VEGETATION (Five Strata) - Use scientific names c	•			Sampling Point: 102
	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1		<u> </u>		Number of Dominant Species That
2				Are OBL, FACW, or FAC: (A)
3		<u> </u>		
4		<u> </u>		Total Number of Dominant Species
5		<u> </u>		Across All Strata: <u>3</u> (B)
ô		<u> </u>		
-		= Total Cover		Percent of Dominant Species That
50% of total cover:		20% of total cover:		Are OBL, FACW, or FAC: 100 (A/B)
Sapling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index worksheet:
l		<u> </u>		Total % Cover of: Multiply by: OBL species x 1 =
2		· ·		OBL species x 1 = FACW species x 2 =
		·		FAC species x 3 =
ł		- <u></u> ·		FACU species x 4 =
5		<u> </u>		UPL species x 4 = UPL species x 5 =
)		= Total Cover		· · · · · · · · · · · · · · · · · · ·
E0% of total any are		-		Column Totals: (A) (B)
50% of total cover: _		20% of total cover:		Prevalence Index = B/A =
Shrub Stratum (Plot Size: <u>20-foot radius plot)</u>				Hydrophytic Vegetation Indicators:
<u></u>		- <u> </u>		1 - Rapid Test for Hydrophytic Vegetation
		· ·		X 2 - Dominance Test is >50%
ł		·		$3 - \text{Prevalence Index is } \le 3.0^1$
··		- <u> </u>		Problematic Hydrophytic Vegetation ¹
)		<u> </u>		
		= Total Cover		
50% of total cover:		20% of total cover:		(Explain)
-				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>lerb Stratum</u> (Plot Size: <u>10-foot radius plot)</u>	10		0.51	Definitions of Five Vegetation Strata:
	40	<u> </u>	OBL	
Juncus effusus	15	<u>N</u>	OBL	Tree - Woody plants, excluding woody vines,
Agrostis stolonifera	60	<u> </u>	FACW	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
5.				Sapling - Woody plants, excluding woody vines,
				approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH.
7				Shrub – Woody plants, excluding woody vines,
)		·		approximately 3 to 20 ft (1 to 6 m) in height.
		· <u> </u>		
I1.		· <u> </u>		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
····	115	= Total Cover		plants, except woody vines, less than approximately
50% of total cover:	57.5	20% of total cover:	23.3	3 ft (1 m) in height.
	57.5	2078 01 10181 00001.	20.0	Woody vine - All woody vines, regardless of height.
<u>Woody Vine Stratum</u> (Plot Size: <u>20-foot radius plot)</u> 1.				
2.		<u> </u>		
3.				Remarks: (if observed, list morphological adaptations below.)
		T		· · · · · · · · · · · · · · · · · · ·
		= Total Cover		Hudronhytia Y Y
50% of total cover:		20% of total cover:		Hydrophytic Yes X No Vegetation Present?

Profile Desc	ription: (Descr	ibe to the	e depth needeo			dicator or o	confirm the ab	sence of ind	licators.)		
	Matrix	ĸ		Redox	Features						
Depth	Color		Color								
(Inches)	(Moist)	%	(Moist)	%	Type ¹	Loc ²	Textu	ire	Remarks		
0-2"	10 YR 3/2	100					loan	n			
2-6"	10YR 4/2	70	10YR 4/6	30	С	PL	Fine sand	y loam			
6-12"	10YR 5/3	60	10YR 2/1	40	C	PL	Sandy clay	-	Gravel present		
0.12	10111 0/0		1011(2/1	10			Canay day				
¹ Type: C=Co	ncentration, D=	Depletion	, RM=Reduced	Matrix,	MS=Masked	Sand Grains	s. ² Location: Pl	L=Pore Linino	g, M=Matrix		
Hydric Soil	Indicators:							Indicat	ors for Problematic Hydric Soils ³ :		
Histoso	ol (A1)			Polyva	lue Below Su	rface (S8) (L	.RR S, T, U)	1 cm M	uck (A9) (LRR O)		
Histic E	pipedon (A2)			Thin Da	ark Surface (S	69) (LRR S,	T, U)	2 cm M	uck (A10) (LRR S)		
	listic (A3)				Mucky Miner		-	Reduce	d Vertic (F18) (Outside MLRA 150A, I		
	en Sulfide (A4)			-	Gleyed Matri		-,		nt Floodplain Soils (F19) (LRR P, S, T)		
· ·	ed Layers (A5)		X	•	ed Matrix (F3)	. ,	-				
							-		alous Bright Loamy Soils (F20)		
					Dark Surface			-	ILRA 153B)		
5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted					ed Dark Surfa		-		rent Material (TF2)		
Muck Presence (A8) (LRR U) Redox D					Depressions	(F8)	_	Very Sh	nallow Dark Surface (TF12)		
1 cm M	1 cm Muck (A9) (LRR P, T) Marl (F ⁻				10) (LRR U)			Other (E	Explain in Remarks)		
Deplete	ed Below Dark S	Surface (A	.11)	Deplete	ed Ochric (F1	1) (MLRA 1	51)				
Thick D	ark Surface (A1	12)	·	Iron-Ma	anganese Ma	sses (F12)	LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
	Prairie Redox (A		A 150A)		Surface (F13		-				
							, .,				
	Mucky Mineral (0, 3)		Dchric (F17) (I	-					
	Gleyed Matrix (S	54)			ed Vertic (F18		-				
Sandy	Redox (S5)			Piedmo	ont Floodplains Soils (F19) (MLRA 149A)						
Strippe	d Matrix (S6)			Anoma	alous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)						
Dark S	urface (S7) (LR I	R P, S, T,	U)								
Restrictive I	_ayer (if observ	/ed):									
	Туре:	,-			Hvd	ric Soil Pre	sent?	Yes	X No		
Depth (i							oont i				
Deptil (i											
Remarks:											
Wet soils, ju	ist rained										
	I in bottom laye	er									
.											

Project/Site:	BARC Tra	ffic Mitigation		City/Cou	inty:	Prince G	eorge's	Sampling Date:	04/12/2021
Applicant/Owner:	BARC			State:	Md		Sampling Po	DP-103	
Investigator(s):	LEJ/DF	RC		Section,	Townshi	p, Range	:		
Landform (hillslop	e, terrace,	etc.): hillside	Local relief (c	oncave, o	convex, n	one):	Concave	Slope (%): 3	
Subregion (LRR o	or MLRA):	LRR R	Lat: 39.03	3727,		Long:	-76.877031	Datum:	NAD 83
Soil Map Unit Nan	ne: Chr	istiana and Downer					N	IWI classification:	UPL
Are climatic/hydro	logic condit	tions on the site typical for	this time of year?		Yes	Х	No	(If no, explain in F	Remarks)
Are Vegetation	, Soil	, or Hydrology	significantly dis	turbed?	Are "N	lormal Cir	cumstances" pre	sent? Yes X	No
Are Vegetation	, Soil	, or Hydrology	naturally proble	ematic?	(If nee	eded, exp	lain any answers	in Remarks.)	

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes _ Yes _ Yes _	X X	No No No	X	Is the Sampled Area within a Wetland?	Yes	No <u>X</u>
Remarks:							

HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; ch	eck all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
X Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Water Marks (B1)	Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)

Field Observations:								
Surface Water Present?	Yes	No	Х	Depth (inches):				
Water Table Present?	Yes	No	Х	Depth (inches):				
Saturation Present?					Wetland Hydrology			
(includes capillary fringe)	(includes capillary fringe) Yes No X Depth (inches): Present? Yes X No							
Describe Recorded Data (s	tream gau	ge, monite	oring	well, aerial photos, previous	inspections), if available:			
Remarks:								
	f DP-103	Hill ages i	in to t	oward buildings just north o	f Powder Mill			
	101-100.	r nii goos t		oward buildings just north o				
l								

VEG	ETATION (Five Strata) - Use scientific names	•			Sampling Point: 103
Tree	Stratum (Plot Size: 20-foot radius plot)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. 2. 3.					Number of Dominant Species That Are OBL, FACW, or FAC: (A)
4. 5. 6.					Total Number of Dominant Species Across All Strata: 2 (B)
0.	50% of total cover:		= Total Cover 20% of total cover:		Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
<u>Sapl</u>	ing Stratum (Plot Size: 20-foot radius plot)				Prevalence Index worksheet:
1.					Total % Cover of: Multiply by:
2.					OBL species x 1 =
3.					FACW species x 2 =
4.					FAC species x 3 =
5.					FACU species x 4 =
6.					UPL species x 5 =
			= Total Cover		Column Totals: (A) (B)
	50% of total cover:		20% of total cover:		()
					Prevalence Index = B/A =
	b Stratum (Plot Size: 20-foot radius plot)				Hydrophytic Vegetation Indicators:
1.			·		
2.					1 - Rapid Test for Hydrophytic Vegetation
3.			· ·		X 2 - Dominance Test is >50%
4.			. <u> </u>		3 - Prevalence Index is ≤3.0 ¹
5.			·		Problematic Hydrophytic Vegetation ¹
6.			. <u> </u>		
	500/ - (1-1-1		= Total Cover		(Explain)
	50% of total cover:		20% of total cover:	<u> </u>	¹ Indicators of hydric soil and wetland hydrology must be
Hork	<u>Stratum</u> (Plot Size: <u>10-foot radius plot)</u>				present, unless disturbed or problematic.
<u>1.</u>	Festuca pratensis	70	Y	FACUP	Definitions of Five Vegetation Strata:
2. 3.	Agrostis stolonifera	20	Y	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
4. 5. 6.					Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH.
7. 8. 9.			·		Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
9. 10. 11.			·		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
	50% of total cover:	90 45	= Total Cover 20% of total cover:	18	
<u>Woo</u>	dy Vine Stratum (Plot Size: 20-foot radius plot)				Woody vine - All woody vines, regardless of height.
1. 2.					
3.			·		Remarks: (if observed, list morphological
					adaptations below.)
			= Total Cover		
	50% of total cover:		20% of total cover:		Hydrophytic Yes X No Vegetation Present?

Profile Desc	cription: (Desc		e depth need			dicator or c	onfirm the ab	sence of inc	licators.)		
	Matri	x		Redox	Features						
Depth	Color	0/	Color	0/	- 1	. 2					
(Inches)	(Moist)	%	(Moist)	%	Type ¹	Loc ²	Textu		Ren	narks	
0-6"	10YR 4/3	100					loar	n			
6-8"	10YR 4/4						loar	n			
7-12"	7.5YR 4/4						Loam		Small	gravel	
							-				
¹ Type: C=Co	oncentration, D=	Depletion	, RM=Reduce	ed Matrix,	MS=Masked	Sand Grains	. ² Location: P	L=Pore Lining	g, M=Matrix		
Hydric Soil	Indicators:							Indicat	ors for Problematic	Hydric Soils ³ :	
Histoso	ol (A1)			Polyval	ue Below Su	rface (S8) (L	.RR S, T, U)	1 cm M	uck (A9) (LRR O)		
	Epipedon (A2)				ark Surface (S				uck (A10) (LRR S)		
	Histic (A3)			_	Mucky Miner		-		d Vertic (F18) (Outsi	de MLRA 150A. B)	
				- '	Gleyed Matri		,			-	
	<u> </u>				ed Matrix (F3)		-		Piedmont Floodplain Soils (F19) (LRR P, S, T) Anomalous Bright Loamy Soils (F20)		
	<u> </u>				Dark Surface		-		(MLRA 153B)		
					ed Dark Surfa	· · /		-	Red Parent Material (TF2)		
					Depressions		-		nallow Dark Surface (TF12)	
	1uck (A9) (LRR	-			arl (F10) (LRR U)				Explain in Remarks)	11 12)	
		-	11)				54)				
	ed Below Dark				ed Ochric (F1		-				
	Dark Surface (A		A 450A)		Manganese Masses (F12) (LRR O, P, T)			³ Indicators of hydrophytic vegetation and			
	Prairie Redox (A		· · · · · · · · · · · · · · · · · · ·		bric Surface (F13) (LRR P, T, U) a Ochric (F17) (MLRA 151)				wetland hydrology must be present, unless disturbed or problematic.		
	Mucky Mineral		0, 5)					aisturc	bed or problematic.		
	Gleyed Matrix (54)			ed Vertic (F18		-				
	Redox (S5)			_	nont Floodplains Soils (F19) (MLRA 149A) alous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)						
	ed Matrix (S6)			Anoma	lous Bright Lo	bamy Soils (F20) (MLRA 1	49A, 153C, 1	53D)		
Dark S	urface (S7) (LR	R P, S, T,	U)								
Restrictive	Layer (if obser	ved):									
	Туре:				Hyd	ric Soil Pre	sent?	Yes	No	X	
Depth (inches):										
Remarks:											

Project/Site: BARC Traffic Mitigation	City/County:	Prince George's	Sampling Date:	05/11/21
Applicant/Owner: BARC	State: MD	Sampling F	Point: DP-104	
Investigator(s): LEJ/DRC	Section, Townsh	hip, Range:	_	
Landform (hillslope, terrace, etc.): Roadside floodplain Local relief (concave, convex,	none): Concave	Slope (%): 1	
Subregion (LRR or MLRA): LRR R Lat: 39.0	32911	Long: -76.901474	Datum:	NAD 83
Soil Map Unit Name: Christiana and Downer			NWI classification:	UPL
Are climatic/hydrologic conditions on the site typical for this time of year?	Ye:	s X No	(If no, explain in Ren	narks)
Are Vegetation, Soil, or Hydrology significantly di	sturbed? Are "	Normal Circumstances" pr	esent? Yes X	No
Are Vegetation, Soil, or Hydrology naturally prob	ematic? (If ne	eeded, explain any answers	s in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing sampling point	locations, transe	ects, important features,	etc.]
Hydrophytic Vegetation Present? Yes X No	ls th	e Sampled Area		
Hydric Soil Present? Yes No X		in a Wetland? Ye	s <u>No</u>	<u>(</u>
Wetland Hydrology Present? Yes No X				
Remarks: East of powder mill Some wetland plants, but not soils. Outskirts of floodplain	I			
HYDROLOGY				
Wetland Hydrology Indicators:			Indicators (minimum of tw	o required)
Primary Indicators (minimum of one is required; check all that apply)		Surfac	ce Soil Cracks (B6)	

Primary Indicators (minimum of one is required; che	ck all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Water Marks (B1)	Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)

Field Observations:							
Surface Water Present?	Yes	No	Х	Depth (inches):			
Water Table Present?	Yes	No	Х	Depth (inches):			
Saturation Present?					Wetland Hydrology		
(includes capillary fringe)	Yes	No	Х	Depth (inches):	Present?	Yes	<u>No X</u>
Describe Recorded Data (s	stream gau	ge, monito	oring	well, aerial photos, previous	inspections), if available:		
Remarks:							

VEGETATION (Five Strata) - Use scientific names of plants.

VEGETATION (Five Strata) - Use scientific names	s of plants.			Sampling Point: 104
<u>Tree Stratum</u> (Plot Size: <u>20-foot radius plot)</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
	10	Y	FACU	
		- <u> </u>		Number of Dominant Species That
2. Acer rubrum	10		FAC	Are OBL, FACW, or FAC: <u>6</u> (A)
3. Liriodenderon tulipifera	15	<u> </u>	FACU	
4. Quercus palustris	10	Y	FACW	Total Number of Dominant Species
5. Fraxinus pennsylvanica	5	<u>N</u>	FACW	Across All Strata: (B)
6	50	= Total Cover		Descent of Descionaria Oracian That
50% of total cover:	25	20% of total cover:	10	Percent of Dominant Species That Are OBL, FACW, or FAC:55_ (A/B)
Sapling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index worksheet:
1.				Total % Cover of: Multiply by:
2.				OBL species x 1 =
3.		· ·		FACW species x 2 =
4.				FAC species x 3 =
5				FACU species x 4 =
6.		- <u> </u>		UPL species x 5 =
		= Total Cover		Column Totals: (A) (B)
50% of total cover:		20% of total cover:	:	
Shrub Stratum (Plot Size: 20-foot radius plot)		-		Prevalence Index = B/A =
1. Viburnum dentatum	25	Y	FAC	Hydrophytic Vegetation Indicators:
	05		54014/	1 - Rapid Test for Hydrophytic Vegetation
2. Lindera benzoin	25	<u>Y</u>	FACW	
3. Corylus americana	5	<u>N</u>	FACU	X 2 - Dominance Test is >50%
4		<u> </u>		3 - Prevalence Index is ≤3.0 ¹
5				Problematic Hydrophytic Vegetation ¹
6.				
	55	= Total Cover		
50% of total cover:	27.5	20% of total cover:	11	(Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot Size: 10-foot radius plot)				
1. Microstogium viminoum	30	Y	FAC	Definitions of Five Vegetation Strata:
Microstegium vimineum		· · · · ·	TAC	
2. Cinna arundinacea	10	Y	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
3. Impatiens capensis	5	N	FACW	(7.6 cm) or larger in diameter at breast height (DBH).
4		<u> </u>		Sapling - Woody plants, excluding woody vines,
5.				approximately 20 ft (6 m) or more in height and less
6.		· ·		than 3 in (7.6 cm) DBH.
7.	-			Shrub - Woody plants, excluding woody vines,
8.		<u> </u>		approximately 3 to 20 ft (1 to 6 m) in height.
9.		· ·		
10.				Herb - All herbaceous (non-woody) plants, including
				herbaceous vines, regardless of size, and woody
11	45			plants, except woody vines, less than approximately 3 ft (1 m) in height.
	45	= Total Cover	2	- · · (· · · ·) ········
50% of total cover:	22.5	20% of total cover:	9	Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot Size: 20-foot radius plot)				
1. Parthenocissus quinquefolia	30	Y	FACU	
2. Lonicera japonica	15	Y	FACU	
3. Toxicodendron radicans	20	Y	FACU	Remarks: (if observed, list morphological
		- <u> </u>		adaptations below.)
	65	= Total Cover		
50% of total cover:	32.5	20% of total cover:	13	Hydrophytic Yes X No
	-			Vegetation
				Present?

Profile Desc	cription: (Descr	ibe to the	e depth needed	d to doc	un	nent the ir	ndicator or o	confirm the a	bsence of indicators.)		
	Matrix	ĸ		Redox	Fe	atures					
Depth	Color		Color					_			
(Inches)	(Moist)	%	(Moist)	%		Type ¹	Loc ²	Text			
0-3"	10YR 5/3							loa	m		
3-10"	10YR 4/3	70	10YR 4/4	30		C	M	loa	m		
10-12"	10YR 5/4	70	10YR 4/6	30	Х	С	M	loam			
¹ Type: C=Co	oncentration, D=	Depletion,	RM=Reduced	Matrix,	MS	S=Masked	Sand Grains	s. ² Location: F	PL=Pore Lining, M=Matrix		
Hydric Soil	Indicators:								Indicators for Problematic Hydric Soils ³ :		
Histoso	ol (A1)			Polyva	lue	Below Su	rface (S8) (L	.RR S, T, U)	1 cm Muck (A9) (LRR O)		
Histic E	Epipedon (A2)			Thin D	ark	Surface (S9) (LRR S,	T, U)	2 cm Muck (A10) (LRR S)		
Black H	Histic (A3)			Loamy	M	ucky Minei	ral (F1) (LRF	R O)	Reduced Vertic (F18) (Outside MLRA 150A, E		
Hydrog	gen Sulfide (A4)			Loamy	GI	eyed Matr	ix (F2)		Piedmont Floodplain Soils (F19) (LRR P, S, T)		
Stratifie	ed Layers (A5)			Deplete	ed	Matrix (F3)		Anomalous Bright Loamy Soils (F20)		
Organic Bodies (A6) (LRR P, T, U) Redox					Da	rk Surface	e (F6)		(MLRA 153B)		
5 cm Mucky Mineral (A7) (LRR P, T, U) Deplete					ed	Dark Surfa	ace (F7)		Red Parent Material (TF2)		
					De	pressions	(F8)		Very Shallow Dark Surface (TF12)		
	<u> </u>) (LRR U)			Other (Explain in Remarks)		
							1) (MLRA 1	51)			
	<u> </u>							(LRR O, P, T)	31. I've te me of her deve be the second time and		
	Prairie Redox (A		A 150A)				3) (LRR P, T		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless		
	Mucky Mineral (MLRA 151)	, •,	disturbed or problematic.		
	Gleyed Matrix (-	0A 150B)			
	Redox (S5)	0-1)			ced Vertic (F18) (MLRA 150A, 150B) nont Floodplains Soils (F19) (MLRA 149A)						
	ed Matrix (S6)				alous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)						
	urface (S7) (LR	ррст		Anoma	aiot		Carry Sons (143A, 133C, 133D)		
Daik S		KT, 5 , 1,	0)								
Postrictivo	Layer (if observ	(od):									
Restrictive	Type:	reu).				Hve	Iric Soil Pre	sont?	Yes No X		
Depth (i						i i ye		Sent :			
Deptil (<u> </u>										
Remarks:											
Soil very dry											
Light soil											
Wetland 3 U	PL point										

Project/Site: BARC Traffic Miti	igation	City/County:	Prince George's	Sampling Date:	05/12/21
Applicant/Owner: BARC		State: MD	Sampling Poir	it: DP-105	
Investigator(s): LEJ/DRC	_	Section, Townsh	nip, Range:	_	
Landform (hillslope, terrace, etc.):	Roadside floodplain Local relief	f (concave, convex,	none): Concave	Slope (%): 2	
Subregion (LRR or MLRA):	R Lat: 39.	032261	Long: -76.900463	Datum:	NAD 83
Soil Map Unit Name: Christiana	and Downer		NW	I classification:	PEM/FO
Are climatic/hydrologic conditions or	n the site typical for this time of yea	r? Ye	s X No	(If no, explain in Re	emarks)
Are Vegetation, Soil	, or Hydrology significantly	disturbed? Are "	Normal Circumstances" prese	nt? Yes X	No
Are Vegetation, Soil	, or Hydrology naturally pro	blematic? (If ne	eeded, explain any answers in	Remarks.)	
SUMMARY OF FINDINGS - Attach	ı site map showing sampling poi	nt locations, transe	ects, important features, etc		
Hydrophytic Vegetation Present?	Yes X No	Is th	e Sampled Area		
Hydric Soil Present?	Yes X No	with	in a Wetland? Yes	X No	
Wetland Hydrology Present?	Yes X No				
Remarks:					
Data point for Wetland 4 (TS W4-1)					

HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; che	<u>ck all that apply)</u>	Surface Soil Cracks (B6)
Surface Water (A1)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
X Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Water Marks (B1)	Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)
X Inundation Visible on Aerial Imagery (B7)	—	FAC-Neutral Test (D5)
X Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)

Field Observations:										
Surface Water Present? Yes No X Depth (inches):										
Water Table Present?	Yes		No X Depth (inches):		Depth (inches):					
Saturation Present?	ion Present?				Wetland Hydrology					
(includes capillary fringe)	(includes capillary fringe) Yes X No 0" Depth (inches):				Present?	Yes	Х	No		
Describe Recorded Data (s	stream o	gauge,	monit	oring	well, aerial photos, previous	inspections), if available:				
Remarks:										
Wetland 4 drains west to Wetland 3 under gravel road through 24" CMP, which drains to Wetland 1 to Indiana Creek										

VEGETATION (Five Strata) - Use scientific names of plants.

VEG	GETATION (Five Strata) - Use scientific names	of plants.			Sampling Point: 105	
Tree	e <u>Stratum</u> (Plot Size: <u>20-foot radius plot)</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1.	Quercus phellos	25	Y	FACW	Number of Dominant Species That	
2.	Acer rubrum	20	Y	FAC		
<u>-</u> . 3.		20	· ·		Are OBL, FACVV, or FAC: <u>6</u> (A	.)
4.					Total Number of Deminent Creation	
5.				<u> </u>	Total Number of Dominant Species Across All Strata: 6 (B	
6.				<u> </u>	Across All Strata:6(B)
0.		55	= Total Cover		Percent of Dominant Species That	
	50% of total cover:	27.5	20% of total cover:	11	Are OBL, FACW, or FAC:(A/	B)
<u>Sap</u>	ling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index worksheet:	
1.	Liquidamabar styracifula	15	Y	FAC	Total % Cover of: Multiply by:	
2.	Magnolia virginiana	10	Y	FACW	OBL species x 1 =	
3.	Viburnum dentatum	6	N	FAC	FACW species x 2 =	
4.					FAC species x 3 =	
5.					FACU species x 4 =	
6.					UPL species x 5 =	
		36	= Total Cover		Column Totals: (A) (E	B)
	50% of total cover:	15.5	20% of total cover:	7.2		
	-		-		Prevalence Index = B/A =	
<u>Shr</u> u	ub Stratum (Plot Size: 20-foot radius plot)					
1.					Hydrophytic Vegetation Indicators:	
2.					1 - Rapid Test for Hydrophytic Vegetation	1
3.					X 2 - Dominance Test is >50%	
4.					3 - Prevalence Index is ≤3.0 ¹	
5.					Problematic Hydrophytic Vegetation ¹	
6.				<u> </u>		
	5 00(- ()-()-()-()-()-()-()-()-()-		= Total Cover		(Explain)	
	50% of total cover:		20% of total cover:		¹ Indicators of hydric soil and wetland hydrology must b	
					present, unless disturbed or problematic.	C
Herl	o Stratum (Plot Size: 10-foot radius plot)					
1.	Dichanthelium clandestinum	5	Ν	FACW	Definitions of Five Vegetation Strata:	
2.	Carex frankii	5	N	OBL	Tree - Woody plants, excluding woody vines,	
З.	Juncus effusus	10	N	OBL	approximately 20 ft (6 m) or more in height and 3 in	۱.
4.	Agrostis stolonifera	35	Y	FACW	(7.6 cm) or larger in diameter at breast height (DBH	
5.	Carex scoparia	15	<u>N</u>	FACW	Sapling - Woody plants, excluding woody vines,	
6.	Toxicodendron radicans	15	N	FAC	approximately 20 ft (6 m) or more in height and less	3
7.					than 3 in (7.6 cm) DBH.	
8.					Shrub – Woody plants, excluding woody vines,	
9.			<u> </u>		approximately 3 to 20 ft (1 to 6 m) in height.	
10.			<u> </u>		Herb - All herbaceous (non-woody) plants, includin	a
11.			. <u> </u>		herbaceous vines, regardless of size, and woody	g
	-	85	= Total Cover		plants, except woody vines, less than approximatel	у
	50% of total cover:	42.5	20% of total cover:	17	3 ft (1 m) in height.	
Woo	ody Vine Stratum (Plot Size: 20-foot radius plot)				Woody vine - All woody vines, regardless of height	t.
1.	Smilax rotundilfolia	10	Y	FAC		
2.						
<u>-</u> . 3.			· ·		Remarks: (if observed, list morphological	
			· ·		adaptations below.)	
		10	= Total Cover			
	50% of total cover:	5	20% of total cover:	2	Hydrophytic Yes X No	
					Vegetation Present?	

Profile Desci	ription: (Descri	be to the	depth needed	to doc	ument the in	dicator or o	onfirm the ab	sence of i	indicators.)		
	Matrix	I		Redox	Features	es					
Depth	Color		Color								
(Inches)	(Moist)	%	(Moist)	%	Type ¹	Loc ²	Textu	re		Remarks	
0-1"	10YR 2/1	100					Sandy lo	bam	Hig	gh fibric organic content	
1-3"	10YR 3/2	80	5YR 3/4	20	С	PL	loam	1			
3-10"	10YR 4/2	60	7.5YR 4/6	40	С	М	Fine sandy loam				
10-12"	10YR 5/4	70	10 YR 5/6	30	С	М	Loamy sand				
					·		· · · · · · · · ·				
¹ Type: C=Cor	ncentration, D=I	Depletion,	RM=Reduced	Matrix,	MS=Masked S	Sand Grains	. ² Location: PL	.=Pore Lin	ning, M=Matrix	x	
Hydric Soil II	ndicators:							Indic	cators for Pro	oblematic Hydric Soils ³ :	
Histosol	1 (A 1)			Polyad	lue Below Sur	rfaco (S8) (I		1 cm	Muck (A9) (L		
	pipedon (A2)			-	ark Surface (S				Muck (A10) (•	
	listic (A3)			-	Mucky Miner					18) (Outside MLRA 150A, B)	
· · ·	en Sulfide (A4)		<u> </u>		Gleyed Matrix	. ,	_			ain Soils (F19) (LRR P, S, T)	
	d Layers (A5)	ор в т і			ed Matrix (F3) Dark Surface		. <u> </u>		Anomalous Bright Loamy Soils (F20)		
								-	(MLRA 153B) Red Parent Material (TF2)		
	5 cm Mucky Mineral (A7) (LRR P, T, U) Deplete						. <u> </u>				
	Muck Presence (A8) (LRR U) Redox					(го)	_			Surface (TF12)	
					10) (LRR U)			Othe	r (Explain in F	Remarks)	
						1) (MLRA 1	-				
	ark Surface (A1				-		LRR O, P, T)		³ Indicators of hydrophytic vegetation and		
	Prairie Redox (A		· · · · · · · · · · · · · · · · · · ·		Surface (F13		, U)	wetland hydrology must be present, unless disturbed or problematic.			
	Mucky Mineral (0, 5)		Ochric (F17) (I	-					
	Gleyed Matrix (S	54)			Juced Vertic (F18) (MLRA 150A, 150B)						
	Redox (S5)				mont Floodplains Soils (F19) (MLRA 149A)						
	d Matrix (S6)			Anoma	nalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)						
Dark Su	urface (S7) (LRF	Κ Ρ, S , Τ,	U)								
Restrictive L	ayer (if observ.	ed):									
	Туре:				Hyd	ric Soil Pre	sent?	Yes	Х	No	
Depth (ir	nches):										
Remarks:											

Project/Site:	BARC Traf	BARC Traffic Mitigation					City/County:		eorge's	Sampling Date:	05/12/21
Applicant/Owner:	BARC					State:	MD		Sampling Poir	nt: DP-106	
Investigator(s): LEJ/DRC						Section,	Townsh	ip, Range	:		
Landform (hillslop	e, terrace, e	etc.):	Roadside floodplain	Local	relief (co	ncave, o	convex,	none):	Flat	Slope (%):	1
Subregion (LRR o	or MLRA):	LRR	R	Lat:	39.0322	214		Long:	-76.900222	Datum	NAD83
Soil Map Unit Nan	ne: <u>Chri</u>	istiana	and Downer						NW	/I classification:	UPL
Are climatic/hydro	logic condit	tions o	n the site typical for th	is time o	f year?		Yes	<u>х</u>	No	(If no, explain in	Remarks)
Are Vegetation	, Soil		, or Hydrology	significa	antly distu	urbed?	Are "I	Normal Cir	cumstances" prese	nt? Yes X	No
Are Vegetation	, Soil		, or Hydrology	naturall	y problem	natic?	(If ne	eded, expl	lain any answers in	Remarks.)	

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes X Yes Yes	No No No	Is the Sampled Area within a Wetland? Yes	No <u>X</u>
Remarks:				

HYDROLOGY			
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)		
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface Soil Cracks (B6)	
Surface Water (A1)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)	
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)	
Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)	
Water Marks (B1)	Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)	
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)	
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)	
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorphic Position (D2)	
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)	
Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)	

Field Observations:								
Surface Water Present?	Yes	No	Х	Depth (inches):				
Water Table Present?	Yes	No	Х	Depth (inches):		-		
Saturation Present?						Wetland Hydrology		
(includes capillary fringe)	Yes	No	Х	Depth (inches):		Present?	Yes	<u>No X</u>
Describe Recorded Data (s	stream o	gauge, monit	toring	well, aerial photos, p	revious inspec	tions), if available:		
Remarks:								
Remarks.								

VEGETATION (Five Strata) - Use scientific names	of plants.			Cer 107A
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot Size: 20-foot radius plot)	% Cover	Species?	Status	
1. Acer rubrum	40	Υ	FAC	Number of Dominant Species That
2. Quercus phellos	20	Y	FACW	Are OBL, FACW, or FAC: 5 (A)
3. Nyssa sylvatica	10	N	FAC	
4.				Total Number of Dominant Species
5.				Across All Strata: 7 (B)
6.				(2)
	70	= Total Cover		Percent of Dominant Species That
50% of total cover:	45	20% of total cover:	14	Are OBL, FACW, or FAC: 71 (A/B)
	-10	- 20/0 01 10101 00001.		
Sapling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index worksheet:
1. Fagus grandifolia	15	Y	FACU	Total % Cover of: Multiply by:
2.		· ·		OBL species x 1 =
3.				FACW species x 2 =
4.		<u> </u>		FAC species x 3 =
·				FACU species x 4 =
5				
6.				UPL species x 5 =
	15	= Total Cover		Column Totals: (A) (B)
50% of total cover:	7.5	20% of total cover:	3	
				Prevalence Index = B/A =
Shrub Stratum (Plot Size: 20-foot radius plot)				
1. Viburnum dentatum	10	Y	FAC	Hydrophytic Vegetation Indicators:
2.				1 - Rapid Test for Hydrophytic Vegetation
3.		· · · · · · · · · · · · · · · · · · ·		X 2 - Dominance Test is >50%
4.				3 - Prevalence Index is ≤3.0 ¹
5.				Problematic Hydrophytic Vegetation ¹
6.				
	10	= Total Cover		
E0% of total approx	5	20% of total cover:	2	(Explain)
50% of total cover:	5		Z	¹ Indicators of hydric soil and wetland hydrology must be
				present, unless disturbed or problematic.
Herb Stratum (Plot Size: <u>10-foot radius plot)</u>				
1. Catharanthus roseus	50	Y	UPL	Definitions of Five Vegetation Strata:
2.		· ·	0	
<u></u>				Tree - Woody plants, excluding woody vines,
				approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
4				
5				Sapling - Woody plants, excluding woody vines,
6				approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH.
7		. <u> </u>		
8		<u> </u>		Shrub – Woody plants, excluding woody vines,
9.		<u> </u>		approximately 3 to 20 ft (1 to 6 m) in height.
10				Herb - All herbaceous (non-woody) plants, including
11.				herbaceous vines, regardless of size, and woody
	50	= Total Cover		plants, except woody vines, less than approximately
50% of total cover:	25	20% of total cover:	10	3 ft (1 m) in height.
		-		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot Size: 20-foot radius plot)				
1. Toxicodendron radicans	15	Y	FAC	
2. Smilax rotundifolia	35	- <u>·</u> · · · · · · · · · · · · · · · · · ·	FAC	
	10		FACU	Remarks: (if observed, list morphological
	7	<u> </u>	FACU	adaptations below.)
4. Parthenocissus quinquefolia			FACU	
	67	= Total Cover	40.4	
50% of total cover:	33.5	20% of total cover:	13.4	Hydrophytic Yes X No Vegetation
				Present?

Matrix Redox Features Depth Color Color (Inches) (Moist) % Type1 Loc2 Texture Remarks 0-5 10 YR 3/2
(Inches) (Moist) % Type1 Loc2 Texture Remarks 0-5 10 YR 3/2
0-5 10 YR 3/2 Ioam 5-12 10YR 4/4 80 10YR 4/6 20 C M Fine sandy loam Image: Second structure
5-12 10YR 4/4 80 10YR 4/6 20 C M Fine sandy loam
Image: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O)
Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A,
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T
Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20)
Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B)
5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2)
Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12)
1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks)
Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151)
Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T)
Image: Coast Prairie Redox (A16) (MLRA 150A) Image: Coast Prairie Redox (A16) (M
Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) disturbed or problematic.
Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B)
Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A)
Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)
Dark Surface (S7) (LRR P, S, T, U)
Restrictive Layer (if observed):
Type: Hydric Soil Present? Yes No X
Depth (inches):
Remarks:
East of point 106 near wet 4

Project/Site: BAI	RC Traffic Mit	igation		City	//County:	Prince Ge	erge's	Sampling Date:	05/12/21
Applicant/Owner:	BARC			Stat	te: MD		Sampling Poin	it: DP-107	
Investigator(s):	DRC/LEJ			Sec	tion, Town	ship, Range:			
Landform (hillslope, te	errace, etc.):	Roadside f	loodplain Loc	al relief (conca	ave, convex	, none):	Sloped	Slope (%): 2	
Subregion (LRR or MI	LRA): LRR	R	Lat:	39.024984	1	Long:	-76.901455	Datum:	NAD83
Soil Map Unit Name:	Christiana	a and Downe	r				NW	I classification:	PEM
Are climatic/hydrologic	c conditions o	n the site typ	vical for this time	of year?	Y	es X	No	(If no, explain in F	Remarks)
Are Vegetation	, Soil	, or Hydrolo	ogy signif	cantly disturbe	ed? Are	"Normal Circ	cumstances" preser	nt? Yes X	No
Are Vegetation	, Soil	, or Hydrolo	gy natur	ally problemation	ic? (If r	ieeded, expla	ain any answers in	Remarks.)	
SUMMARY OF FINDI	INGS - Attach	۱ site map s	howing sampli	ng point locat	tions, tran	sects, impor	tant features, etc.		
Hydrophytic Vegetatio	on Present?	Yes	X No		ls t	he Sampled	Area		
Hydric Soil Present?		Yes	X No		wit	hin a Wetlan	d? Yes	X No	
Wetland Hydrology Pr	esent?	Yes	X No				_		

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)		
Primary Indicators (minimum of one is required; check	<u>ck all that apply)</u>	Surface Soil Cracks (B6)		
Surface Water (A1)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)		
Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)		
Water Marks (B1)	Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)		
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)		
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorphic Position (D2)		
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)	_	FAC-Neutral Test (D5)		
X Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)		

Field Observations:									
Surface Water Present?	Yes	No	Х	Depth (inches):					
Water Table Present?	Yes	No	Х	Depth (inches):					
Saturation Present?					Wetland Hydrology				
(includes capillary fringe)	Yes	No	Х	Depth (inches):	Present?	Yes	Х	No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Describe Recorded Data (s	tream ga	uge, monite	oring	well, aerial photos, previous i	inspections), if available:				
Describe Recorded Data (s Remarks:	tream ga	auge, monit	oring	well, aerial photos, previous i	inspections), if available:				

VEGETATION (Five Strata) - Use scientific names of plants.

VEGETATION (Five Strata) - Use scientific name	s of plants.			Sampling Point: 107
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot Size: 20-foot radius plot)	% Cover	Species?	Status	Dominance Test worksneet:
1. Nyssa sylvatica	20	Y	FAC	Number of Dominant Species That
2. Acer rubrum	30	Y	FAC	Are OBL, FACW, or FAC: 6 (A)
3. Quercus alba	10	N	FACU	()
4. Magnolia virginiana	5	N	FACW	Total Number of Dominant Species
5. Liquidambar styraciflua	10	N	FAC	Across All Strata: 12 (B)
6.				(-)
	75	= Total Cover		Percent of Dominant Species That
50% of total cover:	37.5	20% of total cover:	15	Are OBL, FACW, or FAC: 50 (A/B)
		-		(**=)
Sapling Stratum (Plot Size: 20-foot radius				Provelance is device she have
plot)				Prevalence Index worksheet:
1. Fagus grandifolia	10	Y	FACU	Total % Cover of: Multiply by:
2. Nyssa sylvatica	5	Y	FAC	OBL species x 1 =
3. Quercus alba	5	Y	FACU	FACW species x 2 =
4. Chionanthus virginicus	5	Y	FACU	FAC species x 3 =
5.				FACU species x 4 =
6.				UPL species x 5 =
	25	= Total Cover		Column Totals: (A) (B)
50% of total cover:	12.5	20% of total cover:	5	
				Prevalence Index = B/A =
Shrub Stratum (Plot Size: 20-foot radius plot)				
1. Ilex verticillata	20	Y	FACW	Hydrophytic Vegetation Indicators:
	5	- <u> </u>	FACU	1 - Rapid Test for Hydrophytic Vegetation
2. Lonicera tartarica 3.	5	· ·	TACO	X 2 - Dominance Test is >50%
4.				3 - Prevalence Index is ≤3.0 ¹
5.				Problematic Hydrophytic Vegetation ¹
6.		Tatal Osuar		
	25	= Total Cover	-	(Explain)
50% of total cover:	12.5	20% of total cover:	5	
				¹ Indicators of hydric soil and wetland hydrology must be
Herb Stratum (Plot Size: 10-foot radius plot)				present, unless disturbed or problematic.
				Definitions of Five Vegetation Strata:
1. Microstegium vinimeum	35	Y	FAC	Deminions of Five vegetation Strata.
2. Arisaema triphyllum	10	N	FACW	Tree - Woody plants, excluding woody vines,
3. Toxicodendron radicans	5	N	FAC	approximately 20 ft (6 m) or more in height and 3 in. (7.6
				cm) or larger in diameter at breast height (DBH).
Podophyllum peltatum	_			One line Minster in the state of the state o
4.	8	<u>N</u>	FACU	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3
5. Rubus allegheniensis	5	<u>N</u>	UPL	in (7.6 cm) DBH.
6. Onoclea sensibilis	10	<u> </u>	FACW	
7		<u> </u>		Shrub – Woody plants, excluding woody vines,
8.		<u> </u>		approximately 3 to 20 ft (1 to 6 m) in height.
9.		<u> </u>		Hark All harbosooyo (non woody) planta including
10		<u> </u>		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants,
11				except woody vines, less than approximately 3 ft (1 m) in
	73	= Total Cover		height.
EQ9(of total power:	26 F	20% of total cover:	14.6	Woody vine - All woody vines, regardless of height.
50% of total cover:	36.5			
Woody Vine Stratum (Plot Size: 20-foot radius plot)				
· · · · · · · · · · · · · · · · · · ·		V	EAC	
1. Smilax rotundifolia	10	<u> </u>	FAC	
2. Parthenocissus quinquefolia	10	<u> </u>	FACU	Demonstra (Kalena and Patrix and also in the test of
3. Lonicera japonica	10	Y	FACU	Remarks: (if observed, list morphological adaptations
				below.)
	30	= Total Cover		
50% of total cover:	15	20% of total cover:	6	Hydrophytic Yes X No
		-		Vegetation
				Present?

Profile Desc	ription: (Descri	ibe to the	depth needed			dicator or o	confirm the ab	sence of indicators.)			
Matrix			Redox	Features							
Depth	Color		Color								
(Inches)	(Moist)	%	(Moist)	%	Type ¹	Loc ²	Textu	ire Remarks			
1-3"	10YR 2/1						Sandy le	oam			
4-7"	10YR 2/2	70	10YR 5/3	30	С	М	Sandy le	loam			
7-12	10YR 2/2	50	7.5 YR 5/6	20	С	М	Loamy sand	t			
	-										
					·						
	·										
¹ Tvpe: C=Co	ncentration. D=I	Depletion.	RM=Reduced	Matrix.	MS=Masked	Sand Grains	. ² Location: PL	L=Pore Lining, M=Matrix			
		p,									
Hydric Soil	ndicators:							Indicators for Problematic Hydric Soils ³ :			
Histoso	l (A1)			Polyva	lue Below Su	rface (S8) (L	.RR S, T, U)	1 cm Muck (A9) (LRR O)			
Histic E	pipedon (A2)			Thin D	ark Surface (S	69) (LRR S.	T, U)	2 cm Muck (A10) (LRR S)			
	listic (A3)				Mucky Miner		-	Reduced Vertic (F18) (Outside MLRA 150A,			
	en Sulfide (A4)			-	Gleyed Matri			Piedmont Floodplain Soils (F19) (LRR P, S, 1			
			X	-	-		-	Anomalous Bright Loamy Soils (F20)			
	ed Layers (A5)				ed Matrix (F3)		-				
	Bodies (A6) (L		·		Dark Surface			(MLRA 153B)			
	ucky Mineral (A		ν, Τ, U)	•	ed Dark Surfa	. ,	-	Red Parent Material (TF2)			
Muck F	resence (A8) (L	.RR U)		Redox	Depressions	(F8)	_	Very Shallow Dark Surface (TF12)			
1 cm M	uck (A9) (LRR F	P, T)		Marl (F	10) (LRR U)			Other (Explain in Remarks)			
Deplete	ed Below Dark S	Surface (A	11)	Deplet	ed Ochric (F1	1) (MLRA 1	51)				
Thick D	ark Surface (A1	2)		Iron-Ma	anganese Ma	sses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and			
Coast F	Prairie Redox (A	16) (MLR	A 150A)	Umbrid	Surface (F13	B) (LRR P, T	, U)	wetland hydrology must be present, unless			
	Mucky Mineral (· · · · · · · · · · · · · · · · · · ·		Dchric (F17) (I			disturbed or problematic.			
	Gleyed Matrix (S				ed Vertic (F18		0A 150B)				
		J +)						A			
	Redox (S5)				nont Floodplains Soils (F19) (MLRA 149A) nalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)						
	d Matrix (S6)			Anoma	aious Bright Lo	bamy Solis (F20) (MLRA 14	49A, 153C, 153D)			
Dark S	urface (S7) (LRF	τ Ρ, S , Τ,	U)								
Restrictive I	ayer (if observ	ved):									
	Type:				Hyd	ric Soil Pre	sent?	Yes X No			
Depth (i	nches):										
Remarks:											
More sand fu	rthan dawa										
	matrix at bottom										
Muchinghier		1									
1											
1											

Project/Site: B	EP Traffic Mitig	gation		City/Cou	nty: Prince G	George's	Sampling Date:	05/12-21		
Applicant/Owner:	BARC			State:	MD	Sampling Point:	DP-108			
Investigator(s):	DRC/LEJ			Section,	Township, Range	:				
Landform (hillslope,	terrace, etc.):	Floodplain	Local relief (concave, c	onvex, none):	Concave	Slope (%): 2			
Subregion (LRR or M	MLRA): LRR	R	Lat: 39.02	21828	Long:	-76.901856	Datum:	NAD 83		
Soil Map Unit Name	Christiana	a and Downer				NWI	classification:	PFO		
Are climatic/hydrolog	gic conditions o	on the site typical	or this time of year?		Yes X	No	(If no, explain in F	Remarks)		
Are Vegetation	, Soil	, or Hydrology	significantly dis	sturbed?	Are "Normal Ci	rcumstances" presen	t? Yes X	No		
Are Vegetation	, Soil	, or Hydrology	naturally probl	ematic?	(If needed, exp	lain any answers in F	Remarks.)			
		-								
SUMMARY OF FINI	DINGS - Attac	h site map show	ing sampling point	locations	, transects, impo	ortant features, etc.				
Hydrophytic Vegetat	ion Present?	Yes X	No		Is the Sample	d Area				
Hydric Soil Present?	•	Yes X	No		within a Wetla	nd? Yes _	X No			
Wetland Hydrology	Present?	Yes X	No							
Remarks:										
Wetland 5										
HYDROLOGY										
Wetland Hydrology							cators (minimum of	two required)		
Primary Indicators (m		is required; check					oil Cracks (B6)			
Surface Water	()		_ Aquatic Fauna (B	,			egetated Concave	Surface (B8)		
High Water Ta			Marl Deposits (B1				Drainage Patterns (B10)			
Saturation (A3	3)		Hydrogen Sulfide	• • •			Moss Trim Lines (B16)			
Water Marks (B1)		Oxidized Rhizosp	heres alon	ig Living Roots (C	3) Dry-Seaso	n Water Table (C2)		
Sediment Dep	osits (B2)		Presence of Redu	uced Iron (C4)	Crayfish B	Crayfish Burrows (C8)			

eck all that apply)	Surface Soil Cracks (B6)
Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)
Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Thin Muck Surface (C7)	Geomorphic Position (D2)
Other (Explain in Remarks)	Shallow Aquitard (D3)
	FAC-Neutral Test (D5)
	Sphagnum Moss (D8) (LRR T, U)
	Marl Deposits (B15) (LRR U) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7)

Field Observations:									
Surface Water Present?	Yes	No	Х	Depth (inches):					
Water Table Present?	Yes	No	Х	Depth (inches):					
Saturation Present?		·			Wetland Hydrology				
(includes capillary fringe)	Yes	No	Х	Depth (inches):	Present?	Yes	Х	No	
Describe Recorded Data (s	stream gau	ge, monito	oring	well, aerial photos, previous	inspections), if available:				
Remarks:									

VEG	ETATION (Five Strata) - Use scientific name	s of plants.			Sampling Point: 108
_		Absolute	Dominant	Indicator	Dominance Test worksheet:
	Stratum (Plot Size: <u>20-foot radius plot)</u>	% Cover	Species?	Status	
1.	Fagus grandifolia	25	<u> </u>	FACU	Number of Dominant Species That
2.	Quercus phellos	20	Y	FACW	Are OBL, FACW, or FAC: (A)
3.					
4.					Total Number of Dominant Species
5.					Across All Strata:5_ (B)
6.					
		55	= Total Cover		Percent of Dominant Species That
	50% of total cover:	27.5	20% of total cover:	11	Are OBL, FACW, or FAC: 80 (A/B)
~					Drevelance in dev workels est
	ing Stratum (Plot Size: <u>20-foot radius plot)</u>	00	X	540	Prevalence Index worksheet:
1.	Carpinus caroliniana	30	<u> </u>	FAC	Total % Cover of: Multiply by:
2.	Lindera benzoin	10	Y	FACW	OBL species x 1 =
3.					FACW species x 2 =
4.					FAC species x 3 =
5.					FACU species x 4 =
6.			<u> </u>		UPL species x 5 =
		40	= Total Cover		Column Totals: (A) (B)
	50% of total cover:	20	20% of total cover:	8	
					Prevalence Index = B/A =
Shru	b Stratum (Plot Size: 20-foot radius plot)				
1.					Hydrophytic Vegetation Indicators:
2.					1 - Rapid Test for Hydrophytic Vegetation
З.					X 2 - Dominance Test is >50%
4.					3 - Prevalence Index is ≤3.0 ¹
5.				<u> </u>	Problematic Hydrophytic Vegetation ¹
6.			- <u> </u>		
			= Total Cover		
	50% of total cover:		20% of total cover:		(Explain)
			-		¹ Indicators of hydric soil and wetland hydrology must be
					present, unless disturbed or problematic.
	<u>) Stratum</u> (Plot Size: <u>10-foot radius plot)</u>				
1.	Symplocarpus foetidus	70	Y	OBL	Definitions of Five Vegetation Strata:
2.	Lindera benzoin	10	N	FACW	Tree - Woody plants, excluding woody vines,
3.	Impatiens capensis	20	N	FACW	approximately 20 ft (6 m) or more in height and 3 in.
4.	Microstegium vinimeum	10	N	FAC	(7.6 cm) or larger in diameter at breast height (DBH).
5.	Geum canadense	15	N	FAC	Sapling - Woody plants, excluding woody vines,
6.					approximately 20 ft (6 m) or more in height and less
7.			- <u> </u>		than 3 in (7.6 cm) DBH.
8.					Shrub – Woody plants, excluding woody vines,
9.			<u> </u>		approximately 3 to 20 ft (1 to 6 m) in height.
10.					
11.					Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
		125	= Total Cover		plants, except woody vines, less than approximately
	50% of total cover:	62.5	20% of total cover:	25	3 ft (1 m) in height.
		02.0			Woody vine - All woody vines, regardless of height.
Wor	dy Vine Stratum (Plot Size: 20-foot radius plot)				
<u>1.</u>	ay the oracan (For 0/20. 20-100 radius plot)	<u>.</u>			
1. 2.					
					Remarks: (if observed, list morphological
3.					adaptations below.)
			T-1-1-0		· · · · ·
			= Total Cover		Hydronbytic Y Y N
	50% of total cover:		20% of total cover:	. <u> </u>	Hydrophytic Yes X No Vegetation
					Present?

Matrix Redox Features Dopth Color (Moist) % Type1 Loc2 Texture Remarks 1-2' 10/R 4/2 100 ////////////////////////////////////	Profile Desc	ription: (Descr		e depth neede			dicator or o	confirm the ab	sence of in	dicators.)		
(Inches) (Moist) % Type1 Loc2 Texture Remarks 1-2' 10YR 5/1 70 7.5YR 4/6 30 C M Sandy clay loam	Dooth		κ	Color	Redox	Features						
1.2" 10YR 4/2 100			0/		0/	Turnel	1002	Toxtu	r0		Pomorko	
3-5'' 10YR 5/1 70 7.5YR 4/6 30 C M Sandy clay loam 5-12'' 10YR 5/2 60 7.5YR 3/4 40 C M Sandy clay loam	, ,				70	Туре	LUC				Remarks	
5-12" 10YR 5/2 60 7.5YR 3/4 40 C M Sandy clay loam "Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils*: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Pedventic (F18) (Outside MLRA 150A, B) Piedmont Floodplain Soils (F19) Camy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A6) X Depleted Matrix (F2) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F7) Red Parent Material (TF2) Wery Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T, U) Redox Depressions (F8) Other (Explain in Remarks) Depleted Oark Surface (F11) (MLRA 151) Thork Surface (A11) Thick Surface (A11) Thork Marganese Masses (F12) (LRR O, P, T) Matrial (A7) (Much A 150) Stratee (TF12) Other (Explain in Remarks) Stratee (TF12) Stratee (TF12) Torn Muck (A9) (LRR P, S, T, U) Strandy Redox (S5) Piedmont Floodpla												
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B) Hydrogen Sulfide (A4) Loamy Gieyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F7) Red Parent Material (TF2) Muck Piesence (A8) (LRR P, T, U) Depleted Matrix (F3) Monalous Bright Loamy Soils (F20) Muck Piesence (A8) (LRR P, T, U) Redox Dark Surface (F7) Red Parent Material (TF2) Muck Piesence (A8) (LRR P, T) Mard (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Think Dark Surface (F13) (LRR O, P, T, U) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Redox (S5) Delta Ochric (F11) (MLRA 150A, 150B) Sandy Gleved Matrix (S4) Piedmont Floodplain Soils (F20) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A), 153C, 153D) <td></td>												
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B) Hydrogen Suffide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) S cm Muck (A10) (LRR P, T, U) S om Muck V Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T, U) Depleted Ochric (F11) (MLRA 151) Other (Explain in Remarks) Depleted Surface (A12) 1 con-K Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. S andy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A, 150B) Sandy Redox (S5) <td>5-12"</td> <td>10YR 5/2</td> <td>60</td> <td>7.5YR 3/4</td> <td>40</td> <td>C</td> <td>M</td> <td>Sandy clay</td> <td>oam</td> <td></td> <td></td>	5-12"	10YR 5/2	60	7.5YR 3/4	40	C	M	Sandy clay	oam			
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B) Hydrogen Suffide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) S cm Muck (A10) (LRR P, T, U) S om Muck V Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T, U) Depleted Ochric (F11) (MLRA 151) Other (Explain in Remarks) Depleted Surface (A12) 1 con-K Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. S andy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A, 150B) Sandy Redox (S5) <td></td>												
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B) Hydrogen Suffide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) S cm Muck (A10) (LRR P, T, U) S om Muck V Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T, U) Depleted Ochric (F11) (MLRA 151) Other (Explain in Remarks) Depleted Surface (A12) 1 con-K Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. S andy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A, 150B) Sandy Redox (S5) <td></td>												
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) S cm Muck (Mineral (A7) (LRR P, T, U) S om Muck V Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Wery Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) other (Explain in Remarks) Peletemarks) Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A, 150B) Pindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5)												
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) S cm Muck (Mineral (A7) (LRR P, T, U) S om Muck V Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Wery Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) other (Explain in Remarks) Peletemarks) Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A, 150B) Pindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5)												
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) S cm Muck (Mineral (A7) (LRR P, T, U) S om Muck V Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Wery Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) other (Explain in Remarks) Peletemarks) Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A, 150B) Pindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5)												
Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR O) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F2) Mark (A10) (LRR P, S, T) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) S cm Muck (Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Other (Explain in Remarks) Depleted Below Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Anomalous Bright Loamy Soils (F20) (MLRA 149A), Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Piedmont Floodplains Soils (F12) (LRR 0, 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	¹ Type: C=Co	oncentration, D=	Depletior	, RM=Reduced	Matrix,	MS=Masked	Sand Grains	s. ² Location: Pl	_=Pore Linir	ng, M=Matrix		
Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) "Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic." Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F13) (MLRA 150A, 150B) siturbed or problematic. Sandy Redox (S5) Piedmont Floodplains Soils (F20) (MLRA 149A) siturbed or problematic. Sandy Redox (S5) Piedmont Floodplains Soils (F20) (MLRA 149A) Siturbed or problematic. Sandy Redox (S5) Piedmont Floodplains Soils (F20) (MLRA 149A) Siturbed or problematic	Hydric Soil	Indicators:							Indica	ators for Problem	atic Hydric Soils ³ :	
Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR P, T) Marl (F10) (LRR U) Cother (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F13) (LRR P, T, U) Other (Explain in Remarks) Depleted Below Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F13) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F20) (MLRA 149A) Sandy Redox (S5) Piedmont Floodplain Soils (F20) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U)	L Parta a	1 () ()			Determine		·((00) (1 N		,	
Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Anomalous Bright Loamy Soils (F20) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Piedmont Floodplains Soils (F20) (MLRA 149A, 153C, 153D) Derk Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Hydric Soil Present?								-				
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) 3 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) (LRR O, S) S andy Mucky Mineral (S1) Piedmont Floodplains Soils (F19) (MLRA 150A) Wurbric (F17) (MLRA 150A, 150B) S andy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A) S stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A), 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Piedmont Floodplains Soil (F20) (MLRA 149A), 153C, 153D) Depleted Complexity of the second sec							-					
Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Other (Explain in Remarks) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A) WILRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplains Soils (F20) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A), 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Piedmont Floodplains Soils (Present? Yes X No Type:		. ,				-		(O) _			-	
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1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Iron-Manganese Masses (F12) (LRR O, P, T) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A, 150B) Belta Ochric (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No		-		P, T, U)	Deplete	ed Dark Surfa	ice (F7)	_	Red Pa	arent Material (TF	2)	
Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No	Muck F	Presence (A8) (L	.RR U)		Redox	Depressions	(F8)	-	Very S	Shallow Dark Surfa	ice (TF12)	
Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) disturbed or problematic. Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No	1 cm N	luck (A9) (LRR	P, T)		Marl (F	10) (LRR U)		_	Other	(Explain in Remar	ks)	
Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) wetland hydrology must be present, unless Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X	Deplete	ed Below Dark S	Surface (A	(11)	Deplete	ed Ochric (F1	1) (MLRA 1	51)				
Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplains Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type:	Thick D	Dark Surface (A1	12)		Iron-Ma	anganese Ma	sses (F12) (LRR O, P, T)	³ Indic	ators of hydrophy	tic vegetation and	
Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No Type:	Coast I	Prairie Redox (A	.16) (MLF	RA 150A)	Umbric	Surface (F13	B) (LRR P, T	', U)	, , , ,			
Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Ype: Yes Type: No Depth (inches): Image: Matrix (Soil Present)	Sandy	Mucky Mineral ((S1) (LRF	R O, S)	Delta C) Ochric (F17) (I	MLRA 151)			disturbed or problematic.		
Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No Depth (inches):	Sandy	Gleyed Matrix (S4)		Reduce	ed Vertic (F18	B) (MLRA 15	60A, 150B)				
Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No Depth (inches):	Sandy	Redox (S5)			Piedmo	ont Floodplain	ns Soils (F19) (MLRA 149A)			
Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Depth (inches):										153D)		
Type: Hydric Soil Present? Yes X No Depth (inches):			R P, S, T	, U)		0		, ,				
Type: Hydric Soil Present? Yes X No Depth (inches):						1						
Depth (inches):	Restrictive I		/ed):									
						Hyd	ric Soil Pre	sent?	Yes	<u> </u>	0	
	Depth (i	nches):										
	Remarks:											

Project/Site: BEP Traffic Mitigation	City/County: Prince George's Sampling Date: 05.14.21
Applicant/Owner: BARC	State: Md Sampling Point: DP-109
Investigator(s): DRC/LEJ	Section, Township, Range:
Landform (hillslope, terrace, etc.): Floodplain Local relie	(concave, convex, none): Flat Slope (%): 1
Subregion (LRR or MLRA): LRR R Lat: 39	022274 Long: -76.901565 Datum: NAD83
Soil Map Unit Name: Christiana and Downer	NWI classification: UPL
Are climatic/hydrologic conditions on the site typical for this time of year	r? Yes X No (If no, explain in Remarks)
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling po	nt locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes No	X within a Wetland? Yes No X
Wetland Hydrology Present? Yes No	<u>x</u>
Remarks:	
Wetland 5 FSD Stand 4 Plot 1 spot	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna	
High Water Table (A2) Marl Deposits	
Saturation (A3) Hydrogen Sulfi	
	spheres along Living Roots (C3) Dry-Season Water Table (C2)
	duced Iron (C4) Crayfish Burrows (C8)
	duction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Sur	
Iron Deposits (B5) Other (Explain	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum Moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No X Depth (inches)	
Water Table Present? Yes No X Depth (inches)	
Saturation Present?	Wetland Hydrology
(includes capillary fringe) Yes <u>No X</u> Depth (inches)	Present? Yes No X
Describe Recorded Data (stream gauge, monitoring well, aerial photos	previous inspections) if available.

Remarks:

Upland plot for wet 4

FGETATION (Five Strata) - Use scientific names of plants

VEG	ETATION (Five Strata) - Use scientific names of	of plants.			Sampling Point: 109
		Absolute	Dominant	Indicator	Dominance Test worksheet:
	Stratum (Plot Size: 20-foot radius plot)	% Cover	Species?	Status	
1.	Fagus grandifolia	60	Y	FACU	Number of Dominant Species That
2.	Liquidambar styraciflua	15	<u>N</u>	FACU	Are OBL, FACW, or FAC: (A)
3.	Quercus alba	25	<u>N</u>	UPL	
4.	Acer rubrum	5	<u>N</u>	FAC	Total Number of Dominant Species
5.			<u> </u>		Across All Strata: 7 (B)
6.			<u> </u>		
		105	= Total Cover		Percent of Dominant Species That
	50% of total cover:	52.5	20% of total cover:	21	Are OBL, FACW, or FAC: 57 (A/B)
	ing Stratum (Plot Size: 20-foot radius plot)				Prevalence Index worksheet:
1.	Lindera benzoin	35	Y	FACW	Total % Cover of: Multiply by:
2.			- <u> </u>		OBL species x 1 =
3.			- <u> </u>		FACW species x 2 =
4.					FAC species x 3 =
5.					FACU species x 4 =
6.			<u> </u>		UPL species x 5 =
		35	= Total Cover		Column Totals: (A) (B)
	50% of total cover:	17.5	20% of total cover:	7	
					Prevalence Index = B/A =
<u>Shru</u>	b Stratum (Plot Size: 20-foot radius plot)				
1.					Hydrophytic Vegetation Indicators:
2.					1 - Rapid Test for Hydrophytic Vegetation
3.					X 2 - Dominance Test is >50%
4.					3 - Prevalence Index is ≤3.0 ¹
5.					Problematic Hydrophytic Vegetation ¹
6.					
			= Total Cover		(Eucleic)
	50% of total cover:		20% of total cover:		(Explain)
			-		¹ Indicators of hydric soil and wetland hydrology must be
					present, unless disturbed or problematic.
Herb	Stratum (Plot Size: <u>10-foot radius plot)</u>				
	Dedenhullum nettetum				Definitions of Five Vegetation Strata:
1	Podophyllum peltatum	5	Y	FACU	Tree - Woody plants, excluding woody vines,
1.		5	· <u> </u>	FACO	approximately 20 ft (6 m) or more in height and 3 in.
2.	Ariaaama trinhullum	5	Y	FACW	(7.6 cm) or larger in diameter at breast height (DBH).
2. 3.	Arisaema triphyllum	5	- <u>- </u>	FAC	Sanling Woody plants, systuding woody vince
3. 4.	Amphicarpaea bracteata	0		170	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
ч. 5.					than 3 in (7.6 cm) DBH.
5. 6.					Chrysh Weather plants and uting was dowing a
				<u> </u>	Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
7. o					
8. 0					Herb - All herbaceous (non-woody) plants, including
9.					herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3
10.					ft (1 m) in height.
11.		4 -			
		15	= Total Cover	0	Woody vine - All woody vines, regardless of height.
	50% of total cover:	7.5	20% of total cover:	3	
	dy Vine Stratum (Plot Size: 20-foot radius plot)	c.		=	
1.	Parthenocissus quinquefolia	6	<u>N</u>	FACU	
2.	Smilax rotundifolia	15	<u>Y</u>	FAC	
3.	Lonicera japonica	10	Y	FACU	Remarks: (if observed, list morphological adaptations
					below.)
		31	= Total Cover		
	50% of total cover:	15.5	20% of total cover:	6.2	Hydrophytic Yes X No
					Vegetation
					Present?

Profile Desc	cription: (Desci	ibe to the	depth neede			dicator or c	onfirm the ab	sence of ind	icators.)			
	Matri	x		Redox	Features							
Depth	Color	0/	Color	0/	T	1 2	T		D			
(Inches)	(Moist)	<u>%</u>	(Moist)	%	Type ¹	Loc ²	Textu	re	Rema			
1-3"	10YR 3/2	100						<u> </u>	Sandy I			
4-12"	10YR 4/6		100						Loamy s	sand		
¹ Type: C=Co	oncentration, D=	Depletion,	RM=Reduce	d Matrix, I	MS=Masked	Sand Grains	² Location: PL	.=Pore Lining	, M=Matrix			
Hydric Soil	Indicators:							Indicate	ors for Problematic H	ydric Soils ³ :		
Histosc	ol (A1)			Polyval	lue Below Su	rface (S8) (L	RR S, T, U) _	1 cm Mu	uck (A9) (LRR O)			
Histic E	Epipedon (A2)			Thin Da	ark Surface (S	69) (LRR S, 1	T, U)	2 cm Mu	uck (A10) (LRR S)			
Black H	Histic (A3)			Loamy	Mucky Miner	al (F1) (LRR	0)	Reduced	d Vertic (F18) (Outside	e MLRA 150A, B)		
Hydrog	gen Sulfide (A4)			Loamy	Gleyed Matri	x (F2)	_	Piedmor	Piedmont Floodplain Soils (F19) (LRR P, S, T)			
Stratifie	ed Layers (A5)			Deplete	ed Matrix (F3)	1	_	Anomalous Bright Loamy Soils (F20)				
Organio	c Bodies (A6) (L	RR P, T,	U)	Redox	Dark Surface	(F6)	_	(MLRA 153B)				
5 cm M	lucky Mineral (A	(17) (LRR F	P, T, U)	Deplete	ed Dark Surfa	ce (F7)		Red Par	Red Parent Material (TF2)			
Muck F	Presence (A8) (I	_RR U)		Redox	Depressions	(F8)	_	Very Sh	allow Dark Surface (TF	-12)		
1 cm M	luck (A9) (LRR	P, T)		- Marl (F	10) (LRR U)		—	Other (E	Explain in Remarks)			
Deplete	ed Below Dark S	Surface (A	11)	_ Deplete	ed Ochric (F1	1) (MLRA 15	51) <u> </u>					
Thick D	Dark Surface (A	12)		- Iron-Ma	anganese Ma	sses (F12) (I	_RR O, P, T)	³ Indica	³ Indicators of hydrophytic vegetation and			
Coast F	Prairie Redox (A	16) (MLR	A 150A)	Umbric	Surface (F13	B) (LRR P, T,	U)	wetland hydrology must be present, unless disturbed or problematic.				
Sandy	Mucky Mineral	(S1) (LRR	O, S)	Delta C	Ochric (F17) (I	MLRA 151)						
	Gleyed Matrix (-	ed Vertic (F18		0A, 150B)					
	Redox (S5)			-	ont Floodplains Soils (F19) (MLRA 149A)							
	ed Matrix (S6)			-	alous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)							
	urface (S7) (LR	R P, S, T,	U)	-	0	, (, (,			
Restrictive I	Layer (if observ	ved):										
	Type:				Hyd	ric Soil Pres	sent?	Yes	No	х		
Depth (i										_		
Remarks:												
Sandy and d	lark soils, very h	omogenou	IS									

Project/Site: BEP Traffic Mitigation	City/County: Prince George's Sampling Date: 06/02/2021
Applicant/Owner: BARC	State: MD Sampling Point: DP-110
Investigator(s): DRC/LEJ	Section, Township, Range:
Landform (hillslope, terrace, etc.): <u>Roadside floodplain</u> Local	relief (concave, convex, none): <u>concave</u> Slope (%): <u>5</u>
Subregion (LRR or MLRA): LRR R Lat:	39.032648 Long: -76.900768 Datum: NAD83
Soil Map Unit Name: Christiana and Downer	NWI classification: PFO
Are climatic/hydrologic conditions on the site typical for this time of	year? Yes X No (If no, explain in Remarks)
Are Vegetation, Soil, or Hydrology signification	ntly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology natural	/ problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling	point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	
Remarks:	
Wetland 3 DP	
Near perennial unnamed tributary to Indian Creek	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	
Surface Water (A1) Aquatic Fa	
	sits (B15) (LRR U) Drainage Patterns (B10)
<u> </u>	Sulfide Odor (C1) Moss Trim Lines (B16)
	hizospheres along Living Roots (C3) Dry-Season Water Table (C2)
	of Reduced Iron (C4) Crayfish Burrows (C8)
	n Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
	Surface (C7) Geomorphic Position (D2)
	lain in Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
X Water-Stained Leaves (B9)	Sphagnum Moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No X Depth (incl	·
Water Table Present? Yes <u>No X</u> Depth (incl Saturation Present?	
(includes capillary fringe) Yes No _X_ Depth (includes	Wetland Hydrology nes): Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) - Use scientific names of plants.

	trata) - Use scientific names				Sampling Point: 110
ree Stratum (Plot Size	: <u>20-foot radius plot)</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
. Acer rubrum		35	Y	FAC	Number of Dominant Species That
. Quercus palustris	S	25	Y	FACW	Are OBL, FACW, or FAC: 8 (A)
. Liriodendron styr	aciflua	5	N	FAC	()
. Nyssa sylvatica		5	N	FAC	Total Number of Dominant Species
. Catalpa speciosa	1	5	N	FACU	Across All Strata: 6 (B)
					(0,
		75	= Total Cover		Percent of Dominant Species That
	50% of total cover:	37.5	20% of total cover:	15	Are OBL, FACW, or FAC: 75 (A/E
			-		(***
apling Stratum (Plot S	ize: <u>20-foot radius plot)</u>				Prevalence Index worksheet:
. Acer rurbrum		5	Y	FAC	Total % Cover of: Multiply by:
Distance socida	ntolio	_		54014	OBL species x 1 =
. Platanus occide	entalis	5	Y	FACW	
					FACW species x 2 =
•					FAC species x 3 =
					FACU species x 4 =
					UPL species x 5 =
		10	= Total Cover		Column Totals: (A) (E
	50% of total cover:	5	20% of total cover:	2	
					Prevalence Index = B/A =
hrub Stratum (Plot Siz	e: 20-foot radius plot)				
. Lindera benzoin		40	Y	FACW	Hydrophytic Vegetation Indicators:
Viburnum prunifo	blium	10	Y	FACU	1 - Rapid Test for Hydrophytic Vegetation
					X 2 - Dominance Test is >50%
					3 - Prevalence Index is ≤3.0 ¹
					Problematic Hydrophytic Vegetation ¹
·		50	= Total Cover		
	50% of total cover:	25	20% of total cover:	10	(Explain)
		20			
			-		¹ Indicators of hydric soil and wetland hydrology must b
			-		¹ Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.
lerb Stratum (Plot Size	e: <u>10-foot radius plot)</u>		-		present, unless disturbed or problematic.
lerb Stratum (Plot Size		10	- N	FAC	, , , , , , , , , , , , , , , , , , , ,
• Toxicodendron ra	adicans		<u>N</u>	FAC	present, unless disturbed or problematic. Definitions of Five Vegetation Strata:
Toxicodendron ra	adicans etidus	5	N	FAC OBL	present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines,
Toxicodendron ra Symplocarpus fo Microstegium vin	adicans etidus nineum	5 15	N Y	FAC OBL FAC	present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace	adicans etidus nineum ea	5 15 10	N Y N	FAC OBL FAC FACW	present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH)
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife	adicans etidus nineum ea	5 15	N Y	FAC OBL FAC	present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines,
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife	adicans etidus nineum ea	5 15 10	N Y N	FAC OBL FAC FACW	present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines,
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife	adicans etidus nineum ea	5 15 10	N Y N	FAC OBL FAC FACW	present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH.
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife	adicans etidus nineum ea	5 15 10	N Y N	FAC OBL FAC FACW	present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines,
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife	adicans etidus nineum ea	5 15 10	N Y N	FAC OBL FAC FACW	present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH.
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife	adicans etidus nineum ea	5 15 10	N Y N	FAC OBL FAC FACW	 present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including woody vines, approximately 3 to 20 ft (1 to 6 m) and the set of the set
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife	adicans etidus nineum ea	5 15 10 20	N Y N Y	FAC OBL FAC FACW	present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife	adicans etidus nineum ea era	5 15 10 20 60	N Y N Y Y = Total Cover	FAC OBL FAC FACW FACW	present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife	adicans etidus nineum ea	5 15 10 20	N Y N Y	FAC OBL FAC FACW	 present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife	adicans etidus nineum ea era 50% of total cover:	5 15 10 20 60	N Y N Y Y = Total Cover	FAC OBL FAC FACW FACW	 present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife	adicans etidus nineum ea era	5 15 10 20 60	N Y N Y Y = Total Cover	FAC OBL FAC FACW FACW	 present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife O. 1. Voody Vine Stratum (P	adicans etidus nineum ea era 50% of total cover: Plot Size: 20-foot radius plot)	5 15 10 20 60	N Y N Y Y = Total Cover	FAC OBL FAC FACW FACW	 present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife O. 1. Voody Vine Stratum (P	adicans etidus nineum ea ora 50% of total cover: Plot Size: 20-foot radius plot) puinquefolia	5 15 10 20 	N Y N Y = Total Cover 20% of total cover:	FAC OBL FAC FACW FACW	 present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife O. 1. Voody Vine Stratum (P Parthenocissus c	adicans etidus nineum ea ora 50% of total cover: Plot Size: 20-foot radius plot) puinquefolia	5 15 10 20 	N Y N Y Y = Total Cover 20% of total cover: N	FAC OBL FAC FACW FACW	 present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height Remarks: (if observed, list morphological
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife O. 1. Voody Vine Stratum (P Parthenocissus c Smilax rotundifol	adicans etidus nineum ea ora 50% of total cover: Plot Size: 20-foot radius plot) puinquefolia	5 15 10 20 	N Y N Y Y = Total Cover 20% of total cover: N	FAC OBL FAC FACW FACW	 present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife O. 1. Voody Vine Stratum (P Parthenocissus c Smilax rotundifol	adicans etidus nineum ea ora 50% of total cover: Plot Size: 20-foot radius plot) puinquefolia	5 15 10 20 	N Y N Y Y = Total Cover 20% of total cover: N	FAC OBL FAC FACW FACW	present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height Remarks: (if observed, list morphological
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife O. 1. Voody Vine Stratum (P Parthenocissus c Smilax rotundifol	adicans etidus nineum ea a a a a a a a a a a a a a a a a a a	5 15 10 20 	N Y N Y Y = Total Cover 20% of total cover: N Y = Total Cover	FAC OBL FAC FACW FACW	Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height Remarks: (if observed, list morphological adaptations below.)
Toxicodendron ra Symplocarpus fo Microstegium vin Cinna arundinace Agrostis stolonife O. 1. Voody Vine Stratum (P Parthenocissus c Smilax rotundifol	adicans etidus nineum ea ora 50% of total cover: Plot Size: 20-foot radius plot) puinquefolia	5 15 10 20 	N Y N Y	FAC OBL FAC FACW FACW	 present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height Remarks: (if observed, list morphological

Profile Desc	ription: (Descr	ibe to the	e depth needed	l to doc	ument the in	dicator or o	confirm the ab	sence of indicators.)				
Matrix			Redox	Features								
Depth	Color		Color									
(Inches)	(Moist)	%	(Moist)	%	Type ¹	Loc ²	Textu	e Remark	S			
0-4	10YR 3/2	100					loan					
4-10	10YR 4/2	70	7.5YR 4/4	30	С	М	Fine sand	loam				
10-12	10YR 4/1	80	10YR 4/6	20	С	М	Clay loam					
· · · · · · · · · · · · · · · · · · ·					<u> </u>							
					·							
	ncentration D-I	Depletion	RM-Reduced	Matrix	MS-Maskad	Sand Grains	² l ocation: Pl	=Pore Lining, M=Matrix				
Type: 0=00		Depiction,		matrix,	MO-Masked		5. Location. 1 L					
Hydric Soil	Indicators:							Indicators for Problematic Hyd	dric Soils ³ :			
Histoso	ol (A1)			Polvva	lue Below Su	rface (S8) (I	_RR S. T. U)	1 cm Muck (A9) (LRR O)				
	Epipedon (A2)			-	ark Surface (S			2 cm Muck (A10) (LRR S)				
					Mucky Miner			Reduced Vertic (F18) (Outside I				
	listic (A3)			-	-		(0) _					
	en Sulfide (A4)		<u> </u>	-	Gleyed Matri		-	Piedmont Floodplain Soils (F19)	-			
	ed Layers (A5)		<u>X</u>		ed Matrix (F3)		_	Anomalous Bright Loamy Soils (F20)				
	c Bodies (A6) (L		·		Dark Surface	. ,		(MLRA 153B)				
	lucky Mineral (A		P, T, U)		ed Dark Surfa		_	Red Parent Material (TF2)				
Muck F	Presence (A8) (L	.RR U)		Redox	Depressions	(F8)	_	Very Shallow Dark Surface (TF12)				
1 cm N	luck (A9) (LRR I	P, T)		Marl (F	10) (LRR U)		_	Other (Explain in Remarks)				
Deplete	ed Below Dark S	Surface (A	11)	Deplete	ed Ochric (F1	1) (MLRA 1	51)					
Thick D	ark Surface (A1	2)		Iron-Ma	anganese Ma	sses (F12) ((LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless				
Coast I	Prairie Redox (A	16) (MLR	A 150A)	Umbric	Surface (F13	B) (LRR P, T	「, U)					
Sandy	Mucky Mineral (S1) (LRR	O, S)	Delta C	Dchric (F17) (I	MLRA 151)		disturbed or problematic.				
	Gleyed Matrix (S				ed Vertic (F18			•				
	Redox (S5)	- /			nont Floodplains Soils (F19) (MLRA 149A)							
	d Matrix (S6)		·		alous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)							
	urface (S7) (LRI	рст	IN	7 (1011)				, 1000, 100D)				
		、 , 、 , 、 , 、 ,	0)									
Restrictive I	_ayer (if observ	ved):										
	Туре:				Hyd	ric Soil Pre	Yes X No					
Depth (i	nches):											
Remarks:												
1												

Project/Site: BEP Traffic Mitigation		City/County: Princ	e George's	Sampling Date: 05/12/2021				
Applicant/Owner: BARC		State: MD	Sampling Point:	: DP-111				
Investigator(s): DRC/LEJ		Section, Township, Rar	ige:					
Landform (hillslope, terrace, etc.): floo	dplain Local re	elief (concave, convex, none):	concave	Slope (%): 4				
Subregion (LRR or MLRA): LRR R	 Lat:	39.031697 Lor	ng: -76.899716	Datum: NAD83				
			·	classification: PFO				
· · · · · · · · · · · · · · · · · · ·		2 1 1 1						
Are climatic/hydrologic conditions on the		·		(If no, explain in Remarks)				
Are Vegetation, Soil, or I	-lydrology significan	ntly disturbed? Are "Normal	Circumstances" presen	t? Yes <u>X</u> No				
Are Vegetation, Soil, or I	-lydrology naturally	problematic? (If needed, e	explain any answers in F	Remarks.)				
SUMMARY OF FINDINGS - Attach site	map showing sampling	point locations, transects, in	iportant features, etc.					
Hydrophytic Vegetation Present? Y	es X No	Is the Sam	oled Area					
Hydric Soil Present? Y	es X No	within a We		X No				
Wetland Hydrology Present? Y	es X No							
Remarks:								
Wetland 2 DP								
Wetland Hydrology Indicators:			Secondary India	cators (minimum of two required)				
Primary Indicators (minimum of one is rec	uired; check all that apply)			oil Cracks (B6)				
Surface Water (A1)	Aquatic Fau	ina (B13)	Sparsely V	egetated Concave Surface (B8)				
High Water Table (A2)	Marl Deposi	its (B15) (LRR U)	(LRR U) Drainage Patterns (B10)					
Saturation (A3)		ulfide Odor (C1)						
Water Marks (B1)		nizospheres along Living Roots						
Sediment Deposits (B2)		f Reduced Iron (C4)		urrows (C8)				
Drift Deposits (B3)		Reduction in Tilled Soils (C6)		Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)		Surface (C7)		ic Position (D2)				
Iron Deposits (B5) Inundation Visible on Aerial Image	· · ·	ain in Remarks)		quitard (D3) ral Test (D5)				
X Water-Stained Leaves (B9)				n Moss (D8) (LRR T, U)				
Field Observations:								
Surface Water Present? Yes	No X Depth (inche	es):						
Water Table Present? Yes	No X Depth (inche							
Saturation Present? (includes capillary fringe) Yes	No X Depth (inche		land Hydrology sent? Ye	es <u>X</u> No				
Describe Recorded Data (stream gauge,	monitoring well, aerial pho	otos, previous inspections), if a	vailable:					
Remarks: Wetland 2 data point								

VEG	ETATION (Five Strata) - Use scientific names	of plants.			Sampling Point: 111
		Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree	Stratum (Plot Size: 20-foot radius plot)	% Cover	Species?	Status	Dominance rest worksheet.
1.	Fagus grandifolia	15	Y	FACU	Number of Dominant Species That
2.	Acer rubrum	30	Y	FAC	Are OBL, FACW, or FAC: 5 (A)
3.	Quercus palustris	20	Y	FACW	
4.					Total Number of Dominant Species
5.					Across All Strata: 6 (B)
6.				<u> </u>	
		65	= Total Cover		Percent of Dominant Species That
	50% of total cover:	32.5	20% of total cover:	13	Are OBL, FACW, or FAC: 83 (A/B)
Sapli	ng Stratum (Plot Size: 20-foot radius plot)				Prevalence Index worksheet:
1.					Total % Cover of: Multiply by:
2.					OBL species x 1 =
3.			· ·		FACW species x 2 =
4.			· ·		FAC species x 3 =
5.			· ·	<u> </u>	FACU species x 4 =
6.			· ·		UPL species x 5 =
0.			= Total Cover		Column Totals: (A) (B)
	50% of total covor:		20% of total cover:		
	50% of total cover:				Provolence Index - P/A -
0					Prevalence Index = B/A =
-	b Stratum (Plot Size: 20-foot radius plot)				The description of the state of
1.			· ·		Hydrophytic Vegetation Indicators:
2.			. <u> </u>		1 - Rapid Test for Hydrophytic Vegetation
3.				<u> </u>	X 2 - Dominance Test is >50%
4.					3 - Prevalence Index is ≤3.0 ¹
5.					Problematic Hydrophytic Vegetation ¹
6.					
			= Total Cover		(Explain)
	50% of total cover:		20% of total cover:		
					¹ Indicators of hydric soil and wetland hydrology must be
					present, unless disturbed or problematic.
Herb	Stratum (Plot Size: <u>10-foot radius plot)</u>				
					Definitions of Five Vegetation Strata:
	Cinna arundinacea	45	N/	EA 0) 4/	Tree - Woody plants, excluding woody vines,
1.		15	Y	FACW	approximately 20 ft (6 m) or more in height and 3 in.
n		20	V		(7.6 cm) or larger in diameter at breast height (DBH).
2.	Agrostis stolonifera	20 30	Y	FACW	Continer Massharlante evelusing weather inco
3.	Toxicodendron radicans	30	· ·	FAC	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
4.					than 3 in (7.6 cm) DBH.
5.				<u> </u>	
6.			· ·		Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
7.				<u>.</u>	approximately 3 to 20 ft (1 to 6 ff) in height.
8.					Herb - All herbaceous (non-woody) plants, including
9.				<u> </u>	herbaceous vines, regardless of size, and woody
10.					plants, except woody vines, less than approximately
11.					3 ft (1 m) in height.
		65	= Total Cover		Woody vine - All woody vines, regardless of height.
	50% of total cover:	32.5	20% of total cover:	13	
<u>Woo</u>	dy Vine Stratum (Plot Size: 20-foot radius plot)				
1.	· · · · · · · · · · · · · · · · · · ·				
2.			· ·	<u>.</u>	
2. 3.			· ·		Remarks: (if observed, list morphological adaptations
0.			· <u> </u>		below.)
			Tatal Original		
			= Total Cover		
	50% of total cover:		20% of total cover:		Hydrophytic Yes <u>X</u> No Vegetation
					Present?

Profile Desc	cription: (Descr		e depth neede			ndicator or c	onfirm the ab	sence of indi	cators.)			
Donth	Matrix		Color	Redox	Features							
Depth (Inchas)	Color	0/	Color (Moint)	0/	Turnel	1.0.02	Tavt			Domorko		
(Inches)	(Moist)	%	(Moist)	%	Type ¹	Loc ²	Textu			Remarks		
0-2	10YR 3/4	100		05			Sandy					
3-11	10YR 3/2	75	10YR 5/6	25	C	M	Sandy	loam				
¹ Type: C=Co	oncentration, D=I	Depletion	, RM=Reduce	d Matrix,	MS=Masked	Sand Grains	. ² Location: P	L=Pore Lining	, M=Matrix			
Hydric Soil	Indicators:							Indicato	ors for Pro	blematic Hydric Soils ³ :		
Histos	ol (A1)			Polyva	lue Below Su	rface (S8) (L	.RR S, T, U)	1 cm Mu	ck (A9) (L	RR O)		
Histic I	Epipedon (A2)			Thin Da	ark Surface (S9) (LRR S,	T, U)	2 cm Muck (A10) (LRR S)				
Black I	Histic (A3)			Loamy	Mucky Miner	al (F1) (LRR	: O)	Reduced	Vertic (F	18) (Outside MLRA 150A, B)		
	gen Sulfide (A4)			-	Gleyed Matr			Piedmor	Piedmont Floodplain Soils (F19) (LRR P, S, T)			
	ed Layers (A5)		X	-	ed Matrix (F3		-		Anomalous Bright Loamy Soils (F20)			
	ic Bodies (A6) (L	RR P, T,		-	Dark Surface		-		(MLRA 153B)			
	/lucky Mineral (A			-	ed Dark Surfa			Red Parent Material (TF2)				
	Presence (A8) (L		· · · ·	-	Depressions		-		Very Shallow Dark Surface (TF12)			
	/luck (A9) (LRR I	-		-	10) (LRR U)		-		xplain in R			
	ed Below Dark S	-	11)	-	ed Ochric (F1		51)	0(_	, picani in in	lonnainte)		
	Dark Surface (A1						LRR O, P, T)	2				
	Prairie Redox (A		A 150A)	-	Surface (F1		-		licators of hydrophytic vegetation and land hydrology must be present, unless			
	Mucky Mineral (-	Dchric (F17) (, 0)		ed or probl			
	Gleyed Matrix (S		<u> </u>	-	ed Vertic (F18	-	0A 150B)		cinatio.			
	Redox (S5)	J-7)		-		, ,						
	ed Matrix (S6)			-	iont Floodplains Soils (F19) (MLRA 149A) alous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)							
	Surface (S7) (LRI	R P, S, T,	U)					436, 1330, 13	50)			
					T							
Restrictive	Layer (if observ	ved):										
	Туре:				Hyd	Iric Soil Pres	sent?	Yes	Х	No		
Depth (inches):											
Remarks:												

Project/Site:	BEP Traff	ic Mitigation Site			0	City/Cou	nty:	Prince G	eorge's	Sa	mpling Date:	04/15/21	
Applicant/Owner: BARC				S	State:	MD		Sampling F	Point:	112			
Investigator(s):	DRC/I	_EJ			s	Section,	Townsh	ip, Range:					
Landform (hillslope	e, terrace,	etc.): Floodpla	ain	Local	relief (cor	ncave, c	onvex, r	none):	Flat	Slo	ope (%): 0-	1	
Subregion (LRR or	· MLRA):	LRR R		Lat:	39.0331	98		Long:	-76.902260		Datum:	NAD 83	
Soil Map Unit Nam	ie: <u>Ch</u>	ristiana and Dov	ner							NWI cla	ssification:	UPL	
Are climatic/hydrolo	ogic cond	itions on the site	typical for th	nis time o	f year?		Yes	Х	No	(If	no, explain in R	lemarks)	
Are Vegetation	, Soi	l, or Hydi	ology	significa	antly distu	rbed?	Are "N	Iormal Cir	cumstances" pro	esent?	Yes X	No	
Are Vegetation	, Soi	l, or Hydi	ology	naturally	y problem	natic?	(If nee	eded, expl	ain any answers	s in Rem	arks.)		

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	X	No _ No _ No _	X X	Is the Sampled Area within a Wetland? Yes <u>No X</u>			
Remarks:								
Off of Powdermill Road just before wetland begins								

HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) High Water Table (A2) Marl Deposits (B15) (LRR U) Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum Moss (D8) (LRR T, U)

Field Observations:						
	Ma a	NI-				
Surface Water Present?	Yes	No	Depth (inches):			
Water Table Present?	Yes	No	Depth (inches):			
Saturation Present?				Wetland Hydrolog	IV	
(includes capillary fringe)	Yes	No	Depth (inches):	Present?	Yes	No X
(
Describe Recorded Data (s	stream gau	ge, monitorin	ng well, aerial photos, previous	nspections), if available:		
Remarks:						
Wetland 1 UPL point						

VEGETATION (Five Strata) - Use scientific names	s of plants.			Sampling Point: 112
Tree Stratum (Plot Size: 20-foot radius plot)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. 2				Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
4 5				Total Number of Dominant Species Across All Strata: 5 (B)
50% of total cover:		= Total Cover 20% of total cover:		Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)
Sapling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index worksheet:
1 2				Total % Cover of:Multiply by:OBL speciesx 1 =
3				FACW species x 2 =
 I.				FAC species x 3 =
				FACU species x 4 =
				UPL species x 5 =
··		= Total Cover		Column Totals: (A) (B)
50% of total cover:		20% of total cover:		
Shrub Stratum (Plot Size: 20-foot radius plot)				Prevalence Index = B/A =
Lindera benzoin	40	Y	FACW	Hydrophytic Vegetation Indicators:
2. Rosa multiflora	15	Y	FACU	1 - Rapid Test for Hydrophytic Vegetation
).		- <u> </u>		2 - Dominance Test is >50%
				3 - Prevalence Index is ≤3.0 ¹
				Problematic Hydrophytic Vegetation ¹
<u> </u>				
	55	= Total Cover		
50% of total cover:	22.5	20% of total cover:	11	(Explain)
		_		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot Size: 10-foot radius plot)				
Microstegium vimineum	40	Y	FAC	Definitions of Five Vegetation Strata:
Cinna arundinacea	40	Y	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
				Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH.
				Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8 0 0		· ·		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately
11.				3 ft (1 m) in height.
	80	= Total Cover		Woody vine - All woody vines, recordloss of beight
50% of total cover:	40	20% of total cover:	16	Woody vine - All woody vines, regardless of height.
Voody Vine Stratum (Plot Size: 20-foot radius plot) Lonicera japonica	15	Y	FACU	
				Remarks: (if observed, list morphological adaptations below.)
	4 5	- Total Cover		
50% of total cover:	15 7.5	= Total Cover 20% of total cover:	3	Hydrophytic Yes <u>X</u> No Vegetation
				Present?

Profile Desc	cription: (Descri	ibe to the	depth neede			dicator or c	confirm the abs	sence of indicators.)
	Matrix	(Redox	Features			
Depth	Color		Color					
(Inches)	(Moist)	%	(Moist)	%	Type ¹	Loc ²	Textu	
0-3"	10 YR 3/2	100					Silt loa	am
3-12"	10 YR 4/3	65	10YR 4/6	35	С	М	Sandy clay	y loam
			-					
			-					·
						<u> </u>		
¹ Type: C=Co	oncentration, D=I	Depletion,	RM=Reduced	l Matrix,	MS=Masked	Sand Grains	. ² Location: PL	=Pore Lining, M=Matrix
Hydric Soil	Indicators:							Indicators for Problematic Hydric Soils ³ :
Histoso	ы (A1)			Polyva	lue Below Su	rface (S8) (I	RRSTII)	1 cm Muck (A9) (LRR O)
	Epipedon (A2)			-	ark Surface (S		· · · -	2 cm Muck (A10) (LRR S)
				-				
	Histic (A3)				Mucky Miner	. , .		Reduced Vertic (F18) (Outside MLRA 150A
	gen Sulfide (A4)			-	Gleyed Matri		_	Piedmont Floodplain Soils (F19) (LRR P, S,
	ed Layers (A5)				ed Matrix (F3)		_	Anomalous Bright Loamy Soils (F20)
	c Bodies (A6) (L		·		Dark Surface			(MLRA 153B)
	lucky Mineral (A		P, T, U)	•	ed Dark Surfa		_	Red Parent Material (TF2)
Muck F	Presence (A8) (L	.RR U)		Redox	Depressions	(F8)	_	Very Shallow Dark Surface (TF12)
1 cm N	luck (A9) (LRR F	P, T)		Marl (F	10) (LRR U)			Other (Explain in Remarks)
Deplete	ed Below Dark S	Surface (A	11)	Deplet	ed Ochric (F1	1) (MLRA 1	51)	
Thick E	Dark Surface (A1	2)		Iron-Ma	anganese Ma	sses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and
Coast I	Prairie Redox (A	16) (MLR	A 150A)	Umbrid	Surface (F13	3) (LRR P, T	, U)	wetland hydrology must be present, unless
Sandy	Mucky Mineral (S1) (LRR	O, S)	Delta C	Dchric (F17) (I	MLRA 151)		disturbed or problematic.
	Gleyed Matrix (S		· · ·		ed Vertic (F18	-	0A. 150B)	·
	Redox (S5)	,) (MLRA 149A)	
	ed Matrix (S6)			•				, I9A, 153C, 153D)
	urface (S7) (LRF	R P, S, T,	U)				20) (m 2107 1 1	
					1			
Restrictive	Layer (if observ	/ed):			ļ			
	Туре:				Hyd	Iric Soil Pres	sent?	Yes NoX
Depth (i	inches):							
Remarks:								

Project/Site:	BEP Traffi	c Mitigation		City/Cou	unty:	Prince Ge	eorge's	Sampling Date:	04/15/2021
Applicant/Owner:	BARC			State:	MD		Sampling Poin	t: <u>113</u>	
Investigator(s):	DRC/L	EJ		Section,	Township	, Range:			
Landform (hillslope	e, terrace,	etc.): Floodplain	Local relie	f (concave, o	convex, no	one):	Flat	Slope (%): 0-	1%
Subregion (LRR or	r MLRA):	LRR R	Lat: 39	.032179		Long:	-76.901264	Datum:	NAD 83
Soil Map Unit Nam	ne: <u>Chr</u>	istiana and Downer					NW	I classification:	PEM/PFO
Are climatic/hydrol	logic condi	tions on the site typical fo	or this time of yea	ar?	Yes	Х	No	(If no, explain in F	lemarks)
Are Vegetation	, Soil	, or Hydrology	significantly	disturbed?	Are "No	ormal Circ	umstances" prese	nt? Yes X	No
Are Vegetation	, Soil	, or Hydrology	naturally pro	oblematic?	(If need	ded, expla	ain any answers in	Remarks.)	

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes _ Yes _ Yes _	X X X	No No No	Is the Sampled Area within a Wetland?	Yes _	<u>x</u>	No
Remarks:							
Directly east of TS-1, right off of road	d. Clear a	are (artifici	ally) befo				

HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; ch	eck all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Water Marks (B1)	X Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)
X Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)

	′es								
Water Table Dresent?			No	Х	Depth (inches):				
water Table Present? T	′es 🗌		No	Х	Depth (inches):				
Saturation Present?	_		-		· · ·	Wetland Hydrology			
(includes capillary fringe) Y	′es	Х	No	0-1"	Depth (inches):	Present?	Yes	Х	No
Remarks:									
Standing water around point									
Water in soil pit at 10"									
Wetland 1 wet point									

VEC	GETATION (Five Strata) - Use scientific names				Sampling Point: 113			
Tree	e Stratum (Plot Size: 20-foot radius plot)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. 2. 3.					Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> ((A)		
4. 5. 6.					Total Number of Dominant Species Across All Strata:2((B)		
	50% of total cover:		= Total Cover 20% of total cover		Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A	VB)		
Sap	ling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index worksheet:			
1.					Total % Cover of: Multiply by:			
2.			·		OBL species x 1 =			
3.			·		FACW species x 2 =			
4.			·		FAC species x 3 =			
5.			·		FACU species x 4 =			
6.					UPL species x 5 =			
	50% of total cover:		= Total Cover 20% of total cover		Column Totals: (A)	(B)		
					Prevalence Index = B/A =			
<u>Shr</u> 1.	ub Stratum (Plot Size: 20-foot radius plot)				Hydrophytic Vegetation Indicators:			
1. 2.					1 - Rapid Test for Hydrophytic Vegetation			
2. 3.			·		2 - Dominance Test is >50%			
3. 4.	·		·		$3 - Prevalence Index is \leq 3.0^{1}$			
ч. 5.	·		·		Problematic Hydrophytic Vegetation ¹			
5. 6.								
0.			= Total Cover		(Explain)			
	50% of total cover:		20% of total cover		¹ Indicators of hydric soil and wetland hydrology must be			
Her	<u>o Stratum</u> (Plot Size: <u>10-foot radius plot)</u>				present, unless disturbed or problematic.			
1.	Cinna arundinacea	60	Y	FACW	Definitions of Five Vegetation Strata:			
2.	Cirsium arvense	10	N	FACU	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.	(7.6		
3.	Juncus effusus	5	N	OBL	cm) or larger in diameter at breast height (DBH).	`		
4.	Microstegium vimineum	40	Y	FAC	Sapling - Woody plants, excluding woody vines,			
5. 6.	Symplocarpus foetidus	15	N	OBL	approximately 20 ft (6 m) or more in height and less th 3 in (7.6 cm) DBH.			
7. 8.			·		Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.			
9. 10.					Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody pla			
11.					except woody vines, less than approximately 3 ft (1 n	n) in		
		130	= Total Cover		height.	,		
	50% of total cover:	65	20% of total cover	26	Woody vine - All woody vines, regardless of height.			
	ody Vine Stratum (Plot Size: 20-foot radius plot)							
1. 2.			<u> </u>	<u> </u>				
2. 3.					Remarks: (if observed, list morphological adaptations below.)	3		
			= Total Cover					
	50% of total cover:		20% of total cover		Hydrophytic Yes X No Vegetation			
					Present?			

SOIL

Matrix Redox Features Oppth Color (Molisi) % Type/ Loc ² Texture Remarks 0-4 10YR 4/2 70 7.5 YR 4/6 10 C PL Silt loam 4-12 10YR 4/2 70 7.5 YR 4/6 10 C PL Silt loam 4-12 10YR 4/2 70 7.5 YR 4/6 30 C PL Silt loam 4-12 10YR 4/2 70 7.5 YR 4/6 30 C PL Silt loam 4-12 10YR 4/2 70 7.5 YR 4/6 30 C PL Silt loam	Profile Desc	cription: (Descr		depth needed			ndicator or c	onfirm the abs	ence of in	ndicators.)	
(Inches) (Moist) % Type1 Loc2 Texture Remarks 0-4 10/R 3/2 90 7.5 YR 4/6 10 C PL Silt loarn	Danáh		(Calar	Redox	Features					
0.4 10YR 3/2 90 7.5 YR 4/6 10 C PL Sitt loam 4.12 10YR 4/2 70 7.5 YR 4/6 30 C PI Sitt loam 4.12 10YR 4/2 70 7.5 YR 4/6 30 C PI Sitt loam 4 10YR 4/2 70 7.5 YR 4/6 30 C PI Sitt loam 4 10YR 4/2 70 7.5 YR 4/6 30 C PI Sitt loam 4 10YR 4/2 70 7.5 YR 4/6 30 C PI Sitt loam 4 10YR 3/2 90 7.5 YR 4/6 30 C PI Sitt loam 4 10YR 3/2 10 10 Polyvalue Below Surface (S2) (LRR S) Indicators for Problematic Hydric Soils ² : Histosol (A1) Polyvalue Below Surface (S2) (LRR S, T, U) 2 cm Muck (A9) (LRR O) 2 cm Muck (A10) (LRR O) 2 cm Muck A10; (LRR S) 3 cm Muck A163 (LRP S, T)			0/		0/	Turnal	1.0.02	Touture			Domorko
4-12 10YR 4/2 70 7.5yr 4/6 30 C PI Silt loam 4-12 10YR 4/2 70 7.5yr 4/6 30 C PI Silt loam 4-12 10YR 4/2 70 7.5yr 4/6 30 C PI Silt loam 4 Silt loam Silt loam Silt loam Silt loam Silt loam ************************************	, ,			,							Remarks
*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils*: Histosol (A1) Polyvalue Below Surface (S9) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histosol (A1) Polyvalue Below Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B Hydrogen Sulfide (A4) Loamy Gleved Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F7) Red Parent Material (TF2) Wery Shallow Dark Surface (TF12) Muck (A9) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Wery Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T, U) Depleted Dark Surface (F11) (MLRA 151) Other (Explain in Remarks) Depleted Matrix (F12) 1 cm Muck (A9) (LRR P, T, U) Redox Depressions (F8) Uvery Shallow Dark Surface (TF12) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Thork Marganese Masses (F12) (LRR O, P, T) Bicators of hydrophytic vegetation and wetand hydrology must be present, unless disturbed or problematic. </td <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		-									
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B Hydrogen Suffide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) S cm Muck (A10) (LRR P, T, U) S cm Muck V Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T, U) Mari (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Orhic (F11) (MLRA 151) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. S andy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F13) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplains Soils (F20) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Lo	4-12	10YR 4/2	70	7.5yr 4/6	30	C	PI	Silt loar	n		
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ² : Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B Hydrogen Suffide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) S cm Muck (A10) (LRR P, T, U) S cm Muck V Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Mari (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. S andy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F13) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplains Soils (F20) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loam											
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Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, B Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thinck Dark Surface (A16) (MLRA 150A) Umbric Surface (F12) Uron-Manganese Masses (F12) (LRR O, P, T) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplains Soils (F20) (MLRA 149A), 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) <td>Hydric Soil</td> <td>Indicators:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Indica</td> <td>ators for Pr</td> <td>oblematic Hydric Soils³:</td>	Hydric Soil	Indicators:							Indica	ators for Pr	oblematic Hydric Soils ³ :
Black Histic (A3) Loamy Mucky Mineral (F1) (LRR 0) Reduced Vertic (F18) (Outside MLRA 150A, B Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A) Umbric Surface (F13) (MLRA 150A) wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Anomalous Bright Loamy Soils (F20) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A), 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Pepth (inches): Type:	Histoso	ol (A1)			Polyval	lue Below Su	rface (S8) (L	RR S, T, U)	1 cm N	Muck (A9) (I	LRR O)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A, 150B) Piedmont Floodplains Soils (F19) (MLRA 149A) Stripped Matrix (S6) Piedmont Floodplains Soils (F20) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A), 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Piedmont Floodplains Soil Present? Yes X No	Histic E	Epipedon (A2)			Thin Da	ark Surface (S9) (LRR S, [*]	T, U)	2 cm N	Muck (A10)	(LRR S)
Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) other (Explain in Remarks) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A, 150B) Stripped Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplains Soils (F20) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Hydric Soil Present? Yes X No Depth (inches):	Black I	Histic (A3)			Loamy	Mucky Miner	al (F1) (LRR	0)	Reduc	ed Vertic (F	- 18) (Outside MLRA 150A, B
Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type:	Hydroc	gen Sulfide (A4)			Loamy	Gleyed Matri	ix (F2)		 Piedm	ont Floodpl	ain Soils (F19) (LRR P, S, T)
5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) other (Explain in Remarks) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) disturbed or problematic. Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No	Stratifie	ed Layers (A5)		X	Deplete	ed Matrix (F3)		Anoma	alous Bright	Loamy Soils (F20)
5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) other (Explain in Remarks) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) disturbed or problematic. Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No	Organi	c Bodies (A6) (L	.RR P, T, l	J)	Redox	Dark Surface	e (F6)		(ML	.RA 153B)	
Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) disturbed or problematic. Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A), 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No					Deplete	ed Dark Surfa	ace (F7)		Red P	arent Mater	ial (TF2)
Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No					Redox	Depressions	(F8)				
Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No						•	(<i>)</i>		_ `		. ,
Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) 3 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) etal anomalous Bright Loamy Soils (F20) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type:			-	11)			1) (MLRA 15	51)		X I	
Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) wetland hydrology must be present, unless Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplains Soils (F19) (MLRA 149A) Stripped Matrix (S6) Piedmont Floodplains Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No				,				-	31		describe the constant state of a second
Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No				A 150A)		-		-		-	
Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No Depth (inches):								-,			
Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No Depth (inches):								0A 150B)	alotai		Siomato.
Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes X No Depth (inches):			J -1)				, .				
Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Depth (inches):									A 153C	153D)	
Restrictive Layer (if observed): Hydric Soil Present? Yes X No Type:		. ,	RPST	un <u> </u>	Anoma			20) (MERA 143	A, 1990,	1550)	
Type: Hydric Soil Present? Yes X No Depth (inches):	Daik 0		(1,0,1,	0)							
Depth (inches):	Restrictive	Layer (if observ	/ed):								
		Туре:				Hyd	Iric Soil Pres	sent?	res	Х	No
Remarks:	Depth (inches):									
Remarks:											
	Remarks:										
	10 00011, 3	standing water									
10" down, standing water											

Project/Site:	Bureau of	ving and Printing	g on BARC		City/County: Greenbelt/		lt/PG	Sampling Da	te:	4/3/20		
Applicant/Owner:	Burea	u of En	graving and Prir	nting		State:	MD		Sampling Poir	nt: DP-8		
Investigator(s):	DRC/L	J/CO				Section,	Townsh	ip, Range	:			
Landform (hillslop	oe, terrace,	etc.):	Flat pasture	Local	relief (c	oncave, o	convex, r	none):	concave	Slope (%):	1-3	3%
Subregion (LRR c	or MLRA):	MLR	A S/LRR 149A	Lat:	39° 01	l' 59.75"		Long:	76° 52' 54.17"	Datu	ım:	NAD 83
Soil Map Unit Nar	me: <u>Ch</u>	ristiana	-Downer Compl	ex, 5-10% slo	pes				NV	VI classification:		PEM
Are climatic/hydro	ologic cond	itions o	n the site typical	I for this time o	of year?		Yes	Х	No	(If no, explair	in Re	emarks)
Are Vegetation	, Soi		, or Hydrology	signific	antly dist	turbed?	Are "N	Iormal Cir	cumstances" prese	ent? Yes	Х	No
Are Vegetation	, Soi	l	, or Hydrology	natural	ly proble	matic?	(If nee	eded, exp	lain any answers in	Remarks.)		

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	X X X	No No No	Is the Sampled Area within a Wetland?	Yes _	<u>x</u>	No
Remarks: Wetland 7 Data point. Wetland loca	ited on ber	nch above '	WUS-4.				

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; ch	eck all that apply)	Surface Soil Cracks (B6)
X Surface Water (A1)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
X Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Water Marks (B1)	X Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	X Saturation Visible on Aerial Imagery (C9)
X Algal Mat or Crust (B4)	Thin Muck Surface (C7)	X Geomorphic Position (D2)
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)

Field Observations:										
Surface Water Present?	Yes	Х	No		Depth (inches):	2"				
Water Table Present?	Yes		No	Х	Depth (inches):					
Saturation Present?			-		-		Wetland Hydrology			
(includes capillary fringe)	Yes	Х	No		Depth (inches):	0"	Present?	Yes	Х	No
Describe Recorded Data (s	tream g	gauge,	monit	oring \	well, aerial photos,	previous ins	pections), if available:			
Remarks:										
Toe of slope of open pastu	re, abov	ve inte	rmitter	nt strea	am channel (WUS-	4).				

VEGETATION (Five Strata) - Use scientific names	s of plants.			Sampling Point: DP-8	
Tree Stratum (Plot Size: 20-foot radius plot)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. 2. 3.		· ·		Number of Dominant Species That Are OBL, FACW, or FAC: 1	(A)
5		· ·		Total Number of Dominant Species Across All Strata:1	(B)
50% of total cover:		= Total Cover 20% of total cover:		Percent of Dominant Species That Are OBL, FACW, or FAC:(/	A/B)
Sapling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index worksheet:	
1		<u></u>		Total % Cover of: Multiply by:	
2.				OBL species x 1 =	
3.				FACW species x 2 =	
4.		·		FAC species x 3 =	
5.				FACU species x 4 =	
6.				UPL species x 5 =	
50% of total cover:		= Total Cover 20% of total cover:		Column Totals: (A)	(B)
				Prevalence Index = B/A =	_
<u>Shrub Stratum</u> (Plot Size: <u>20-foot radius plot)</u> 1.				Hydrophytic Vegetation Indicators:	
2.				1 - Rapid Test for Hydrophytic Vegetation	on
3.				2 - Dominance Test is >50%	
4.				3 - Prevalence Index is ≤3.0 ¹	
5				Problematic Hydrophytic Vegetation ¹	
		= Total Cover		(Explain)	
50% of total cover:		20% of total cover:			
Herb Stratum (Plot Size: 10-foot radius plot)				¹ Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic.	be
1. Agrostis stolonifera	80	Y	FACW	Definitions of Five Vegetation Strata:	
2. Phalaris arundinacea	20		FACW		
3. Ranunculus repens	10	N	FAC	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3	
4.				(7.6 cm) or larger in diameter at breast height (DE	<u>эп)</u> .
5. 6. 7.		· ·		Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and le than 3 in (7.6 cm) DBH.	SS
8				Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
10				Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody	
	110	= Total Cover		plants, except woody vines, less than approximate	
50% of total cover:	55	20% of total cover:	22	3 ft (1 m) in height.	
Woody Vine Stratum (Plot Size: 20-foot radius plot) 1				Woody vine - All woody vines, regardless of heig	ht.
2.					
3.		·		Remarks: (if observed, list morphological adaptations below.)	
		= Total Cover			
50% of total cover:		20% of total cover:		Hydrophytic Yes X No Vegetation Present?	-

Sampling Point: DP-8

	Matrix Redox Features Depth Color Color (Inches) (Moist) % Type1 Loc2 Texture Remarks 0-8 10YR 4/2 80 7.5YR 4/6 20 C PL Fine sandy loam	Profile Desc	ription: (Descri	ibe to the	depth need	ed to doc	ument the in	dicator or o	confirm the at	osence of in	ndicators.)	
(Inches) (Moist) % (Moist) % Type1 Loc2 Texture Remarks 0-8 10YR 4/2 80 7.5YR 4/6 20 C PL Fine sandy loam	(Inches) (Moist) % Type1 Loc2 Texture Remarks 0-8 10YR 4/2 80 7.SYR 4/6 20 C PL Fine sandy loam										,,	
0-8 10YR 4/2 80 7.5YR 4/6 20 C PL Fine sandy loam 8-12 10YR 4/3 70 10YR 5/4 30 C M Fine sandy loam 9 10YR 4/3 70 10YR 5/4 30 C M Fine sandy loam 9 10YR 4/3 70 10YR 5/4 30 C M Fine sandy loam 9 10YR 4/3 70 10YR 5/4 30 C M Fine sandy loam 9 10YR 5/4 30 C M Fine sandy loam Image: Sandy loam 9 10YR 5/4 30 C M Fine sandy loam Image: Sandy loam 1 10YR 5/4 30 C M Fine sandy loam Image: Sandy loam 1 10YR 5/4 30 C Image: Sandy loam Image: Sandy loam Image: Sandy loam 1 10YR 5/4 30 C Thin Dark Surface (S9) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, 150A) 1 Histic Epipedon (A2) Thin Dark Surface (S9) (LR C) Thin Dark Surfac	0-8 10YR 4/2 80 7.5YR 4/6 20 C PL Fine sandy loam 8-12 10YR 4/3 70 10YR 5/4 30 C M Fine sandy loam 9 10YR 4/3 70 10YR 5/4 30 C M Fine sandy loam 9 10YR 4/3 70 10YR 5/4 30 C M Fine sandy loam 9 10YR 4/3 70 10YR 5/4 30 C M Fine sandy loam 9 10YR 5/4 30 C M Fine sandy loam Indicators 1 10YR 5/4 30 C M Indicators Indicators Hydric Soil Indicators: Indicators: Indicators for Problematic Hydric Soils?: Indicators for Problematic Hydric Soils?: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 2 cm Muck (A10) (LRR O) Reduced Ventic (F16) (Outside MLRA 150A, F50A, F50) Black Histic (A3) Loamy Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Organic Bodies (A6) (LRR P	Depth	Color		Color							
8-12 10YR 4/3 70 10YR 5/4 30 C M Fine sandy loam ** Fine sandy loam	B-12 10YR 4/3 70 10YR 5/4 30 C M Fine sandy loam Image: Stand Problematic Matrix, MS Histic Epispeon (A2) Image: Stand Problematic Matrix, MS Image: Stand Problematic Matrix, MS Image: Stand Problematic Matrix, Stand Problematic, Prob	(Inches)	(Moist)	%	(Moist)	%	Type ¹	Loc ²	Textu	ure		Remarks
'Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histosol (A1) Polyvalue Below Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, I Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR P, T) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Vineral (A7) (LRR P, T, U) Redox Depressions (F8) Uery Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Iron-Manganese Masses (F12) (LRR O, P, T) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F13) (MLRA 150A, 150B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A) Anomalous Brig	"Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils*: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, E Hydrogen Sulfide (A4) Loamy Gleved Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F2) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Muck Presence (A8) (LRR U) Redox Depressions (F8) Uvery Shallow Dark Surface (F12) Other (Explain in Remarks) Depleted Below Dark Surface (F12) Iron-Manganese Masses (F12) (LRR O, P, T) alndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Redox (S5) Peledmont Floodplain Soils (F20) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A) Stripped Matrix (S6) Piedmont Floodplains Soils (F20) (MLRA 149A)	0-8	10YR 4/2	80	7.5YR 4/	5 20	С	PL	Fine sand	dy loam		
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, I Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) (MLRA 153B) S cm Mucky Mineral (A7) (LRR P, T, U) S cm Mucky Mineral (A7) (LRR P, T, U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. S andy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F13) (MLRA 150A, 150B) Sandy Mucky Mineral (S1) (LRR O, S) S andy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) S andy Redox (S5) Piedmont Floodplains Soils (F20) (MLRA 149A)	Hydric Soil Indicators: Indicators for Problematic Hydric Soils ² : Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (Outside MLRA 150A, E Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) X Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T, U) Depleted Dark Surface (F7) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T, U) Depleted Ochric (F11) (MLRA 151) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F13) (MLRA 150A, 150B) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S6) Anomalous Bright L	8-12	10YR 4/3	70	10YR 5/4	30	С	Μ	Fine sand	dy loam		
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Restrictive Layer (if observed): Type: Yes X No	Restrictive Layer (if observed): Type: Hydric Soil Present? Yes X No Depth (inches):			R P, S, T,	U)	_	J	, (-/ (-,,	,	
Type: Hydric Soil Present? Yes X No	Type: Hydric Soil Present? Yes X No Depth (inches):											
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Based on soil profile, hydrology source appears to be surface water.												
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Based on soil profile, hydrology source appears to be surface water.												

Project/Site:	Bureau of	Engra	ving and Printing of	on BARC	City/Co	unty:	Greenbe	lt/PG	Sampling Date:	4/3/20
Applicant/Owner:	Burea	u of En	graving and Printi	ng	State:	MD		Sampling Point	:: DP-9	
Investigator(s):	DRC/I	_J/CO			Section	, Townshi	ip, Range			
Landform (hillslop	e, terrace,	etc.):	Road embankm	ent Local	relief (concave,	convex, n	none):	concave	Slope (%): 5	%
Subregion (LRR o	or MLRA):	MLR	A S/LRR149A	Lat:	39° 01' 59.28"		Long:	76° 52' 54.21"	Datum:	NAD 83
Soil Map Unit Nan	ne: <u>Ch</u>	ristiana	-Downer Complex	⟨, 5-10% slop	es			NW	l classification:	UPL
Are climatic/hydro	logic cond	itions o	n the site typical f	or this time of	f year?	Yes	Х	No	(If no, explain in F	Remarks)
Are Vegetation	, Soi	I	, or Hydrology	significa	intly disturbed?	Are "N	Iormal Cir	cumstances" preser	nt? Yes X	No
Are Vegetation	, Soi	I	, or Hydrology	naturally	y problematic?	(If nee	eded, expl	ain any answers in	Remarks.)	

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No No No	X X X	Is the Sampled Area within a Wetland?	Yes	No <u>X</u>
Remarks: Upland data point located between V	Wetlands 7 and 8					

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Water Marks (B1)	Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)

Field Observations:									
Surface Water Present?	Yes	No	Х	Depth (inches):					
Water Table Present?	Yes	No	Х	Depth (inches):					
Saturation Present?					Wetland	Hydrology			
(includes capillary fringe)	Yes	No	Х	Depth (inches):	Present?		Yes	No	Х
	stream g	jauge, monito	oring	well, aerial photos, pr	revious inspections), if availab	ble:			
Remarks:									
No signs of hydrology.									

VEGETATION (Five Strata) - Use scientific names	s of plants.			Sampling Point: DP-9	
Tree Stratum (Plot Size: 20-foot radius plot)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. 2. 3.				Number of Dominant Species That Are OBL, FACW, or FAC: 0	(A)
4 5 6				Total Number of Dominant Species Across All Strata:1	(B)
50% of total cover:		= Total Cover 20% of total cover:		Percent of Dominant Species That Are OBL, FACW, or FAC: 0 ((A/B)
Sapling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index worksheet:	
1				Total % Cover of: Multiply by:	
2.				OBL species x 1 =	
3.				FACW species x 2 =	
4.		<u> </u>		FAC species x 3 =	
5		<u> </u>		FACU species x 4 =	
6.		<u> </u>		UPL species x 5 =	
50% of total cover:		= Total Cover 20% of total cover:		Column Totals: (A)	(B)
Shrub Stratum (Plot Size: 20-foot radius plot)				Prevalence Index = B/A =	
1				Hydrophytic Vegetation Indicators:	
2		<u> </u>		1 - Rapid Test for Hydrophytic Vegetati	on
3.		<u> </u>		2 - Dominance Test is >50%	
4.		<u> </u>		3 - Prevalence Index is ≤3.0 ¹	
5. 6.				Problematic Hydrophytic Vegetation ¹	
···		= Total Cover		(Explain)	
50% of total cover:		20% of total cover:			
Herb Stratum (Plot Size: 10-foot radius plot)				¹ Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic.	i de
1. Festuca pratensis	70	Y	FACU	Definitions of Five Vegetation Strata:	
2. Trifolium repens	10	- <u> </u>	FACU		
3. Plantago lanceolata	5		FACU	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3	in
4				(7.6 cm) or larger in diameter at breast height (DE	
5. 6. 7.		· ·		Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and let than 3 in (7.6 cm) DBH.	SS
8. 9.				Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
10 11		· ·		Herb - All herbaceous (non-woody) plants, includ herbaceous vines, regardless of size, <u>and</u> woody	
	85	= Total Cover		plants, except woody vines, less than approximat	
50% of total cover:	42.5	20% of total cover:	17	3 ft (1 m) in height.	
Woody Vine Stratum (Plot Size: 20-foot radius plot) 1.				Woody vine - All woody vines, regardless of heig	jht.
2.					
3.				Remarks: (if observed, list morphological adaptations below.)	
		= Total Cover			
50% of total cover:		20% of total cover:		Hydrophytic Yes X No Vegetation Present?	_

Sampling Point: DP-9

Depth	Color		Color							
(Inches)	(Moist)	%	(Moist)	%	Type ¹	Loc ²	Texture	e	Rema	rks
0-12	10YR 3/4	60	5YR 4/6	20			Sandy lo	am	Fill mate	erial
			10YR 7/2				Clay		Fill mate	erial
								<u> </u>		
								<u> </u>		
¹ Type: C=Cor	centration. D=	Depletion.	RM=Reduce	d Matrix. N	/S=Masked	Sand Grains	. ² Location: PL=	=Pore Linina, M	=Matrix	
1990. 0-001		Depiction,		a matrix, r						
Hydric Soil Ir	ndicators:							Indicators	for Problematic H	ydric Soils ³ :
Histosol	(A1)			Polyvalı	ue Below Su	rface (S8) (L	RR S, T, U)	1 cm Muck	(A9) (LRR O)	
	pipedon (A2)			-		S9) (LRR S, '			(A10) (LRR S)	
	istic (A3)					al (F1) (LRR			ertic (F18) (Outside	MLRA 150A, B
Hydroge	en Sulfide (A4)			Loamy	Gleyed Matri	ix (F2)		Piedmont F	loodplain Soils (F19	9) (LRR P, S, T)
Stratifie	d Layers (A5)			Deplete	d Matrix (F3))		Anomalous	Bright Loamy Soils	(F20)
Organic	Bodies (A6) (L	.RR P, T, I	U)	Redox I	Dark Surface	e (F6)		(MLRA 1	53B)	
5 cm Mı	ucky Mineral (A	7) (LRR P	P, T, U)	Deplete	d Dark Surfa	ace (F7)		Red Parent	Material (TF2)	
Muck Pr	resence (A8) (L	.RR U)		Redox I	Depressions	(F8)		Very Shallo	w Dark Surface (TF	12)
1 cm Mι	uck (A9) (LRR I	Ρ, Τ)		Marl (F	10) (LRR U)			Other (Expl	ain in Remarks)	
	d Below Dark S		11)	-		1) (MLRA 15	-			
	ark Surface (A1			-	-		LRR O, P, T)	³ Indicators	of hydrophytic veg	etation and
	rairie Redox (A			-		3) (LRR P, T ,	, U)		drology must be pr	esent, unless
	/lucky Mineral (O, S)	-	chric (F17) (-		disturbed of	or problematic.	
	Bleyed Matrix (S	54)		-		B) (MLRA 15	-			
	Redox (S5)			_) (MLRA 149A)			
	Matrix (S6)			Anomal	ous Bright Lo	oamy Soils (F	F20) (MLRA 149	9A, 153C, 153D)	
Dark Su	Irface (S7) (LRI	R P, S, T,	U)							
Restrictive L	ayer (if observ	ved):								
	Туре:				Hyd	Iric Soil Pres	sent?	Yes	No	Х
Depth (in	nches):									
Remarks:										
Soil is compri	sed of mixed lo	am/clav w	ith gravel fror	n road fill.						
		,	J							

Project/Site: Bureau of	of Engraving and Pr	inting on BARC	City/Co	unty:	Greenbelt/	PG	Sampling Date:	4/3/20
Applicant/Owner: Burea	au of Engraving and	d Printing	State:	MD		Sampling Point:	DP-10	
Investigator(s): DRC	/LJ/CO		Section	, Township	, Range:			
Landform (hillslope, terrace	e, etc.): Flat past	ure Loca	l relief (concave,	convex, no	one):	concave	Slope (%): 5-	8%
Subregion (LRR or MLRA):	MLRA S/LRR 1	49A Lat:	39° 01' 58.37"		Long:	76° 52' 55.73"	Datum:	NAD 83
Soil Map Unit Name: C	hristiana-Downer C	omplex, 5-10% slo	pes			NWI	classification:	PEM
Are climatic/hydrologic con	ditions on the site ty	pical for this time	of year?	Yes	Х	No	(If no, explain in R	(emarks)
Are Vegetation, Sc	il, or Hydro	logy signific	antly disturbed?	Are "No	ormal Circu	umstances" present	? Yes <u>X</u>	No
Are Vegetation, Sc	il, or Hydro	logy natural	lly problematic?	(If need	ded, explai	n any answers in R	emarks.)	
SUMMARY OF FINDINGS	- Attach site map	showing samplin	g point location	s, transect	ts, import	ant features, etc.		
Hydrophytic Vegetation Pre	esent? Yes	X No		Is the S	Sampled /	Area		
Hydric Soil Present?	Yes	X No		within	a Wetland	1? Yes	X No	
Wetland Hydrology Present	? Yes _	X No						
Remarks:				I				

Wetland 8 Data point.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; ch	eck all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
X Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Water Marks (B1)	X Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	X Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	X Geomorphic Position (D2)
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)

Field Observations:										
Surface Water Present?	Yes		No	Х	Depth (inches):					
Water Table Present?	Yes		No	Х	Depth (inches):					
Saturation Present?			_		-		Wetland Hydrology			
(includes capillary fringe)	Yes	Х	No		Depth (inches):	0"	Present?	Yes	Х	No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:										
Remarks:										
Ground water flow in swale Cypress knees present.	approx	ximatel	ly 2' we	est of	data point. Wetlan	d 8 drains ur	nder Powder Mill road to WUS-4.			

VEGETATION (Five Strata) - Use scientific names				Sampling Point: DP-10				
Tree Stratum (Plot Size: 20-foot radius plot)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:				
1. Diospyros virginiana	5	Yes	FAC	Number of Dominant Species That				
2. Taxodium distichum	8	Yes	OBL	Are OBL, FACW, or FAC: 2 (A)				
3.	-	·						
4.		·		Total Number of Deminent Species				
5.		·		Total Number of Dominant Species Across All Strata: 2 (B)				
6.		·		Across All Strata: (B)				
0	13	= Total Cover						
50% of total cover:	6.5	20% of total cover:	2.6	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)				
				Deverting a la devena de la atr				
Sapling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index worksheet:				
1.				Total % Cover of: <u>Multiply by:</u>				
2.		·		OBL species x 1 =				
3.		·		FACW species x 2 =				
4.				FAC species x 3 =				
5.		·		FACU species x 4 =				
6.				UPL species x 5 =				
		= Total Cover		Column Totals: (A) (B)				
50% of total cover:		20% of total cover:						
				Prevalence Index = B/A =				
Shrub Stratum (Plot Size: 20-foot radius plot)				Hydrophytic Vegetation Indicators:				
1				1 - Rapid Test for Hydrophytic Vegetation				
2.				2 - Dominance Test is >50%				
3.								
4.				3 - Prevalence Index is $\leq 3.0^1$				
5				Problematic Hydrophytic Vegetation ¹				
6.		· <u> </u>						
		= Total Cover		(Explain)				
50% of total cover:		20% of total cover:						
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Herb Stratum (Plot Size: 10-foot radius plot)				procent, unlose distance of procentate.				
	80	Y	OBL	Definitions of Five Vegetation Strata:				
	10		OBL	_				
	5		OBL	Tree - Woody plants, excluding woody vines,				
3. Lythrum salicaria	5		OBL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).				
4.		·						
5.		·		Sapling - Woody plants, excluding woody vines,				
6.				approximately 20 ft (6 m) or more in height and less than 3 in (7.6 cm) DBH.				
7								
8				Shrub – Woody plants, excluding woody vines,				
9		. <u> </u>		approximately 3 to 20 ft (1 to 6 m) in height.				
10		·		Herb - All herbaceous (non-woody) plants, including				
11				herbaceous vines, regardless of size, and woody				
	95	= Total Cover		plants, except woody vines, less than approximately				
50% of total cover:	47.5	20% of total cover:	19	3 ft (1 m) in height.				
				Woody vine - All woody vines, regardless of height.				
Woody Vine Stratum (Plot Size: 20-foot radius plot)								
1.								
2.								
3.				Remarks: (if observed, list morphological				
		·		adaptations below.)				
		= Total Cover						
50% of total cover:		20% of total cover:		Hydrophytic Yes X No				
·····				Vegetation				
				Present?				

SOIL

Profile Desc	ription: (Descr		e depth ne			dicator or o	confirm the ab	sence of i	indicators.)			
Matrix		0.1	Redox Features									
Depth (Inchos)	Color (Moint)	0/	Colo (Moio		Type1	$1 \circ 2^2$	Textu	Iro		Remarks		
· · ·	(Inches) (Moist) %		(Mois 10YR 4	/	Type ¹ C					Remarks		
0-0	0-8 <u>10 YR 4/2</u> 70			13 30		PL	Sandy	Sandy loam				
¹ Type: C=Co	ncentration, D=	Depletio	n, RM=Redu	ced Matrix	k, MS=Masked	Sand Grains	. ² Location: P	L=Pore Lin	iing, M=Matri	x		
Hydric Soil	Indicators:							Indic	ators for Pr	oblematic Hydric Soils ³ :		
Histoso	ы (A1)			Polya	value Below Su	rface (S8) (I	RRSTII)	1 cm	Muck (A9) (I	RR ())		
	Epipedon (A2)		-			llue Below Surface (S8) (LRR S, T, U) _ ark Surface (S9) (LRR S, T, U)			1 cm Muck (A9) (LRR O) 2 cm Muck (A10) (LRR S)			
	Histic (A3)		-					Reduced Vertic (F18) (Outside MLRA 150A, B)				
	jen Sulfide (A4)		-		.oamy Mucky Mineral (F1) (LRR O) .oamy Gleyed Matrix (F2)				Piedmont Floodplain Soils (F19) (LRR P, S, T)			
	ed Layers (A5)		-				-	Anomalous Bright Loamy Soils (F20)				
	c Bodies (A6) (L	ррр т		·	eted Matrix (F3) x Dark Surface		-	(MLRA 153B)				
	lucky Mineral (A		-		eted Dark Surface	. ,		Red Parent Material (TF2)				
			F, I, U)		x Depressions		-	Very Shallow Dark Surface (TF12)				
	Presence (A8) (L		-		•	(го)	-	Other (Explain in Remarks)				
	luck (A9) (LRR I		<u>-</u>		(F10) (LRR U)					Remarks)		
	ed Below Dark S		ATT) -		-	ed Ochric (F11) (MLRA 151)						
	Dark Surface (A1	-	-		-	anganese Masses (F12) (LRR O, P, T) : Surface (F13) (LRR P, T, U)			³ Indicators of hydrophytic vegetation and			
							, U)	wetland hydrology must be present, unless				
					Dchric (F17) (MLRA 151)				disturbed or problematic.			
					ed Vertic (F18) (MLRA 150A, 150B)							
						ont Floodplains Soils (F19) (MLRA 149A)						
					nalous Bright Lo	alous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)						
Dark S	urface (S7) (LR I	R P, S, 1	, U)									
Restrictive I	Layer (if observ	/ed):										
Туре:					Hydric Soil Present?			Yes	Х	No		
Depth (i	Depth (inches):											
Remarks:					•							
1												

APPENDIX C Photographs



Photo 1: Representative photo of Wetland 1 along Powder Mill Road



Photo 2: Representative photo of Wetland 1, southern portion of Edmonston Road



Photo 3: Representative photo of Wetland 2 along Powder Mill Road



Photo 4: Representative photo of Wetland 4 along Powder Mill Road



Photo 5: Representative photo of Wetland 6 facing Powder Mill Road

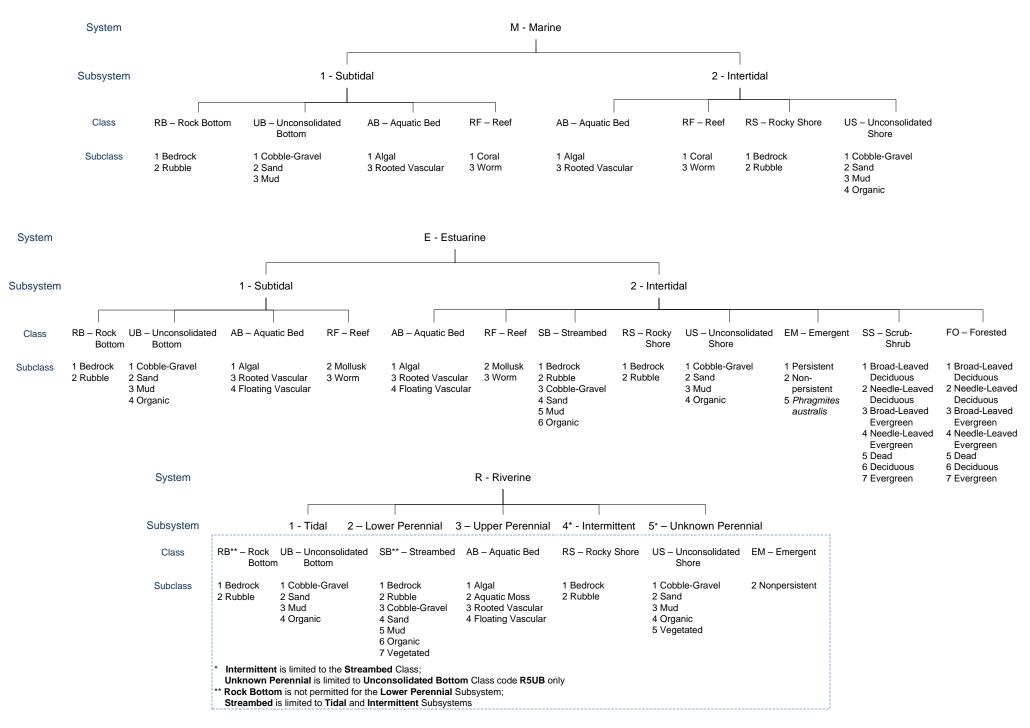


Photo 6: Waterlogged area in well access just north of Powder Mill Road

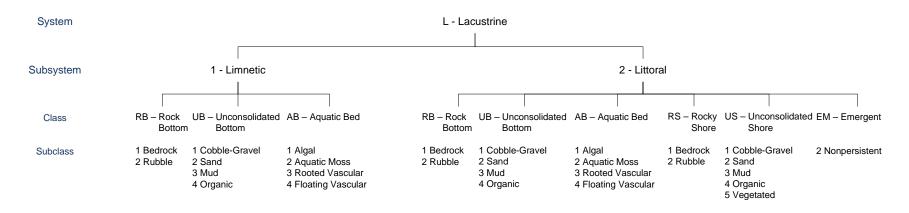
APPENDIX D Cowardin Classification Key

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WETLANDS AND DEEPWATER HABITATS CLASSIFICATION

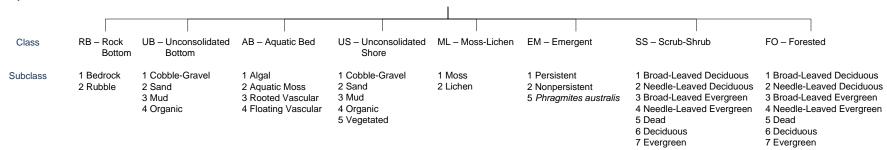


WETLANDS AND DEEPWATER HABITATS CLASSIFICATION



System

P - Palustrine



		N	IODIFIERS				
s		quately describe the wetland and deep applied at the class or lower level in the		•		tem.	
Water Regime		Special Modifiers	Water Chemistry			Soil	
Nontidal	Saltwater Tidal	Freshwater Tidal		Coastal Halinity	Inland Salinity	pH Modifiers for all Fresh Water	
A Temporarily Flooded	L Subtidal	S Temporarily Flooded-Tidal	b Beaver	1 Hyperhaline	7 Hypersaline	aAcid	g Organic
B Saturated	M Irregularly Exposed	R Seasonally Flooded-Tidal	d Partly Drained/Ditched	2 Euhaline	8 Eusaline	t Circumneutral	n M ineral
C Seasonally Flooded	N Regularly Flooded	T Semipermanently Flooded-Tidal	f Farmed	3 Mixohaline (Brackish)	9 M ixo saline	i Alkaline	
E Seasonally Flooded/	P Irregularly Flooded	V Permanently Flooded-Tidal	h Diked/Impounded	4 Polyhaline	0 Fresh		
Saturated			r Artificial	5 M eso haline			
F Semipermanently Flooded			s Spoil	6 Oligo haline			
G Intermittently Exposed			x Excavated	0 Fresh			
H Permanently Flooded							
J Intermittently Flooded							
K Artificially Flooded							

FOREST STAND DELINEATION REPORT Bureau of Engraving and Printing Traffic Mitigation Beltsville Agricultural Research Center



December 2023

Prepared For:

Bureau of Engraving and Printing Washington, DC

Prepared By:

U.S. Army Corps of Engineers Baltimore District, Planning Division 2 Hopkins Plaza Baltimore, Maryland 21201

TABLE OF CONTENTS

1.	INTRODUCTION	1
2.	SITE DESCRIPTION	1
3.	METHODOLOGY	2
4.	RESULTS	2
e L	STAND 1	3
9	STAND 2	
e L	STAND 3	4
e L	STAND 4	5
e L	STAND 5	6
(STAND 6	6
5.	CONCLUSIONS	7
6.	REFERENCES	9
7.	ACRONYMS AND ABBREVIATIONS	

Appendix A - Field Sampling Data Sheets

Appendix B – Figures

	1 154105
Figure	1: BEP Traffic and Utility Mitigation Vicinity Map 2023
Figure	2: BEP Traffic and Utility Mitigation Soils Map (East) 2023
Figure	3: BEP Traffic and Utility Mitigation Soils Map (North/Northwest) 2023
Figure	4: BEP Traffic and Utility Mitigation Soils Map (Southwest) 2023
Figure	5: BEP Traffic Mitigation Forest Stand Delineation 2023
Figure	6: BEP Traffic Mitigation Forest Stand Delineation 2023
Figure	7: BEP Traffic Mitigation Specimen Trees 2023
Figure	8: BEP Traffic Mitigation Specimen Trees 2023

Appendix \mathbf{C} – Specimen Tree List

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1. Introduction

The U.S. Army Corps of Engineers (USACE), Baltimore District, Planning Division prepared this report at the request of the United States Department of the Treasury, Bureau of Engraving and Printing (BEP), to identify and delineate forest stands and specimen trees found within the proposed site boundaries.

BEP proposes to construct and operate a new currency production facility (CPF) within the existing Beltsville Agricultural Center (BARC) in Prince George's County, Maryland. The new facility would replace BEP's current CPF located in Washington, D.C., with a more modern facility that meets production needs.

This report follows a 2019 forest stand delineation (FSD) conducted as part of the Environmental Impact Statement (EIS) for the Proposed Replacement CPF. To address traffic and utility measures identified since the EIS was completed, a supplemental Environmental Assessment (EA) is being prepared. The proposed action for this supplemental EA includes various improvements to the roadways and seven (7) intersections identified in the EIS as requiring mitigation to minimize delays and reduce queue lengths. It also includes utility infrastructure improvements required to accommodate the replacement CPF and additional improvements for the CPF that are outside of the limits of disturbance identified in the EIS. (Figure 1). In addition, current access to two (2) wells located just east of Poultry Road would be blocked by the new CPF, so a road has been proposed to access these wells.

BARC is comprised of approximately 6,850 acres of land northeast of Washington, D.C. The new CPF would be an approximately 1 million square foot facility located on an approximately 104acre site in the Central Farm area of BARC, along Poultry Road. The areas for traffic mitigation and well access that were examined for this FSD total approximately 93 acres. Several of the forest stands expand outside of the bounds of the investigated area for this FSD. Any forest stand boundaries outside of the study areas are approximated for the purposes of mapping. The Edmonston Road project area and Odell Road (Sanitary Sewer Alternative One area) are the only parcels in which FSD plots were taken, as they are the only forested areas within the project areas described below. Specimen trees were marked whenever observed, on all project areas.

2. Site Description

The study area is approximately 93 acres located in Beltsville, Maryland. The areas described below were surveyed for the traffic mitigation action that proposes to improve the intersections as well as construct a well access road. The largest, forested portion of the project area includes Edmonston Road, beginning just north of Powder Mill Road and running south to Sunnyside Avenue, and encompasses the intersections of Edmonston Road and Powder Mill Road, Edmonston Road and Beaver Dam Road, and Edmonston Road and Sunnyside Avenue (Figure 5, Appendix B). A forested wetland system runs along the western edge of Edmonston Road, which drains to Indian Creek. BARC agricultural fields lie to the east of Edmonston Road, the Sanitary Sewer Alternative Two runs northeast through these fields, connecting to the laydown area.

Another portion of the project area includes 16 acres of land along Powder Mill Road expanding north, in the vicinity of Animal Husbandry Road (Figure 7, Appendix B). This area primarily consists of mowed and maintained lawn. The last two project areas are a 4-acre area around the intersections of Powder Mill Road and the Baltimore-Washington Parkway, and Powder Mill Road and Springfield Road (Figure 8, Appendix B); and a 1.8-acre Sanitary Sewer Alternative One area north of Odell Road and northeast of Poultry Road (Figure 6, Appendix B). Eighteen (18) specimen trees were identified within traffic mitigation areas and can be seen in Figures 5 and 7 in Appendix B. All other specimen trees were documented outside of traffic mitigation areas.

The geology at BARC consists of Lower Cretaceous sediments of the Potomac Group, which consists of the Patuxent, the Arundel, and the Patapsco Formations, respectively decreasing in age. The Patuxent and Patapsco Formations are composed primarily of sand and gravel and comprise the most prevalent water bearing aquifers in Prince George's County. The Arundel is mostly clay and creates artesian conditions in the underlying Patuxent Formation in some locations.

3. Methodology

Prior to field investigations, topographic maps, county soil surveys, and Maryland Department of Natural Resources digital aerial orthophotographs were reviewed to identify probable forest stand boundaries. The project area was surveyed between 15 April and 15 May 2021, with additional surveys in August and September 2023, to identify, delineate, and characterize forest stands. Forest stands were distinguished primarily by differences in species composition and successional stage.

A 1/10-acre fixed plot sampling technique was used to assess forest stand conditions and forest structure. Sampling plots were chosen to be evenly distributed throughout the stands. A stick flag was placed in the center of each plot and along the perimeter of the circular plot in each of the four cardinal directions. The plot center was marked in the field with pink tape flagging and the stand and plot number labeled with a black marker. All additional forest stand and forest structure procedures for data collection follow guidelines of the State Forest Conservation Technical Manual (Third edition, 1997). The priorities of the stands are given according to the guidelines in the Technical Manual. Priority 1 stands have wetlands, specimen trees, streams, steep slopes, and/or other sensitive areas. In some cases, a stand can have a sensitive area within its boundaries but be a low-quality stand based upon quality of vegetation, presence of invasive species, or other values. These are noted in the stand descriptions.

4. Results

Six forest stands, of two cover types, were identified within the study area. The cover types were red maple sweetgum and (*Acer rubrum/Liquidambar styraciflua*) oak/hickory with differing species of oak and hickory being the co-dominant species. Stand variations result from changes in topographic position, degree of slope, and amount and type of historical human disturbance. Forest stands were identified in two areas, the Edmonston Road area and the Odell Road/Sanitary Sewer Alternative 1 area (Figures 5 and 6, Appendix B). Specimen trees were only identified in the Edmonston Road area and the Powder Mill Road/Animal Husbandry Vicinity (Figures 5 and 7,

Appendix B).

Forest stand conditions and forest structure were assessed at sample plots within each stand as detailed in the following stand descriptions (see also Appendix A). A summary of forest conditions within the stands are also included in Appendix A. Figures 5 and 6 in Appendix B depict the approximate location of the boundary of forest cover type within the study area. A brief description of the forest stands are as follows:

<u>Stand 1</u>

Sample Plots:	2
Successional Stage:	Mature
Priority:	1
Cover Type:	Red Maple/Sweetgum

Stand 1 is co-dominated by red maple and sweet gum of size class 6" to 11.9" diameter at breast height (dbh), with approximately 70% canopy closure. Other trees in the canopy included ironwood *(Carpinus caroliniana)*, pin oak *(Quercus palustris)*, beech *(Fagus grandifolia)*, Tulip poplar *(Liriodendron tulipifera)*, red elm *(Ulmus rubra)*, boxelder *(Acer negundo)*, and red mulberry *(Morus rubra)*.

The understory from 3' to 20' tall averages 100% coverage, and includes, southern arrowwood (*Viburnum dentatum*), northern spicebush (*Lindera benzoin*), green ash (*Fraxinus pennsylvanica*), winterberry holly (*Ilex verticillata*), Tatarian honeysuckle (*Lonicera tatarica*), and red elm.

Common herbaceous and woody species 0' to 3' tall consist of eastern poison ivy (*Toxicodendron radicans*), Solomon's seal (*Polygonatum* sp), common jewelweed (*Impatiens capensis*), common greenbrier (*Smilax rotundifolia*), pin oak, Virginia creeper (*Parthenocissus quinquefolia*), skunk cabbage (*Symplocarpus foetidus*), grape vine (*Vitis riparia*), strawberry bush (*Euonymus americanus*), stout woodreed (*Cinna arundinacea*), sedge species (*Carex* sp.), and blackberry (*Rubus allegheniensis*), with approximately 100% coverage.

Invasive species included Chinese privet (*Ligustrum sinense*), Japanese stiltgrass (*Microstegium vimineum*), garlic mustard (*Alliaria petiolata*), Japanese barberry (*Berberis thunbergii*), cleavers (*Galium aparine*), Tatarian honeysuckle, common mugwort (*Artemisia vulgaris*), and multiflora rose (*Rosa multiflora*), with approximately 25% coverage.

The wildlife value of the stand is moderate due to the presence of cover and forage, mostly in the form of hard mast. The stand rates a Priority 1 for retention because of its mature successional stage and wetlands.

Environmental Features

Stand 1 contains a wetland, with a dense and healthy understory housing minimal invasive species. However, it does not contain specimen trees and has been impacted by the roadway. <u>Stand 2</u>

Sample Plots:	1
Successional Stage:	Mature
Priority:	1
Cover Type:	Red Maple/Sweetgum

Stand 2 is co-dominated by red maple and sweetgum, of size class 2" to 5.9" dbh, with approximately 80% canopy closure. Other trees in the canopy include blackgum (*Nyssa sylvatica*), willow oak (*Quercus phellos*), beech and green ash.

The understory from 3' to 20' tall averages 80% coverage, and includes southern arrowwood, red maple, and northern spicebush.

Common herbaceous and woody species 0' to 3' tall consist of common greenbrier, Virginia creeper, and mayapple (*Podophyllum peltatum*), with approximately 80% cover.

Invasive species observed in sample plots were periwinkle (*Catharanthus roseus*), English ivy (*Hedera helix*), multiflora rose, and Japanese honeysuckle (*Lonicera japonica*), with a low coverage of 10%. The wildlife value of the stand is medium due to the presence of cover and forage, mostly in the form of hard mast. The stand rates a Priority 1 for retention because of its mature successional stage, wetland presence, specimen trees, and lack of invasive species.

Environmental Features

Stand 2 contains one specimen tree within and one outside of the plot, two wetlands, a stream, and has a very low occurrence of invasive species. In addition, the stand is very small and impacted by adjacent roadway.

<u>Stand 3</u>

Sample Plots:	4
Successional Stage:	Mature
Priority:	1
Cover Type:	Red Maple/Sweetgum

Stand 3 is dominated by red maple and sweetgum, of size class 6" to 11.9" dbh, with approximately 70% canopy closure. Other trees in the canopy include tulip poplar, blackgum, pin oak, ironwood, beech, willow oak, American holly (*Ilex opaca*), and sweetbay magnolia (*Magnolia virginiana*).

The understory from 3' to 20' tall includes northern spicebush, pin oak, Tatarian honeysuckle, beech, American holly, red maple, white fringe tree (*Chionanthus virginicus*), highbush blueberry (*Vaccinium corymbosum*), and sweet pepperbush (*Clethra alnifolia*), with an average coverage of 55%.

Common herbaceous and woody	species 0' to 3' tall con	nsist of Virginia creeper, eastern poison ivy,
Bureau of Engraving and Printing		U.S. Army Corps of Engineers, Baltimore District
Forest Stand Delineation Report	4	December 2023

sensitive fern (*Onoclea sensibilis*), common greenbrier, sweetgum, common jewelweed, greater bladder sedge (*Carex intumescens*), blackberry, southern arrowwood, bristly dewberry (*Rubus hispidus*), strawberry bush, mayapple, skunk cabbage, Jack-in-the-pulpit (*Arisaema triphyllum*), netted chain fern (*Woodwardia areolata*), Canada mayflower (*Maianthemum canadense*), and white oak (*Quercus alba*), with an average 90% coverage.

Invasive species observed in sample plots were Tatarian honeysuckle, hog peanut (*Amphicarpaea bracteata*), Asiatic bittersweet (*Celastrus orbiculatus*), multiflora rose, garlic mustard, Japanese stilt grass, cleavers, and Japanese honeysuckle, with approximately 21% cover. The wildlife value of the stand is high due to the presence of cover and forage, mostly in the form of hard mast. The stand rates a Priority 1 for retention because of its mature successional stage and wetlands.

Environmental Features

Stand 3 contains one specimen tree and has a moderate occurrence of invasive species. The stand houses parts of a large wetland system and contains 19 specimen trees outside of the plot radius. The stand has a low to moderate quantity of invasive species.

<u>Stand 4</u>

Sample Plots:	2
Successional Stage:	Mature
Priority:	1
Cover Type:	Oak/hickory

Stand 4 is co-dominated by southern red oak (*Quercus falcata*), northern red oak (*Quercus rubra*), and bitternut hickory of size class 6" to 11.9" dbh, with approximately 60% canopy closure. Other trees in the canopy include red maple, beech, white oak, sweetgum, and blackgum.

The understory from 3' to 20' tall includes northern spicebush, flowering dogwood (*Cornus florida*), ironwood, crabapple (*Malus* sp.), and winterberry holly, with and average coverage of 50%.

Common herbaceous and woody species 0' to 3' tall consist of white oak, beech, Virginia creeper, blackberry, northern spicebush, sensitive fern, mayapple, common greenbrier, Jack-in-the-pulpit, sedge, winterberry holly, ironwood, and sessile bellwort (*Uvularia sessilifolia*), with an average coverage of 90%.

Invasive species observed in sample plots were Japanese honeysuckle, garlic mustard, and hog peanut, with an approximate 10% coverage. The wildlife value of the stand is moderate due to the presence of cover and forage, mostly in the form of hard mast. The stand rates a Priority 2 for retention because of its mature successional stage, lack of specimen trees, and wetland.

Environmental Features

Stand 4 contains a wetland, but no specimen trees. It has a very small percentage of invasive species cover.

<u>Stand 5</u>

Sample Plots:	1
Successional Stage:	Mature
Priority:	3
Cover Type:	Oak/hickory

Stand 5 is dominated by willow oak of size class 12" to 19.9" dbh, with approximately 80% canopy closure. Other trees in the canopy include red maple, beech, and sweetgum.

The understory from 3' to 20' tall includes tulip poplar, poison ivy, ironwood, persimmon (*Diospyros virginiana*), green ash, staghorn sumac (*Rhus typhinus*), Asiatic bittersweet, and porcelain-berry (*Ampelopsis brevipedunculata*) with 100% coverage.

Common herbaceous and woody species 0' to 3' tall consist of blackberry, black raspberry, Japanese barberry, Christmas fern (*Polystichum acrostichoides*), Virginia jumpseed (*Persicaria virginiana*), shallow sedge (*Carex lurida*), false nettle (*Boehmeria cylindrica*), strawberry bush, partridge-berry (*Mitchella repens*), and common greenbrier with 100% coverage.

Invasive species observed in sample plots were Asiatic bittersweet, multiflora rose, Tartarian honeysuckle, Japanese honeysuckle, Japanese barberry, English ivy, and Japanese stiltgrass with approximately 40% coverage. The wildlife value of the stand is moderate due to the presence of cover and forage, mostly in the form of hard mast. The stand rates a Priority 3 for retention because of its lack of sensitive features such as wetlands, streams, steep slopes, etc. The stand also exhibits relatively high coverage by invasive species.

Environmental Features

Stand 5 contains no sensitive environmental features and a higher percentage of invasive species cover than the other stands.

<u>Stand 6</u>

Sample Plots:	1
Successional Stage:	Mature
Priority:	1
Cover Type:	Red maple/sweetgum

Stand 6 is dominated by red maple of size class 12" to 19.9" dbh, with 100% canopy closure. Other trees in the canopy include sweetgum.

The understory from 3' to 20' tall includes black cherry (*Prunus serotina*), poison ivy, southern arrowwood, and green ash with 100% coverage.

Common herbaceous and woody species 0' to 3' tall consist of common greenbrier with 100% coverage.

Invasive species observed in sample plots were Asiatic bittersweet, Chinese privet, Tartarian honeysuckle, Japanese honeysuckle, and English ivy with approximately 35% coverage. The wildlife value of the stand is moderate to high due to the presence of cover, forage and water, and its connection to a larger forested corridor to the north with a stream. The stand rates a Priority 1 for retention because of its stream and wildlife value. The stand does, however, exhibit relatively high coverage by invasive species.

Environmental Features

Stand 6 contains a stream and a higher percentage of invasive species cover than the other stands.

5. Conclusions

Six forest stands were delineated and assessed on the site, comprised of two cover types – red maple/sweetgum and oak/hickory. There are 20 specimen trees documented within forest stands along Edmonston Road; only one of these is located within the project limit of disturbance. Seventeen (17) other specimen trees were documented within the limit of disturbance in the Powder Mill/Animal Husbandry area (Figure 7, Appendix B), but are not located within a forest stand. Invasive species coverage is low to moderate in all stands. Stands 1 and 3 have specimen trees and Stands 1, 2, 3, 4 and 6 have wetlands and/or a stream. Stands 1, 2, 3, 4 and 6 rank as Priority 1 retention stands due to the presence of sensitive areas (wetlands and streams), specimen trees, and their mature successional stage. Stand 5 is ranked as Priority 3 due to the lack of sensitive features and high occurrence of non-native invasive species.

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6. References

Eyre, F.H. 1980. <u>Forest Cover Types of the United States and Canada</u>. Society of American Foresters, Washington, D.C. 148 pp.

- Maryland Dept. of Natural Resources, 3rd ed., 1997. <u>State Forest Conservation Technical Manual</u>. Dept. of Natural Resources, Annapolis, Maryland.
- Maryland Dept. of Natural Resources, Maryland Natural Heritage Program. 2016. <u>Rare, Threatened</u> <u>and Endangered Plants of Maryland.</u> Dept. of Natural Resources, Annapolis, Maryland. 24pp.

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7. Acronyms and Abbreviations

BARC	Beltsville Agricultural Research Center
BEP	Bureau of Engraving and Printing
CPF	Currency Production Facility
dbh	diameter at breast height
EIS	Environmental Impact Statement
FSD	Forest Stand Delineation
USACE	U.S. Army Corps of Engineers

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APPENDIX A

Field Sampling Data Sheets

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Property: BEP Traffic Mitigation	Prepared By: :LEJ/DRC	
Owner: BARC	Stand #:1	Plot #: 1
Forest Cover Type: Red Maple/Sweetgum	Date:05/11/21	
Plot Size 1/10 Acre (37.5' radius):		

Plot S	ize 1/10 Acre (37.5' ra	adius)	:															
	Basal Area in Square					917			с тре	EES >2	י חבו		w/i тu				т	
	Feet per Acre: 100	Nu	mbei	r of	Nu	Imbe			umbe			imbei		IN SA		FLU	Average	
		-	es 2-		-	es 6-1	-			·19.9"	-	s 20-	-	Νι	imbei	r of	Tree Height	
I -	REE SPECIES		dbh			dbh			dbh			dbh		-		" dbh		
	Crown Position	Dom		Other	Dom		Other	Dom	CoD	Other	Dom		Other			Other	(11)	Total
1	Ironwood						1											1
2	Pin Oak						2			1			1					4
3	Sweetgum					3			2									5
4	Red Maple		2			2			2									6
5	Tulip Poplar			1														1
6																		0
7																		0
8														0				
9														0				
	Total Number of Trees		1															
	per Size Class Number & Size of		3			8			5			1			0			17
	Standing Dead Trees								1									1
List of	Woody Plant Specie	es 3'-2	20':					Ca	nopy	Closu	re:		Perce	nt of In	vasive	Cover	Plot Succession	al Stage:
Southe	rn arrow-wood, Northern	spiceb	ush, h	azelnu	ıt, gree	n ash	С	Ν	E	S	W	%	per Pl	ot (all la	ayers):			-
							Y	Y	Ν	N	Y	60		30)%		Matu	re
List of	Understory Species	0'-3' :					1	Under	storv	Cover	3'-20'	:	List			vasive	Species	
	ivy, Solomon's seal, jewe			non gr	eenbrie	er, pin	С	N	E	S	W	%		Plot (A				
oak, Vii	ginia creeper, skunk cab	bage, s	strawb	erry b	ush	-	Y	Y	Y	Y	Y	100	Chine	se prive	et, Japa		tgrass, garlic musta γ, cleavers	rd, Japanese
Rare	etc. Species?	No					Herb	aceou	s & V	Voody	Cover	r 0'-3'	HABIT	ΔT· W	hat sne			
	men Trees?	No					C	N	E	S	W	%	deer		iai spe	ones pi		
	Historic Sites? No									-				t size.	locatio	n. conf	iguration:	
Disea		No					Y	Y	Y	Y	Y	100		,		,	u	
Insect	s/Infestation?	No						Down	ed W	oody D	ebris	:	1					
Exotic	Plants?	No					С	Ν	Ε	S	W	%	Wildlif	e cove	r/food/	water?		
Leaf li	tter?	mode	erate				N	Y	Ν	N	Y	40	Y/Y/Y					
	l woody debris:	mode							IN	IN		40	Stand	corrido	or/patc	h?	patch	
FUNCTI	ON: Where is stand in rela	ation to	sensit	ive are	as on s	ite? W	est of s	tream										
Comm	ents:																	

Comments:

over 100% absolute cover Northern spicebush understory and southern arrow-wood

Dry when surveyed East of Powdermill Rd. just off road (DP 105) picture facing Powder mill road , plot center

Property: BEP Traffic I	Vitigation	Prepared By: :LEJ	J/DRC									
Owner: BARC		Stand #:	1	Plot #:	2							
Forest Cover Type:	Red Maple/Sweetgum	Date: 5/11/2021										
Plot Size 1/10 Acre (37.5' radius):												

Basal Area in Square Feet per Acre: 80						SIZE	CLAS	S OF	TREES	>20' HEIGH	T WIT	THIN S		LE PL	от.		
TREE SPECIES	Tre	umbei es 2- dbh	5.9"	Tree	imbei es 6-1 dbh	r of 1.9"	Num 12·	ber of •19.9"	Trees dbh	Number o 29.9	f Tree: '' dbh	s 20-	Nu Tree:	ımbeı s >30'	[.] of " dbh	Average Tree Height (ft)	
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other		Total
¹ Red elm			1														1
Boxelder			1			1											2
³ Red mulberry			1														1
⁴ Sweetgum		1			1			2			1						5
5 Beech			1														1
³ Tulip poplar									1			2					3
7 Red Maple					3			2									5
8																	0
9																	0
Total Number of Trees per Size Class				5			5			3			0			18	
Standing Dead Trees																	0
List of Woody Plant Speci									opy Clo		_		nt of In			Plot Successiona	al Stage:
Winterberry, Northern spicebus	sh, Tarta	arian h	oneysı	uckle		С	Ν	Е	S	W	%	per Ple	ot (all la	ayers):			
						Y	Y	Y	Y	Ν	80		20)%		Matur	re
List of Understory Specie	s 0'-3':						Ur	derst	ory Co	ver 3'-20':		List o	of Maj	or Inv	asive	Species	
poison ivy, Virginia creeper, sto	out wood	d reed,	Sedge	e speci	es,	С	Ν	Ε	S	W	%	per P	Plot (Å	II Lay	vers):		
olackberry, Solomon's seal						Y	Y	Y	Y	Y	100					s, Japanese stiltgrass, mmon mugwort, multif	
Rare, etc. Species?	No					Н	erbac	eous	& Woo	dy Cover 0'	-3':	HABIT	AT: W	nat spe	cies pr	esent?	
Specimen Trees?	No					С	Ν	Ε	S	W	%						
Historic Sites? Disease?	istoric Sites? No						Y	Y	Y	Y	100	Habita	it size,	locatio	n, conf	iguration:	
Insects/Infestation?	No						Do	owned	d Wood	y Debris:		1					
Exotic Plants?	No					С	Ν	Е	S	Ŵ	%	Wildlife cover/food/water?					
Leaf litter?	light					N	Y	N	Ν	Y	40	Y/Y/Y					
Downed woody debris:	light					^{IN}	'		IN I	I	-10	Stand	corrido	or/patc	h?	small patch	
FUNCTION: Where is stand in re	lation to	sensi	tive are	as on s	ite?												
Comments: Northern spicebush unders																	
Dense woods, futher into w extends to site LOD	oods th	nan ple	ot 1														

extends to site LOD flat area, no wetlands

									Stand	#.	2					Plot #:	
			/Swee	tgum					Date:	5/11/2021	1						
Plot Size 1/10 Acre (37.5' ra	adius)	:															
Basal Area in Square									DEES	>20' HEIG		тым е			от		
Feet per Acre: 110	Nu	ımbei	rof	Nu	umbei		LASS		REES						.01	Average	
	Tre	es 2-	5.9"	Tre	es 6-1	1.9"	Num	ber of	Trees	Number o	of Tree	s 20-	Nu	mber	of	Tree Height	
TREE SPECIES		dbh			dbh		12-	-19.9"	dbh	29.9)" dbh	ŀ	Trees	s >30'	' dbh	(ft)	
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	1.4	Total
Sweetgum					2			1									3
Red Maple		7			2			1									10
Blackgum			2			1											3
Willow oak						1											1
Beech			1														1
Green ash			1														1
																	0
																	0
																	0
Total Number of Trees		11			6			2			0			1			
per Size Class Number & Size of		11			0			2			0						
Standing Dead Trees																	0
ist of Woody Plant Specie								-	py Clo		-				Cover	Plot Succession	al Stage:
outhern arrow-wood, red maple	e, Nort	hern s	picebu	ish		С	N	Е	S	w	%	per Plo	t (all la	iyers):			
						Y	Y	Y	N	Y	80		10	0/_		Matu	re
ist of Understory Species	0'-3'						Un	dersta	ory Cov	/er 3'-20':		l ist of			asive	Species	
common greenbrier, Virginia cre			ople, p	oison i	vv.	С	N	E	s	W	%	per Pl	-			opeolog	
olomon's seal	• •	, ,	. , .			N	Y	Y	Y	Y	80	1	•	-		ora rose, Japanese	honeysuck
are, etc. Species?	No					He	erbace	eous 8	& Wood	dy Cover 0	'-3':	HABITA	T: Wh	at spe	cies pr	esent?	
pecimen Trees?	Yes					C	N	E	S	W	%				0.00 pi		
Historic Sites? No						Y	Y	Y	Y	Y	100	Habitat	size, l	ocatio	n, conf	iguration:	
	No						-	-		•	100						
	No						-	-		y Debris:							
xotic Plants? No						С	Ν	E	S	W	%	Wildlife	cover	/food/v	water?		
	mode					Y	Ν	Y	Ν	N	40	Y/Y/Y				. 1	
owned woody debris:	mode			as on s		adjac						Stand c	orrido	r/patch	17	patch	

shaded, thick greenbrier presence, most of understory

Pro <u>p</u> e	erty: BEP Traffic Mitig	gati <u>on</u>	ı							Pre <u>pa</u>	red By: :LE	EJ/ <u>D</u> F	۲C					
Owne	er: BARC									Stand		3					Plot #:	1
	st Cover Type:									Date:	5/11/2021							
Plot S	Size 1/10 Acre (37.5' ra	adius)	<u>;</u>															
	Basal Area in Square		-		-	- 5				PEFS	>20' HEIGH		THIN					
	Feet per Acre: 190	NI	umber	r of	N	umber	-			KLLU		11	11105	54	<u>LL : .</u>		Average	
			ees 2-	-	-	es 6-1	-	Num	ber of	f Trees	Number of	f Tree	es 20-	Nu	umber	of	Tree Height	
-	TREE SPECIES		dbh	, H	1	dbh	1	12	-19.9"	dbh	29.9'	" dbh		Trees	s >30'	' dbh		
	Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom		Other	Dom	CoD	Other		Total
1	Sweetgum	 '		ļ!		<u> </u>			5	 '	!	2						7
2	Red maple	<u> </u> _'				1			5	<u> </u>	<u> </u>	\vdash						6
3	Tulip poplar	′								1								1
4	Blackgum	'		1						<u> </u>								1
5	Pin oak	<u> </u>								<u>[</u>	[!		1					1
6	Ironwood	'		1						<u> </u>								1
7		'								<u> </u>								0
8		′		<u> </u>				['		['	[!							0
9		['	[Γ'	['	<u> </u>	['	['		['		[Γ					0
	Total Number of Trees per Size Class Number & Size of	1			11			3			0							
	Standing Dead Trees		1		_ ا			[2		l			_			l	3
	of Woody Plant Specie						\Box		-	opy Clo							Plot Successiona	al Stage:
Northe	ern spicebush, pin oak, Ta	artariar	1 hone	ysuckle	ə		С	Ν	Ε	S	W	%	per Plo	ot (all la	ayers):	l		
							Y	Y	Ν	Y	Ν	60		25	5%		Matur	e
	of Understory Species										ver 3'-20':						Species	
	a creeper, sensitive fern,						С	Ν	Ε	S	W	%		Plot (Å	-			
jewelwe wood	eed, greater bladder sed	ge, bla	ckberr	y, sout	hern a	rrow-	Υ	Ν	Ν	N	Y	40	Japar				peanut, multiflora ros ustard, Japanese stilt	
	etc. Species?	No					He	erbace	ous t	& W <u>oo</u> r	dy Cover 0'-	-3':	HABIT	TAT: Wh	nat spe	cies pr	esent?	I
	imen Trees?	No					С	Ν	Ε	S	Ŵ	%	1					
Histor Disea	ric Sites?	No No					Y	Y	Y	Y	Y	100	Habita	it size,	locatio	n, conf	figuration:	
	ts/Infestation?	No					—		wned	Wood	v Debris:	L	4					I
	c Plants?	No					С	N	E	S	W W	%	Wildlif	fe cove	r/food/v	water?		
Leaf li		light								_			Y/Y/Y	0				
	d woody debris:		N	Y	Ν	N	N	20		corrido	or/patcl	h?	patch					
FUNCT	ION: Where is stand in rel	lation to	o sensi	itive are	as on s	site?					·	·						
																		ļ
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Property: BEP Traffic Mitigation	Prepared By:	:LEJ/DRC		
Owner: BARC	Stand #:	3	Plot #:	2
Forest Cover Type: Red Maple/Sweetgum	Date: 5/11/202	21		
Plot Size 1/10 Acre (37.5' radius):				

Plot Size 1/10 Acre (37.5' ra Basal Area in Square	aulus)																
Feet per Acre: 210					S	IZE C	LASS	OF T	REES	>20' HEIG	нт WI	THIN	SAMF	LE P	LOT		
-		umber es 2- dbh			ımber es 6-1 dbh			ber of -19.9"		Number o	of Tree)" dbh		-	ımber s >30'	-	Average Tree Height	
TREE SPECIES Crown Position	Dom		Other	Dom		Other	12. Dom			29.5 Dom		Other		S >30 CoD		(ft)	Total
4	Dom	COD	Other	Dom	5	Other	Dom	1	Other	Dom	COD	Other	Dom	COD	Other		
Red maple					5			- T									6
² Sweetgum					12			9									21
³ Beech			2			2											4
⁴ tulip poplar						2											2
⁵ Willow oak												1					1
⁶ Ironwood																	0
7																	0
8																	0
9																	0
Total Number of Trees																	
per Size Class	per Size Class 2 21				21			10			1						
Number & Size of Standing Dead Trees		1						1									2
List of Woody Plant Specie	es 3'-2	20':				l		Cano	py Clo	sure:		Percer	nt of In	vasive	Cover	Plot Succession	
Northern spicebush		-				С	Ν	E	S	W	%	per Pl	ot (all l	ayers):			Ū
						Y	Ν	Y	N	Y	80		30)%		Matu	re
List of Understory Species	0'-3':						Und	dersto	bry Cov	/er 3'-20':		List o			vasive	Species	
Virginia creeper, common greer			dewbe	rry, Ja	ck-in-	С	Ν	Ε	Ś	W	%			II Lay		•	
the-pulpit, mayapple, poison ivy	, jewel	weed				N	Y	Y	Y	Y	80	Japane	ese hone	eysuckle		ora rose, Japanese eavers	stiltgrass, an
Rare, etc. Species?	No					He	rbace	ous 8	& Wood	dy Cover 0	'-3':	HABIT	AT: WI	nat spe	cies pr	esent?	
Specimen Trees?								Ε	S	Ŵ	%	deer,re	ed-wing	ed blac	kbird		
Historic Sites?	No					Y	Y	Y	Y	Y	100	Habita	t size,	locatio	n, conf	iguration:	
Disease?	No					'	•			•	100						
Insects/Infestation?	No									y Debris:	T						
Exotic Plants?	No					С	Ν	E	S	W	%		e cove	r/food/	water?		
Leaf litter?	mode					Ν	Y	Y	Y	Y	80	Y/Y/Y				. 1	
Downed woody debris:	mode											Stand	corrido	or/patcl	h?	patch	
FUNCTION: Where is stand in rel	ation to	o sensi	tive are	as on s	site?												

Comments:

not many saplings, lots of deer

Property: BEP Traffic I	Vitigation	Prepared By: :LEJ/DRC										
Owner: BARC		Stand #: 3	Plot #:	2								
Forest Cover Type:	Red Maple/Sweetgum	Date: 05.11.21										
Plot Size 1/10 Acre (37.5' radius):												

				SIZI		SS O	F TRE	ES >2	0' HEI	GHT	WITH	IN SA	MPLE	E PLO	т	
-		-		imbei	r of	N	umbe	r of	Nu	mber	' of			_	Average	
	dbh			dbh			dbh			dbh		Trees	s >30	" dbh	•	
Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	(14)	Total
		11			3											14
																0
	2			6			4									12
					1		2									3
														1		1
																0
																0
																0
																0
	40			10			<u> </u>							1		20
	13			10			0			0			1			30
																0
es 3'-2	20':					Ca	nopy	Closu	re:						Plot Successiona	al Stage:
erican	holly				С	Ν	E	S	W	%	per Plo	ot (all la	ayers):			
					Y	Ν	Υ	Y	Ν	60		15	.%		Matu	re
· 0'-3'·					1	Inder	storv	Cover	3'-20'		l ist d			vasive	Species	
		rier Ja	ck-in-t	he-					· · · · ·						opecies	
					N	Y	Y	Y	Y	80	1	•	-		anese honeysuckle,	cleavers
No					Herba	aceou	s & V	Voody	Cover	0'-3'	HABIT	AT: W	nat spe	ecies pr	esent?	
Yes					С	Ν	Ε	S	W	%	1					
No					v	V	v	V	v	100	Habita	t size, l	locatio	n, conf	iguration:	
isease? No								Ť	ř	100						
nsects/Infestation? No Exotic Plants? No								oody D)ebris	:						
No					С	Ν	Ε	S	W	%	Wildlif	e covei	/food/	water?		
heav	у				N	N	N	V	N	20	Y/Y/Y					
mode	erate							•	IN	20	Stand	corrido	or/patc	h?	patch	
ation to	sensit	ive area	as on s	ite?	encro	aches	s wetla	and 1								
	Tre Dom Dom es 3'-2 merican s 0'-3': mmon g rginia c No Yes No No No No No No No No No No	Trees 2-4 dbh Dom CoD 2 2 2 2 2 2 2 2 2 2 2 2 2	Dom CoD Other 11 11 2 11 2 11 2 11 2 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 13 13 es 3'-20': 13 regina creeper, straw No No Yes No No Noderate 1	Trees 2-5.9" Tree Dom CoD Other Dom Dom CoD Other Dom I 11 Integration Integration I I Integration Integration Integration I I Integration Integration Integration Integration I Integration Integration Integration Integration Integration Integration Integration Integration Integration </td <td>Number of Trees 2-5.9" Number Trees 6-1 dbh Dom CoD Other Dom CoD 11 11 11 11 11 2 6 11 11 11 2 6 11 11 11 2 6 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 13 10 11 11 11 13 10 11 11 11</td> <td>Number of Trees 2-5.9" Number of Trees 6-11.9" Dom CoD Other Dom CoD Other Q 11 </td> <td>Number of Trees 2-5.9" Number of Trees 6-11.9" Number of Trees Number of Trees</td> <td>Number of Trees 2-5.9" Number of Trees 6-11.9" Number Trees 12- dbh Dom CoD Other Dom CoD Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD I 11 I 3 I I I I I</td> <td>Number of Trees 2-5.9" Number of Trees 6-11.9" Number of Trees 12-19.9" Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other 2 0 6 </td> <td>Number of Trees 2-5.9" Number of Trees 6-11.9" Number of Trees 12-19.9" Number of Trees 12-19.9" Number of Trees 12-19.9" Dom CoD Other Dom CoD CoD<!--</td--><td>Number of Trees 2-5.9" Number of Trees 6-11.9" Number of Trees 12-19.9" Number Trees 20-2 Dom CoD Other Dom CoD I</td><td>Number of Trees 2-5.9" Number of Trees 6-11.9" Number of Trees 12-19.9" Number of Trees 20-29.9" Dom CoD Other Dom CoD Incessory Incessory<!--</td--><td>Number of Trees 2-5.9" Number of Trees 6-11.9" Number of Trees 12-19.9" Number of Trees 20-29.9" Number of Mu Dom CoD Other Dom CoD CoD Other Dom CoD Dother Dom Dother</td><td>Number of Trees 2-5.9" dbh Number of Trees 6-11.9" dbh Number of Trees 12-19.9" dbh Number of Trees 20-29.9" dbh Number Trees >30 Dom CoD Other Dom CoD Image: CoD <</td><td>Number of Trees 2-5.9" Number of Trees 12-19.9" dbh Number of Trees 20-29.9" Number of Trees 20-29.9" Dom CoD Other Dom CoD Dom CoD I I I I I I I I I I</td><td>Trees 2-5.9" Trees 12-19.9" Trees 20-29.9" Number of trees >30" dbh Tree Height (ft) Dom CoD Other Dom CoD Other Dom CoD Other Tree Height (ft) Dom CoD Other Dom CoD Other Dom CoD Other Tree >30" dbh Tree Height (ft) Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Q 1 Q <t< td=""></t<></td></td></td>	Number of Trees 2-5.9" Number Trees 6-1 dbh Dom CoD Other Dom CoD 11 11 11 11 11 2 6 11 11 11 2 6 11 11 11 2 6 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 1 1 11 11 11 13 10 11 11 11 13 10 11 11 11	Number of Trees 2-5.9" Number of Trees 6-11.9" Dom CoD Other Dom CoD Other Q 11	Number of Trees 2-5.9" Number of Trees 6-11.9" Number of Trees Number of Trees	Number of Trees 2-5.9" Number of Trees 6-11.9" Number Trees 12- dbh Dom CoD Other Dom CoD Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD I 11 I 3 I I I I I	Number of Trees 2-5.9" Number of Trees 6-11.9" Number of Trees 12-19.9" Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other 2 0 6	Number of Trees 2-5.9" Number of Trees 6-11.9" Number of Trees 12-19.9" Number of Trees 12-19.9" Number of Trees 12-19.9" Dom CoD Other Dom CoD CoD </td <td>Number of Trees 2-5.9" Number of Trees 6-11.9" Number of Trees 12-19.9" Number Trees 20-2 Dom CoD Other Dom CoD I</td> <td>Number of Trees 2-5.9" Number of Trees 6-11.9" Number of Trees 12-19.9" Number of Trees 20-29.9" Dom CoD Other Dom CoD 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6-11.9" Number of Trees 12-19.9" Number of Trees 20-29.9" Dom CoD Other Dom CoD Incessory Incessory </td <td>Number of Trees 2-5.9" Number of Trees 6-11.9" Number of Trees 12-19.9" Number of Trees 20-29.9" Number of Mu Dom CoD Other Dom CoD CoD Other Dom CoD Dother Dom Dother</td> <td>Number of Trees 2-5.9" dbh Number of Trees 6-11.9" dbh Number of Trees 12-19.9" dbh Number of Trees 20-29.9" dbh Number Trees >30 Dom CoD Other Dom CoD Image: CoD <</td> <td>Number of Trees 2-5.9" Number of Trees 12-19.9" dbh Number of Trees 20-29.9" Number of Trees 20-29.9" Dom CoD Other Dom CoD Dom CoD I I I I I I I I I I</td> <td>Trees 2-5.9" Trees 12-19.9" Trees 20-29.9" Number of trees >30" dbh Tree Height (ft) Dom CoD Other Dom CoD Other Dom CoD Other Tree Height (ft) Dom CoD Other Dom CoD Other Dom CoD Other Tree >30" dbh Tree Height (ft) Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Q 1 Q <t< td=""></t<></td>	Number of Trees 2-5.9" Number of Trees 6-11.9" Number of Trees 12-19.9" Number of Trees 20-29.9" Number of Mu Dom CoD Other Dom CoD CoD Other Dom CoD Dother Dom Dother	Number of Trees 2-5.9" dbh Number of Trees 6-11.9" dbh Number of Trees 12-19.9" dbh Number of Trees 20-29.9" dbh Number Trees >30 Dom CoD Other Dom CoD Image: CoD <	Number of Trees 2-5.9" Number of Trees 12-19.9" dbh Number of Trees 20-29.9" Number of Trees 20-29.9" Dom CoD Other Dom CoD Dom CoD I I I I I I I I I I	Trees 2-5.9" Trees 12-19.9" Trees 20-29.9" Number of trees >30" dbh Tree Height (ft) Dom CoD Other Dom CoD Other Dom CoD Other Tree Height (ft) Dom CoD Other Dom CoD Other Dom CoD Other Tree >30" dbh Tree Height (ft) Dom CoD Other Dom CoD Other Dom CoD Other Dom CoD Other Q 1 Q <t< td=""></t<>

very little understory or invasives Lots of specimen trees in area

Property: BEP Traffic N	Mitigation	Prepared By: :LEJ/DRC										
Owner: BARC		Stand #: 3	Plot #:	4								
Forest Cover Type:	Red maple/ sweetgum	Date: 05.11.21										
Plot Size 1/10 Acre (37.5' radius):												

Basal Area in Square Feet per Acre: 80					SIZ		ss o		ES >2	0' HEI	GHT	WITH				т	
	Tree	mber es 2-{	-	-	imbei es 6-1	r of	N	umbe es 12-	r of 19.9"	Nu	imbei s 20-:		Nu	ımbei	r of	Average Tree Height	
TREE SPECIES		dbh	044	Dam	dbh CoD	046.04	Dam	dbh		Dam	dbh	Other			" dbh	(ft)	Tatal
Crown Position	Dom	2 2	Other	Dom		Other	Dom	CoD	Other	Dom	COD	Other	Dom	COD	Other		Total
Red maple		2			4												6
Sweeigum					2			2									4
Beech																	0
White oak									1			1					2
Blackgum			1			3											4
Sweetbay magnolia			1														1
American holly			1														1
																	0
																	0
lotal Number of Trees																	
per Size Class Number & Size of		5			9			3			1			0			18
Standing Dead Trees		1						1									2
ist of Woody Plant Specie									Closu						Cover	Plot Succession	al Stage:
eech, red maple, white fringetre				highbu	sh	С	Ν	E	S	W	%	per Pl	ot (all la	ayers):			
lueberry, sweet pepperbush, w	hite frin	igetree	9			Y	Ν	Y	Y	Y	80		15	5%		Matu	re
ist of Understory Species	0'-3':					ι	Jnder	story	Cover	3'-20'	:	List			asive	Species	
ommon greenbrier, bristly dewberry	, beech				ו holly,	С	Ν	E	S	W	%		lot (A			•	
ghbush blueberry, poison ivy, white ayapple, Jack-in-the-pulpit, netted			mayflo	wer,		N	Υ	Ν	Ν	Ν	20	Ja	apanese	honey	suckle, d	cleavers, Japanese	stiltgrass
are, etc. Species?						Herba	aceou	s & V	loody	Cover	' 0'-3'	HABIT	AT: W	nat spe	cies pr	esent?	
	No					С	Ν	Ε	S	W	%	1		•			
listoric Sites?		Y	Y	Y	Y	Y	100	Habita	t size, l	locatio	n, confi	iguration:					
	No						-		•	•		1					
	No								oody D								
	No					С	Ν	Е	S	W	%		e cove	r/food/	water?		
	heavy	/				Y	Ν	Y	Y	Y	80	Y/Y/Y				<i>i</i> 1	
owned woody debris:	light											Stand	corrido	or/patc	h?	patch	
UNCTION: Where is stand in rela comments:	tion to	sensit	ve area	as on s	ITE?												

Comments:

Southern portion of edmonstn near houses littel understory growth, mostly greenbrier

Property: BEP Traffic Mitigation	Prepared By: :LEJ/DRC
Owner: BARC	Stand #: 4 Plot #: 1
Forest Cover Type: Oak/Hickory	Date: 05.12.21
Plot Size 1/10 Acre (37.5' radius):	

Basal Area in Square					SIZ		SS O		ES >2	0' HEI	GHT	WITH				т	
Feet per Acre: 100	-	Number of Number Trees 2-5.9" Trees 6-11					of Number of 1.9" Trees 12-19.9"				imbei s 20-2	29.9" Number of			rof	Average Tree Height	
TREE SPECIES Crown Position	Dom	dbh CoD	Other	Dom	dbh	Other	Dom	dbh CoD	Other	Dom	dbh	Other			" dbh Other	(ft)	Total
	Dom	COD	1	Dom	COD	1	Dom	COD	Other	Dom	COD	Other	Dom	COD	Other		
Red maple			-			-											2
Beech			1			2			1			1					5
White oak					1			4									5
Bitternut hickory					2			1									3
Southern red											1						1
Sweetgum			1			5			2			4					12
																	0
1																	0
																	0
Iotal Number of Trees		-															
per Size Class Number & Size of		3			11			8			6	0 28					
Standing Dead Trees					1							1					1
ist of Woody Plant Speci							Ca	nopy	Closu							Plot Succession	al Stage:
lorthern spicebush, flowering c	logwood	d, wint	erberr	y holly,		С	Ν	Ε	S	W	%	per Plo	ot (all la	ayers):			
onwood, crabapple						Y	Ν	Ν	Y	Υ	60		15	5%		Matu	re
ist of Understory Species	s 0'-3':					1	Jnder	story	Cover	3'-20'	:	List o			asive	Species	
hite oak, beech, common gree	enbrier,	Vrigini				С	Ν	E	S	W	%		Plot (A			•	
ackberry, Japanese honeysuc pecies, hog peanut, sensitive f				osuh, S	edge	Ν	Υ	Υ	Ν	Υ	40	J	lapanes	e hone	ysuckle,	garlic mustard, hog	g peanut
are, etc. Species?	No					Herba	aceou	s & V	Voody	Cover	0'-3'	HABIT	AT: W	nat spe	cies pr	esent?	
pecimen Trees?	No					С	Ν	Ε	S	W	%	1		-	-		
listoric Sites?	No					N	Y	Y	Y	Y	80	Habitat size, location, configuration:					
)isease?	No									•		4					
nsects/Infestation?	No								oody D			L					
xotic Plants? .eaf litter?	No	rata				С	Ν	Е	S	W	%		e cove	r/food/	water?		
	mode mode					Ν	Y	Ν	Y	Y	60	Y/Y/Y Stand	corrido	ringta	h2	patch	
owned woody debris: UNCTION: Where is stand in rel			ivo aro	ae on e	ito?	1						Stand	corriac	л/расс	117	pawn	
Comments:		3011311	ive die	as UII S	110 (

Semi-open canopy near wetland 4

Property: BEP Traffic Mitigation	Prepared By: :LEJ/DRC	Prepared By: :LEJ/DRC							
Owner: BARC	Stand #: 4	Plot #:	2						
Forest Cover Type: Oak/Hickory	Date: 05.12.21								
Plot Size 1/10 Acre (37.5' radius):									

Number of Trees 2-5.9" Number of Trees 6-11.9" Number of trees 12-19.9" Number of Trees 20-29.9" Number of Trees >30" dbh Average Tree Height (ft) Cown Position Dom CoD Other Dom	Basal Area in Square Feet per Acre: 140				SIZ		SS O	F TRE	EES >2	0' HE	IGHT	with	IN SA	MPLE	E PLO	т	
Crown Position Dom CoD Other Dom CoD Dom <thcod< th=""> Dom CoD</thcod<>	·	Trees 2-5.9" Trees 6-7				r of	N	umbe es 12-	r of 19.9"	Nu	imber s 20-	r of 29.9" Number of			r of	Tree Height	
Beech 2 8 1 <td></td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>(ft)</td> <td></td>				_			_			_						(ft)	
Red maple 2 2 2 1 4 1 1 4 1		Dom Co		Dom	CoD		Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other		Total
Sweetgum 1 4 5 1 1 4 5 1 1 1 Northern red oak 1<	Beech		2			8											10
Northern red oak 1	Red maple		2			2											4
Blackgum 2 2 2 2 2 2 3 <th3< th=""> 3 <th3< th=""> <th3< td="" th<=""><td>Sweetgum</td><td></td><td>1</td><td></td><td></td><td>4</td><td></td><td></td><td></td><td></td><td></td><td>5</td><td></td><td></td><td></td><td></td><td>10</td></th3<></th3<></th3<>	Sweetgum		1			4						5					10
Diackguin 2 1	Northern red oak				1												1
Iotal Number of Irees Iotal Number of I	Blackgum		2														2
Iotal Number of Trees per Size Class Iotal Number of Trees per Size Class Iotal Number of Trees per Size Class Iotal Number of Trees Percent of Invasive Cover per Plot (all layers): Percent of Invasive Cover per Plot (all layers): Plot Successional State Mature i.ist of Woody Plant Species 3'-20': Vinterberry holly C N E S W % Per Plot (all layers): Mature i.ist of Understory Species 0'-3': common greenbrier, sensitive fern, Jack-in-the-pulpit, Virginia reeper, winterberry holly, ironwood, sedge species, sessile ellwort C N E S W % N N Y Y Y Y Y Go 10% Mature istoric Sites? No Herbaceous & Woody Cover 0'-3': List of Major Invasive Species present? Japanese honeysuckle Istoric Sites? No Y Y Y Y Y Y Y Habitat size, location, configuration: Neeses? No Downed Woody Debris: Wildlife cover/food/water? Y/Y/Y Y Y N Y Y Y Y/Y/Y Y/Y/Y Y/Y/Y Y/Y/Y Y/Y/Y Y/Y/Y Y/Y/Y Y/Y/Y Y/Y/Y Y/																	0
Initial Number of Trees Initial Number of Trees <td></td> <td>0</td>																	0
Initial Number of Trees Percent of Invasive Cover per Plot (all layers): Percent of Invasive Cover of Trees Percentor frees Percent of Invasive Cover of Trees																	0
per Size Class Number & Size of Standing Dead Trees Per Size of Size of Size of Size of Size of Woody Plant Species 3'-20': Per Point (all layers): Point Species 3'-20': Point Species 3'-20': Point Species 3'-20': Per Point (all layers): Point Species 0'-3': C N E S W % Vinterberry holly C N E S W % Per Plot (all layers): Plot Successional Stage Vinterberry holly C N E S W % Per Plot (all layers): Mature List of Understory Species 0'-3': Understory Cover 3'-20': List of Major Invasive Species Per Plot (All Layers): Japanese honeysuckle Illwort N N Y Y Y G0 Habitat size, location, configuration: Specimen Trees? No C N E S W % Mildlife cover/food/water? Specimen Trees? No Powned Woody Debris: No Powned Woody Debris: Mildlife cover/food/water? Mildlife cover/food/water? <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0</td></t<>																	0
Number & Size of Standing Dead Trees Canopy Closure: Percent of Invasive Cover per Plot (all layers): Plot Successional Stage Vinterberry holly C N E S W % Percent of Invasive Cover per Plot (all layers): Mature Vinterberry holly Y Y N Y N 60 10% Mature List of Understory Species 0'-3': Understory Cover 3'-20': List of Major Invasive Species ommon greenbrier, sensitive fern, Jack-in-the-pulpit, Virginia reeper, winterberry holly, ironwood, sedge species, sessile ellwort C N E S W % Per Plot (All Layers): Japanese honeysuckle Rare, etc. Species? No Herbaceous & Woody Cover 0'-3'; Bistoric Sites? HABITAT: What species present? Habitat size, location, configuration: Specimen Trees? No Y	Iotal Number of Trees					I											
Standing Dead Trees ist of Woody Plant Species 3'-20': Percent of Invasive Cover per Plot (all layers): Plot Successional Stag //interberry holly C N E S W % Percent of Invasive Cover per Plot (all layers): Mature //interberry holly Y Y N Y N 60 10% Mature ist of Understory Species 0'-3': Understory Cover 3'-20': List of Major Invasive Species Species Per Plot (All Layers): Mature ist of Understory Species? No V Y Y Y G Mode Per Plot (All Layers): Mature istare, etc. Species? No Herbaceous & Woody Cover 0'-3' HABITAT: What species present? Japanese honeysuckle istoric Sites? No Y Y Y Y No Y Y Y No isease? No Z N E S W % Wildlife cover/food/water? isease? No Z N E S W % Wildlife cover/food/water?	• • • • • • • •																
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Vinterberry holly C N E S W % per Plot (all layers): Mature List of Understory Species 0'-3': Understory Cover 3'-20': List of Major Invasive Species Mature common greenbrier, sensitive fern, Jack-in-the-pulpit, Virginia reeper, winterberry holly, ironwood, sedge species, sessile C N E S W % ellwort N N Y Y Y Y G0 per Plot (All Layers): Japanese honeysuckle Rare, etc. Species? No Herbaceous & Woody Cover 0'-3' HABITAT: What species present? Japanese honeysuckle Specimen Trees? No Y Y Y Y Y Y Y Japanese honeysuckle Istoric Sites? No Y		es 3'-20':					Ca	nopy		re:		Percer	nt of Inv	vasive	Cover	Plot Successiona	v
Y Y N Y N 60 10% Mature ist of Understory Species 0'-3': Understory Cover 3'-20': List of Major Invasive Species ommon greenbrier, sensitive fern, Jack-in-the-pulpit, Virginia reeper, winterberry holly, ironwood, sedge species, sessile C N E S W % per Plot (All Layers): Japanese honeysuckle N N Y Y Y 60 Japanese honeysuckle Rare, etc. Species? No Herbaceous & Woody Cover 0'-3': HABITAT: What species present? Specimen Trees? No C N E S W % Istoric Sites? No Y Y Y Y Y Habitat size, location, configuration: Disease? No Downed Woody Debris: S W % Wildlife cover/food/water? eaf litter? moderate Y N Y Y N 60 winder debris: moderate Y N Y Y N 60 Y/Y/Y	,					С					%						
ist of Understory Species 0'-3': Understory Cover 3'-20': List of Major Invasive Species pommon greenbrier, sensitive fern, Jack-in-the-pulpit, Virginia reeper, winterberry holly, ironwood, sedge species, sessile C N E S W % Image: No Image: No <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>V</td><td></td><td></td><td></td><td>60</td><td></td><td></td><td></td><td></td><td>Matu</td><td>ro</td></t<>							V				60					Matu	ro
C N E S W % per Plot (All Layers): reeper, winterberry holly, ironwood, sedge species, sessile N N Y Y 60 Japanese honeysuckle lelwort N N Y Y 60 Japanese honeysuckle lare, etc. Species? No Herbaceous & Woody Cover 0'-3' HABITAT: What species present? specimen Trees? No C N E S W % listoric Sites? No Y Y Y Y 100 Habitat size, location, configuration: visease? No Downed Woody Debris: M K Y/Y/Y Y Y Y Y/Y eaf litter? moderate Y N Y Y N 60 Y/Y/Y stand corridor/patch? patch																	
N N Y Y Y 60 Japanese honeysuckle Japanese honeysuckle Japanese honeysuckle Japanese honeysuckle Japanese honeysuckle Japanese honeysuckle No C N E S W % Jistoric Sites? No Y Y Y Y Japanese honeysuckle Japanese honeysuckle Y Y Y Y Y Japanese honeysuckle Jistoric Sites? No C N E S W % No Downed Woody Debris: No Downed Woody Debris: Mildlife cover/food/water? Y/Y/Y eaf litter? moderate Y N Y Y N 60 Y/Y/Y								_					-			e Species	
N N Y Y Y G0 Japanese honeysuckle Rare, etc. Species? No Herbaceous & Woody Cover 0'-3' HABITAT: What species present? Specimen Trees? No C N E S W % Iistoric Sites? No Y Y Y Y Y 100 Bisease? No Y Y Y Y Y 100 Istoric Plants? Oak/Hickory C N E S W % eaf litter? moderate Y N Y Y N 60 Y/Y/Y Stand corridor/patch? patch						С	Ν	Е	S	W	%	per P	Plot (A	ll Lay	/ers):		
Opecimen Trees? No C N E S W % listoric Sites? No Y Y Y Y Y 100 Habitat size, location, configuration: Disease? No Downed Woody Debris: Habitat size, location, configuration: nsects/Infestation? No Downed Woody Debris: Wildlife cover/food/water? eaf litter? moderate Y N Y Y N 60 owned woody debris: moderate Y N Y Y N 60		vood, sedge	species	s, sessi	le	Ν	Ν	Y	Y	Y	60			Ja	apanese	e honeysuckle	
pecimen Trees? No C N E S W % listoric Sites? No Y Y Y Y Y 100 Habitat size, location, configuration: isease? No Downed Woody Debris: habitat size, location, configuration: nsects/Infestation? No Downed Woody Debris: habitat size, location, configuration: xotic Plants? Oak/Hickory C N E S W % eaf litter? moderate Y N Y Y N 60 Y/Y/Y stand corridor/patch? patch	are, etc. Species?	No				Herba	aceou	s & V	Voodv	Cover	r 0'-3'	HABIT	AT: W	nat spe	cies pr	esent?	
Istoric Sites? No Y Y Y Y Y Y Y Y 100 Habitat size, location, configuration: Disease? No Downed Woody Debris: Habitat size, location, configuration: nsects/Infestation? No Downed Woody Debris: Wildlife cover/food/water? exotic Plants? Oak/Hickory C N E S W % eaf litter? moderate Y N Y Y N 60 Y/Y/Y owned woody debris: moderate Y N Y Y N 60 Y/Y/Y		No							· · · · ·	r		1		•	•		
Disease? No Downed Woody Debris: nsects/Infestation? No Downed Woody Debris: Exotic Plants? Oak/Hickory C N E S W % Wildlife cover/food/water? ead litter? moderate Y N Y Y N 60 Y/Y/Y owned woody debris: moderate Y N Y Y N 60 Y/Y/Y Stand corridor/patch? patch		No					V	V	v	v	100	Habita	t size, l	locatio	n, conf	iguration:	
Exotic Plants? Oak/Hickory C N E S W % Wildlife cover/food/water? .eaf litter? moderate Y N Y Y N 60 Y/Y/Y owned woody debris: moderate Y N Y Y N 60 Y/Y/Y																	
eaf litter? moderate Y N Y Y N 60 Y/Y/Y owned woody debris: moderate Y N Y Y N 60 Y/Y/Y											:						
owned woody debris: moderate Y N Y Y N 60 Stand corridor/patch? patch						С	Ν	Е	S	W	%	Wildlif	e cove	r/food/	water?		
owned woody debris: MOderate Stand corridor/patch? patch	.eaf litter?					Y	N	Y	Y	N	60	Y/Y/Y					
UNCTION: Where is stand in relation to sensitive areas on site?			-					•			00	Stand	corrido	or/patc	h?	patch	
	JNCTION: Where is stand in rel	ation to sen	sitive are	as on s	ite?												

Comments:

open area, outskirts dense greenbrier

Property: BEP Traffic Mitigation	Prepared By: :JH/DRC	
Owner: BARC	Stand #: 5 Plot #	#: 1
Forest Cover Type: Oak/Hickory	Date: 08.02.2023	
Plot Size 1/10 Acre (37.5' radius):		

Basal Area in Square Feet per Acre: 110					SIZ		ss o		ES >2	0' HE	IGHT	WITH				т	
		Number of Number Trees 2-5.9" Trees 6-1 dbh dbh				r of	N	umbe es 12- dbh	r of 19.9"	Nu	imbei			Average Tree Height (ft)			
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom		Other	Dom		Other	(11)	Total
Beech						1										80	1
Red maple			1						2							80	3
³ Sweetgum						3			2							80	5
Willow oak							1			1						80	2
5																	0
3																	0
,																	0
3																	0
																	0
Total Number of Trees per Size Class		1			4			5			1						11
Number & Size of Standing Dead Trees						•											0
ist of Woody Plant Specie			<u> </u>			_			Closu		-				Cover	Plot Succession	al Stage:
taghorn sumac, ironwood, gree	,	•				С	Ν	Е	S	W	%	per Plo	ot (all la	ayers):			
merican holly, tulip poplar, pois ersimmon	SOLIVY	, Asiai		isweel,	,	Y	Y	Y	Y	Ν	80		40)%		Matu	re
ist of Understory Species	s 0'-3':	1					Jnder	story	Cover	3'-20	:	List o	of Maj	or Inv	/asive	Species	
ommon greenbrier, common b						С	Ν	Ε	S	W	%	per P	lot (A	ll Lay	vers):		
Christmas fern, partridge berry, urid sedge, Japanese barberry,				lse net	tle,	Y	Y	Y	Y	Y	100				English	iatic bittersweet, mu i ivy, Japanese stilt evsuckle	
Rare, etc. Species?	No					Herba	aceou	is & V	Voody	Cover	r 0'-3'	HABIT	AT: W	nat spe			
Specimen Trees?	No					С	Ν	Е	S	W	%	3':HABITAT: What species present? White-tailed deer, grey squirrel					
Historic Sites?	No					Y	Y	Y	Y	Y	100	Habitat size, location, configuration:					
Disease?	No					ľ	ľ	ř	r	r	100		-			-	
nsects/Infestation?	No						Down	ed W	oody C	ebris	ebris:						
Exotic Plants?	Yes					С	Ν	Ε	S	W	%	Wildlif	e covei	r/food/\	water?		
Leaf litter?	eaf litter? thin						N	N	Y	N	40	cover a	and har	d mast,	water c	on west side of Edr	nonston
Downed woody debris:								IN	r	IN	40	Stand	corrido	or/patcl	h?	patch	
UNCTION: Where is stand in rela	ation to	sensit	ive are	as on s	ite?	-	-	-	-	-	-	-				-	

Comments:

stand located on east side of Edmonston Road. Clearing for the road has increased light penetration, therefore increasing invasive coverage along the edge of the stand.

Property: BEP Traffic M	Aitigation	Prepared By: :JH/LEJ							
Owner: BARC		Stand #: 6	Plot #:	1					
Forest Cover Type:	Red maple/Sweetgum	Date: 09.28.2023							
Plot Size 1/10 Acre (37	5' radius):								

Plot Size 1/10 Acre (37.5 Basal Area in Square	T																
Feet per Acre: 110									EES >2		-		IN SA	MPLE	E PLO		
	-	Imbe		-	Imbe	-		umbe		Number of			м.			Average	
	Ire	es 2-	5.9"	Ire		1.9" Trees 12-19.9"				Trees 20-29.9"					Tree Height		
TREE SPECIES	_	dbh		_	dbh		dbh			dbh		Trees >30" dbh			(ft)		
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other		Total
Sweetgum	_	1						2			3					80	6
² Red maple					1			2								80	3
3																80	0
4																80	0
5																	0
6																	0
7																	0
8																	0
9																	0
Iotal Number of Trees																	
per Size Class		1			1			4			3	ç g					9
Number & Size of		4															4
Standing Dead Trees List of Woody Plant Spec	ioo 2' 2	ו יימי				1		non	Closu	rol		Daraa	t of lm		C	Plot Succession	
black cherry, poison ivy, south			daroo	n oob		С	N	E	S	W	0/		ot (all la			Plot Succession	a stage:
black cherry, poison wy, south	en anov	wwood	i, gree	nasn			IN		3	vv	%		ot (un n	ayers).			
						Y	Y	Y	Y	Y	100			5%		Matu	re
List of Understory Specie	s 0'-3':					I	Under	story	Cover	3'-20	:	List o	of Maj	or Inv	asive	e Species	
common greenbriar						С	Ν	Е	S	W	%	per F	Plot (A	ll Lay	vers):		
						Y	Y	Y	Ν	Y	80	Japai	Japanese honeysuckle, Asiatic bittersweet, English ivy, bus honeysuckle, Chinese privet				
Rare, etc. Species?	No					Herba	aceou	s & V	Voody	Cove	r 0'-3'	HABIT	AT: WI	nat spe	cies pr	esent?	
Specimen Trees?	No					С	Ν	Ε	S	W	%	White-tailed deer, grey squirrel					
Historic Sites?	No					Y	Y	Y	Y	Y	100	Habitat size, location, configuration:					
Disease?	No No										natch of forest between tow			etween townhome	s		
Insects/Infestation?	No								oody [
Exotic Plants? Leaf litter?	Yes thin					С	N	Е	S	W	%		e cove				
	mode	vrata				Ν	Ν	Ν	Y	Ν	20	,	food an			notah	
Downed woody debris:												Stand	corrido	or/patc	n/	patch	
FUNCTION: Where is stand in re	Idlion to	sensi	ive are	as on s	nte r												

Comments:

relatively high invasive coverage, very thick understory, stream located within stand north of plot, plot on the edge of the woods

FOREST STAND DELINEATION - FOREST STAND SUMMARY SHEET

Project Name: BEP Traffic Mitigation

Prepared By: LEJ/DRC

Owner: BARC			TTepareu Dy. LEJ	
Location: BARC			Date: 05/11-05/12/2	1
Location. BARC			Date: 05/11-05/12/2	1
Stand Variable	Stand # 1	Stand #2	Stand # 3	Stand #4
1. Dominant species/ Codominant species	Red Maple,/ Sweetgum	Red Maple,/ Sweetgum	Red Maple/Sweetgum	Oak/Hickory
2. Successional stage	Mature	Mature	Mature	Mature
3. Basal area in s.f. per acre	90	110	130	120
4. Size class of dominant species	6-11.9"	2-5.9'	6-11.9"	6-11.9"
5. Percent of canopy closure	70%	80%	70%	60%
6. Average number of tree species per plot	6	6	6	6
7. Common understory species 3' to 20' tall	Southern arrow-wood, Northern spicebush, hazelnut, green ash, winterberry holly	Southern arrow-wood, red maple, Northern spicebush	Northern spicebush, pin oak, American holly, beech, Tartatrian honeysuckle, sweet pepperbush, highbush blueberry	winterberry holly, Northern spicebush, flowering dogwood, ironwood, crabapple
8. Percent of understory cover 3' to 20' tall	100%	80%	55%	50%
9. Number of woody plant species 3' to 20' tall	15	9	11	13
10. Common understory species 0' to 3' tall	poison ivy, Solomon's seal, jewelweed, common greenbrier, Virginia creeper, skunk cabbage, strawberry bush, blackberry, sedges, stout wood reed	Common greenbrier, Virginia creeper, Mayapple, poison ivy, Solomon's seal	Virginia creeper, sensitive fern, common greenbrier, jewelweed, greater bladder sedge, blackberry, southern arrow-wood, bristly dewberry, Jack-in-the-pulpit, mayapple, poison ivy, skunk cabbage	white oak, beech, common greenbrier, Vriginia creeper, blackberry, Japanese honeysuckle, Northern spicebsuh, Sedge species, hog peanut, sensitive fern, mayapple, Jack-in-the-pulpit
11. Percent of herbaceous & woody plant cover 0' to 3' tall	100%	100%	100%	90%
12. List of major invasive plant species & percent of cover	Chinese privet, Japanese stiltgrass, garlic mustard, Japanese barberry, cleavers, Tartarian honeysuckle, common mugwort, multiflora rose. 25% invasive coverage	English ivy, periwinkle, multiflora rose, Japanese honeysuckle. 10% invasive coverage	Japanese honeysuckle, hog peanut, multiflora rose, Tartaruan honeysuckle, garlic mustard, Japanese stiltgrass, cleavers. 21% invasive coverage	Japanese honeysuckle, garlic mustard, hog peanut. 10% invasive coverage
13. Number of standing dead trees <u>></u> 6" dbh per acre	5	0	17.5	20
14. Comments				
15. Priority (1,2,3)	1	1	1	1

FOREST STAND DELINEATION - FOREST STAND SUMMARY SHEET

Project Name: BEP Traffic Mitigation

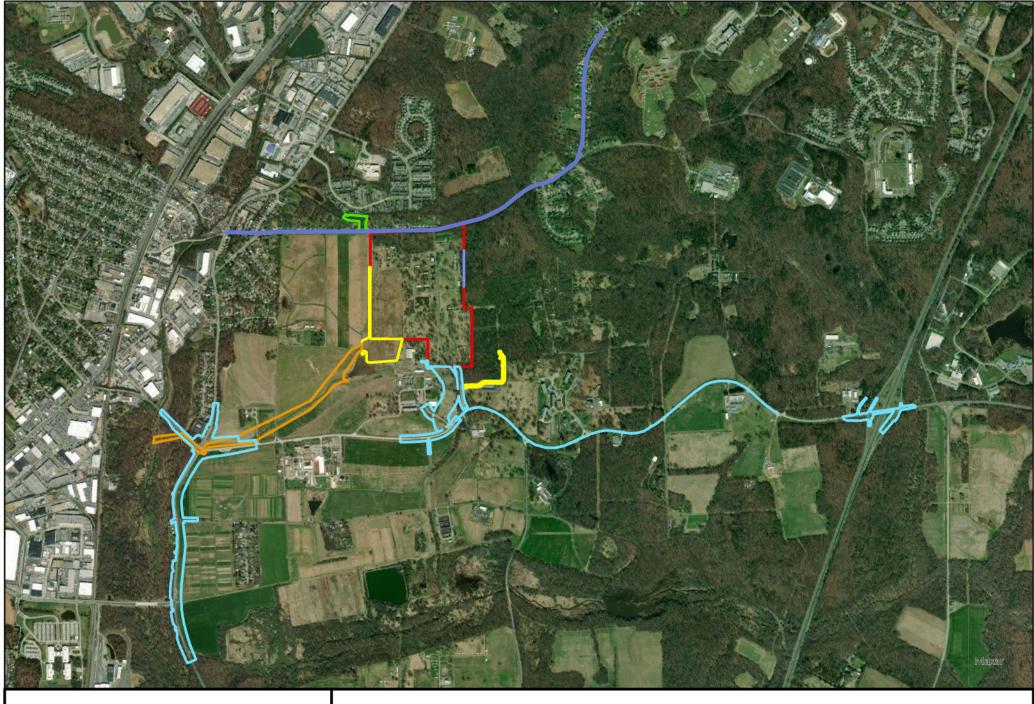
Prepared By: JH/DRC

Owner: BARC				
Location: BARC	_		Date: 10.12.2023	
Stand Variable	Stand # 5	Stand #6	Stand # 7	Stand #
1. Dominant species/ Codominant species	Oak/Hickory	Red maple/sweetgum		
2. Successional stage	Mature	Mature		
3. Basal area in s.f. per acre	110	110		
4. Size class of dominant species	12-19.9"	12-19.9"		
5. Percent of canopy closure	80%	100%		
6. Average number of tree species per plot	4	2		
7. Common understory species 3' to 20' tall	tulip poplar, poison ivy, ironwood, persimmon, green ash, staghorn sumac, Asiatic bittersweet, porcelain berry	black cherry, poison ivy, southern arrowwood, green ash		
8. Percent of understory cover 3' to 20' tall	100%	80%		
9. Number of woody plant species 3' to 20' tall	8	4		
10. Common understory species 0' to 3' tall	blackberry, black raspberry, Japanese barberry, Christmas fern, Virginia jumpseed, lurid sedge, false nettle, strawberry bush, partridge berry, greenbrier	Common greenbrier		
11. Percent of herbaceous & woody plant cover 0' to 3' tall	100%	100%		
12. List of major invasive plant species & percent of cover	Asiatic bittersweet, multiflora rose, bush honeysuckle, Japanese honeysuckle, Japanese barberry, English ivy, Japanese stiltgrass. 40% invasive coverage	Japanese honeysuckle, Asiatic bittersweet, English ivy, bush honeysuckle, Chinese privet. 35% invasive coverage		
13. Number of standing dead trees <u>></u> 6" dbh per acre	0	1		
14. Comments				
15. Priority (1,2,3)	3	1		

APPENDIX B

Figures

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BEP Traffic and Utility Mitigation Vicinity Map 2023



Traffic Improvements **Utility Work**

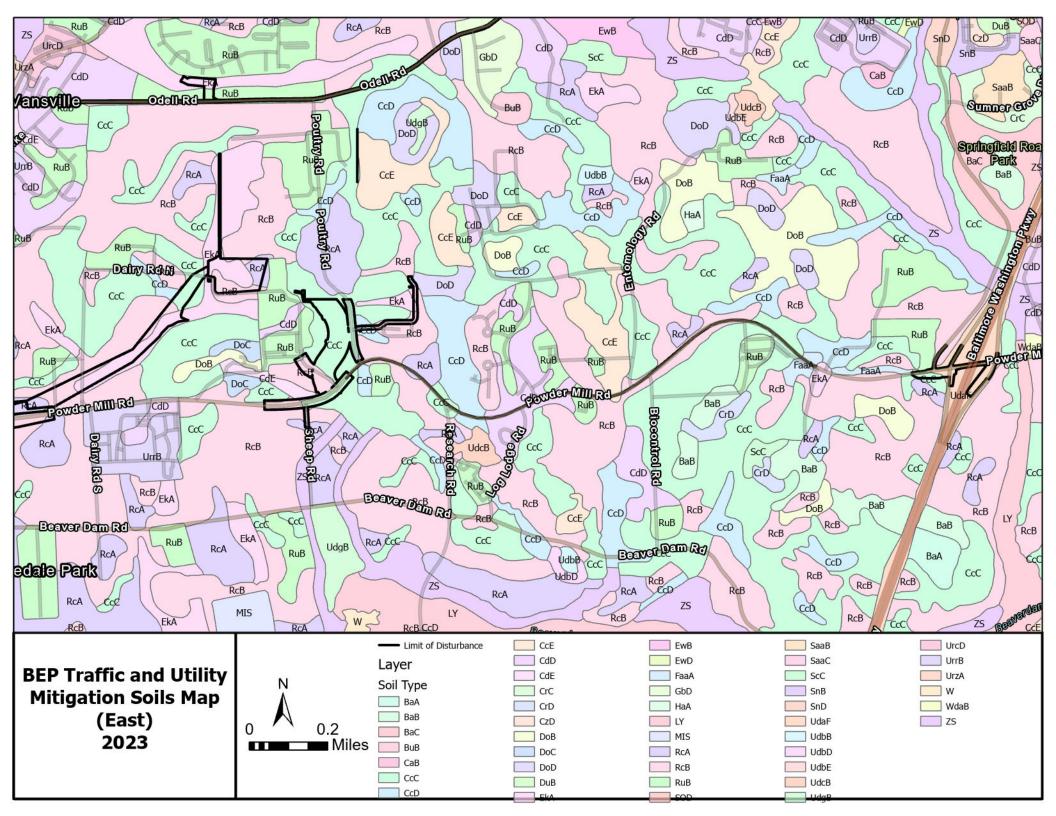


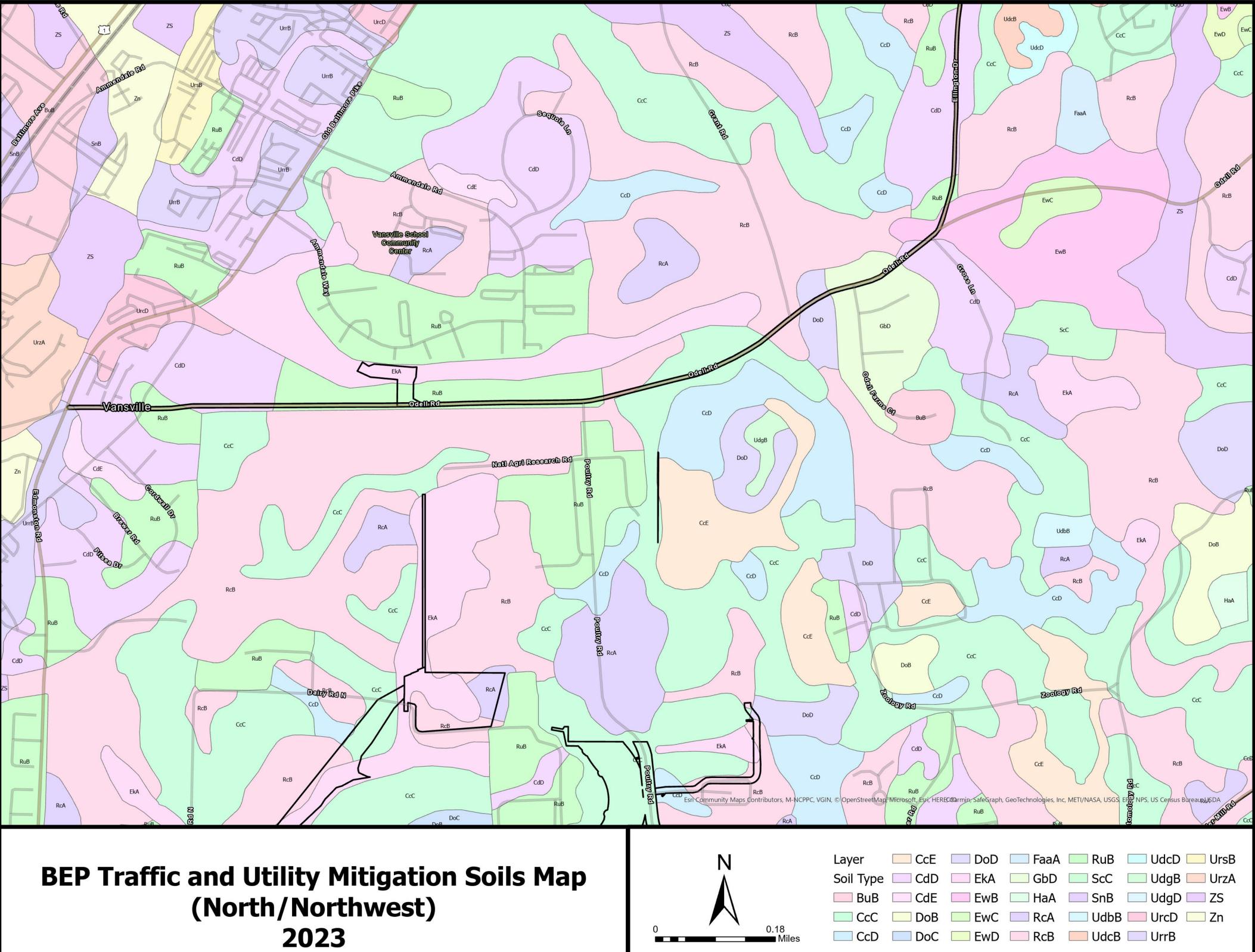
Sanitary Sewer

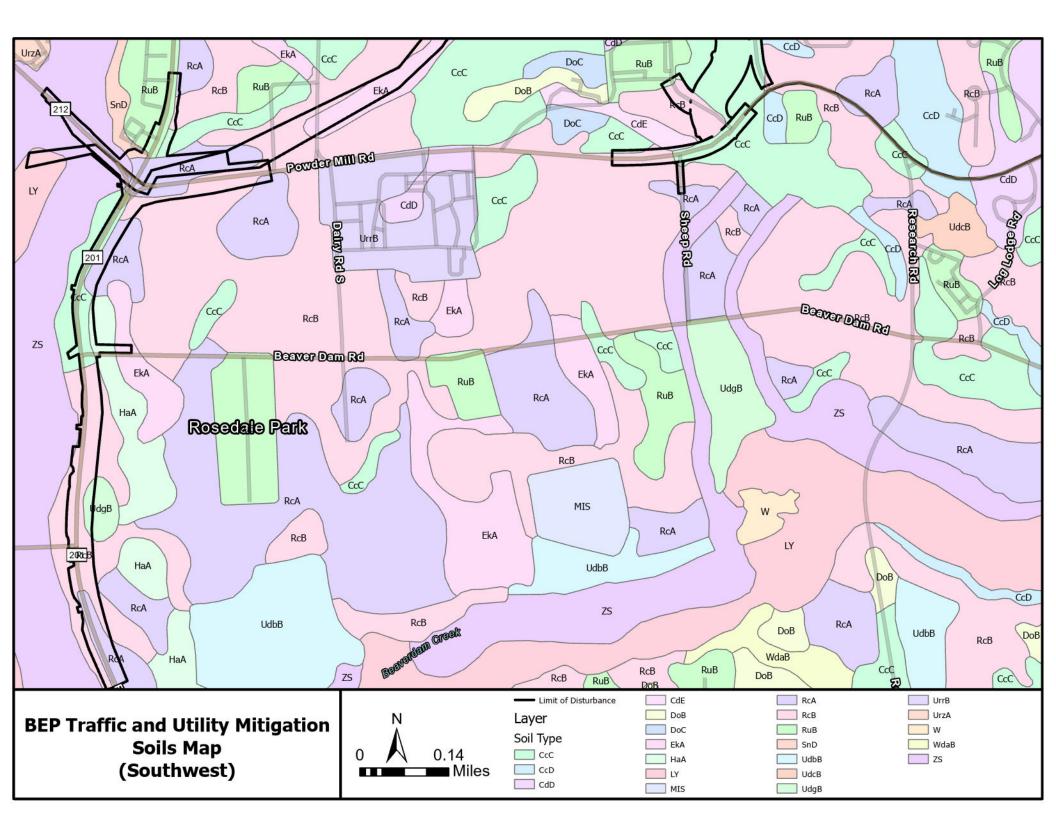
Alternative 2

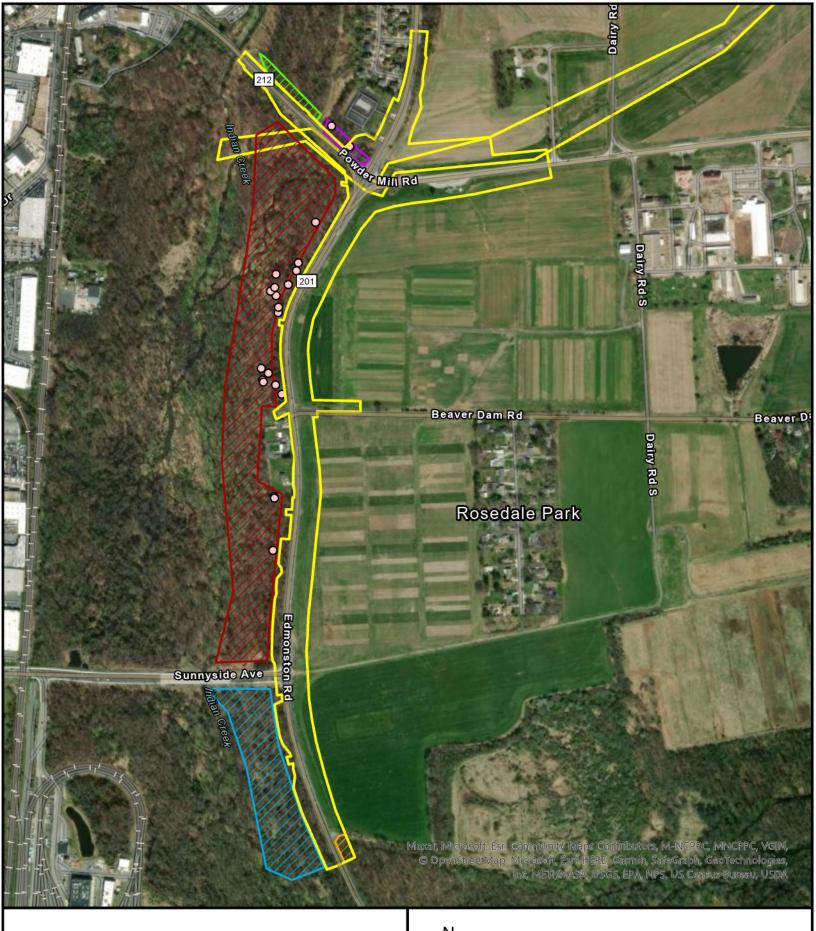
CPF Improvements











BEP Traffic Mitigation Forest Stand Delineation 2023





Project Area

Stand T1 Stand T2

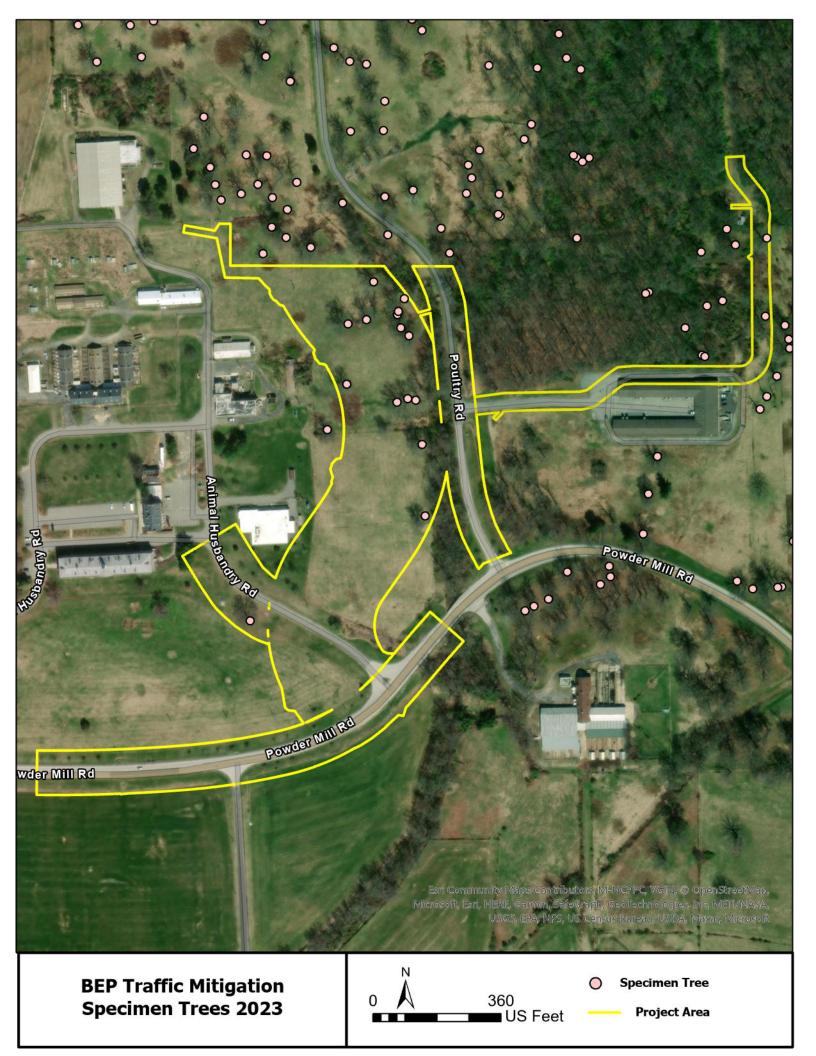


Stand T4 Stand T5



BEP Traffic Mitigation Forest Stand Delineation 2023







APPENDIX C

Specimen Tree List

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BEP Traffic Mitigation Specimen Trees			
BEP Specimen Tree	Scientific Name	Common Name	Diameter Breast Height (Inches)
1	Quercus phellos	Willow Oak	40
2	Quercus alba	White Oak	49
3	Acer rubrum	Red Maple	49
4	Liquidambar styraciflua	Sweetgum	35
5	Liquidambar styraciflua	Sweetgum	35
6	Liquidambar styraciflua	Sweetgum	38
7	Liquidambar styraciflua	Sweetgum	35
8	Liquidambar styraciflua	Sweetgum	33
9	Liquidambar styraciflua	Sweetgum	31
10	Liquidambar styraciflua	Sweetgum	33
11	Liquidambar styraciflua	Sweetgum	31
12	Liquidambar styraciflua	Sweetgum	31
13	Quercus alba		34.5
14	Liquidambar styraciflua	Sweetgum	32
15	Liquidambar styraciflua	Sweetgum	37
16	Liquidambar styraciflua	Sweetgum	35
17	Quercus alba	White Oak	39
18	Quercus alba	White Oak	38