| Date: | May 3, 2022 |
|-------|--|
| То: | File (13159_SHAPMD/Task6_495-ALB) |
| From: | Maddy Sigrist (MDOT SHA/RK&K) |
| CC: | |
| Re: | Maryland Department of Transportation State Highway Administration (MDOT SHA) I-495 & I-270 Managed Lanes Study Wetland Delineation Memorandum, Preferred Alternative: Alternative 9 – Phase I South |

INTRODUCTION

The I-495 & I-270 Managed Lanes Study (MLS) Natural Resources Team conducted a delineation of wetlands and waterways within the corridor study boundary from March 2018 through October 2021 on behalf of the Maryland Department of Transportation State Highway Administration (MDOT SHA), and this report describes the delineation completed within the Phase I South portion of the corridor study boundary (see **Appendix A**, **Overview and Key Maps**).

The corridor study boundary is a 48-mile long, and approximately 600-foot wide, roadway corridor spanning two states and three counties: Montgomery and Prince George's Counties in Maryland and Fairfax County in Virginia. In Virginia, the corridor study boundary falls within Virginia's Potomac River watershed. In Maryland, the corridor study boundary falls within the Potomac River Montgomery County, Cabin John Creek, Rock Creek, Anacostia River, Western Branch, and Potomac River Upper Tidal MDE 8-digit watersheds. All data collection and agency coordination for the delineation were conducted for the entire corridor study boundary. Only the features within the Phase I South portion of the corridor study boundary are presented in this wetland delineation memorandum.

The 48-mile Study limits remain unchanged: I-495 from south of the GWMP in Fairfax County, Virginia, to west of MD 5 and along I-270 from I-495 to north of I-370, including the east and west I-270 spurs in Montgomery and Prince George's Counties, Maryland. The Preferred Alternative (shown in **dark blue** in **Figure 1**), includes build improvements within the limits of Phase 1 South only totaling approximately 15 miles of proposed improvements. There is no action, or no improvements included at this time on I-495 east of the I-270 east spur to MD 5 (shown in **light blue** in **Figure 1**).

The MLS Preferred Alternative, also referred to as Alternative 9 – Phase 1 South, includes building a new American Legion Bridge and delivering two high-occupancy toll (HOT) managed lanes in each direction on I-495 from the George Washington Memorial Parkway in Virginia to east of MD 187 on I-495, and on I-270 from I-495 to north of I-370 and on the I-270 eastern spur from east of MD 187 to I-270. Refer to **Figure 1**. This Preferred Alternative was identified after extensive coordination with agencies, the public and stakeholders to respond directly to feedback received on the DEIS to avoid displacements and impacts to significant environmental resources, and to align the NEPA approval with the planned project phased delivery and permitting approach.





Figure 1: I-495 & I-270 Managed Lanes Study Corridors – Preferred Alternative

A total of 66 nontidal wetlands and 238 stream segments were delineated within the Phase I South portion of the corridor study boundary. Only one Traditionally Navigable Waters (TNW), the Potomac River, was identified within the Phase I South portion of the corridor study boundary. All other perennial waters are classified as tributaries of the Potomac River. Long stream channels were segmented due to changes in classification, splitting by culverted sections, or other refinement needs during data processing. Therefore, the number of individual channel segments is greater than the features presented in field documents such as photos and datasheets. **Table 1** presents the total number of delineated features by classification within the corridor study boundary. These features are depicted on the Delineated Features Maps in **Appendix B.**

| Features | Totals |
|------------------------------|--------|
| Wetlands | 66 |
| Palustrine Emergent (PEM) | 27 |
| Palustrine Forested (PFO) | 38 |
| Palustrine Scrub-Shrub (PSS) | 1 |
| Waterways | 239 |
| Ephemeral | 19 |
| Intermittent | 102 |
| Perennial | 118 |

Supplemental information supporting the wetland and waterways delineation is included in **Appendices A** through **G**, as follows:

| Appendix B:Delineated Features MapsAppendix C:Natural Resources Inventory MapsAppendix D:Soils TableAppendix E:Wetlands Functions and Values TableAppendix F:Field DatasheetsAppendix G:Photo Documentation | Appendix A: | Overview and Key Maps |
|---|-------------|-------------------------------------|
| Appendix D:Soils TableAppendix E:Wetlands Functions and Values TableAppendix F:Field Datasheets | Appendix B: | Delineated Features Maps |
| Appendix E:Wetlands Functions and Values TableAppendix F:Field Datasheets | Appendix C: | Natural Resources Inventory Maps |
| Appendix F: Field Datasheets | Appendix D: | Soils Table |
| ••• | Appendix E: | Wetlands Functions and Values Table |
| Appendix G: Photo Documentation | Appendix F: | Field Datasheets |
| | Appendix G: | Photo Documentation |

BACKGROUND INFORMATION

The I-495 & I-270 MLS Natural Resources Team environmental scientists conducted a desktop investigation of mapped site topography; 100-year FEMA floodplain; vegetative cover; non-tidal and tidal wetlands and waterways; soil map unit boundaries; and hydric and highly erodible soils. Sources of these data included:

- The United States Geologic Survey (USGS) Geographic Information System (GIS) Quadrangle Mapping;
- The United States Department of Agriculture (USDA), NRCS Web Soil Survey (WSS) for Montgomery and Prince George's Counties, Maryland and Fairfax County, Virginia;
- US Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) GIS data;
- Maryland Department of Natural Resources (MDNR) Wetlands and Waters GIS data; and FEMA GIS floodplain mapping.

Desktop investigation results are summarized below.

GEOLOGY AND TOPOGRAPHY

The Phase I South portion of the corridor study boundary is entirely within the Piedmont Plateau Physiographic Province and elevation within this area ranges from 51 to 495 feet above mean sea level (**Appendix C**). The lowest elevations occur along the Potomac River near the American Legion Bridge on the western side of the project limits. The highest elevations occur near the convergence of I-270 and I-370 along Shady Grove Road in Montgomery County.

The Piedmont Plateau Physiographic Province has broadly undulating, rolling topography underlain by metamorphic rock, with low knobs, ridges, and valleys. The Phase I South portion of the corridor study boundary includes two Physiographic Districts within the Piedmont Plateau Physiographic Province: the Hampstead Upland District and Middle Potomac Gorge District (Reger & Cleaves, 2008). The Hampstead Upland District consists of rolling to hilly uplands interrupted by steep-walled gorges. This district has distinctive ridges, hills, barrens, and valleys, and its streams include short segments of narrow, steep-sided valleys. The Middle Potomac Gorge District is where the Potomac River flows through a steep sided gorge. Bedrock islands are common in this district, while rapids and falls occur downstream, including the Great Falls of the Potomac River (USDA NRCS, 2018).

Soils

The USDA-NRCS WSS identified 44 soil map units within the Phase I South portion of the corridor study boundary (**Appendix C**). Two soil map units are classified as hydric, one soil map unit is classified as



predominantly hydric, zero soil map units are classified as partially hydric, 13 soil map units are classified as predominantly non-hydric, and 26 soil map units are classified as non-hydric. Thirty-five of these soil map units are classified as highly erodible soils. A summary table of the soil map units within the study corridor can be found in **Appendix D**.

WATERS OF THE UNITED STATES, INCLUDING WETLANDS

NWI and MDNR GIS mapping identified various wetland and riverine systems within or adjacent to the Phase I South portion of the corridor study boundary, which are shown on the Natural Resources Inventory Maps in **Appendix C**.

FEMA 100-YEAR FLOODPLAIN

The Phase I South portion of the corridor study boundary crosses the FEMA 100-year floodplains of several large streams, including: Muddy Branch, Watts Branch, Cabin John Creek, Booze Creek, Thomas Branch, the Potomac River, Rock Run, and Rock Creek. The Fairfax County portion of the corridor study boundary crosses the FEMA 100-year floodplains of: the Potomac River and Dead Run. The location and extent of the 100-year floodplains of these waterways are shown on the Natural Resources Inventory Maps and the Delineated Features Maps in **Appendix C** and **Appendix B**, respectively.

CHESAPEAKE BAY CRITICAL AREA (MARYLAND)

The Phase I South portion of the corridor study boundary is not located within the 1,000-foot Chesapeake Bay Critical Area boundary or the Critical Area buffer, according to Critical Area Commission for the Chesapeake & Atlantic Coastal Bays (CAC) GIS data for the state of Maryland.

CHESAPEAKE BAY PRESERVATION AREAS (VIRGINIA)

The Virginia Chesapeake Bay Preservation Act requires that Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) be designated around all water bodies with perennial flow that are within jurisdictions encompassed by the Chesapeake Bay watershed in Virginia. Since the I-495 & I-270 Managed Lanes Study involves the expansion of a public road and implemented avoidance and minimization of effects on natural resources and water quality, the project is exempt from these requirements.

FIELD INVESTIGATIONS – WETLAND DELINEATION

Methods

The I-495 & I-270 MLS corridor study boundary was split into 29 field sub-segments (see **Appendix A**) for the purposes of the wetlands and waterways field investigation, and field sub-segment numbers were incorporated into the naming convention of features within each sub-segment. Field sub-segment breaks were established at major road crossings to provide clear physical boundaries and to limit the number of features that may occupy more than one segment. The Phase I South portion of the corridor study boundary includes sub-segments 20 through 29 and one area of sub-segment 19.

A two-tier approach was applied to fieldwork within the corridor study boundary since properties adjacent to the ROW were not fully accessible when delineation efforts began. Before delineation efforts began, MDOT SHA notified property owners of non-invasive fieldwork (i.e., involving no soil disturbance). When



field teams identified potential wetland areas based on the non-invasive field visit, letters were then sent to the respective properties to request invasive access. Tier one fieldwork consisted of full delineation of wetlands and waterways features within the MDOT SHA ROW, and non-invasive access to properties adjacent to the ROW. Non-invasive access allows access for stream delineation, flagging, photography, characterization of vegetation, and surface hydrology, but not digging soil pits for soil characterization or groundwater hydrology. In areas outside of the MDOT SHA ROW, field crews delineated waterway features and conducted planning level investigation of wetlands, including conservative estimations of potential wetland boundaries based on surface hydrology and vegetation. Tier two fieldwork consisted of soils investigations to finalize delineations of the potential wetland areas identified during tier one fieldwork on public and private properties where the property owners granted MDOT SHA access to perform invasive investigations.

Environmental scientists delineated wetlands and waterways within the corridor study boundary on behalf of MDOT SHA and VDOT from March 2018 through October 2021, with delineation areas revised as the LOD was refined. Much of the MDOT SHA right-of-way within the corridor study boundary was previously delineated as part of the Prince George's and Montgomery County Integrated Roadside Vegetation Management (IRVM) and I-270 Innovative Congestion Management (ICM) projects. All previously delineated features were field reviewed, and delineations were revised as needed for the purposes of the I-495 & I-270 MLS. No previous delineations were referenced for the Virginia portion of the corridor study boundary. Environmental scientists completed new data sheets for features delineated in areas that were not previously delineated by the IRVM or ICM projects; previously delineated features that did not have data sheets; and previously delineated features that changed classification since the previous delineation (e.g., palustrine emergent [PEM] wetland to palustrine forested [PFO] wetland or intermittent to perennial stream). Each feature was photographed and assigned a unique identifier containing the number of its associated field sub-segment and a letter designator generated alphabetically. The alphabet was repeated in the feature identifiers within a sub-segment when necessary, doubling the letter designation e.g. the first 26 features in sub-segment 1 are named 1A through 1Z, the next 26 features are named 1AA through 1ZZ, etc. All previously delineated features were re-named to match the I-495 & I-270 MLS naming convention. Boundary points were identified for each feature, marked with pink MDOT SHA flagging in the field, and numbered consecutively (e.g. 1A-A/1A-B for stream banks, 1A-1, 1A-2, 1A-3 for wetlands). Data obtained from the field reconnaissance was collected with an iPad and boundary points were located using global positioning systems (GPS).

New wetland features were delineated in accordance with the following:

- U. S. Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0. Ed. J.F. Berkowitz, J.S. Wakeley, R.W. Lichvar, C.V. Noble. ERDC/EL TR-12-9. Vicksburg, MS: US Army Engineer Research and Development Center;
- U. S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region, Version 2.0.* Ed. J.F. Berkowitz, J.S. Wakeley, R.W. Lichvar, C.V. Noble. ERDC/EL TR-12-9. Vicksburg, MS: US Army Engineer Research and Development Center; and,



• Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss. Technical Report Y-87-1.

These manuals employ a three-parameter approach to wetland identification using (1) hydrology, (2) hydrophytic vegetation, and (3) hydric soils. All three parameters must be present for an area to be considered a jurisdictional wetland under Section 404 of the Clean Water Act (CWA). Routine wetland determination methods with onsite inspection were used to determine the presence of wetlands in the corridor study boundary. Wetlands including dying ash trees were characterized as PFO wetlands, as requested by Maryland Department of the Environment (MDE) and US Army Corps of Engineers (USACE). Wetlands and waterways located on National Park Service (NPS) park land were identified by Cowardin classification including the system, subsystem, class, subclass, and any applicable modifiers (Cowardin, 1979).

Wetland scientists completed a functions and values assessment for all delineated wetlands using the USACE New England Method as presented in The Highway Methodology Workbook Supplement – Wetland Functions and Values; A Descriptive Approach (USACE, 1999). Along with the best professional judgment of an experienced wetland scientist, this method uses the presence of certain physical characteristics broadly understood to indicate the presence of related functions. The functions and values assessed include:

- Groundwater recharge/discharge,
- Floodflow alteration,
- Fish and shellfish habitat,
- Sediment/toxicant/pathogen retention,
- Nutrient removal/retention/transformation,
- Production export,
- Sediment/shoreline stabilization,

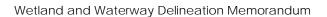
- Wildlife habitat,
- Recreation,
- Educational/scientific value,
- Uniqueness/heritage,
- Visual quality/aesthetics, and
- Endangered species habitat.

A summary table of the functions and values for all wetlands is included in **Appendix E**, Datasheets are included in **Appendix F**, and photo documentation is included in **Appendix G**.

Waterway function and value was assessed based on the Maryland Stream Mitigation Framework (MSMF) using the USACE Stream Mitigation Calculator (Stream Calculator) (USACE, 2020). The MSMF requires that the habitat of existing stream reaches be assessed and scored based on the length of the existing reach that will be impacted. If 300 linear feet (LF) or less of a stream reach will be impacted, then a habitat based bioassessment was completed as detailed in the Rapid Bioassessment Protocols (RBP) for Use in Streams and Wadeable Rivers (Barbour et al., 1999). If greater than 300 LF of a stream reach will be impacted, then a function-based assessment is required as outlined in the Rapid Function-Based Stream Assessment Methodology (FBSAM) (Starr et al., 2015). The stream calculator and mitigation determination process is discussed further in the *Final Compensatory Mitigation Plan* within the Joint Permit Application (JPA).

Waterways features were delineated using the limits defined in 33 Code of Federal Regulations (CFR) § 328. The boundaries of nontidal waterways features were set at the ordinary high water (OHW) mark and

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include but are not limited to: in-line stormwater management (SWM) ponds, palustrine open water (POW or ponds), stream systems (waterways), and some disturbed areas. The OHW mark was determined in the field using physical characteristics established by the fluctuations of water (e.g., change in plant community, changes in the soil character, shelving) in accordance with USACE Regulatory Guidance Letter No. 05-05. Prior to August 16, 2018, CWA jurisdiction of delineated features was determined in accordance with the June 5, 2007, joint guidance issued by EPA and USACE following the US Supreme Court's decision in the Rapanos case; and the January 19, 2001, joint guidance issued by EPA and USACE following US Supreme Court's decision in SWANCC. After August 16, 2018, jurisdiction of new delineated features was determined in accordance with the CWR, and previously delineated feature data was supplemented to determine likely jurisdiction under the new jurisdictional definitions of Waters of the US outlined by the rule. Between July 2018 and December 2019, representatives from the USACE, MDE, and USEPA conducted field reviews of the wetlands and waterways features delineated within the corridor study boundary. The goal of the meetings was to review representative delineated wetlands and waterways to gain general concurrence on the delineation in support of a preliminary jurisdictional determination (JD), as well as an Approved JD for roadside ditches and drainage features that may not be considered jurisdictional by USACE but may be considered jurisdictional by MDE. The Approved JD will be valid through December 12, 2024.

After August 30, 2021, jurisdiction of new delineated features was determined in accordance with pre-2015 regulatory definitions, and previously delineated feature data was re-assessed to determine likely jurisdiction under the pre-2015 definitions.

The MDE regulation of nontidal wetlands, nontidal wetland buffers, and waterways is based on the COMAR Title 26 Subtitle 17, Water Management; COMAR Title 26 Subtitle 23, Nontidal Wetlands; and field review of delineated features. Unlike USACE, MDE does not regulate ephemeral channels, however it does regulate isolated wetlands and certain intermittent features that may not be considered jurisdictional by USACE. USACE and MDE jurisdictional results for each delineated feature are represented in **Table 2.** Virginia Department of Environmental Quality (VDEQ) determines jurisdiction based on the Code of Virginia, Virginia Administrative Code (VAC) 62.1-44.15 and VMRC based on the Code of Virginia VAC 28.2-1204. In addition, wetlands and waterways located on NPS park land were identified by Cowardin classification including the system, subsystem, class, subclass, and any applicable modifiers (Cowardin, 1979).

RESULTS

The I-495 & I-270 MLS Natural Resources Team conducted a wetlands and waterways delineation within the Phase I South portion of the corridor study boundary from March 2018 through October 2021, with areas revised as the LOD was refined. Detailed delineation results are summarized in **Table 2**, organized by sub-segment and listed alphanumerically. Locations of all delineated features can be found on the Delineated Features Maps in **Appendix B**. Field datasheets and photographs for the new and previously delineated features can be found in **Appendices G and H**, respectively. A Summary of the Wetland Functions and Values by Wetland Feature is included in **Appendix F**.

| FEATURE ID | PREVIOUS FEATURE # | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | CHANNEL (Approximate widths/depths) | COVER TYPE (Left & Right Banks) | | MDE JURISDICTION | |
|---------------|-----------------------|----------------|---|---------------------|--|---|--------------|---------------------|--------------|
| Subsegment 19 | FLATORL # | | | | witchs/depths/ | (Left & Right Banks) | JORISDICTION | JUNISDICTION | JUNISDICTION |
| 19J 1 | | | | | Silt, sand, gravel, muck | | Yes | Yes | No |
| 19J_2 | | | Waterway 19J is a perennial channel located east of the I-495/MD 187 | | Width: 3-15 ft | Right: forest, shrubs | Yes | Yes | No |
| 19J C | W157M | Perennial | interchange that flows northeast into a culvert under I-495 and out of the | - | Depth: 2-12 in | Left: forest, dense bamboo | | Yes | No |
| 19J C1 | | | study area. | | | · | Yes | Yes | No |
| ubsegment 20 | | | | | | | | | |
| 20B | - | Intermittent | Waterway 20B is an intermittent channel located south of the I-495 inner loop that originates at a 2-foot culvert under I-495 and flows southwest ou of the study area through another 2-foot pipe. | t - | Silt, cobble, gravel, riprap Width: 5 ft Depth: 3 in | Right: hedgerow Left: hedgerow | Yes | Yes | No |
| 20C | - | Perennial | Waterway 20C begins as an intermittent culvert and transitions to a perennial channel located south of the I-495 inner loop and east of | | Silt, cobble, sand, gravel Width: 1-3 ft | Right: Scrub-shrub | Yes | Yes | No |
| 20C_C | - | Intermittent | Greentree Road that flows south through a 4-foot culvert and converges with Waterway 20D. | | Depth: 6 in | Left: Scrub-shrub | Yes | Yes | No |
| 20D | | | Waterway 20D is a perennial channel located south of I-495 and east of | | Silt, sand, gravel, concrete | Right: hedgerow | Yes | Yes | No |
| | - | Perennial | Greentree Road that flows north from outside of the study area and | - | Width: 5 ft | Left: hedgerow | | | |
| 20D_C | | | converges with Waterway 20C at a 4-foot culvert. | | Depth: 6 in | | Yes | Yes | No |
| 20E | - | Intermittent | Waterway 20E is an intermittent channel located south of the I-495 inner loop and north of Newbold Drive that flows south from a culvert under I-495 into a 2-foot pipe. | - | Silt, sand, gravel, riprap Width: 3 ft Depth: 2 ft | Right: bamboo hedgerow Left: bamboo hedgerow | Yes | Yes | No |
| 20F_C | - | Perennial | Waterway 20F_C is a perennial culvert located underneath the southern spur of the I-270/I-495 interchange, west of Old Georgetown Rd (MD-187). Waterways upstream and downstream of 20F_C are underground and non-jurisdictional. | | Concrete Width: 6.5 ft Depth: 3 in | Right: pipe/concrete Left: pipe/concrete | Yes | Yes | No |
| Subsegment 21 | | | 1 | | | | | | |
| 21B | | | Waterway 21B is a perennial channel located east of the I-495 inner loop | | Mud | Dishte favort | Yes | Yes | No |
| 21B_C | W148M | 148M Perennial | BMPerennialand west of Longwood Drive that flows west under I-495 into Waterwa 21J. Waterway 21B flows through subsegments 20 and 21. | - | Width: 6 ft Depth: Unknown | Right: forest Left: forest | Yes | Yes | No |
| 21C | W103M | | | | | | Yes | Yes | No |
| 21C_1 | W142M | | Weterway 210 is a neuronal channel known as Themas Dranch that flows | - | Silt, sand, cobble Width: 15-30 ft | Right: forest Left: forest | Yes | Yes | No |
| 21C_2 | W109M | | Waterway 21C is a perennial channel known as Thomas Branch that flows south parallel to the I-270 spur and the I-495 outer loop and into Cabin | | | | Yes | Yes | No |
| 21C_C | W142M | Ferenniai | John Creek. | | Depth: 4 ft | | Yes | Yes | No |
| 21C_C1 | W142M | | | | | | Yes | Yes | No |
| 21C_C2 | W109M | | | | | | Yes | Yes | No |
| 21D | - | | | | | | Yes | Yes | No |
| 21D_1 | W110M | | Waterway 21D is an intermittent channel that originates in the northeast | | Concrete, silt, sand | Right: scrub-shrub and | Yes | Yes | No |
| | (downstream) | Intermittent | cloverleaf of the MD 195/I-495 interchange and flows through a 3-foot pipe under I-495 in the northwest cloverleaf of the same interchange, under a | - | Width: 1-3 ft | meadow grasses Left: hedgerow and scrub- | | | |
| 21D_C | - W110M | - | ramp, and into Waterway 21C. | | Depth: 6 in | shrub | Yes | Yes | No |
| 21D_C1 | (downstream) | | | | | | Yes | Yes | No |
| 21F | | Intermittent | Waterway 21F is an intermittent channel that originates east of I-495 south of the terminus of Cindy Lane and flows southeast under I-495 into | - | Silt, sand, cobble, gravel, riprap Width: 5-8 ft | Right: forest | Yes | Yes | No |
| 21F_C | | | Waterway 21C. | | Depth: 8 in | Left: forest | Yes | Yes | No |
| 21G | - | Intermittent | Waterway 21G is an intermittent channel located east of the I-495 inner loop, north of the MD 195/I-495 interchange that flows west into Waterway 21C. | - | Silt, concrete, riprap Width: 2-5 ft Depth: 3 in | Right: forest Left: forest | Yes | Yes | No |
| 21H | - | Ephemeral | Waterway 21H is an ephemeral channel located east of the I-495 inner loop and southwest of the terminus of Arrowood Road that flows west into Waterway 21C. | - | Silt, cobble, gravel, concrete Width: 4 ft Depth: 1 ft | Right: scrub-shrub Left: scrub-shrub | Yes | No | No |
| 211 | - | Perennial | Waterway 21I is a perennial channel located northwest of the I-495/I-270 split that flows west into Waterway 21C. Channel substrate consists of silt, sand, and gravel. | - | Silt, sand, gravel Width: 5-7 ft Depth: 3 in | Right: hedgerow Left: hedgerow | Yes | Yes | No |

| FEATURE ID | PREVIOUS | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | CHANNEL (Approximate | COVER TYPE | USACE | MDE | VDEQ |
|-------------------|-----------|----------------|--|--|---|---|--------------|---------------------|--------------------|
| 21J | FEATURE # | Perennial | Waterway 21J is a perennial channel located west of the I-495 outer loop and north of MD 191 that flows west into Waterway 21C. | - | | (Left & Right Banks) Right: hedgerow Left: hedgerow | JURISDICTION | JURISDICTION Yes | JURISDICTION No |
| 21К | - | Intermittent | Waterway 21K is an intermittent channel located west of the I-495 outer loop and north of MD 191 that flows west into Waterway 21C. | - | Silt, sand, cobble, gravel, placed stone Width: 1-12 ft Depth: 0.5-1.5 ft | Right: hedgerow Left: hedgerow | Yes | Yes | No |
| 21L_C | | | Waterway 21L_D is a perennial ditch that originates east of the I-495 inner | | Silt, sand, cobble, gravel, riprap | Right: herbaceous | Yes | Yes | No |
| 21L_D | - | Perennial | loop southwest of Kittery Lane and flows west under I -495 and into | - | Width: 4-6 ft | vegetation Left: herbaceous | Yes | Yes | No |
| 21L_D1 | | | Waterway 21C. | | Depth: 1-8 in | vegetation | Yes | Yes | No |
| 21M | - | Intermittent | Waterway 21M is an intermittent channel located west of the I-495 outer loop and east of Groton Road that flows east into Waterway 21C. | - | Concrete Width: 1-4 ft Depth: 0.5 in | Right: hedgerow Left: hedgerow | Yes | Yes | No |
| 21P | - | PFO | Wetland 21P a PFO located east of the I-495 inner loop and west of the terminus of Arrowood Court in the floodplain of Waterway 21C. | Red maple (<i>Acer rubrum</i>) Northern spicebush (<i>Lindera benzoin</i>) Sweet wood-reed (<i>Cinna arundinacea</i>) Green ash (<i>Fraxinus pennsylvanica</i>) River-bank grape (<i>Vitis riparia</i>) | - | - | Yes | Yes | No |
| 21Q | - | PFO | Wetland 21Q is a PFO located east of the I-495 inner loop and southwest of the terminus of Arrowood Court in the floodplain of Waterway 21C. | American elm (<i>Ulmus americana</i>) Red maple Northern spicebush Lizard's-tail (<i>Saururus cernuus</i>) | - | - | Yes | Yes | No |
| 21R | - | Ephemeral | Waterway 21R is an ephemeral channel located east of the I-495 inner loop and southwest of the terminus of Arrowood Road that drains uplands and flows west into Waterway 21H. | - | | Right: forest Left: forest | Yes | No | No |
| 21T | - | PFO | Wetland 21T is a PFO located east of the I-495 inner loop and northwest of the terminus of Arrowood Court on a terrace in the floodplain of Waterway 21C. | American sycamore (<i>Platanus occidentalis</i>) Red maple Bristly lady's-thumb (<i>Persicaria longiseta</i>) Winter creeper (<i>Euonymus fortunei</i>) Curly dock (<i>Rumex crispus</i>) Japanese stilt grass (<i>Microstegium vimineum</i>) | - | - | Yes | Yes | No |
| 210 | - | Perennial | Waterway 21U is a perennial channel located east of the I-495 inner loop and west of Armat Drive that flows west from a culvert into Waterway 21B. | - | Silt, sand, cobble, gravel, riprap Width: 5-15 ft Depth: 3-6 in | Right: forest Left: forest | Yes | Yes | No |
| 21V | - | Intermittent | Waterway 21V is an intermittent channel located west of the I-495 outer loop and north of Bradley Boulevard that flows east from outside of the study area into Waterway 21C. | - | Silt, sand, cobble, gravel Width: 4-6 ft Depth: 3-6 in | Right: forest Left: forest | Yes | Yes | No |
| Subsegment 22 | | | 1 | 1 | | 1 | I | | |
| 22A | - | Intermittent | Waterway 22A is an intermittent channel located within the southwest cloverleaf of the MD 195/I-495 interchange that flows south through a 3- | - | Concrete Width: 3 ft | Right: hedgerow | Yes | Yes | No |
| 22A_C | | | foot concrete pipe into Waterway 22C. | | Depth: 6 in | Left: hedgerow | Yes | Yes | No |
| 22AA 22AA_1 | | | | | | | Yes | Yes Yes | No No |
| 22AA_1 | W/111M | Perennial | Waterway 22AA is a perennial channel known as Cabin John Creek that flows south under I-495 west of Cabin John Parkway and east of Seven | | | Right: forest | Yes | Yes | No |
| 22AA_3 | | Locks Road. | | Depth: 10 in | Left: forest | Yes | Yes | No | |
| 22AA_B 22AA_B1 | | | | | | | Yes | Yes Yes | No No |
| 22AA_01 22AAA | | | | | Silt, sand, gravel, cobble, boulder | | Yes | No | Yes |
| 22AAA_C | Wous sk | Perennial | Waterway 22AAA is a perennial channel located within the Capital Beltway/George Washington Memorial Parkway interchange. | - | Width N/A | Right: forest Left: forest | Yes | No | Yes |

| FEATURE ID | PREVIOUS FEATURE # | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | CHANNEL (Approximate widths/depths) | COVER TYPE (Left & Right Banks) | USACE JURISDICTION | MDE JURISDICTION | VDEQ JURISDICTION | |
|------------|-----------------------|----------------|---|--|---|------------------------------------|-----------------------|---------------------|----------------------|----|
| 22B | - | Intermittent | Waterway 22B is an intermittent channel located west of the I-495 outer loop south of the MD 195/I-495 interchange that flows west into Waterway 22C. | - | Riprap Width: 3 ft Depth: 6 in | Right: hedgerow Left: hedgerow | Yes | Yes | No | |
| 22BB | - | Ephemeral | Waterway 22BB is an ephemeral channel located north of the I-495 outer loop and south of Thornley Court that flows east into Waterway 22CC. | - | Silt, cobble, sand, gravel Width: 1-4 ft Depth 0-4 in | Right: forest Left: forest | Yes | No | No | |
| 22BBB | SP | PFO | Wetland 22BBB is a PFO located east of the I-495 inner loop that abuts Waterway 22ZZ. | Red maple Green ash Northern spicebush Japanese stilt grass | - | - | Yes | No | Yes | |
| 22C | _ | Intermittent | Waterway 22C is an intermittent channel located west of the I-495 outer loop south of the MD 195/I-495 interchange that flows west into a 3-foot | _ | Riprap Width: 3 ft | Right: hedgerow | Yes | Yes | No | |
| 22C_C | | Interniterit | concrete pipe and into Waterway 22D. | | Depth: 6 in | Left: hedgerow | Yes | Yes | No | |
| 22CC | | | Waterway 22CC is an ephemeral channel located north of the I-495 outer | | Silt, cobble, sand, gravel, concrete | Right: forest | Yes | No | No | |
| 22CC_1 | - | Ephemeral | Ephemeral | loop and south of Thornley Court that flows northeast under Seven Locks Road into Waterway 22DD. | - | Width: 2- 6 ft Depth: 1-6 in | Left: forest | Yes | No | No |
| 22CC_C | | | · · · · · · · · · · · · · · · · · · · | Red maple | | | Yes | No | No | |
| 22CCC | - | PFO | Wetland is a PFO located southwest of the I-495/Clara Barton Parkway interchange adjacent to Wetland 22W. | Green ash Northern spicebush Rambler rose (<i>Rosa multiflora</i>) Common pawpaw (<i>Asimina triloba</i>) Japanese stiltgrass Sweet wood-reed Horsebrier (<i>Smilax rotundifolia</i>) Japanese honeysuckle (<i>Lonicera japonica</i>) | - | - | Yes | Yes | No | |
| 22D | - | Intermittent | Waterway 22D is an intermittent channel located west of the I-495 outer loop south of the MD 195/I-495 interchange that flows west under a concrete liner into Waterway 22E. | - | Concrete Width: 2 ft Depth: 1 in | Right: hedgerow Left: forest | Yes | Yes | No | |
| 22DD | _ | Intermittent | Waterway 22DD is an intermittent channel located north of the I-495 outer loop and east of Thornley Court that flows east under Seven Locks Road | _ | Silt, cobble, sand, gravel, concrete Width: 2-8 ft | Right: forest | Yes | Yes | No | |
| 22DD_C | | Interniterit | and then north into Waterway 22AA. | | Depth: 1-12 in | Left: forest | Yes | Yes | No | |
| 22DDD | - | Perennial | Waterway 22DDD is a perennial channel located east of the I-495 inner loop and flows south to north under George Washington Memorial Parkway and into the Potomac River outside of the corridor study boundary. | - | Silt, cobble, sand, gravel Width: 20-50 ft Depth: 2+ ft | Right: forest Left: forest | Yes | No | Yes | |
| 22E | 01-B | PEM | Wetland 22E is a PEM located northwest of the I-495 outer loop and southwest of the intersection of Eggert Road and Persimmon Tree Road. | Wand panic grass (<i>Panicum virgatum</i>) Rough barnyard grass (<i>Echinochloa muricata</i>) | - | - | No | Yes | No | |
| 22EE | - | Ephemeral | Waterway 22EE is an ephemeral channel located north of the I-495 outer loop and south of Thornley Court that flows north into Waterway 22CC. | - | Silt, sand, concrete Width: 4-10 ft Depth: 0-4 in | Right: forest Left: forest | Yes | No | No | |
| 22F | 01-L | PEM | Wetland 22F is a PEM located in the median of Cabin John Parkway, south of I-495, that abuts Waterway 22H. | Marsh primrose-willow (<i>Ludwigia palustris</i>) Small carp grass (<i>Arthraxon hispidus</i>) | - | - | Yes | Yes | No | |
| 22FF | - | Ephemeral | Waterway 22FF is an ephemeral channel located south of the I-495 inner loop and northwest of the terminus of Cypress Grove Lane that flows south out of the study area. | - | Silt, sand, gravel Width: 3-5 ft Depth: 0-6 in | Right: forest Left: forest | Yes | No | No | |

| FEATURE ID | PREVIOUS FEATURE # | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | CHANNEL (Approximate widths/depths) | COVER TYPE (Left & Right Banks) | USACE | MDE JURISDICTION | VDEQ |
|------------------------------------|-----------------------|----------------|--|--|--|---|--------------------------|--------------------------|----------------------|
| 22G | 01-K | PFO | Wetland 22G is a PFO located in the median of Cabin John Parkway, south of I-495, that abuts Waterway 22H. | Black willow (<i>Salix nigra</i>) Green ash Rambler rose Red maple Lamp rush Crow garlic (<i>Allium vineale</i>) Japanese honeysuckle | - | | Yes | Yes | No |
| 22GG | 01-0 | PEM | Wetland 22GG is a PEM located east of Cabin John Parkway and south of the I-495 inner loop. | Red maple Pin oak (<i>Quercus palustris</i>) Lamp rush Wand panic grass | - | - | Yes | Yes | No |
| 22H 22H_1 22H_C | 01-M | Intermittent | Waterway 22H is an intermittent channel located within the median of Cabin John Parkway, south of I-495, that flows west through a culvert under Cabin John Parkway into Waterway 22AA. | - | Concrete Width: 2-4 ft Depth: 1-8 in | Right: forest Left: emergent vegetation, mowed lawn | Yes Yes Yes | Yes Yes Yes | No No No |
| 22HH 22HH_1 22HH_2 22HH_C | 01-C | Intermittent | Waterway 22HH is an intermittent channel located west of the I-495 outer loop and north of MacArthur Boulevard that flows south into Waterway 22N. | - | Sand, gravel, concrete Width: 5 ft Depth: 3-5 in | Right: forest Left: forest | Yes Yes Yes Yes | Yes Yes Yes Yes | No No No |
| 221 | 01-G | PFO | Wetland 22I is a PFO located north of Clara Barton Parkway and west of I- 495 that abuts Waterway 22J. | Swamp white oak (<i>Quercus bicolor</i>) Red maple Chinese privet (<i>Ligustrum sinense</i>) Smooth blackhaw (<i>Viburnum prunifolium</i>) Sweet wood-reed Japanese honeysuckle Horsebrier | - | - | Yes | Yes | No |
| 2211 | - | PFO | Wetland 22II is a PFO located west of the I-495 outer loop and southeast of Lilly Stone Drive. | River birch (<i>Betula nigra</i>) Green ash White grass (<i>Leersia virginica</i>) | - | - | Yes | Yes | No |
| 22J 22J_C | 01-F | Intermittent | Waterway 22J is an intermittent channel located north of Clara Barton Parkway and west of I-495 that flows south through a culvert into Waterway 22I. | - | Silt, sand, cobble, gravel Width: 1-4 ft Depth: 1-6 in | Right: forest, mowed lawn Left: forest, paved road | Yes | Yes Yes | No |
| 22JJ | - | PFO | Wetland 22JJ is a PFO located southwest of the MD 195/I-495 interchange in the floodplain of Waterway 22AA. | Red maple Black tupelo (<i>Nyssa sylvatica</i>) Japanese stilt grass | - | - | Yes | Yes | No |
| 22K | W125M | PEM | Wetland 22K is a PEM located north of Clara Barton Parkway and west of I-495 that abuts Waterway 22J. | Dotted smartweed (<i>Persicaria punctata</i>) Spotted lady's thumb (<i>Persicaria maculosa</i>) | - | - | Yes | Yes | No |
| 22КК | - | Perennial | Waterway 22KK is a perennial channel located south of the I-495/Cabin John Parkway interchange that flows east into Waterway 22AA. | - | Silt, sand, cobble, gravel Width: 8-15 ft Depth: 3-15 in | Right: forest Left: forest | Yes | Yes | No |
| 22L 22L_VP | 01-J | PEM | Wetland 22L is a PEM located north of Clara Barton Parkway and west of I- 495. A portion of this wetland is considered a vernal pool. | Dotted smartweed Sweet wood-reed | - | - | Yes | Yes Yes | No No |
| 22LL_VP | - | PFO | Wetland 22LL is a PFO located southeast of the I-495/Clara Barton Parkway interchange. The entire wetland is considered a vernal pool. | Ash-leaf maple (<i>Acer negundo</i>) American elm Northern spicebush Dotted smartweed Creeping-Jenny (<i>Lysimachia nummularia</i>) | - | - | Yes | Yes | No |
| 22M 22M_1 22M_C 22M_C1 | 01-D | Perennial | Waterway 22M is a perennial channel known as Rock Run located northwest of the Clara Barton Parkway on-ramp from the I-495 outer loop that flows south from outside the study area to a box-culvert under Clara Barton Parkway. | - | Silt, sand, cobble, gravel Width: 30 ft Depth: 6 in - 1 ft | Right: forest Left: forest | Yes Yes Yes Yes | Yes Yes Yes Yes | No No No No |

| FEATURE ID | PREVIOUS FEATURE # | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | CHANNEL (Approximate widths/depths) | COVER TYPE (Left & Right Banks) | USACE JURISDICTION | MDE JURISDICTION | VDEQ JURISDICTION |
|----------------|-----------------------|----------------|---|--|---|--|-----------------------|---------------------|----------------------|
| 22MM 22MM_B | - | Perennial | Waterway 22MM is a perennial TNW known as the Potomac River located south of the I-495/Clara Barton Parkway interchange that flows east under I-495. | - | Silt, sand, muck, cobble, gravel, bedrock Width: > 400 ft Depth: > 10 ft | Right: forest Left: forest | Yes | Yes Yes | No |
| 22N | 01-C | Perennial | Waterway 22N is a perennial channel located northwest of the Clara Barton Parkway on-ramp from the I-495 outer loop that flows southwest to Waterway 22M. | - | Silt, cobble, gravel, concrete Width: 5 ft Depth: 3 in | Right: forest Left: forest | Yes | Yes | No |
| 22NN 22NN_B | - | Intermittent | Waterway 22NN is an intermittent channel located southwest of the I- 495/Clara Barton Parkway interchange that flows south from Wetland 22OO | - | Silt, sand, gravel, muck Width: 8-10 ft | Right: forest Left: bare area under I-495 | Yes | Yes | No |
| 220 | 01-E | PFO | to Waterway 22MM. Wetland 22O is a PFO located northwest of the Clara Barton Parkway on- ramp from the I-495 outer loop that abuts Waterway 22N. | American sycamore Ash-leaf maple Sweet wood-reed Deer-tongue rosette grass (<i>Dichanthelium clandestinum</i>) Water horsetail (<i>Equisetum fluviatile</i>) | Depth: 0 – 6 in - | - | Yes | Yes | No |
| 2200 | - | PFO | Wetland 2200 is a PFO located southwest of the I-495/Clara Barton Parkway interchange that abuts Waterway 22NN. | American sycamore Ash-leaf maple Reed canary grass (<i>Phalaris arundinacea</i>) | - | - | Yes | Yes | No |
| 22P | - | Intermittent | Waterway 22P is an intermittent channel located northwest of the Clara Barton Parkway on-ramp from the I-495 outer loop that flows northwest into Waterway 22N. | - | Silt, sand Width: 3 ft Depth: 3 in | Right: forest Left: forest | Yes | Yes | No |
| 22PP | 01-P | PFO | Wetland 22PP is a PFO located southwest of the I-495/Clara Barton Parkway Interchange, just south of the C&O canal. | American elm Amur honeysuckle (<i>Lonicera maackii</i>) Swamp smartweed (<i>Persicaria hydropiperoides</i>) | - | - | Yes | Yes | No |
| 22Q | - | | Waterway 22Q is a perennial channel located east of the I-495 inner loop | | Cilt. cond | | Yes | Yes | No |
| 22Q_1 | 01-I | Perennial | and south of Clara Barton Parkway that flows east from a culvert under the Clara Barton Parkway on-ramp to the I-495 inner loop into another culvert | - | Silt, sand Width: 4 ft | Right: forest Left: forest | Yes | Yes | No |
| 22Q_C | - | | under Clara Barton Parkway. | | Depth: 2 ft | | Yes | Yes | No |
| 22QQ | - | Intermittent | Waterway 22QQ is an intermittent channel located southeast of the I-495/Clara Barton Parkway interchange that flows south into a side channel of Waterway 22MM. | - | Sand, muck Width: 2-6 ft Depth: 0-1.5 in | Right: forest Left: forest | Yes | Yes | No |
| 22R | 01-H | PFO | Wetland 22R is a PFO located east of the I-495 inner loop and south of Clara Barton Parkway that abuts Waterway 22Q. | Red maple American sycamore Common pawpaw Black tupelo Japanese stilt grass Sweet wood-reed Japanese honeysuckle | - | - | Yes | Yes | No |
| 22RR | - | Perennial | Waterway 22RR is a perennial channel located east of Seven Locks road and north of the I-495 outer loop that flows east into Waterway 22AA. | - | Silt, sand, cobble, gravel Width: 6-15 ft Depth: 2-10 in | Right: forest Left: forest | Yes | Yes | No |
| 225 | - | Intermittent | Waterway 22S is an intermittent channel located north of the Clara Barton Parkway on-ramp from the I-495 outer loop that flows east into Waterway 22M. | - | Silt, sand, cobble, gravel, placed ston slabs Width: 1-7 ft Depth: 6 in | e Right: forest Left: forest | Yes | Yes | No |
| 2255 | WOUS CC/CD | Perennial | Waterway 22SS is a perennial channel located northwest of the Capital Beltway/George Washington Memorial Parkway interchange that flows north. | - | Silt, sand, gravel, cobble Width: 25 ft Depth: N/A | Right: forest Left: forest | Yes | No | Yes |
| 22T | | | | | | | Yes | Yes | No |
| 22T_1 | 10/1 2 2 14 | Intermittent | Waterway 22T is an intermittent channel located north of Clara Barton | | Silt, cobble, sand, concrete, riprap | Right: forest | Yes | Yes | No |
| 22T_2 22T_B | W122M | Intermittent | Parkway and south of MacArthur Boulevard that flows west from Wetland 22U, under I-495, and into Waterway 22HH. | est from Wetland - Width: 3-6 ft Depth: 3 in | Depth: 3 in | Left: forest | Yes | Yes Yes | No No |
| 221_B | | | | | | | Yes | Yes | No |

| FEATURE ID | PREVIOUS | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | CHANNEL (Approximate | COVER TYPE | USACE | MDE | VDEQ |
|--|-----------|----------------|---|---|--|---|---------------------------------|---------------------------------|----------------------|
| 22TT | FEATURE # | PFO | Wetland 22TT is a PFO located east of the I-495 outer loop that abuts Waterway 22UU and Waterway 22MM. | Red maple Green ash Northern spicebush Japanese stilt grass | widths/depths) - | (Left & Right Banks) - | Yes | JURISDICTION No | Yes |
| 22U | W121M | PFO | Wetland 22U is a PFO located east of the I-495 inner loop, north of Clara Barton Parkway, and south of MacArthur Boulevard that abuts Waterway 22T. | Red maple Slippery elm (<i>Ulmus rubra</i>) Black willow Ash-leaf maple | - | - | Yes | Yes | No |
| 22UU | WOUS DF | Intermittent | Waterway 22UU is an intermittent channel located west of the I-495 outer loop that flows north into Waterway 22MM. | - | Riprap Width: 20 ft Depth: N/A | Right/Left: forest, maintained, impervious surface | Yes | No | Yes |
| 22V 22V_1 22V_2 22V_B 22V_B1 | - | Intermittent | Waterway 22V is an intermittent channel located south of Clara Barton Parkway that flows east under I-495 and into a roadside swale, followed by an 18-inch pipe. | - | Silt, sand, cobble, gravel Width: 1-4 ft Depth: 6 in | Right: hedgerow, riprap Left: hedgerow, riprap | Yes Yes Yes Yes Yes | Yes Yes Yes Yes Yes | No No No No |
| 22VV | WOUS DJ | Ephemeral | Waterway 22VV is an ephemeral channel located east of the I-495 inner loop that flows west. | - | Silt Width: 20 ft Depth: N/A | Right: forest Left: forest | Yes | No | Yes |
| 22W | W132M | PEM | Wetland 22W is a PEM (the C&O Canal Towpath) located southwest of the I 495/Clara Barton Parkway interchange. | Duck-potato (<i>Sagittaria latifolia</i>) Straw-color flat sedge (<i>Cyperus strigosus</i>) Narrow-leaf cat-tail (<i>Typha angustifolia</i>) Ribbon-leaf pondweed (<i>Potemogeton epihydrus</i>) | - | - | Yes | Yes | No |
| 22WW 22WW_C | WOUS DK | Intermittent | Waterway 22WW is an intermittent channel located east of the I-495 inner loop that flows northwest. | - | Silt, sand, gravel Width: 25 ft Depth: N/A | Right: forest Left: forest | Yes | No No | Yes Yes |
| 22X | - | PFO | Wetland 22X is a PFO located within the cloverleaf of the I-495 inner loop on-ramp from Clara Barton Parkway. | Red maple Eastern poison ivy (<i>Toxicodendron radicans</i>) Sweet wood-reed Asian bittersweet (<i>Celastrus orbiculatus</i>) | - | - | Yes | Yes | No |
| 22XX | WOUS DL | Intermittent | Waterway 22XX is an intermittent channel located east of the I-495 inner loop that flows northwest into Waterway 22WW. | - | Silt, sand, gravel Width: 10 ft Depth: N/A | Right: forest Left: forest | Yes | No | No |
| 22Y | 01-H | PEM | Wetland 22Y is a PEM located within the cloverleaf of the I-495 inner loop on-ramp from Clara Barton Parkway, that abuts Waterway 22Q. | Green ash River birch Lamp rush (<i>Juncus effusus</i>) Sweet wood-reed Deer-tongue rosette grass Japanese stilt grass | _ | - | Yes | Yes | No |
| 22Z 22Z_1 22Z_C | 01-N | Perennial | Waterway 22Z is a perennial channel known as Booze Creek that flows southwest through a triple box culvert under Cabin John Parkway to Waterway 22AA. | - | Sand, cobble, gravel Width: 40 ft Depth: 6 ft | Right: forest Left: forest | Yes Yes Yes | Yes Yes Yes | No No No |
| 22ZZ 22ZZ_C | WOUS SH | Perennial | Waterway 22ZZ is a perennial channel located east of the I-495 inner loop that flows east. | - | Silt, sand, gravel, cobble Width: 20 ft Depth: N/A | Right/Left: forest, unmaintained herbaceous, impervious surface | Yes Yes | No No | Yes Yes |

| | PREVIOUS | | | | CHANNEL (Approximate | COVER TYPE | USACE | MDE | VDEQ |
|-------------------|-----------|----------------|--|--|--|-------------------------------|--------------|--------------|----------|
| FEATURE ID | FEATURE # | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | widths/depths) | (Left & Right Banks) | JURISDICTION | JURISDICTION | |
| Subsegment 23 | | | | | | | | | |
| 23A | | | | | | | Yes | Yes | No |
| 23A_1 | | | | | | | Yes | Yes | No |
| 23A_2 | | | Waterway 23A is a perennial channel known as Thomas Branch that flows | | Silt, sand, cobble | Right: forest | Yes | Yes | No |
| 23A_3 | WUS 01 | Perennial | south parallel to the I-270 spur and the I-495 outer loop and into Cabin | - | Width: 15-30 ft | Left: forest | Yes | Yes | No |
| 23A_C | | | John Creek. | | Depth: 4 ft | | Yes | Yes | No |
| 23A_C1 | | | | | | | Yes | Yes | No |
| 23A_C2 | | | | | | | Yes | Yes | No |
| 23AA | | | Waterway 23AA is a perennial channel located southeast of the I- | | Silt, sand | Right: forest | Yes | Yes Yes | No No |
| 23AA_1 23AA_C | - | Perennial | 270/Democracy Boulevard interchange that originates at a culvert under | - | Width: 2-3 ft | Left: forest | Yes | Yes | No |
| 23AA_C 23AA_C1 | | | the I-270 on-ramp and flows south through another culvert. | | Depth: 2-4 in | | Yes | Yes | No |
| ZJAA_CI | | | | Sweet-gum (<i>Liquidambar styraciflua</i>) | | | 165 | 165 | NO |
| 23BB | - | PEM | Wetland 23BB is a PEM located southeast of the I-270/Democracy Boulevard interchange that abuts Waterway 23AA. | Eastern poison ivy Japanese stilt grass | - | - | Yes | Yes | No |
| 226 | | Tatamaittaat | Waterway 23C is an intermittent channel located southwest of the I- | | Silt, muck, leaf litter | Right: forest | No. | Vez | Na |
| 23C | - | Intermittent | 270/Democracy Boulevard interchange that flows east into Waterway 23A. | - | Width: 4 ft Depth: 6 in | Left: forest | Yes | Yes | No |
| 23CC | - | PFO | Wetland 23CC is a PFO located west of the I-270 south spur and northeast of Motor City drive that abuts Waterway 23E. | Green ash American elm Northern spicebush Northern bush honeysuckle (<i>Diervilla Ionicera</i>) Eastern poison ivy Swamp smartweed | - | - | Yes | Yes | No |
| 23D | | | Waterway 23D is an intermittent channel located southeast of the I- | | Silt, sand, cobble, gravel | Right: forest | Yes | Yes | No |
| 23D_C | WUS 02 | Intermittent | 270/Democracy Boulevard interchange that flows from 23-SWM8, under I- 270, and into Thomas Branch. | - | Width: 7 ft Depth: 2 ft | Left: forest | Yes | Yes | No |
| 23DD | - | Intermittent | Waterway 23DD is an intermittent channel located west of the I-270 south spur and east of Westlake Drive that flows north into Waterway 23K. | - | Silt, sand, cobble Width: 4 ft Depth: 1 ft | Right: forest Left: forest | Yes | Yes | No |
| 23E | - | Intermittent | Waterway 23E is an intermittent channel located west of the I-270 south spur and northeast of Motor City Drive that flows west from Wetland 23CC and out of the study area. | - | Silt, sand, gravel, riprap Width: 6 ft Depth: 3 ft | Right: forest Left: forest | Yes | Yes | No |
| 23EE | - | PFO | Wetland 23EE is a PFO located between the Old Georgetown Road on ramp to I-270 eastbound and Aubinoe Farm Drive. | American elm Red maple Amur honeysuckle Japanese stilt grass Fox grape (<i>Vitis labrusca</i>) Unknown grass species (<i>Poa sp.</i>) | - | - | No | Yes | No |
| 23F | - | PEM | Wetland 23F is a PEM located west of the I-270 south spur and east of Westlake Drive that abuts Waterway 23K. | Green ash Black tupelo Japanese stilt grass | - | - | Yes | Yes | No |
| 23FF | - | Intermittent | Waterway 23FF is an intermittent channel located south of the I-270 east spur and north of the Rudyard Drive/Rossmore Drive intersection that flows east into Waterway 23QQ. | - | Silt, sand, cobble, and gravel Width: 7 ft Depth: 6 in | Right: forest Left: forest | Yes | Yes | No |
| 23G | | | Waterway 23G is a perennial channel located south of the Grosvenor | | Silt, sand, cobble | Right: forest | Yes | Yes | No |
| 23G_1 | WUS 34 | Perennial | Place/Englishman Drive intersection that flows adjacent to and under I-270 | - | Width: 8-10 ft | Left: forest | Yes | Yes | No |
| 23G_C | | | and out of the study area. | | Depth: 6-12 in | | Yes | Yes | No |
| 23GG | - | PFO | Wetland 23GG is a PFO located west of I-270 and southeast of the Tuckerman Lane/Westlake Drive intersection. | Red maple Northern spicebush Greater water dock (<i>Rumex britannica</i>) New York fern (<i>Parathelypteris noveboracensis</i>) Japanese honeysuckle | - | - | Yes | Yes | No |

| FEATURE ID | PREVIOUS FEATURE # | CLASSIFICATION | N DESCRIPTION | DOMINANT VEGETATION | CHANNEL (Approximate widths/depths) | COVER TYPE (Left & Right Banks) | USACE JURISDICTION | MDE JURISDICTION | VDEQ JURISDICTION |
|--|-----------------------|---|---|--|---|------------------------------------|---------------------------------|---------------------------------|----------------------|
| 23H | - | Ephemeral | Waterway 23H is an ephemeral channel located southeast of Englishman Drive that flows south into Waterway 23G. | - | Silt, gravel Width: 5 ft Depth: 2 ft | Right: forest Left: forest | Yes | No | No |
| 23НН | - | PFO | Wetland 23HH is a PFO located west of the I-270 south spur that drains into Waterway 23K. | Black tupelo American hornbeam (<i>Carpinus caroliniana</i>) | | | Yes | Yes | No |
| 23J | - | PFO | Wetland 23J is located southwest of the Rockledge Drive overpass over I- 270 that drains into Waterway 23N and surrounds Wetland 23KK. | Speckled alder (<i>Alnus incana</i>) Black willow American sycamore | | | Yes | Yes | No |
| 23K 23K_1 23K_C 23K_C1 23K_D | - | Perennial | Waterway 23K is a perennial channel located west of the I-270 south spur and east of Westlake Drive that originates at a stormwater management pond and flows north into Waterway 24A. Waterway 23K flows through subsegments 23 and 24. | - | Silt, sand, cobble, gravel Width: 9 ft Depth: 3 ft | Right: forest Left: forest | Yes Yes Yes Yes Yes | Yes Yes Yes Yes Yes | No No No No |
| 23КК | - | PEM | Wetland 23KK is a PEM located southwest of the Rockledge Drive overpass I-270 that drains into Waterway 23N. | Narrowleaf cat-tail Arrowleaf tearthumb (<i>Persicaria sagittata</i>) | | | Yes | Yes | No |
| 23L | - | PEM | Wetland 23L is a PEM located inside the Democracy Boulevard on ramp to I 270 northbound. | Broad-leaf cat-tail (<i>Typha latifolia</i>) Japanese stilt grass | - | - | Yes | Yes | No |
| 23LL | - | PEM | Wetland 23LL is a PEM located north of the east spur of I-270 and south of Windemere Circle, adjacent to Waterway 23N. | Small-spike false nettle (<i>Boehmeria cylindrica</i>) Japanese stilt grass Lamp rush | - | - | Yes | Yes | No |
| 23M | - | Ephemeral | Waterway 23M is an ephemeral channel located southeast of Earlsgate Lane and north of I-270 that flows north into Waterway 23N. | - | | Right: forest Left: forest | Yes | No | No |
| 23MM | - | PFO | Wetland 23MM is a PFO located west of I-270 and south of Thomas Branch Drive in the floodplain of Waterway 23A (Thomas Branch). | American sycamore Red maple Tuliptree (<i>Liriodendron tulipifera</i>) | - | - | Yes | Yes | No |
| 23N 23N_1 23N_C 23N_D | - | Intermittent Perennial Intermittent Intermittent | Waterway 23N is an intermittent channel located between Windermere Circle and I-270 that flows northwest out of the study area into Old Farm Creek. Waterway 23N becomes perennial (23N_1) downstream of its confluence with waterway 23U. | - | Sand, cobble, gravel, riprap Width: 9 ft Depth: 1 ft | Right: forest Left: forest | Yes Yes Yes Yes | Yes Yes Yes Yes | No No No No |
| 23NN | - | Perennial | Waterway 23NN is a perennial channel located north of the intersection of Rudyard Drive and Farham Drive that flows from Waterway 23R into Waterway 23Q. | - | Sand, cobble, gravel, bedrock Width: 8 ft Depth: 1 ft | Right: forest Left: forest | Yes | Yes | No |
| 23P | - | PFO | Wetland 23P is a PFO located northeast of the intersection of Snow Point Drive and Fleming Avenue. | Green ash Red maple Northern spicebush Northern bush honeysuckle Jack-in-the-pulpit (<i>Arisaema triphyllum</i>) | - | - | Yes | Yes | No |
| 23PP | - | Intermittent | Waterway 23PP is an intermittent channel located south of I-270 and north of Rudyard Drive that flows into Waterway 23QQ. | - | Sand, cobble, gravel Width: 6 ft Depth: 1 ft | Right: forest Left: shrub | Yes | Yes | No |
| 23Q | | Demanda | Waterway 23Q is a perennial channel located north of the intersection of | | Sand, cobble, gravel, bedrock, riprap | Right: forest | Yes | Yes | No |
| 23Q_2 23Q_C | WUS 33 | Perennial | Rudyard Drive and Farnham Drive that flows outside the study area downstream. | | Width: 15 ft Depth: 6 ft | Left: forest | Yes | Yes Yes | No No |
| 23QQ | - | Ephemeral | Waterway 23QQ is an ephemeral channel located south of I-270 and north of Rossmore Drive that flows into Waterway 23RR. | - | Silt, sand Width: 2 ft | Right: forest Left: forest | Yes | No | No |

| FEATURE ID | PREVIOUS | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | CHANNEL (Approximate | COVER TYPE | USACE | MDE | VDEQ |
|----------------|-------------|--------------------|---|---|--|---------------------------------------|------------|----------------------------|----------|
| 23R 23R_1 | FEATURE # | | Waterway 23R is an intermittent channel located east of the I-270/Old | | widths/depths) Silt, cobble, gravel, bedrock | (Left & Right Banks) Right: forest | Yes Yes | JURISDICTION Yes Yes | No No |
| 23R_2 23R_C | - | | Georgetown Road interchange that enters the study area from a culvert and flows east under I-270 and out of the study area. | - | Width: 15 ft Depth: 8 ft | Left: forest | Yes | Yes | No No |
| 23RR | - | Intermittent | Waterway 23RR is an intermittent channel located south of I-270 and north of Rossmore Drive that flows into Waterway 23Q. | - | Silt, sand, cobble, gravel Width: 2 ft Depth: 1 ft | Right: forest Left: forest | Yes | Yes | No |
| 235 | - | | Waterway 23S is an intermittent channel located northeast of the Snow Point Drive/Fleming Avenue intersection that flows east into Waterway 23G. | - | Cobble, gravel, riprap Width: 8 ft Depth: 2 ft | Right: forest Left: forest | Yes | Yes | No |
| 2355 | - | Ephemeral | Waterway 23SS is an ephemeral channel located south of I-270 and north of Rossmore Drive that flows from Wetland 23WW into Waterway 23Q. | - | Silt, sand Width: 3 ft Depth: 6 in | Right: forest Left: forest | Yes | No | No |
| 23T | - | | Waterway 23T is an ephemeral channel located between Thornbush Lane and I-270 that flows into Waterway 23G. | - | Silt, cobble, gravel Width: 2 ft Depth: 1 ft | Right: forest Left: forest | Yes | No | No |
| 23U | - | Deveniel | Waterway 23U is a perennial channel located between Windermere Circle and I-270 that flows north into Waterway 23N. | - | Sand, cobble, gravel, riprap Width: 6 ft Depth: 1 ft | Right: forest Left: forest | Yes | Yes | No |
| 23U_1 23U_C | - | Perennial | | | | | Yes | Yes Yes | No No |
| 2300 | - | Intermittent | Waterway 23UU is an intermittent channel located south of I-270 and north of Rossmore Drive that flows into Waterway 23Q. | - | Sand, cobble, gravel, riprap Width: 4 ft Depth: 6 in | Right: forest Left: forest | Yes | Yes | No |
| 23V | | Taska una itta ant | Waterway 23V is an intermittent channel located northeast of the I-270 | | Silt | Right: forest | Yes | Yes | No |
| 23V_C | SB12/NB01-D | Intermittent | Spur/Westlake Terrace intersection that originates from a culvert and flows west under I-270. | - | Width: 2 – 8 ft Depth: 1 in | Left: forest | Yes | Yes | No |
| 23W | PEM 10 | | Wetland 23W is a PEM located northeast of the I-270/Democracy Boulevard interchange that flows to Waterway 23A. | Green ash Pin oak Common persimmon (<i>Diospyros virginiana</i>) Reed canary grass Uptight sedge (<i>Carex stricta</i>) | - | - | Yes | Yes | No |
| 23WW | - | PFO | Wetland 23WW is a PFO wetland located south of I-270 and north of Rossmore Drive that drains into Waterway 23SS. | American elm Linden viburnum (<i>Viburnum dilatatum</i>) Green ash Japanese stilt grass Frost grape (<i>Vitis vulpina</i>) Japense honeysuckle | - | - | Yes | Yes | No |
| 23X | PEM 02 | | | Red maple American sycamore Green ash Northern spicebush Skunk-cabbage (<i>Symplocarpus foetidus</i>) Virginia-creeper (<i>Parthenocissus quinquefolia</i>) Fox grape | - | - | Yes | Yes | No |
| 23Z | - | Intermittent | Waterway 23Z is an intermittent channel located west of the I-270 south spur and northeast of Motor City Drive that flows north from a parking lot into Waterway 23E. | - | Silt, sand Width: 8 ft Depth: 2 ft | Right: forest Left: forest | Yes | Yes | No |

| | PREVIOUS | | | | CHANNEL (Approximate | COVER TYPE | USACE | MDE | VDEQ |
|----------------|-----------|----------------|---|---|--|---|--------------|-----|----------|
| FEATURE ID | FEATURE # | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | widths/depths) | (Left & Right Banks) | JURISDICTION | | |
| Subsegment 24 | | 1 | 1 | | | | | | |
| 24A | | Devennial | Waterway 24A is a perennial channel located north of the I-270/Tuckerman | | Cobble, gravel, sand, silt | Right: forest, scrub-shrub, | Yes | Yes | No |
| 24A_1 24A_C | - | Perennial | Lane intersection that flows west out of the study area into Cabin John Creek. | - | Width: 20 ft Depth: 6 in | maintained Left: forest, scrub-shrub | Yes Yes | Yes | No No |
| 24A_C 24C | - | Intermittent | Waterway 24C is an intermittent channel located in Cabin John Regional Park that flows west out of the study area into Cabin John Creek. | - | Cobble, gravel, sand, silt Width: 3.5 ft Depth: 5 in | Right: forest, scrub-shrub Left: forest, scrub-shrub | Yes | Yes | No |
| 24D | - | Perennial | Waterway 24D is a perennial channel located north of Waterway 24C in Cabin John Regional Park that flows west out of the study area into Cabin John Creek. | - | Cobble, gravel, sand, silt, riprap Width: 3 ft Depth: 4 in | Right: herbaceous Left: forest, scrub-shrub | Yes | Yes | No |
| 24F | - | | | | | | Yes | Yes | No |
| 24F_1 | WUS 14 | _ | Waterway 24F is a perennial channel located southeast of the I- | | | | Yes | Yes | No |
| 24F_2 | WUS 14 | _ | 270/Montrose Road interchange that flows south into a culvert under I-270 | | Cobble, gravel, sand, silt | Right: forest, scrub-shrub | Yes | Yes | No |
| 24F_3 | WUS 14 | Perennial | and west out of the study area. Waterway 24F flows through subsegments | - | Width: 15 ft | Left: forest, scrub-shrub | Yes | Yes | No |
| 24F_C | - | _ | 24 and 25. | | Depth: 6 in | | Yes | Yes | No |
| 24F_C1 | WUS 14 | _ | | | | | Yes | Yes | No |
| 24F_C2 | WUS 14 | | | | | | Yes | Yes | No |
| 24H | WUS 15 | Perennial | Waterway 24H is a perennial channel located west of the I-270/Montrose Road interchange that flows south out of the study area into Waterway 24J. | - | Cobble, gravel, sand, silt Width: 5 ft Depth: 1 in | Right/Left: forest, scrub- shrub, wetland | Yes | Yes | No |
| 24J | - | Perennial | Waterway 24J is a perennial channel located west of the I-270/Montrose Road interchange that flows southeast out of the study area into Cabin John Creek. | - | Cobble, sand, silt Width: 14 ft Depth: 6 in | Right: forest Left: forest | Yes | Yes | No |
| 24К | - | Intermittent | Waterway 24K is an intermittent channel located southeast of the I- 270/Montrose Road interchange that flows southwest into Waterway 24F. | - | Silt, sand Width: 3 ft Depth: 6 in | Right: forest Left: forest | Yes | Yes | No |
| 24L | - | Intermittent | Waterway 24L is an intermittent channel located southeast of the I- 270/Montrose Road interchange that flows southwest into Waterway 24F and abuts Wetland 24R. | - | Gravel, silt, sand Width: 1-2 ft Depth: 1-2 in | Right: forest Left: forest | Yes | Yes | No |
| 24M | - | PEM | Wetland 24M is a PEM located northeast of the I-270/Tuckerman Lane intersection. | Red maple American sycamore River birch Broad-leaf cat-tail Reed canary grass | - | - | Yes | Yes | No |
| 24N | - | PFO | Wetland 24N is a PFO located in Cabin John Regional Park, half a mile south of the I-270/Montrose Road interchange. | Red maple American elm Northern spicebush Japanese stilt grass Eastern poison ivy | - | - | Yes | Yes | No |
| 24P | - | Ephemeral | Waterway 24P is an ephemeral channel located southwest of the I- 270/Montrose Road interchange that flows west into Cabin John Creek. | - | Sand Width: 4 ft Depth: 6 in | Right: forest Left: forest | Yes | No | No |
| 24Q | - | PFO | Wetland 24Q is a PFO located in Cabin John Regional Park half a mile south of the I-270/Montrose Road interchange that abuts Waterway 24D. | Red maple American sycamore Northern spicebush Japanese stilt grass | - | - | Yes | Yes | No |

| | PREVIOUS | | DECONIDITION | | CHANNEL (Approximate | COVER TYPE | USACE | MDE | VDEQ |
|---------------|-----------|----------------|--|--|---|---------------------------------|--------------|--------------|--------------|
| FEATURE ID | FEATURE # | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | widths/depths) | (Left & Right Banks) | JURISDICTION | JURISDICTION | JURISDICTION |
| 24R | - | PFO | Wetland 24R is a PFO located southeast of the I-270/Montrose Road interchange, adjacent to Waterway 24F and 24L. | Red maple Pin oak Northern spicebush Rambler rose Japanese stilt grass Rice cut grass (<i>Leersia oryzoides</i>) Eastern poison ivy | - | - | Yes | Yes | No |
| 24T | - | Intermittent | Waterway 24T is an intermittent channel located west of I-270 and east of Gainsborough Road that flows south into Waterway 24U. | - | Silt, sand, gravel, cobble Width: 6 ft Depth: 4 ft | Right: forest Left: forest | Yes | Yes | No |
| 24U | - | Perennial | Waterway 24U is a perennial channel located west of I-270 and east of Gainsborough Road that flows south out of the study area. | - | Silt, sand, gravel, cobble Width: 20 ft Depth: 4 ft | Right: forest Left: forest | Yes | Yes | No |
| 24V | | | Waterway 24V is an intermittent channel located east of I-270 and west of | | Concrete | Right: hedgerow | Yes | Yes | No |
| 24V_C | - | Intermittent | Dinwiddie Drive that flows through a culvert under I-270 into Waterway 24D. | - | Width: 3 ft Depth: 3 in | Left: hedgerow | Yes | Yes | No |
| 24W | - | PEM | Wetland 24W is a PEM located east of I-270, north of Tuckerman Ln, and in the floodplain of Waterway 24A. | Japanese stilt grass | - | - | Yes | Yes | No |
| 24X | - | PEM | Wetland 24X is a PEM located west of I-270, north of Tuckerman Ln, and in the floodplain of Waterway 24A. | American elm American sycamore Northern spicebush Sweet wood-reed Japanese stilt grass Unknown grass species | - | - | Yes | Yes | No |
| Subsegment 25 | 1 | | | | | | 4 | | |
| 25A | - | | Waterway 25A is a perennial channel located east of the I-270/Montrose | | Silt sand, riprap | Right: forest | Yes | Yes | No |
| 25A_1 | WUS 13 | Perennial | Road interchange that originates at a culvert and flows west into Waterway 24F. | - | Width: 8 ft Depth: 4 ft | Left: forest, scrub-shrub | Yes | Yes | No |
| 25A_C 25B | PFO 05 | PFO | Wetland 25B is a PFO located east of the I-270/Montrose Road interchange that abuts Waterway 24F. | Silver maple (<i>Acer saccharinum</i>) Red maple Pin oak Northern spicebush Japanese barberry (<i>Berberis thunbergii</i>) Sensitive fern (<i>Onoclea sensibilis</i>) Japanese stilt grass | - | - | Yes | Yes | No |
| 25C | WUS 14A | Intermittent | Waterway 25C is an intermittent channel located east of the I- 270/Montrose Road interchange that originates at a culvert and flows east into Waterway 24F. | - | Silt, cobble, riprap Width: 8 ft Depth: 4 ft | Right: forest Left: forest | Yes | Yes | No |
| 25D | PFO 06 | PFO | Wetland 25D is a PFO located east of the I-270/Montrose Road interchange that abuts Waterway 24F. | River birch Red maple American sycamore Southern arrow-wood (<i>Viburnum dentatum</i>) Lamp rush Deer-tongue rosette grass | - | - | Yes | Yes | No |
| 25E | - | Perennial | Waterway 25E is a perennial channel pond located south of the I-270/Falls Road interchange within 25-SWM1 that flows into Waterway 25H and then east under I-270. | - | Silt, sand, muck Width: 150 ft Depth: Unknown | Right: wetland Left: wetland | Yes | Yes | No |
| 25F | - | Ephemeral | Waterway 25F is an ephemeral channel located east of I-270 and southwest of the intersection of Wootton Parkway and Tower Oaks Boulevard that flows east under Tower Oaks Boulevard and out of the study area. | - | Sand, silt, cobble, clay Width: 10 ft Depth: 5 ft | Right: forest Left: forest | Yes | No | No |

| FEATURE ID | PREVIOUS FEATURE # | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | CHANNEL (Approximate widths/depths) | COVER TYPE (Left & Right Banks) | USACE JURISDICTION | MDE JURISDICTION | VDEQ JURISDICTION |
|---------------------------------|---------------------------------|----------------|--|--|--|---|--------------------------|--------------------------|----------------------|
| 25G | - | Intermittent | Waterway 25G is an intermittent channel located southeast of the Preserve Parkway/Tower Oaks Boulevard intersection that flows northeast from a culvert and out of the study area. | - | Sand, cobble, gravel Width: 8-12 ft Depth: 6 ft | Right: forest Left: forest | Yes | Yes | No |
| 25H 25H_1 25H_C | WUS 16 - WUS 16 | Perennial | Waterway 25H is a perennial channel located south of the I-270/Falls Road interchange within 25-SWM1. | - | Silt, sand, gravel Width: 3-4 ft Depth: 3-6 ft | Right/Left: wetlands, stormwater management areas | Yes Yes Yes | Yes Yes Yes | No No No |
| 25K | - | PEM | Wetland 25K is a PEM located south of the I-270/Falls Road interchange within 25-SWM1 and abutting Waterway 25H. | American sycamore Groundseltree (<i>Baccharis halimifolia</i>) Crimson-eyed rose-mallow (<i>Hibiscus moscheutos</i>) Narrow-leaf cat-tail Lamp rush Shallow sedge (<i>Carex lurida</i>) | - | - | Yes | Yes | No |
| 25L | - | Intermittent | Waterway 25L is an intermittent channel located east of I-270 and Tower Oaks Boulevard and south of Preserve Parkway that flows northeast from 25-SWM8 into Waterway 25G. | - | Silt, sand, gravel Width: 4 ft Depth: 1.5 ft | Right: forest Left: forest | Yes | Yes | No |
| 25M | - | PEM | Wetland 25M is a PEM located west of I-270 and south of Wootton Parkway. | Chufa (<i>Cyperus esculentus</i>) Japanese honeysuckle | - | - | No | Yes | No |
| 25N | - | Intermittent | Waterway 25N is an intermittent channel located east of I-270, west of Grand Oak Way, and flows into 25H. | - | Silt, gravel Width: 4-5 ft Depth: 3-6 in | Right: wetland Left: berm and wetland | Yes | Yes | No |
| 25P | - | PFO | Wetland 25P is a PFO located east of I-270, west of Grand Oak Way, and adjacent to Waterway 25H. | River birch Common persimmon Sweet-gum American sycamore | - | - | Yes | Yes | No |
| Subsegment 26 | | | • | • | • | | | | |
| 26A | PEM 08 | PFO | Wetland 26A is a PFO located southeast of the I-270/West Montgomery Avenue interchange that abuts Waterway 26B. | Green ash Red maple Black tupelo Southern arrow-wood Eurasian-buttercup (<i>Ficaria verna</i>) White grass | - | - | Yes | Yes | No |
| 26B 26B_1 26B_C 26B_C1 | WUS 18 | Intermittent | Waterway 26B is an intermittent channel located south of the I-270/West Montgomery Avenue interchange that flows southwest under I-270. | - | Silt, sand, cobble, riprap Width: 8 ft Depth: 4 ft | Right: forest Left: forest | Yes Yes Yes Yes | Yes Yes Yes Yes | No No No |
| 26C 26C_1 26C_C 26C_C | - WUS 17 WUS 17 WUS 17 | Intermittent | Waterway 26C is an intermittent channel flow located south of Winding Rose Drive that flows northwest and then west under I-270. | - | Sand, cobble, gravel, riprap Width: 9 ft Depth: 1 ft | Right: forest Left: scrub-shrub | Yes Yes Yes Yes | Yes Yes Yes Yes | No No No |
| 26D | - | PEM | Wetland 26D is a PEM located east of Watts Branch Parkway that abuts Waterway 26C. | Silver maple Green ash Common persimmon Twinsisters (<i>Lonicera tatarica</i>) Rambler rose White grass Japanese stilt grass | - | - | Yes | Yes | No |
| 26E | PFO 09 | PEM | Wetland 26E is a PEM located east of Watts Branch Parkway that abuts Waterway 26C. | Fowl blue grass (<i>Poa palustris</i>) | - | - | Yes | Yes | No |
| 26F | PEM 06 | PEM | Wetland 26F is a PEM located south of Winding Rose Drive and abutting Waterway 26C. | Red maple Black willow Pinkweed (<i>Persicaria pensylvanica</i>) Rice cut grass Virginia-creeper | - | - | Yes | Yes | No |

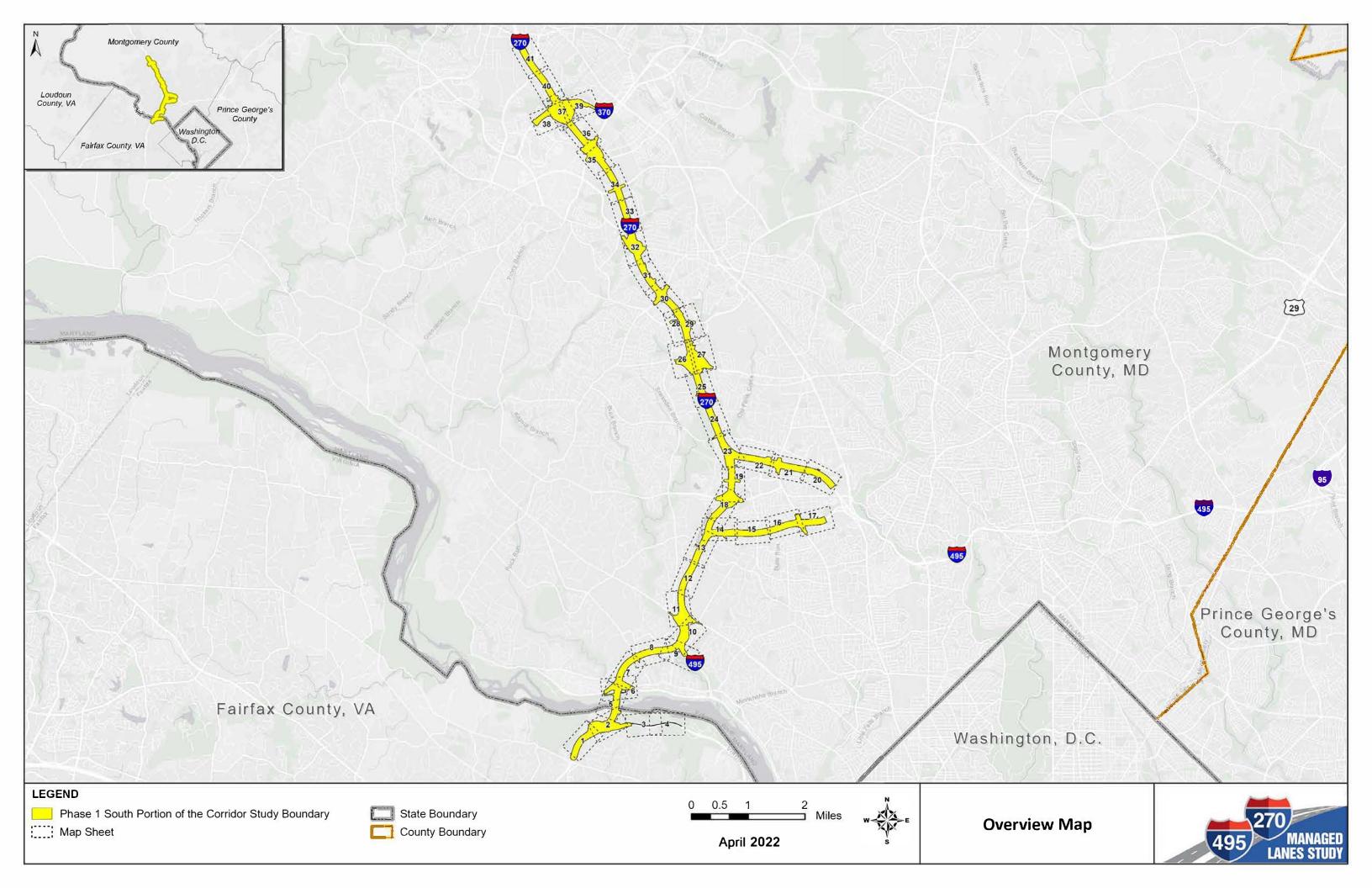
| FEATURE ID | PREVIOUS FEATURE # | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | CHANNEL (Approximate widths/depths) | COVER TYPE (Left & Right Banks) | USACE JURISDICTION | MDE JURISDICTION | VDEQ JURISDICTION |
|---------------|-----------------------|----------------|---|---|--|---|-----------------------|---------------------|----------------------|
| 26G | WUS 17A | Ephemeral | Waterway 26G is a channel with ephemeral and intermittent flow located northwest of the I-270/Great Falls Road interchange that flows north from | - | Silt, cobble, sand, and gravel Width: 6 ft | Right: forest | Yes | No | No |
| 26G_1 | WUS 17A | Intermittent | Wetland 26H. | | Depth: 3 ft | Left: forest | Yes | Yes | No |
| 26H | PEM 11 | PEM | Wetland 26H is a PEM located northeast of the I-270/Great Falls Road interchange. | Green ash Common persimmon Black walnut (<i>Juglans nigra</i>) Northern bush honeysuckle Sensitive fern Spotted touch-me-not (<i>Impatiens capensis</i>) Eastern poison ivy | - | - | Yes | Yes | No |
| 26J | - | Intermittent | Waterway 26J is an intermittent channel located south of Winding Rose Drive and abutting Wetland 26F. | - | Riprap Width: 8 ft Depth: 2 ft | Right: forest Left: forest | Yes | Yes | No |
| 26К | - | Intermittent | Waterway 26K is an intermittent channel located east of I-270, west of Blaze Climber Way, and flows through Wetland 26F. | - | Silt Width: 4 ft Depth: 0 - 1 ft | Right: wetland, park, trails Left: wetland | Yes | Yes | No |
| 26L | - | Intermittent | Waterway 26L is an intermittent channel located east of I-270, west of Blaze Climber Way, and flows from a SWM facility into the southern edge of Wetland 26F. | - | Riprap Width: 6 ft Depth: 6 in | Right: wetland Left: wetland | Yes | Yes | No |
| Subsegment 27 | | | | | | | | | |
| 27A | | | | | | | Yes | Yes | No |
| 27A_1 | | | | | | | Yes | Yes | No |
| 27A_2 | | | Waterway 27A is Watts Branch, a perennial channel located north of the I- | | Bedrock, cobble, gravel, concrete, | Right: forest, scrub-shrub, | Yes | Yes | No |
| 27A_3 | WUS 19 | Perennial | 270/West Montgomery Avenue interchange that flows southwest out of the | - | sand, silt Width: 17 ft | wetland Left: forest, scrub-shrub, | Yes | Yes | No |
| 27A_C | | | study area. | | Depth: 7 in | wetland | Yes | Yes | No |
| 27A_C1 | | | | | | | Yes | Yes | No |
| 27A_C2 | | | | | | | Yes | Yes | No |
| 27В | WUS 19F | Intermittent | Waterway 27B is an intermittent channel located northeast of the I- 270/West Montgomery Avenue interchange that flows northwest from a culvert into Waterway 27A. | - | Silt, sand, cobble, riprap Width: 5 ft Depth: 1 ft | Right: forest Left: forest | Yes | Yes | No |
| 27C | WUS 19C | Ephemeral | Waterway 27C is an ephemeral channel located within Wetland 27F that enters the study area through a culvert under Nelson Street and flows southwest into Waterway 27D. | - | Silt, sand Width: 3 ft Depth: 6 in | Right: forest Left: forest | Yes | No | No |
| 27D | WUS 19D | Intermittent | Waterway 27D is an intermittent channel located between I-270 and Nelson Street that flows south from Wetland 27F into Waterway 27A. | - | Riprap Width: 4 ft Depth: 1 ft | Right: forest Left: forest | Yes | Yes | No |
| 27Е | PFO 13 | PFO | Wetland 27E is a PFO located between I-270 and Nelson Street that abuts Waterway 27B. | Green ash Red maple Common buttonbush (<i>Cephalanthus occidentalis</i>) Skunk-cabbage | - | - | Yes | Yes | No |
| 27F | WP001 | PFO | Wetland 27F is a PFO located north of the I-270/West Montgomery Avenue interchange between I-270 and Nelson Street that abuts Waterway 27C and Waterway 27D. | Green ash Pin oak Twinsisters Eastern poison ivy Skunk-cabbage | - | - | Yes | Yes | No |
| 27G | PSS 01 | PSS | Wetland 27G is a PSS located northwest of the I-270/ West Montgomery Avenue interchange that abuts Waterway 27H. | Black walnut Black cherry (<i>Prunus serotina</i>) Green ash Smooth blackhaw Skunk-cabbage Eastern poison ivy | - | - | Yes | Yes | No |

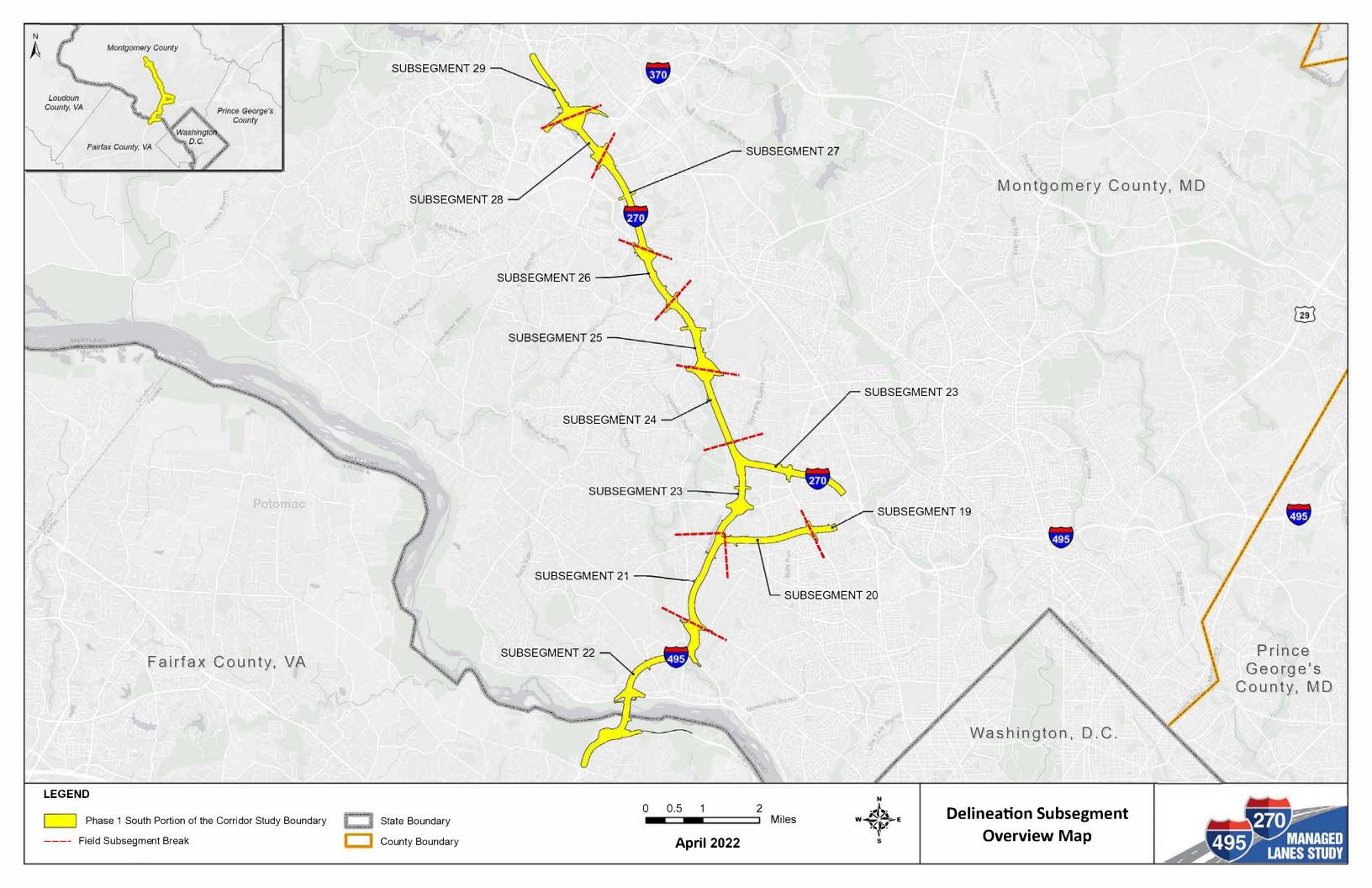
| FEATURE ID | PREVIOUS FEATURE # | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | CHANNEL (Approximate widths/depths) | COVER TYPE (Left & Right Banks) | USACE JURISDICTION | MDE JURISDICTION | VDEQ JURISDICTION |
|----------------|-----------------------|----------------|---|-----------------------------|--|---|-----------------------|---------------------|----------------------|
| 27H | WUS 19A | Intermittent | Waterway 27H is an intermittent channel located northeast of the I- 270/West Montgomery Avenue interchange that flows southwest from Wetland 27G into Waterway 27A. | - | Silt, muck, gravel Width: 3 ft Depth: 6 in | Right: herbaceous Left: herbaceous | Yes | Yes | No |
| 27K | SB7NB2-B | Ephemeral | Waterway 27K is an ephemeral channel located between Watts Branch Avenue and West Montgomery Avenue that flows northwest into Waterway 27A. | - | Silt, sand, cobble, gravel Width: 3 ft Depth: 1 ft | Right: hedgerow Left: hedgerow | Yes | No | No |
| 27L 27L C | NB3-A | Intermittent | Waterway 27L is an intermittent channel located south of the I-270/Shady Grove Road interchange that flows southeast from Wetland 27M and under I-270. | - | Silt, sand, cobble, riprap Width: 2-4 ft Depth: 6 in | Right: hedgerow Left: hedgerow | Yes | Yes | No |
| _ 27M | - | PFO | Wetland 27M is a PFO located between I-270 and the ramp to Redland Boulevard. | Red maple Sensitive fern | - | - | Yes | Yes | No |
| 27N | WUS 19B | Intermittent | Waterway 27N is an intermittent channel located north of the I-270/West Montgomery Avenue interchange that flows west into waters 27A. | - | Silt Width: 2.5 ft Depth: 6 in | Right: forest Left: forest | Yes | Yes | No |
| 27P | - | Perennial | Waterway 27P is a perennial channel located west of the I-270/W Montgomery Ave interchange near Watts Branch Parkway. Waterway 27P flows into Waterway 27A. | - | Silt, sand, gravel Width: 12 ft Depth: 4 ft | Right: forest Left: wetland/scrub and roadway | Yes | Yes | No |
| 27Q | - | PEM | Wetland 27Q is a PEM located west of the I-270/W Montgomery Ave interchange near Watts Branch Parkway. Wetland 27Q abuts Waterway 27P and Waterway 27A. | Sweet wood-reed | - | - | Yes | Yes | No |
| 27R | - | Intermittent | Waterway 27R is an intermittent channel located west of the intersection of Watts Branch Parkway and Viers Drive and flows from a non-jurisdictional waterway into Wetland 27S. | - | Riprap Width: 5 ft Depth: 2 ft | Right: woodland/scrub Left: woodland/scrub | Yes | Yes | No |
| 275 | - | PEM | Wetland 27S is a PEM located west of the intersection of Watts Branch Parkway and Viers Drive and abuts Waterway 27R. | Fowl blue grass | - | - | No | Yes | No |
| Subsegment 28 | | | | | | | | | |
| 28A | - | Perennial | Waterway 28A is a ponded perennial channel located southwest of the I- 270/I-370 interchange that flows northwest into Waterway 29A. | - | Riprap Width: 140-385 ft Depth: 2-10 ft | Right: maintained park Left: commercial development | Yes | Yes | No |
| 28B | WUS 21 | Intermittent | Waterway 28B is an intermittent channel located southwest of the I-270/I- 370 interchange that flows northwest into Waterway 29A. | - | Concrete Width: 6 ft Depth: 6 in | Right: forest Left: forest | Yes | Yes | No |
| Subsegment 29 | - | - | | | | | | | |
| 29A | WUS 20 | - | | | | | Yes | Yes | No |
| 29A_1 | WUS 20 | - | Waterway 29A is a perennial channel located northwest of the I-270/I-370 | | Silt, sand, cobble, gravel, riprap | | Yes | Yes | No |
| 29A_2 | - | Perennial | interchange that flows north from a stormwater pond into Muddy Branch. | - | Width: 20 ft | Right: forest | Yes | Yes | No |
| 29A_C | WUS 20 | - | Waterway 29A flows through subsegments 28 and 29. | | Depth: 2 ft | Left: forest | Yes | Yes | No |
| 29A_C1 | WUS 20 | - | | | | | Yes | Yes | No |
| 29A_C2 | WUS 20 | | | | | | Yes | Yes | No |
| 29B | W/UC 22 | Devennial | Waterway 29B is a perennial channel that flows under I-270 through a | | Bedrock, sand, cobble, gravel | Right: forest | Yes | Yes | No |
| 29B_1 29B_C | WUS 23 | Perennial | culvert located southwest of Bralan Court. | - | Width: 20 ft Depth: 2 ft | Left: forest | Yes | Yes | No |
| 29B_C 29C | WUS 35 | Intermittent | Waterway 29C is an intermittent channel located east of I-270 and south of Muddy Branch Road that flows southwest under I-270 and continues outside the study area into Muddy Branch. | - | Cobble, gravel, riprap Width: 6 ft Depth: 1.5 ft | Right: forest Left: mowed | Yes | Yes | No No |
| 29D | WUS 23A | Intermittent | Waterway 29D is an intermittent channel located northeast of the I-270/I- 370 interchange south of Gaither Road that flows northwest from a stormwater pond, under I-370, and continues outside the study area into | - | Silt, sand, cobble, riprap Width: 4 ft | Right: forest Left: forest | Yes | Yes | No |
| 29D_D | | | Muddy Branch. | | Depth: 3 ft | | Yes | Yes | No |

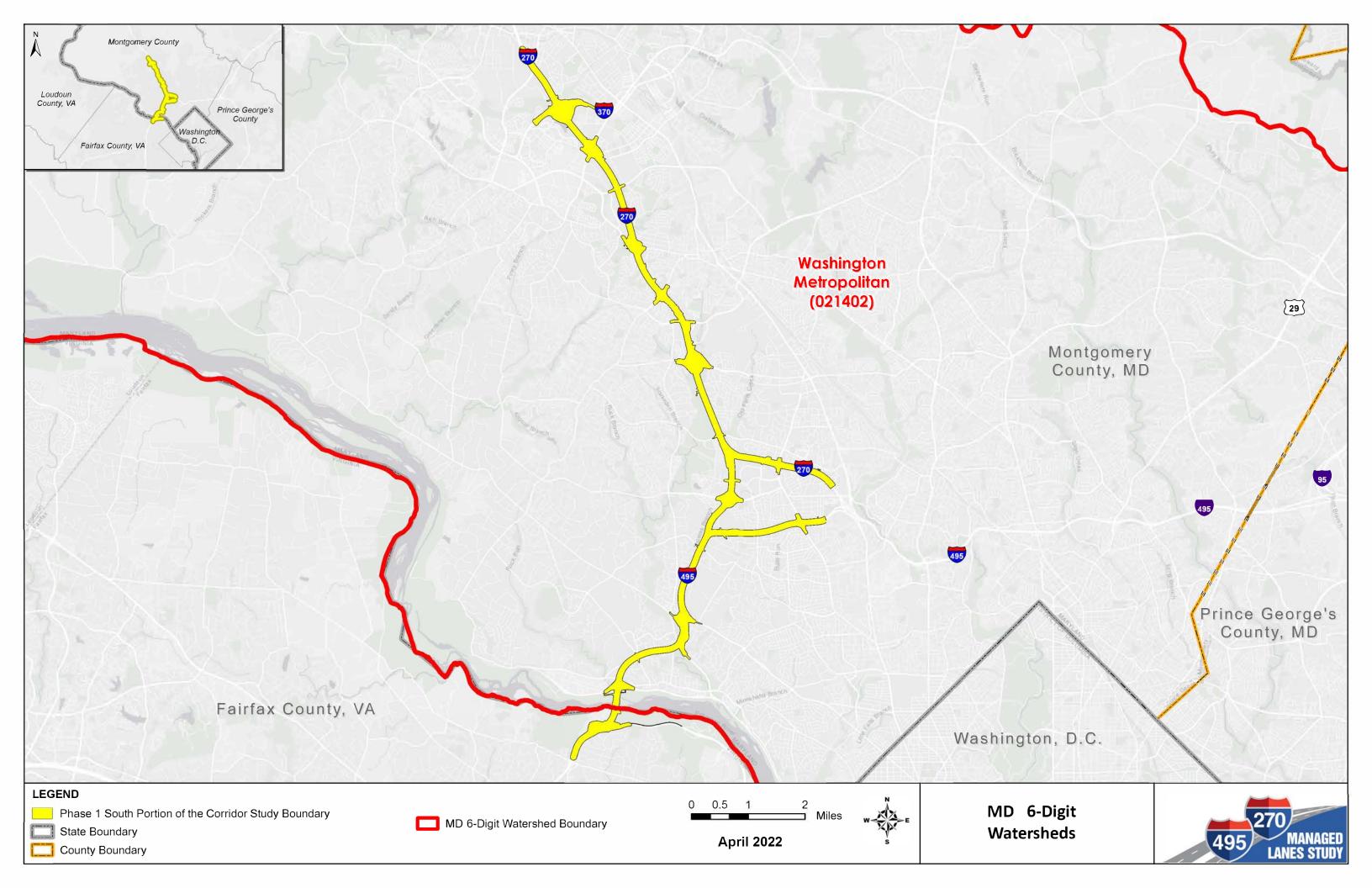
| FEATURE ID | PREVIOUS FEATURE # | CLASSIFICATION | DESCRIPTION | DOMINANT VEGETATION | CHANNEL (Approximate widths/depths) | COVER TYPE (Left & Right Banks) | USACE JURISDICTION | MDE JURISDICTION | VDEQ JURISDICTION |
|-----------------------|-----------------------------|----------------|---|---|--|--|-----------------------|---------------------|----------------------|
| 29E 29E_1 29E_C | WUS 35B WUS 35 WUS 35 | Perennial | Waterway 29E is a perennial channel located east of I-270 and south of Muddy Branch Road that flows southeast from a stormwater pond into Waterway 29C. | - | Silt, cobble, gravel Width: 5 ft Depth: 1 ft | Right: scrub-shrub Left: scrub-shrub | Yes Yes Yes | Yes Yes Yes | No No No |
| 29F | WUS 35C | Perennial | Waterway 29F is a perennial channel located east of I-270 and south of Muddy Branch Road that flows southwest from a stormwater pond into Waterway 29C. | - | Silt, cobble, sand, riprap Width: 4 ft Depth: 1 ft | Right: forest, wetland Left: forest | Yes | Yes | No |
| 29G | PEM 09 | PEM | Wetland 29G is a PEM located east of Muddy Branch Road and I-270, adjacent to Waterway 29E. | Black willow Spotted touch-me-not Rice cut grass | - | - | Yes | Yes | No |
| 29H | WUS 35A | Intermittent | Waterway 29H is an intermittent ditch located southwest of the I- 270/Muddy Branch Road intersection that flows west from a stormwater inlet into Waterway 29C. | - | Silt, gravel, and riprap Width: 6 ft Depth: 2 ft | Right: mowed Left: mowed | Yes | Yes | No |
| 29J | PEM 12 | PEM | Wetland 29J is a PEM located east of Muddy Branch Road and I-270, adjacent to Waterway 29C and 29F. | American sycamore Willow oak Spotted touch-me-not Small-spike false nettle Common marsh bedstraw (<i>Galium palustre</i>) | - | - | Yes | Yes | No |
| 29К | - | Intermittent | Waterway 29K is an intermittent channel located west of Industrial Drive and north of I-370 that flows north through 29-SWM3 and out of the study area. | - | Silt Width: 3 ft Depth: 6 in | Right: forest Left: forest | Yes | Yes | No |
| 29L | - | PFO | Wetland 29L is a PFO located east of I-270, west of Gaither Road, and adjacent to Waterway 29B. | Green ash Ash-leaf maple Unknown honeysuckle species (<i>Lonicera</i> sp.) Horsebrier Unknown sedge species (<i>Carex</i> sp.) Unknown grass specices Sweet wood-reed Japanese honeysuckle | - | - | Yes | Yes | No |
| 29M | - | PFO | Wetland 29M is a PFO located east of I-270, west of Gaither Road, and abuts Waterway 29P. | Pin oak American hornbeam Green ash Nanny-berry (<i>Virbunum lentago</i>) Ash-leaf maple Unknown honeysuckle species (<i>Lonicera sp.</i>) Unknown sedge species (<i>Carex sp.</i>) Eastern poison ivy | - | - | Yes | Yes | No |
| 29N | - | PFO | Wetland 29N is a PFO located west of I-270, south of Summit Hall Road, and abuts Waterway 29B. | Red maple Northern spicebush Sweet wood-reed Eastern woodland sedge (<i>Carex blanda</i>) | - | - | Yes | Yes | No |
| 29P | - | Intermittent | Waterway 29P is an intermittent channel located east of I-270, west of Gaither Road, and flows into Waterway 29B. | - | Silt, cobble, bedrock Width: 6 ft Depth: 6 in | Right: forest/maintained lawn Left: forest | Yes | Yes | No |

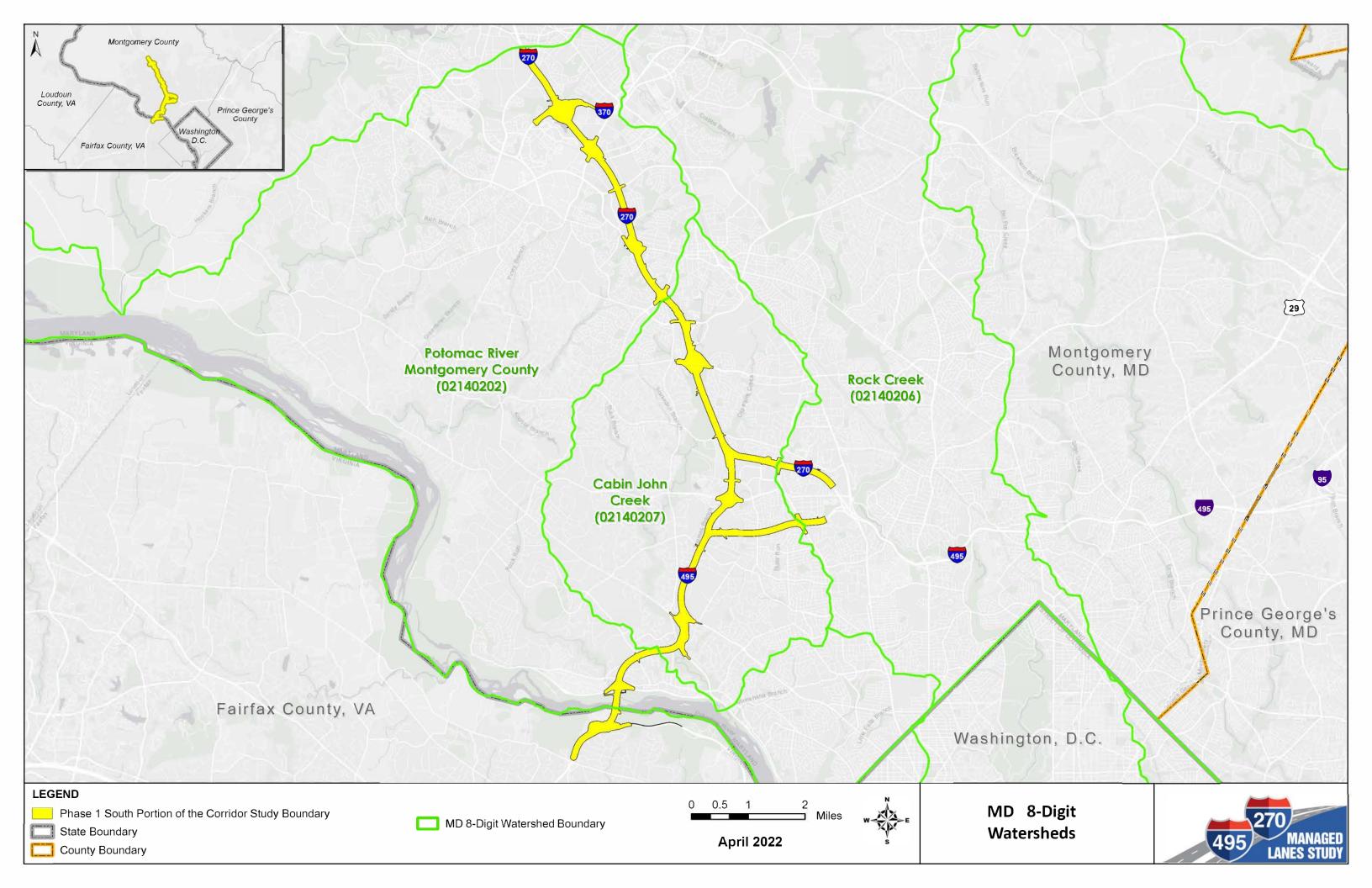


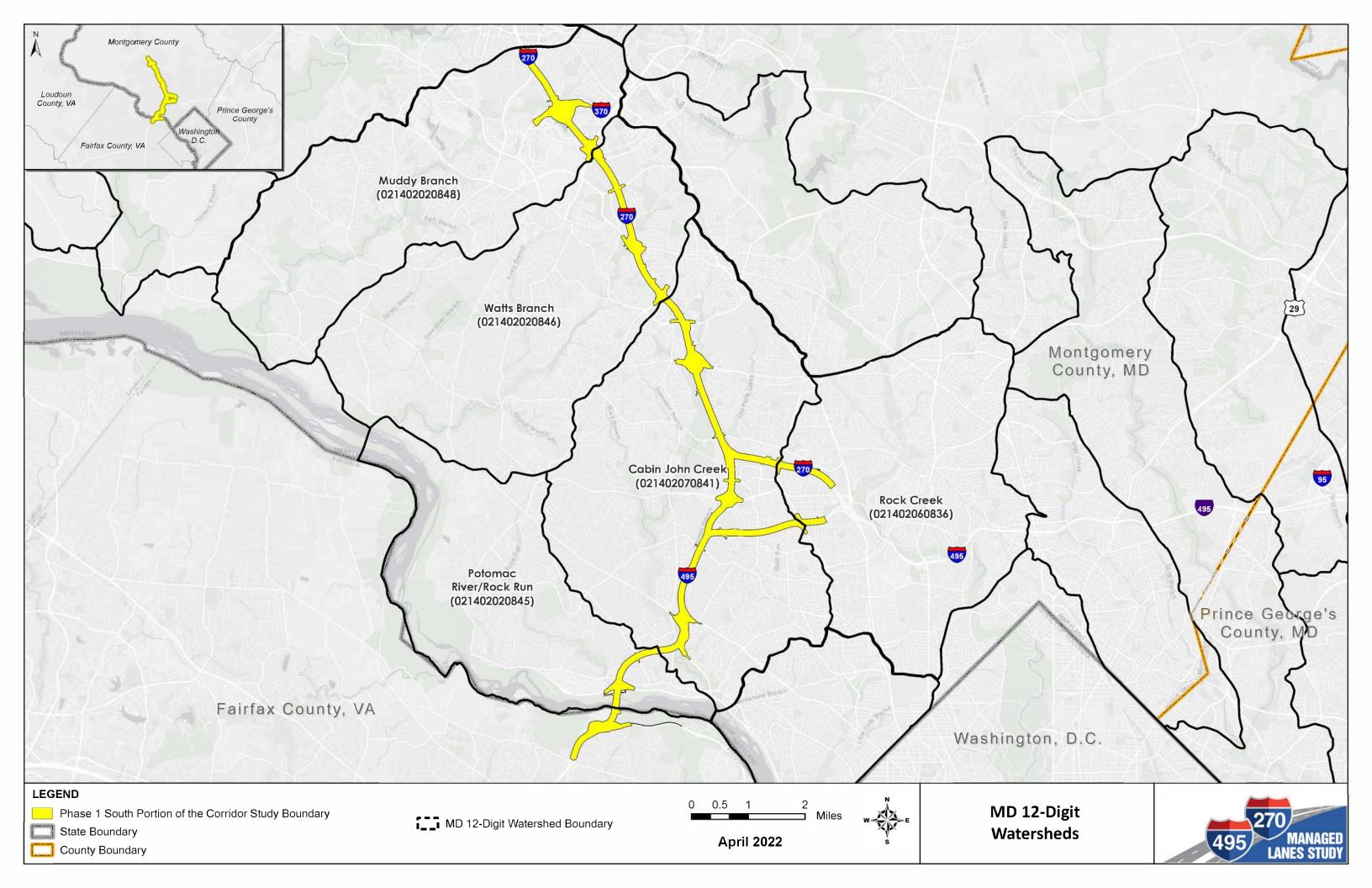
APPENDIX A: OVERVIEW AND KEY MAPS





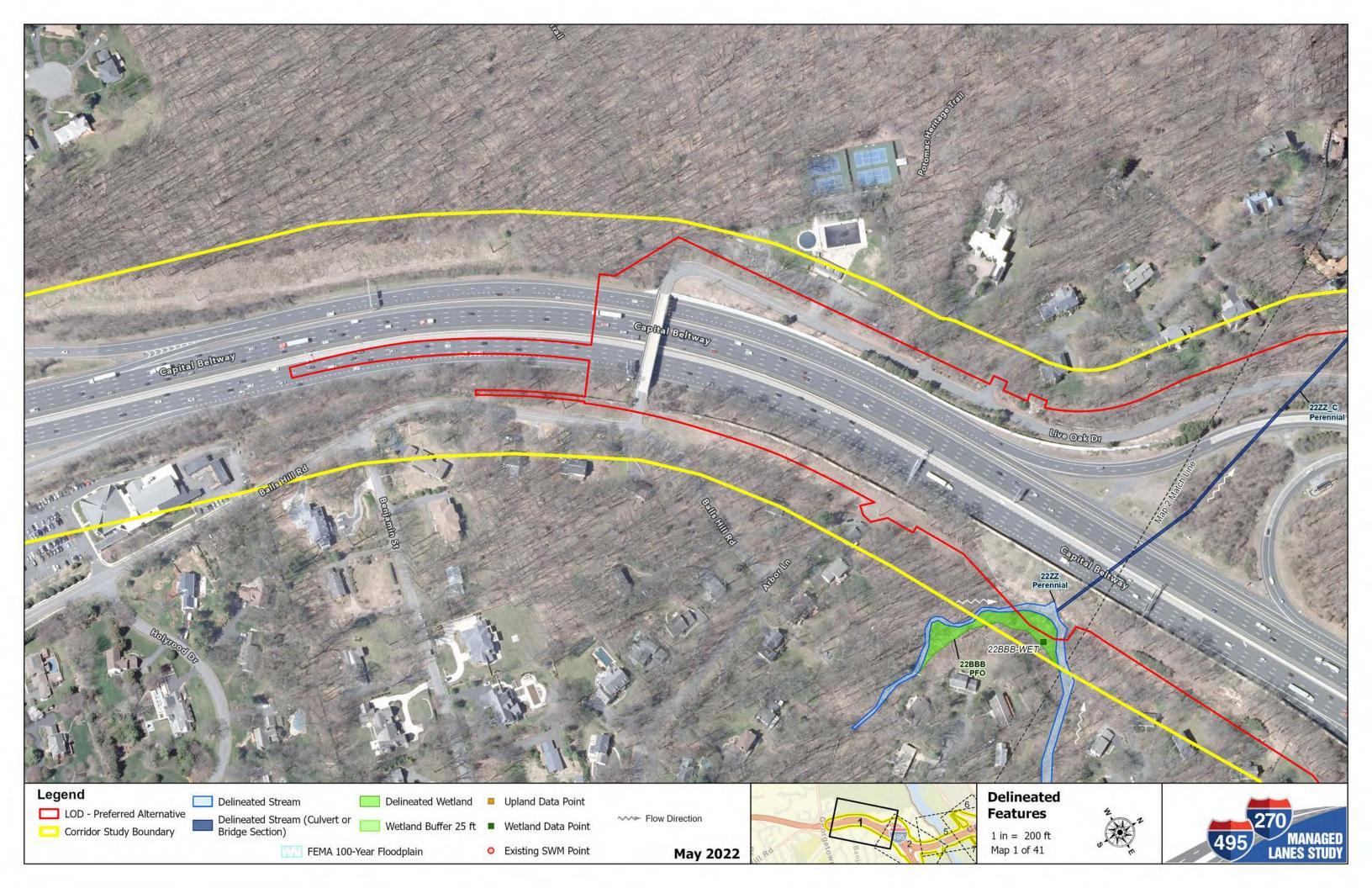


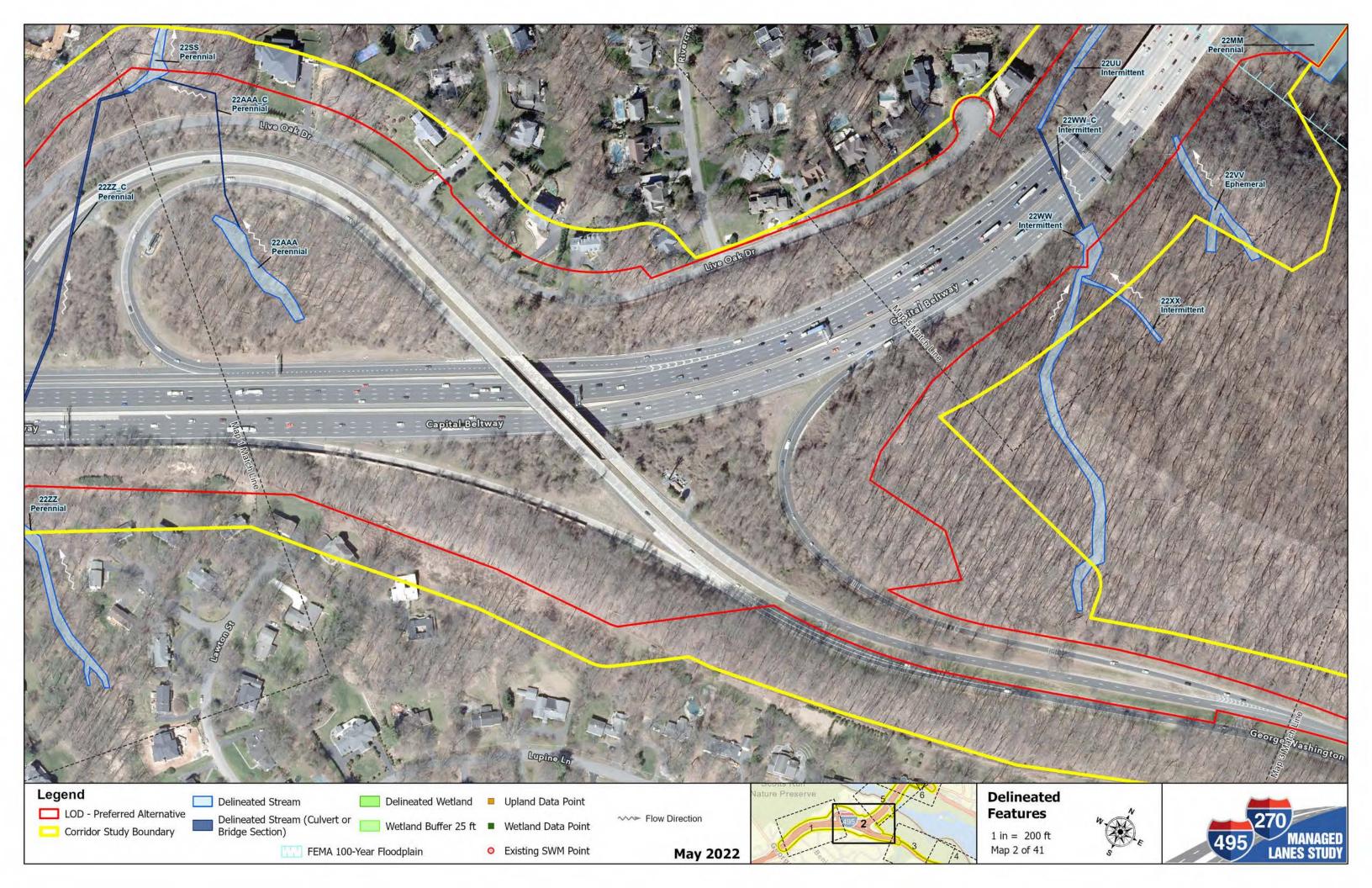


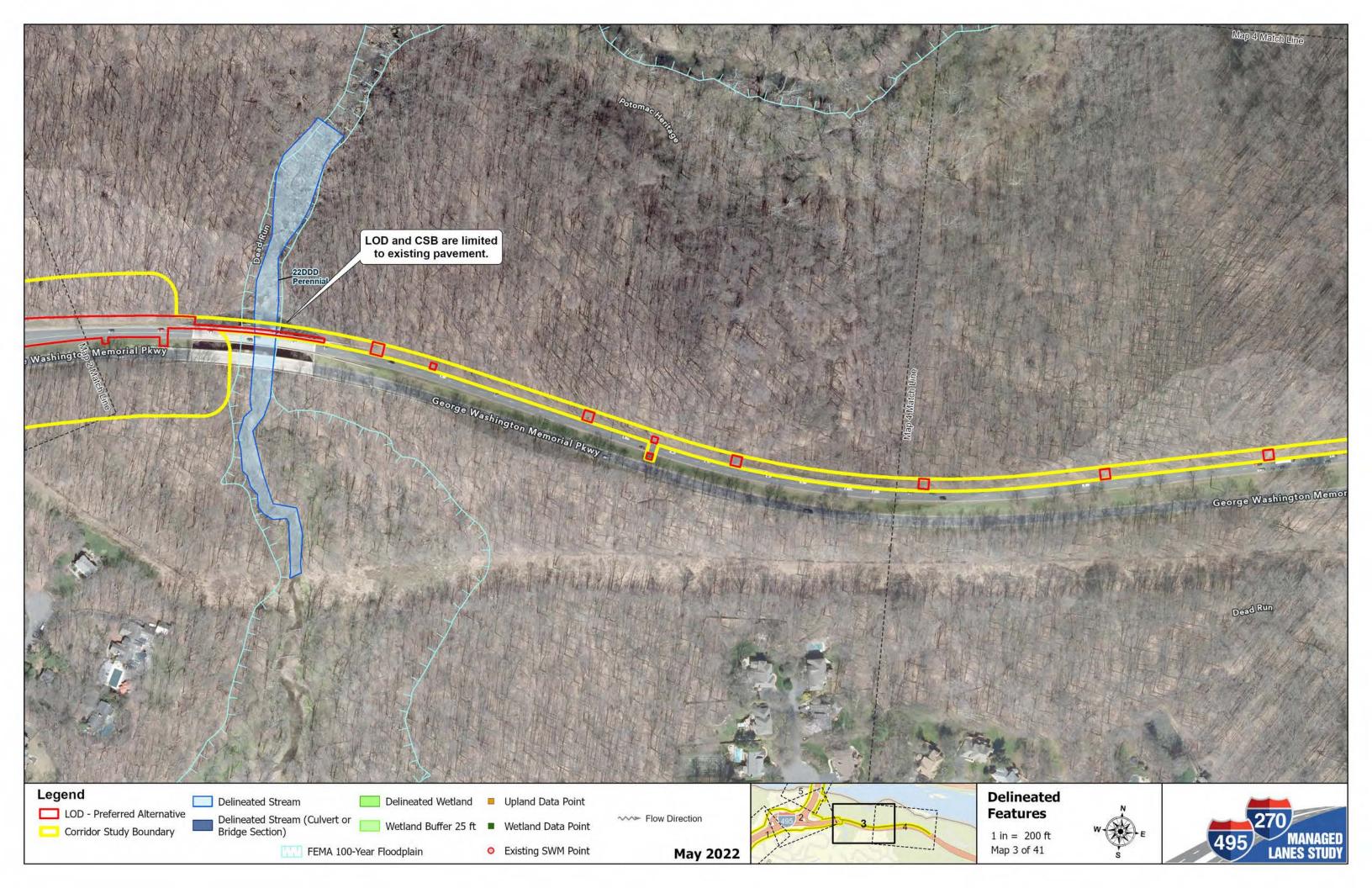


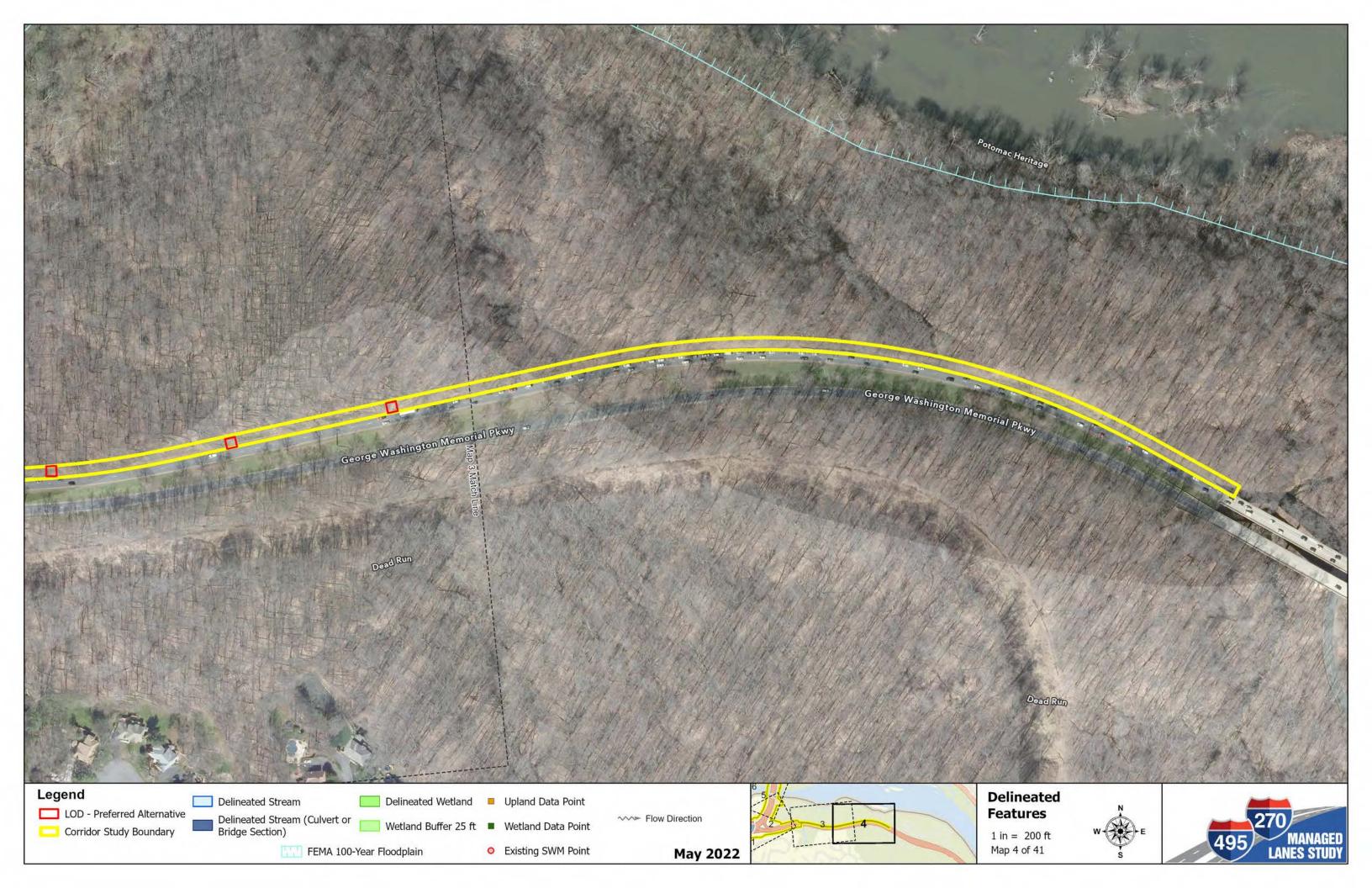


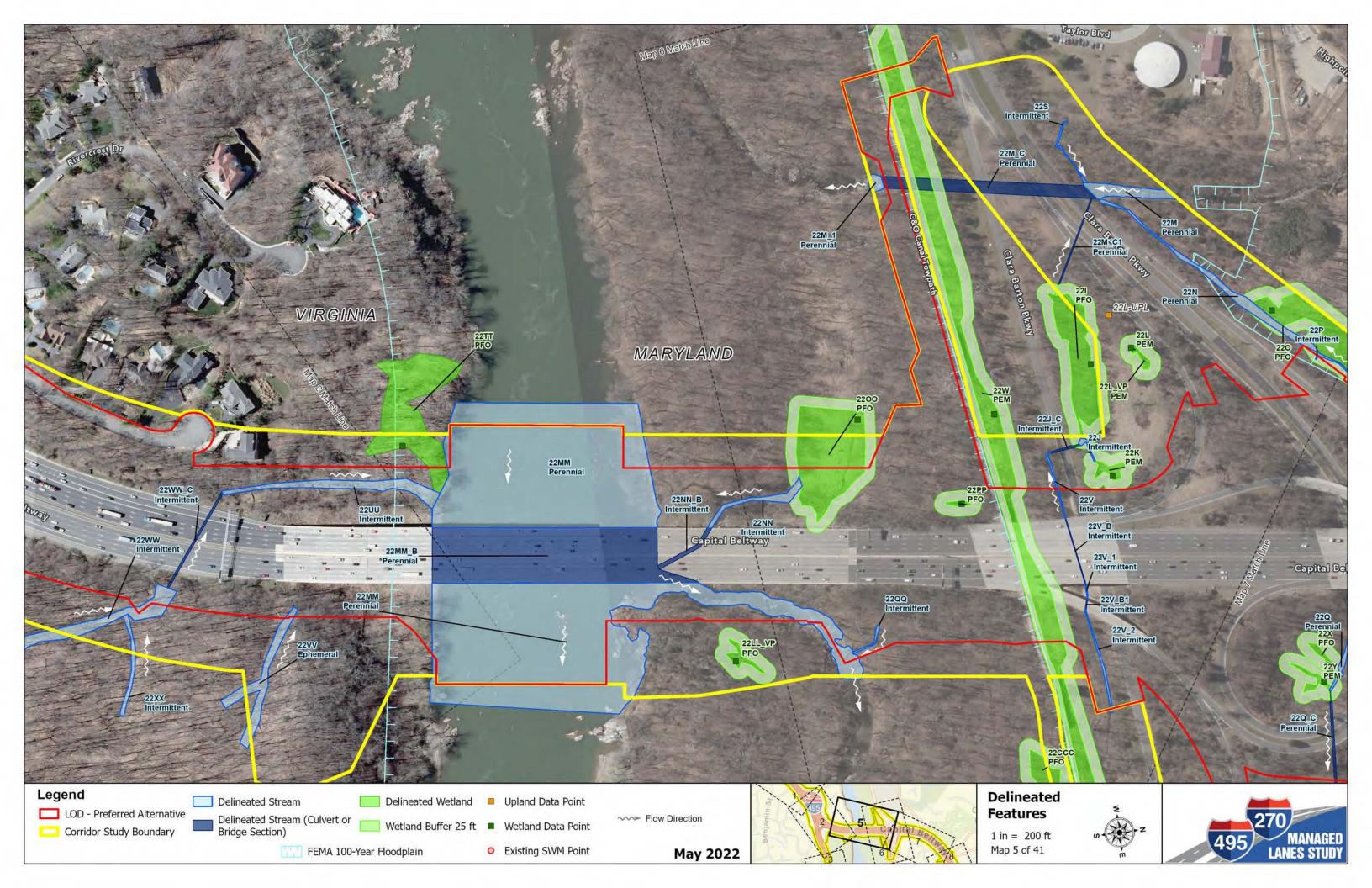
APPENDIX B: DELINEATED FEATURES MAPS

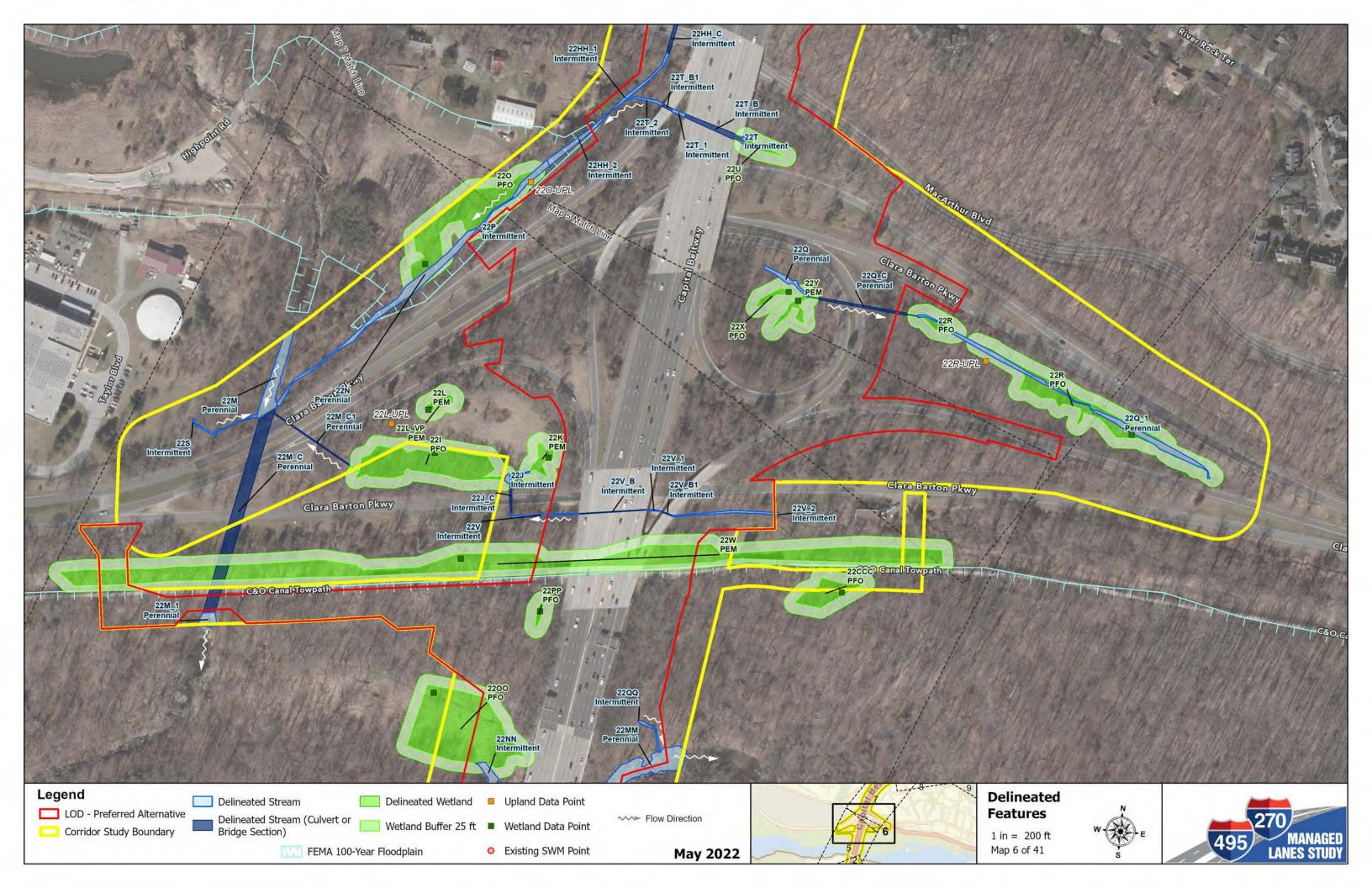


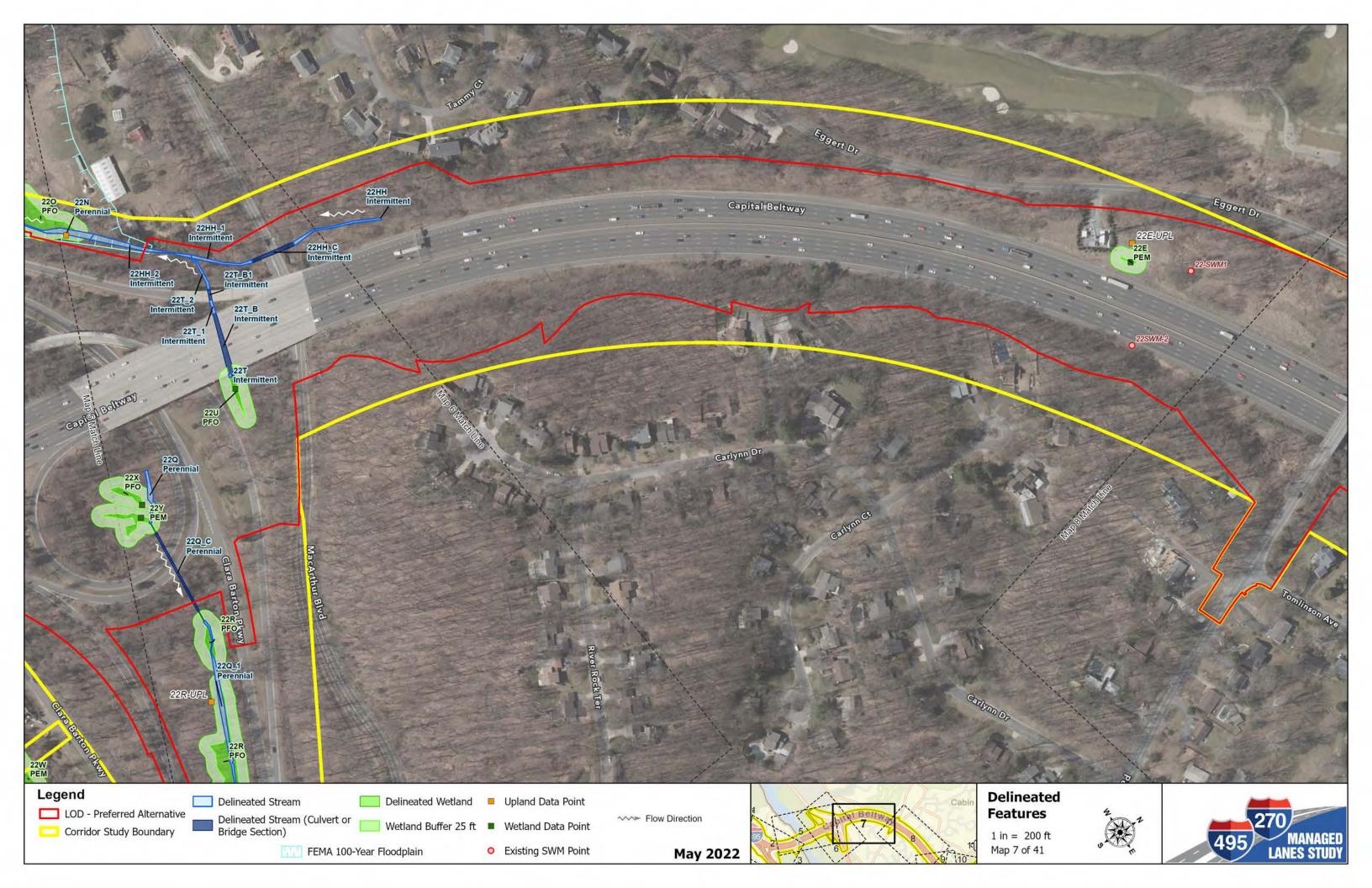


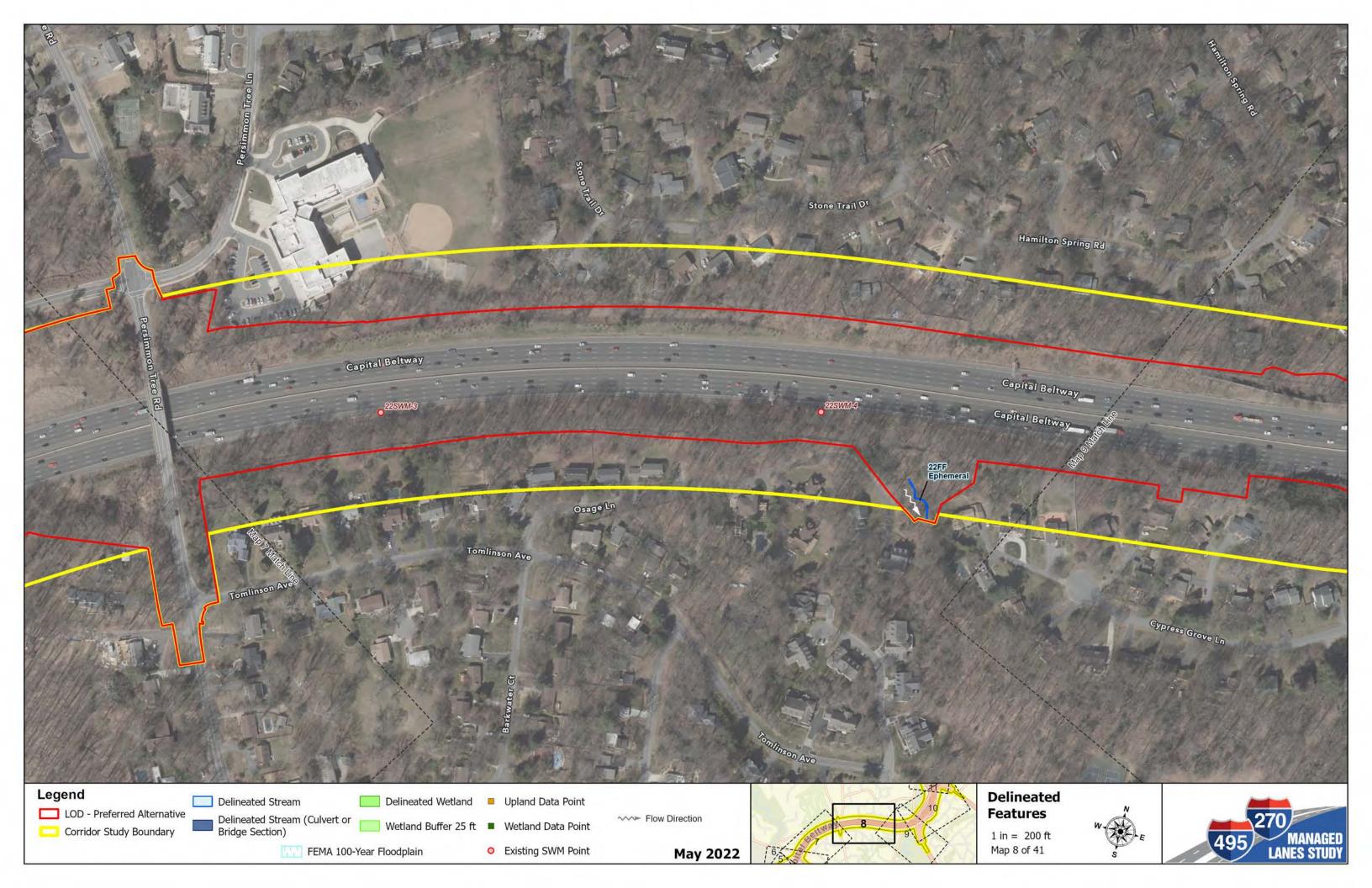


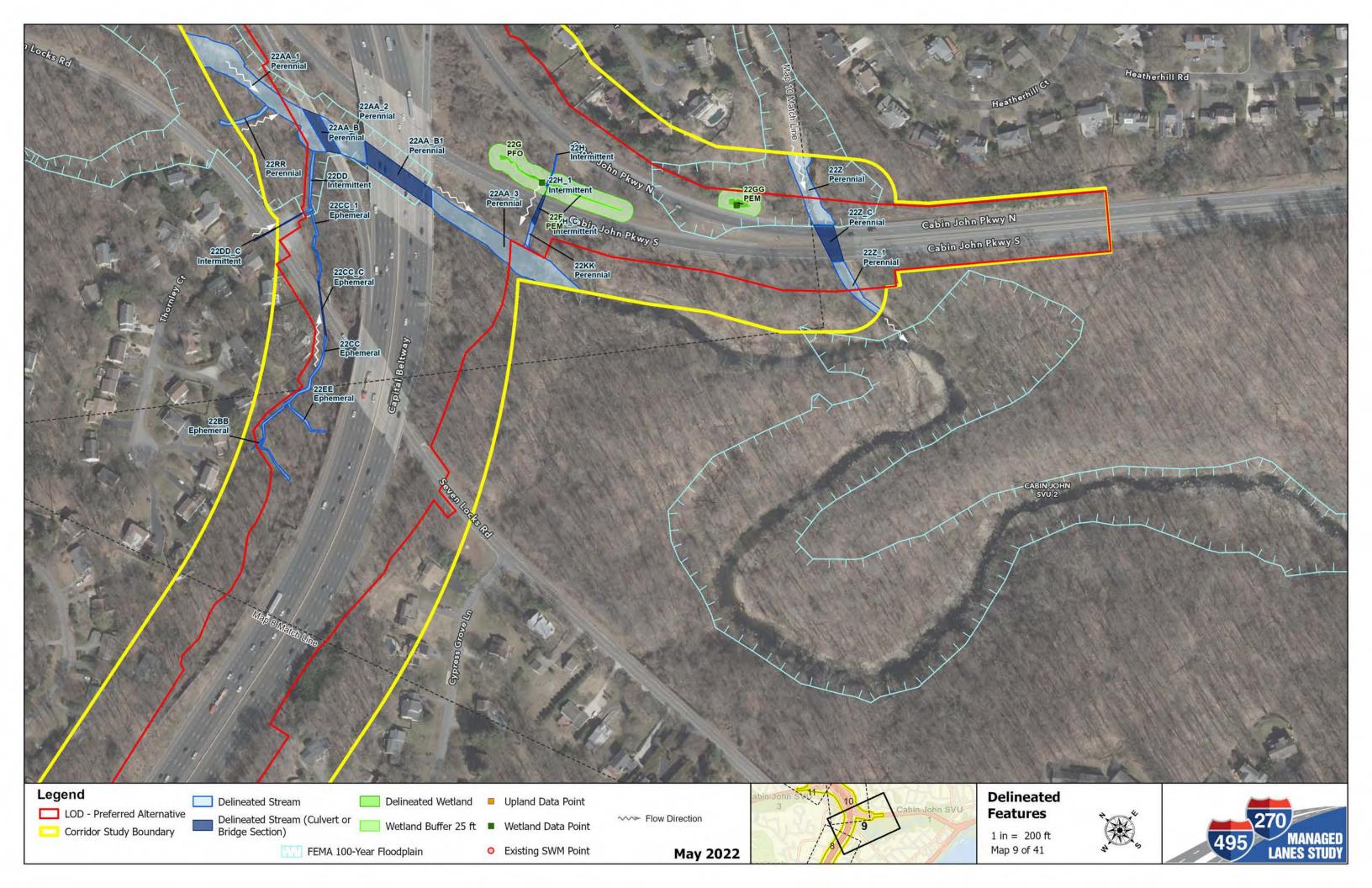


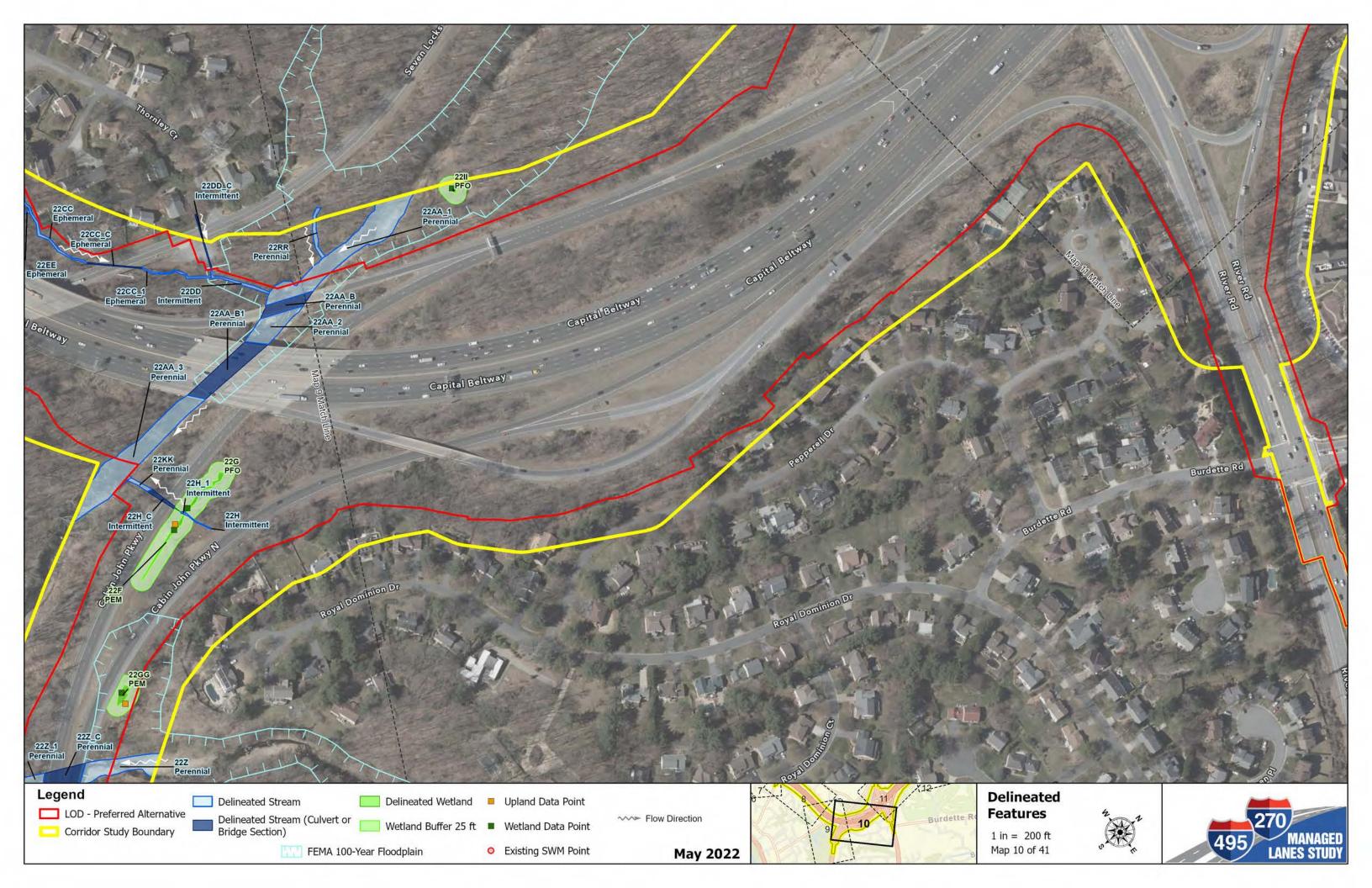


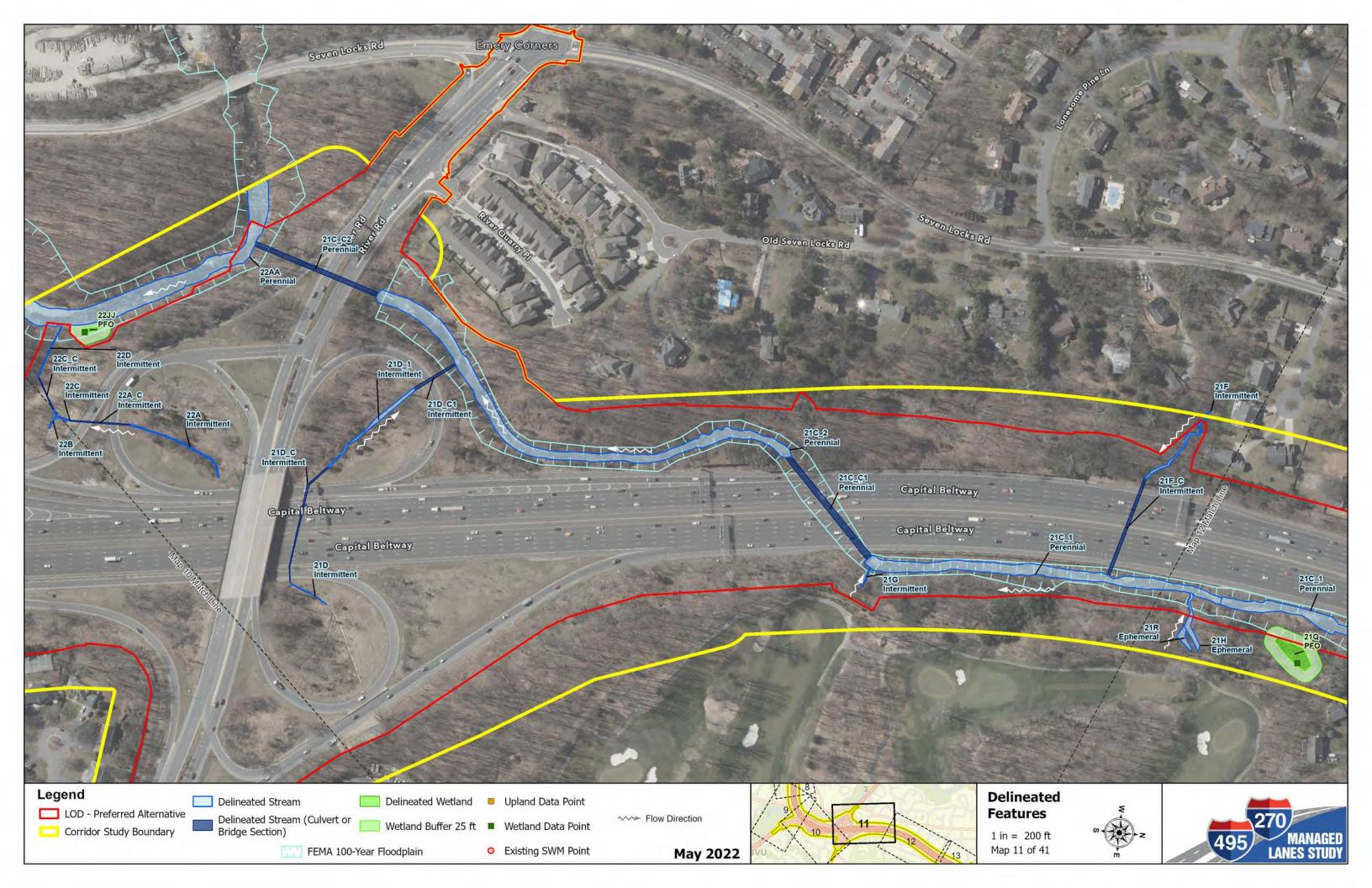


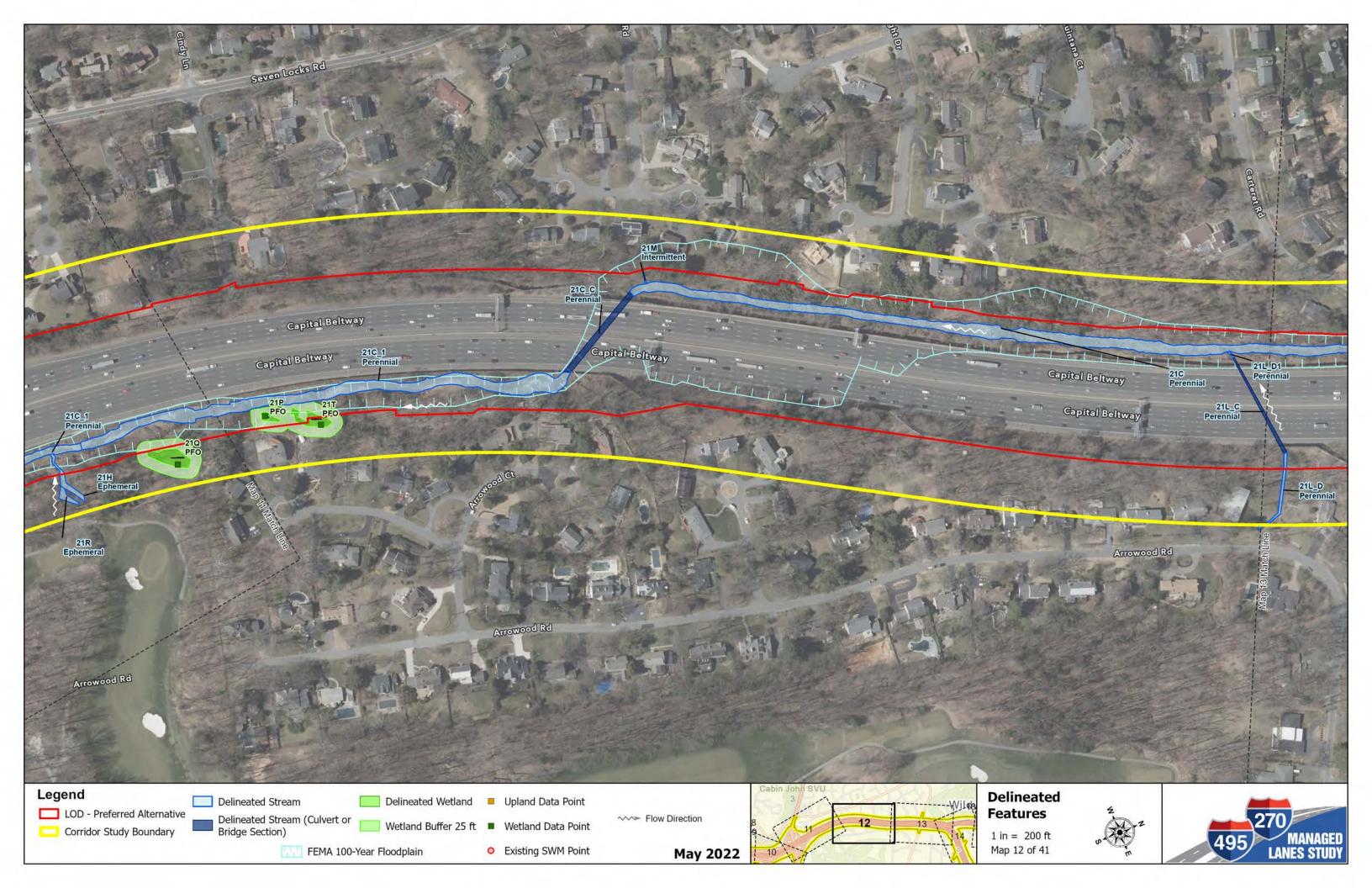


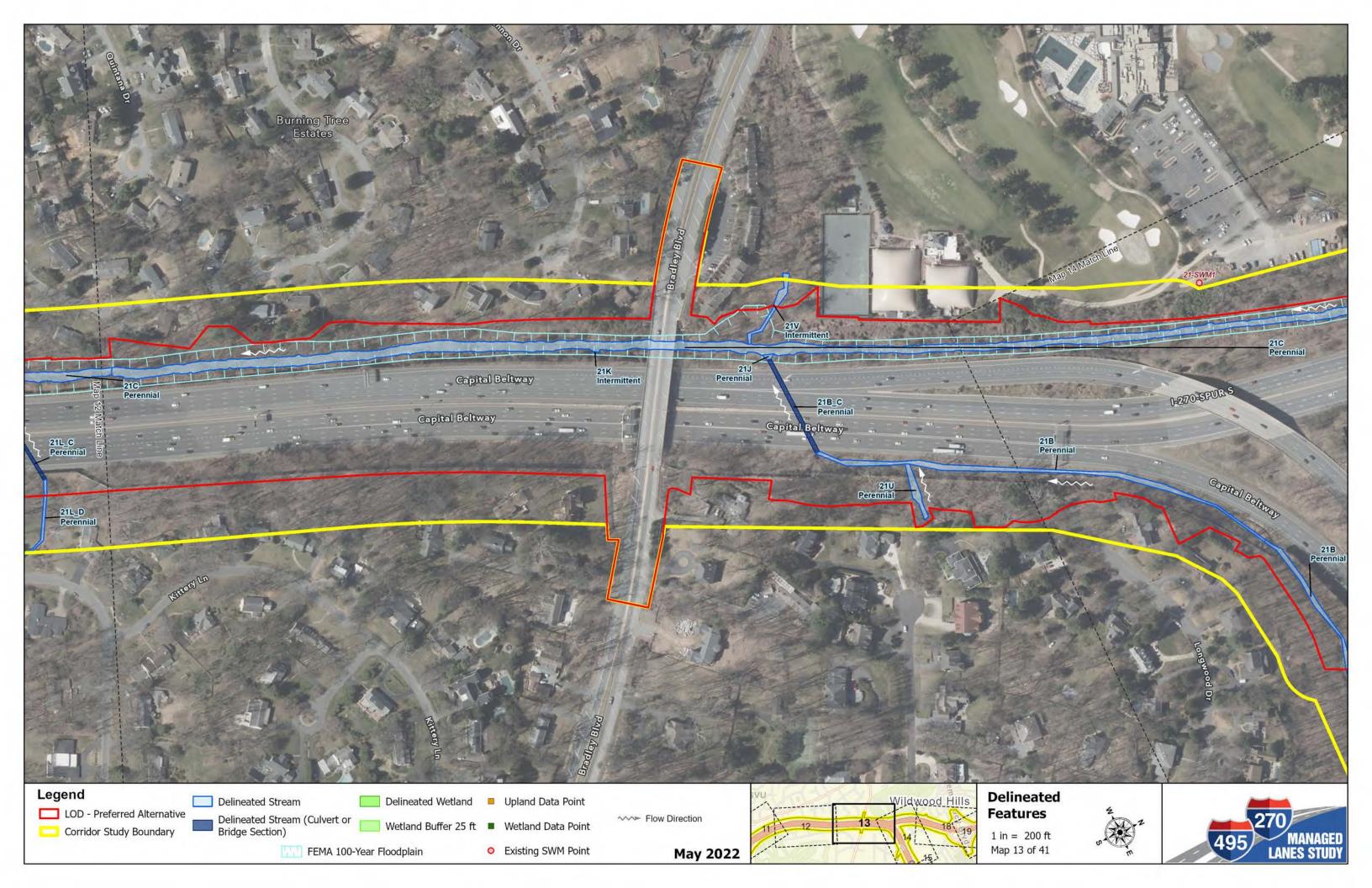


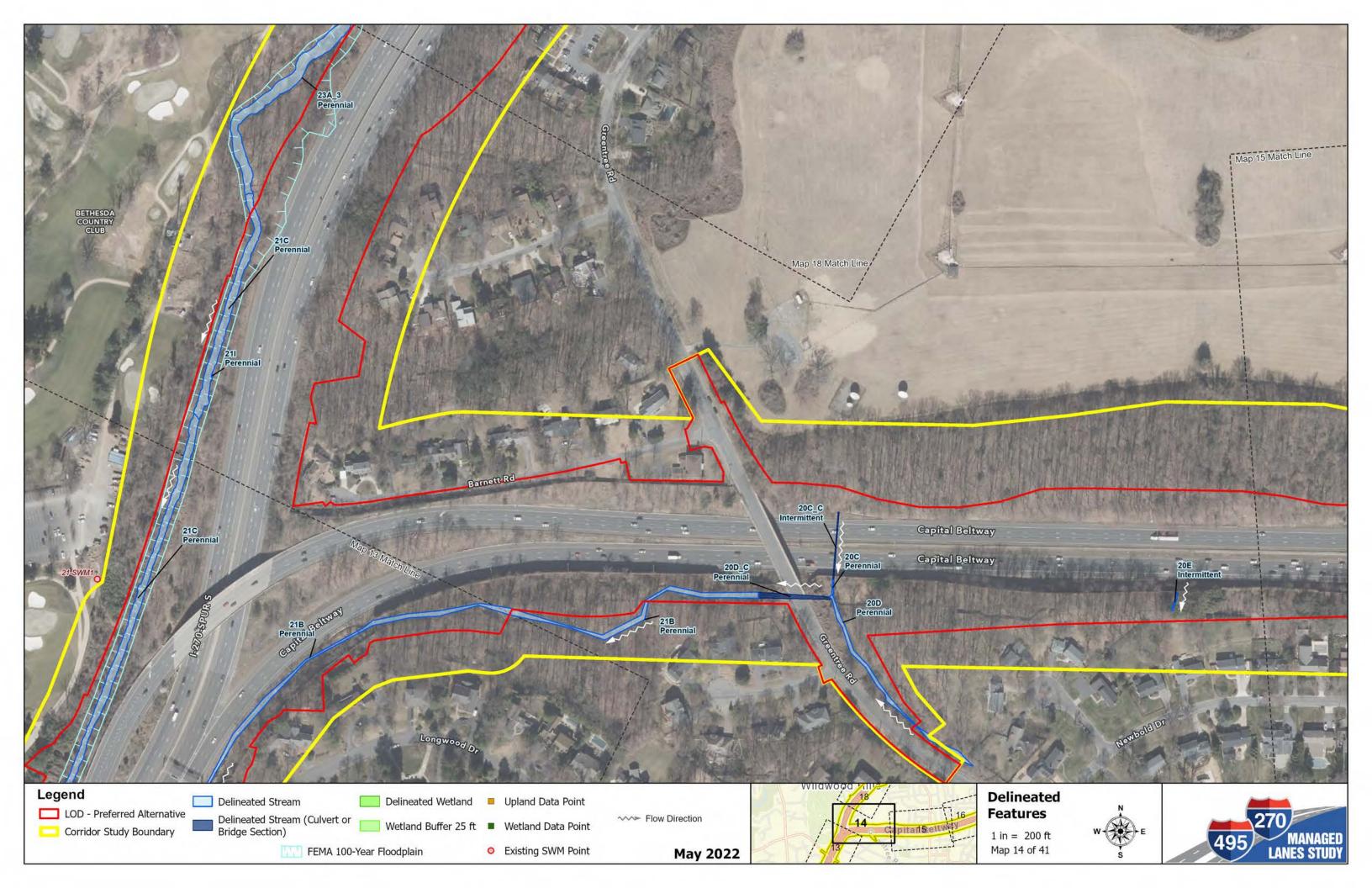


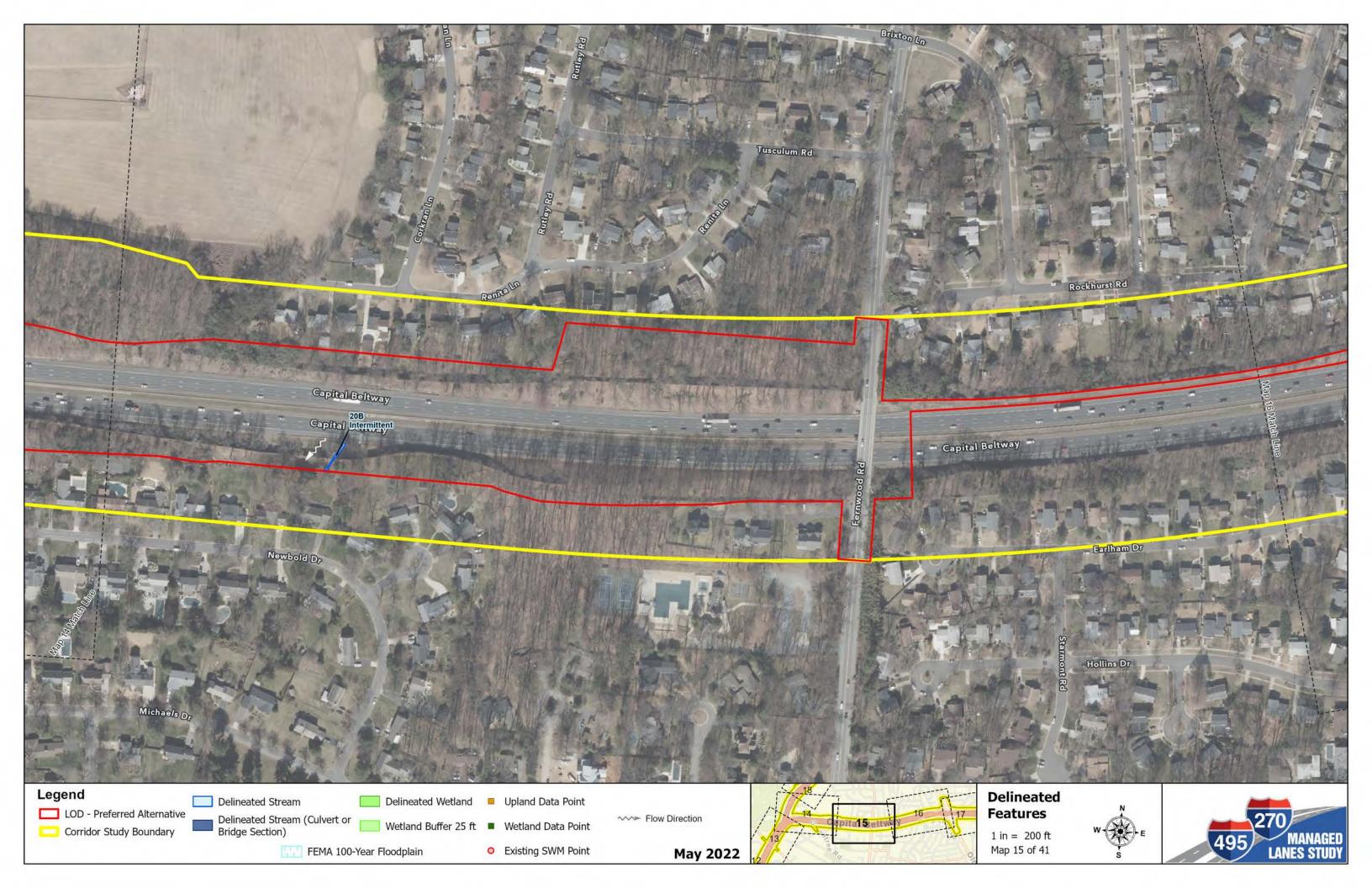


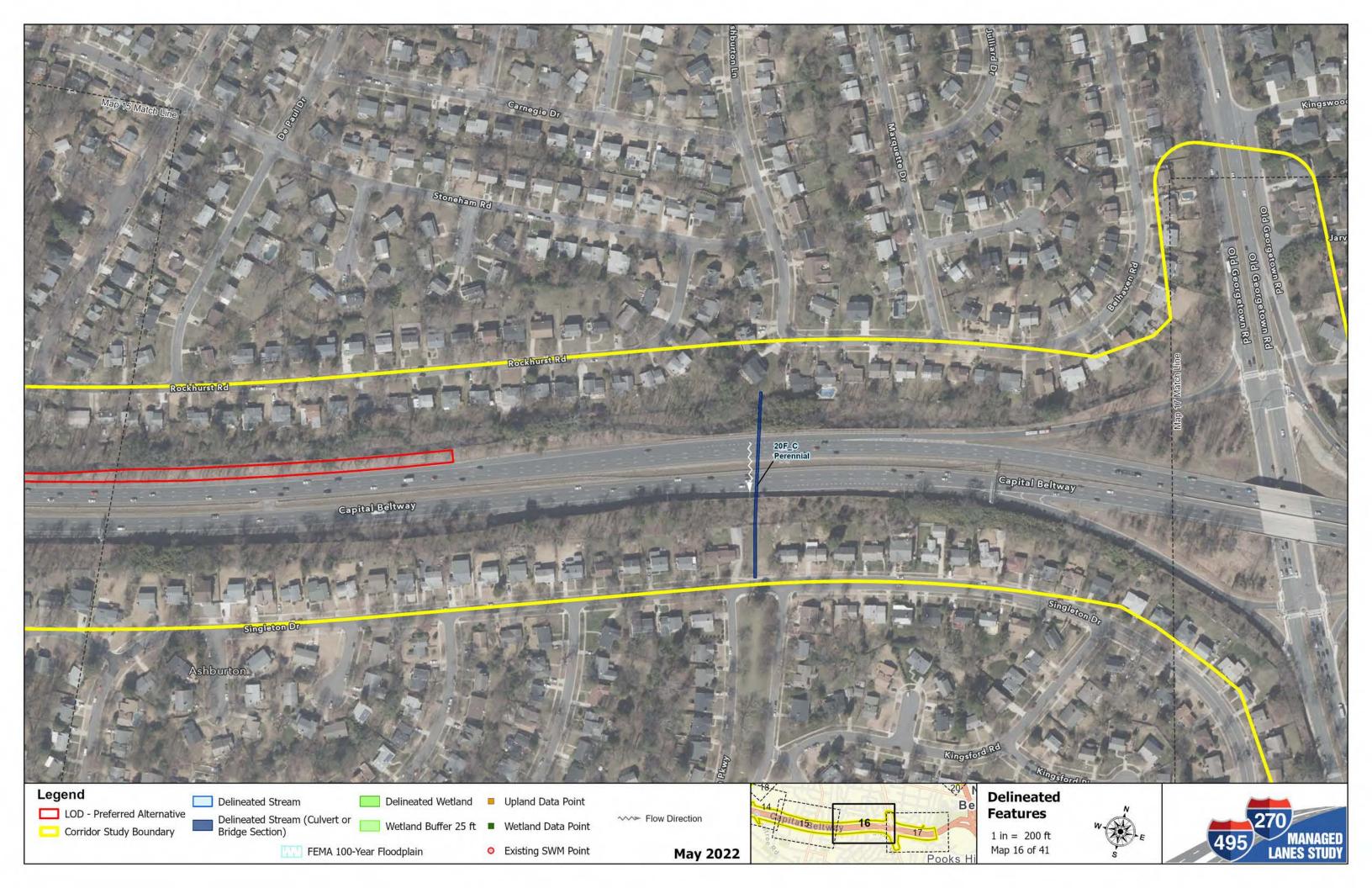


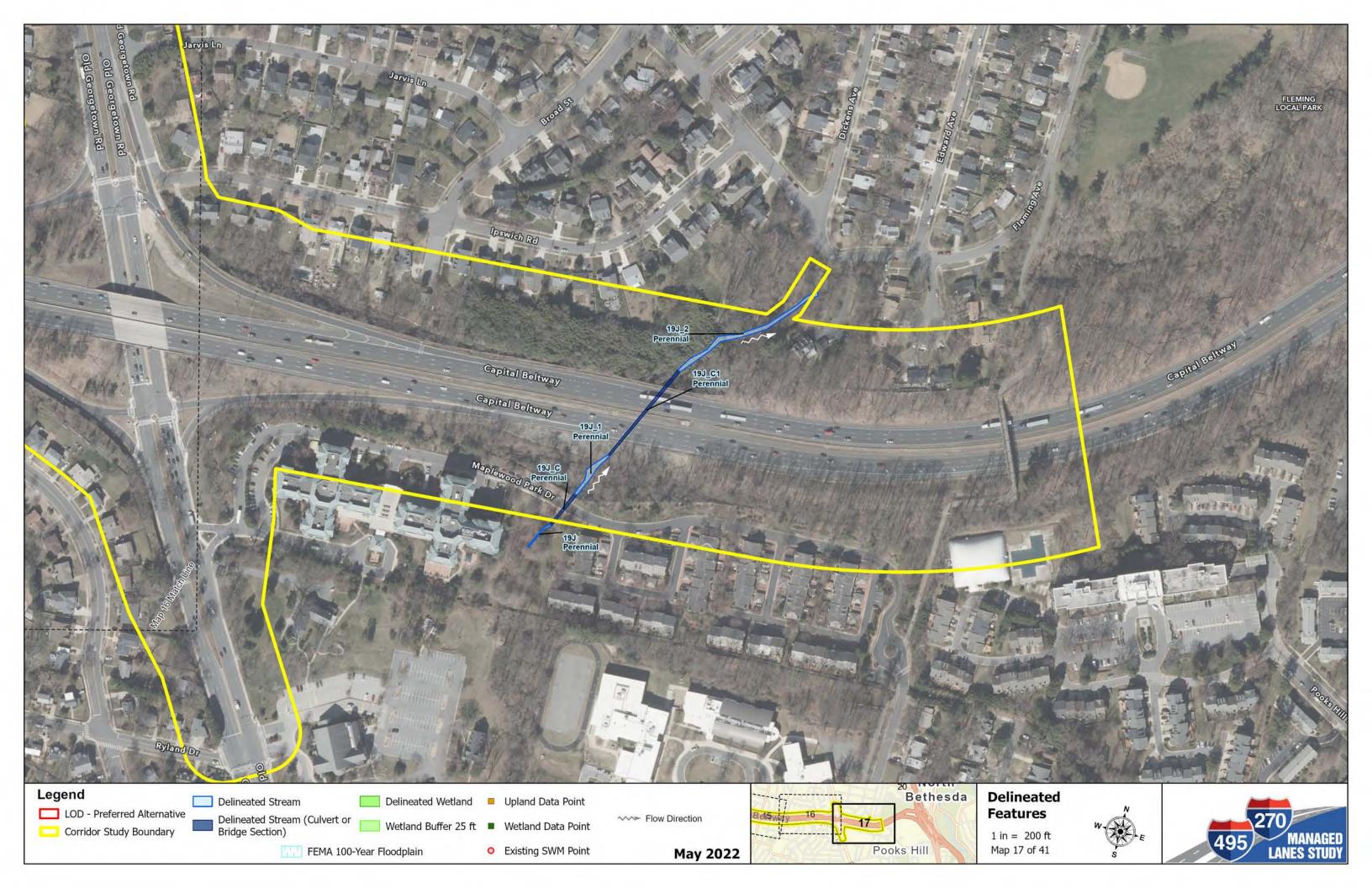


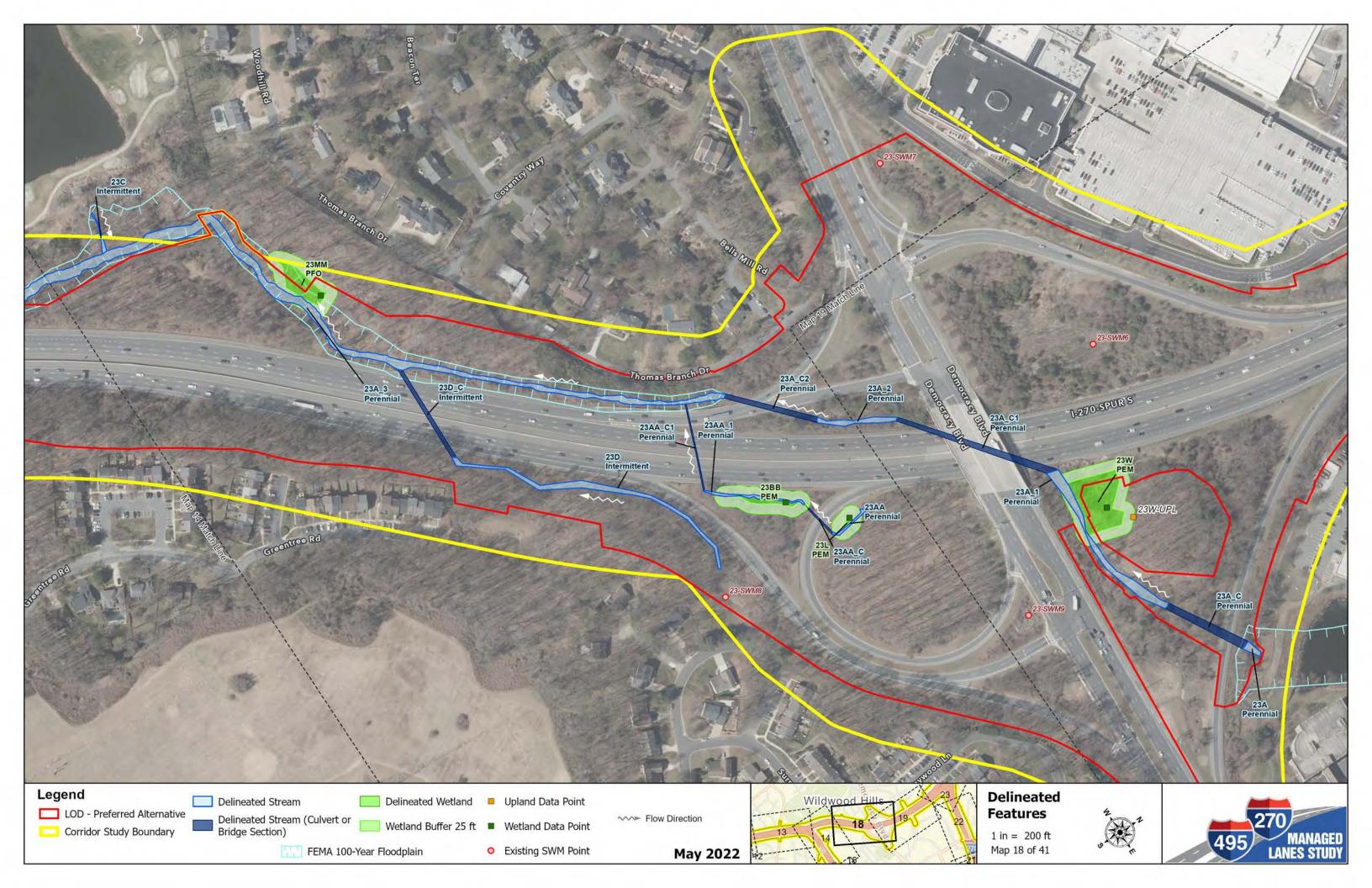


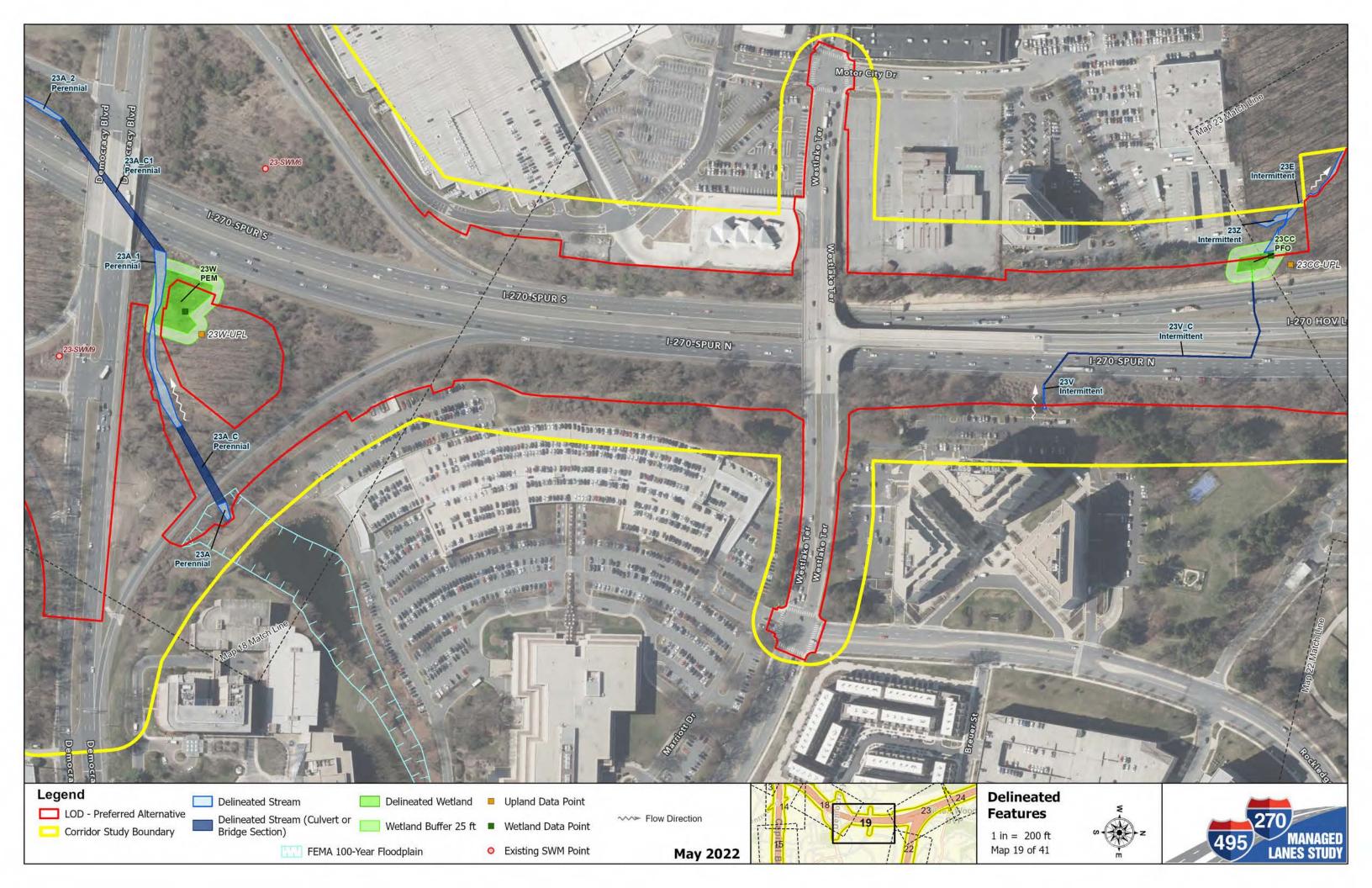


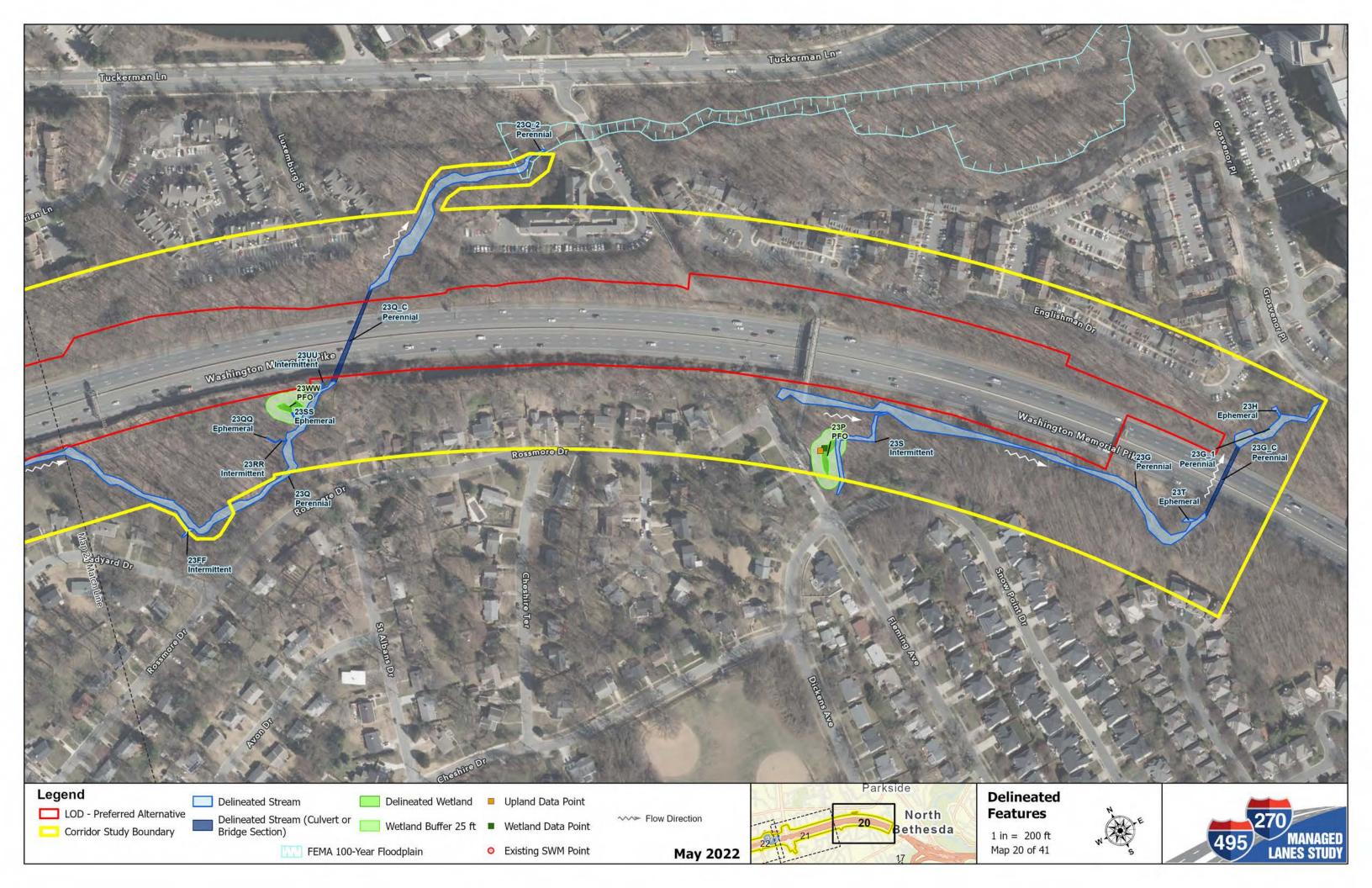


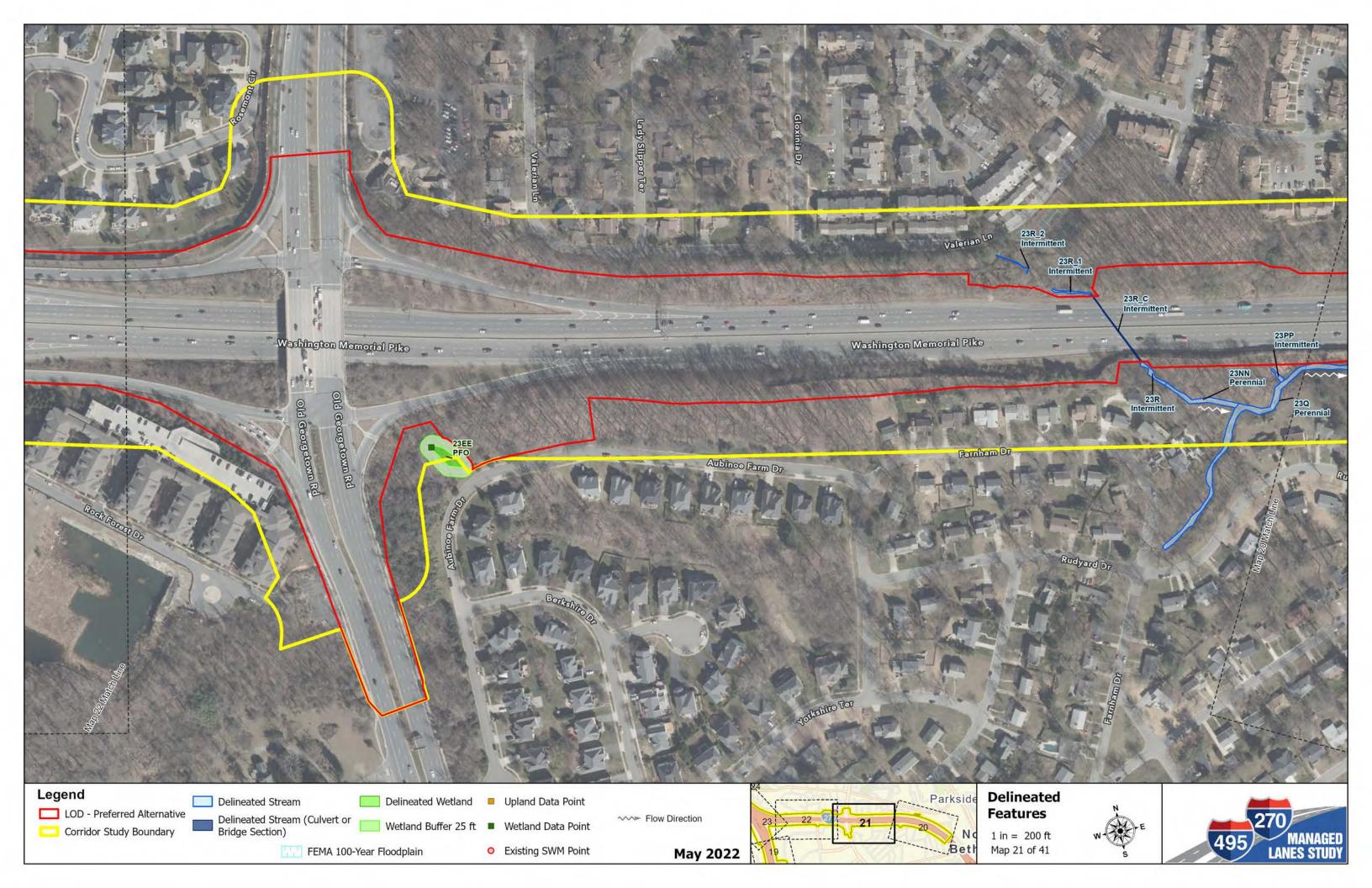


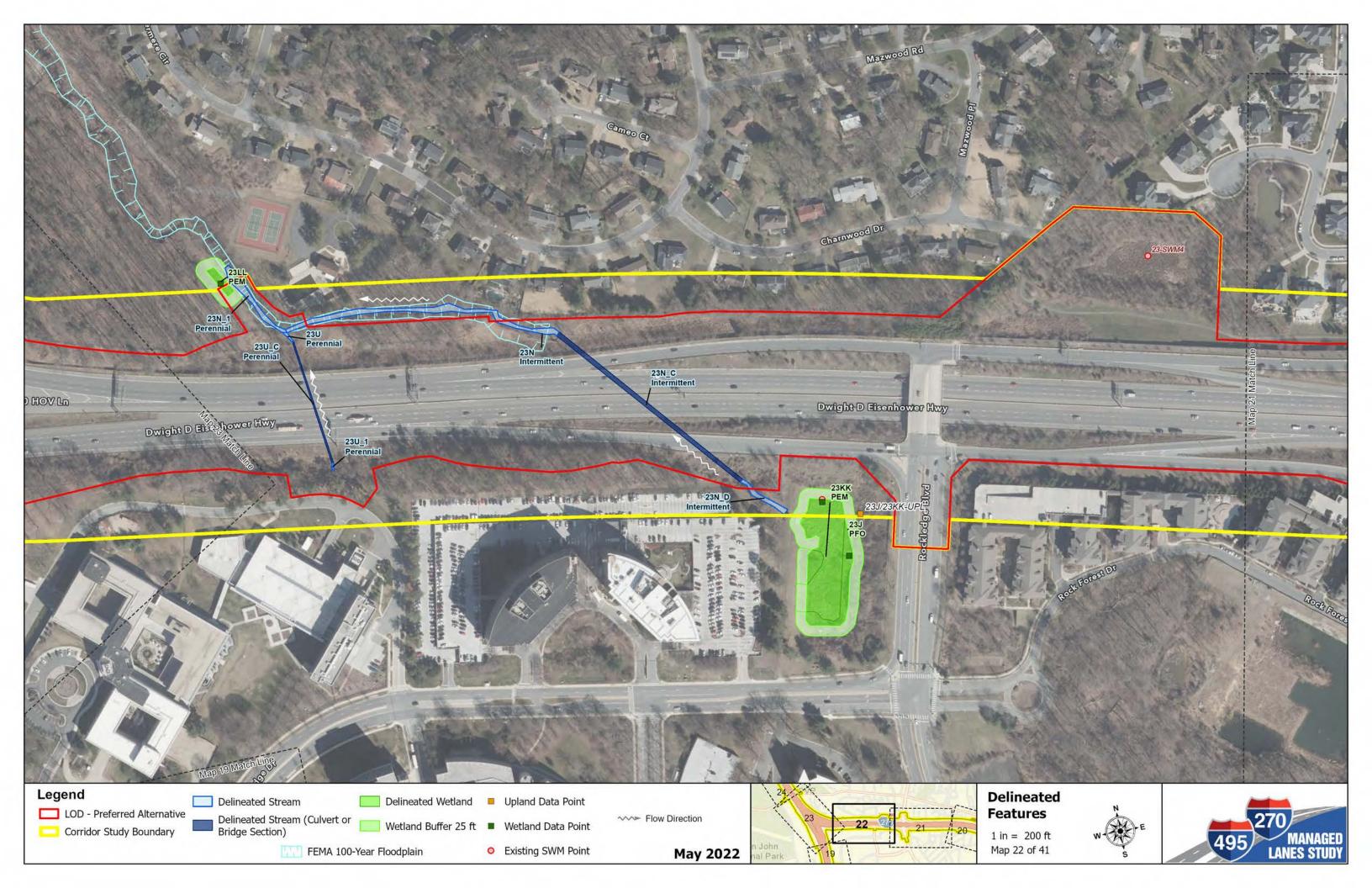


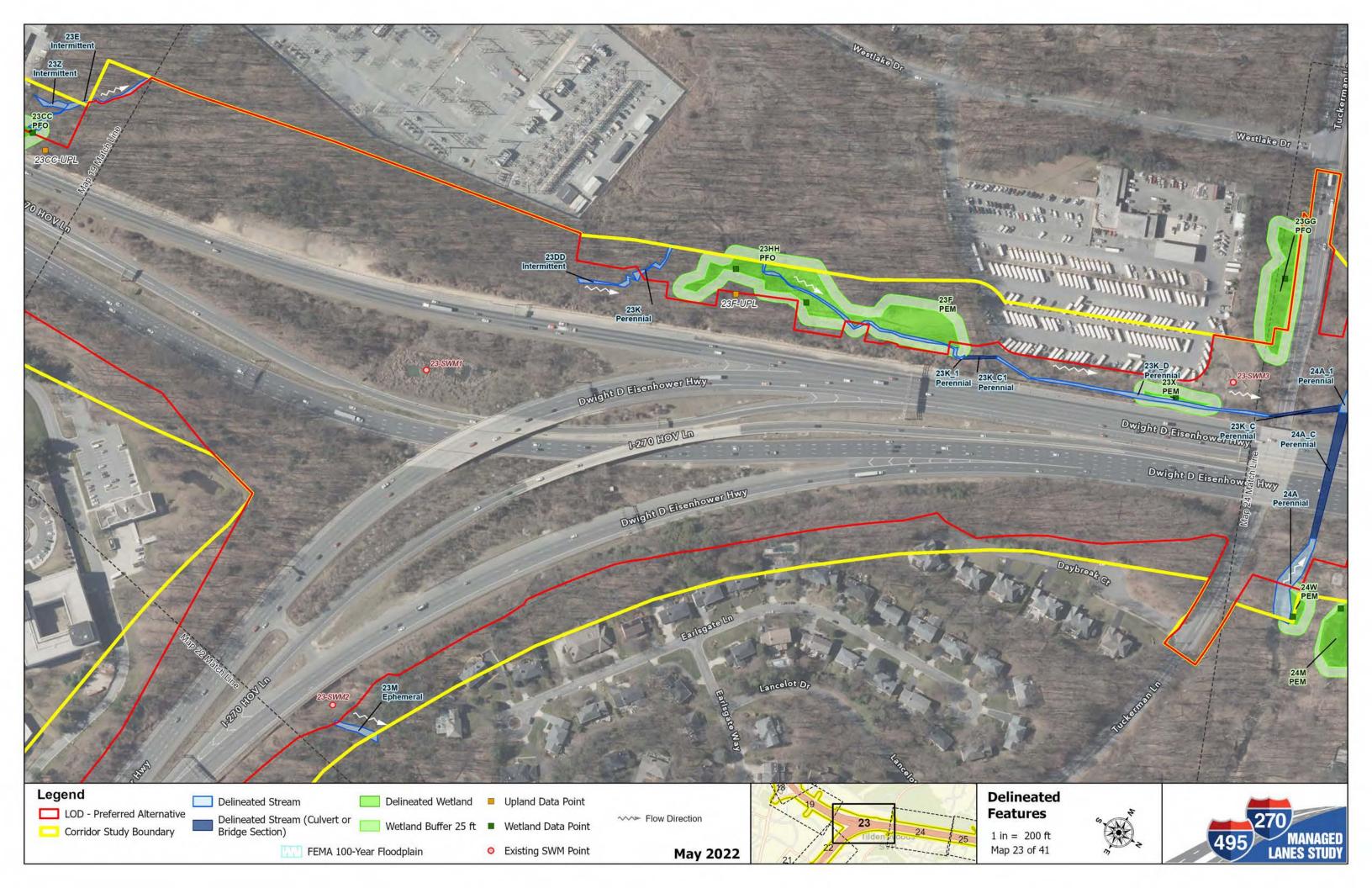


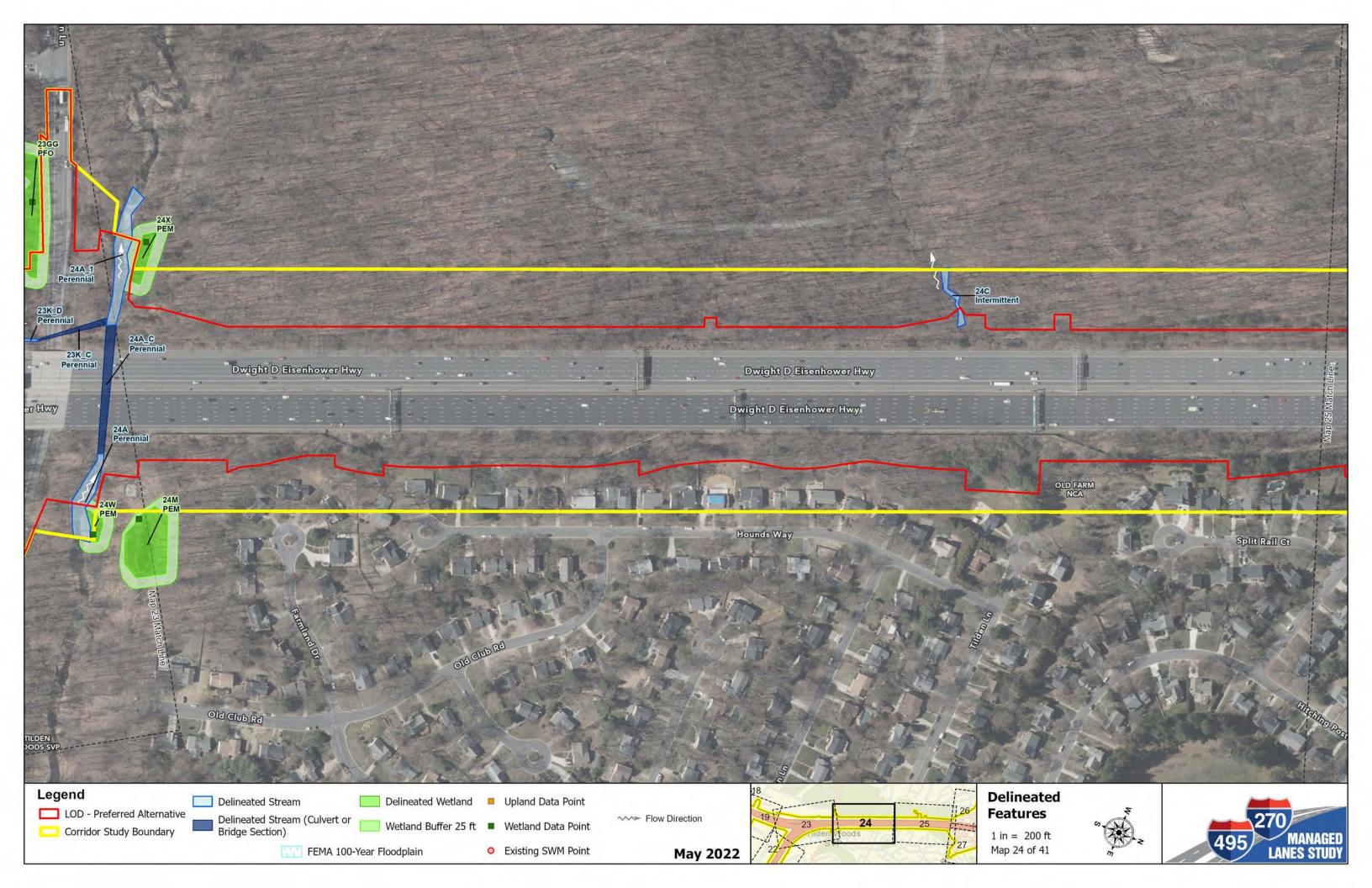


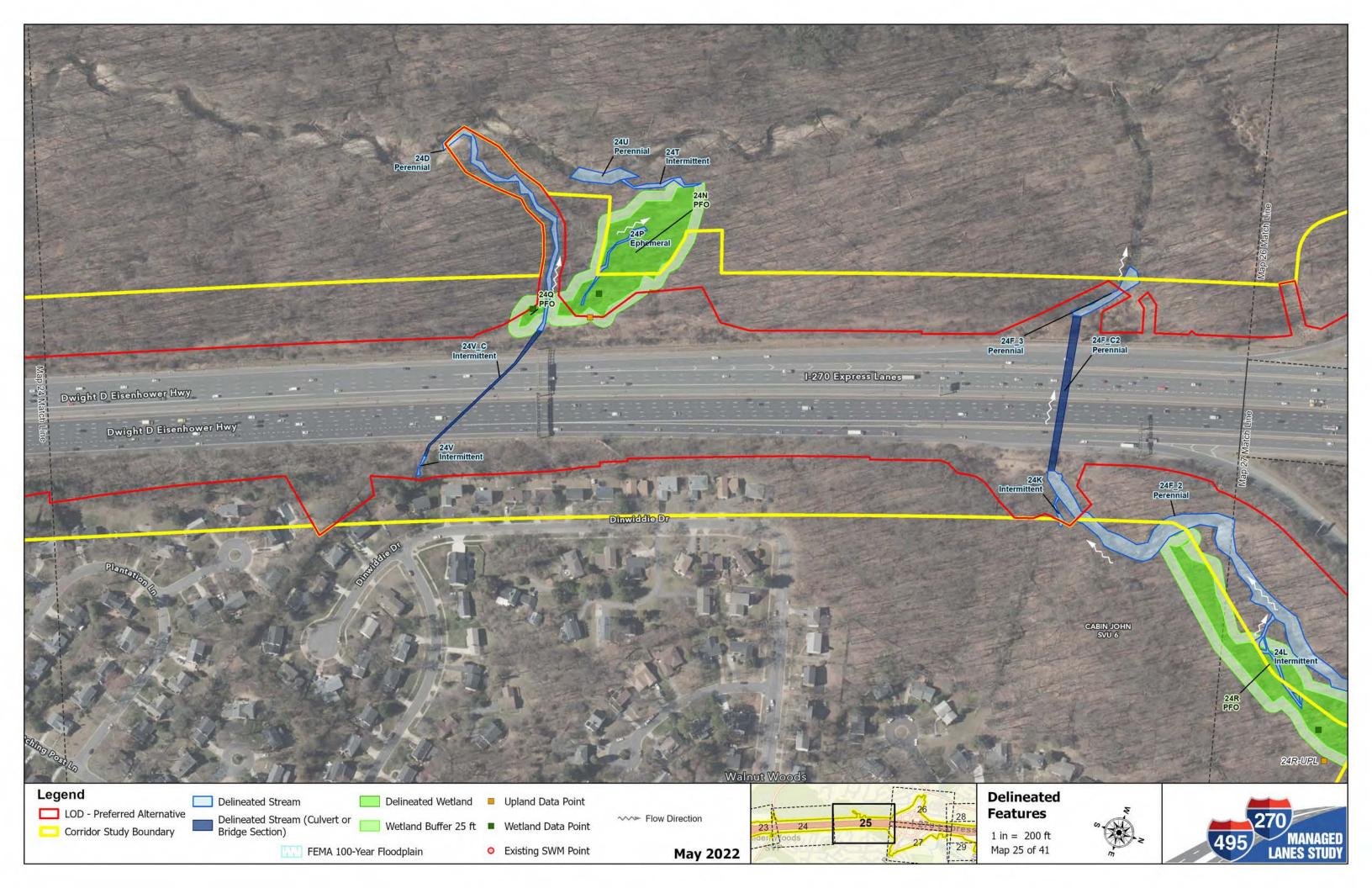


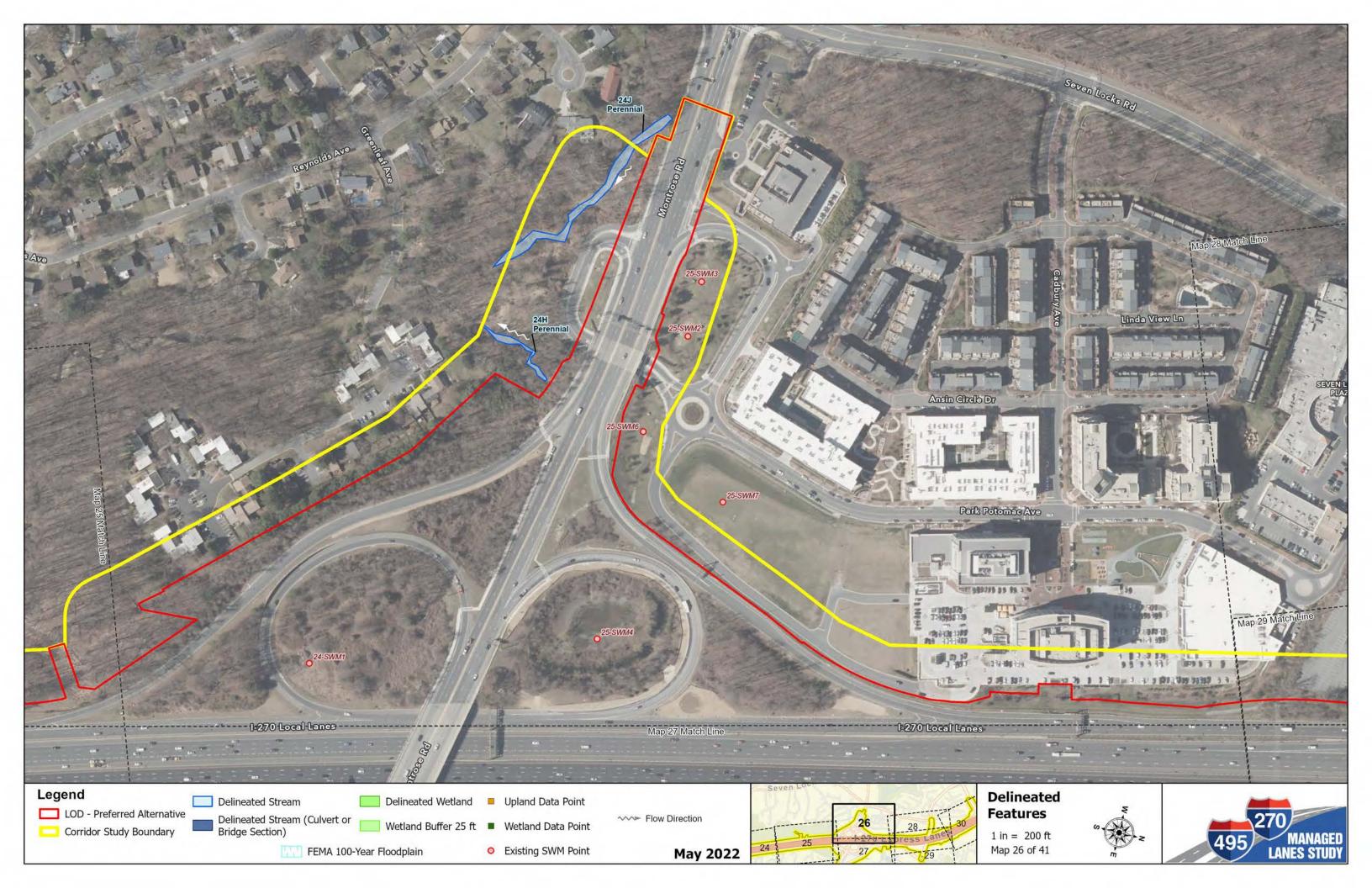


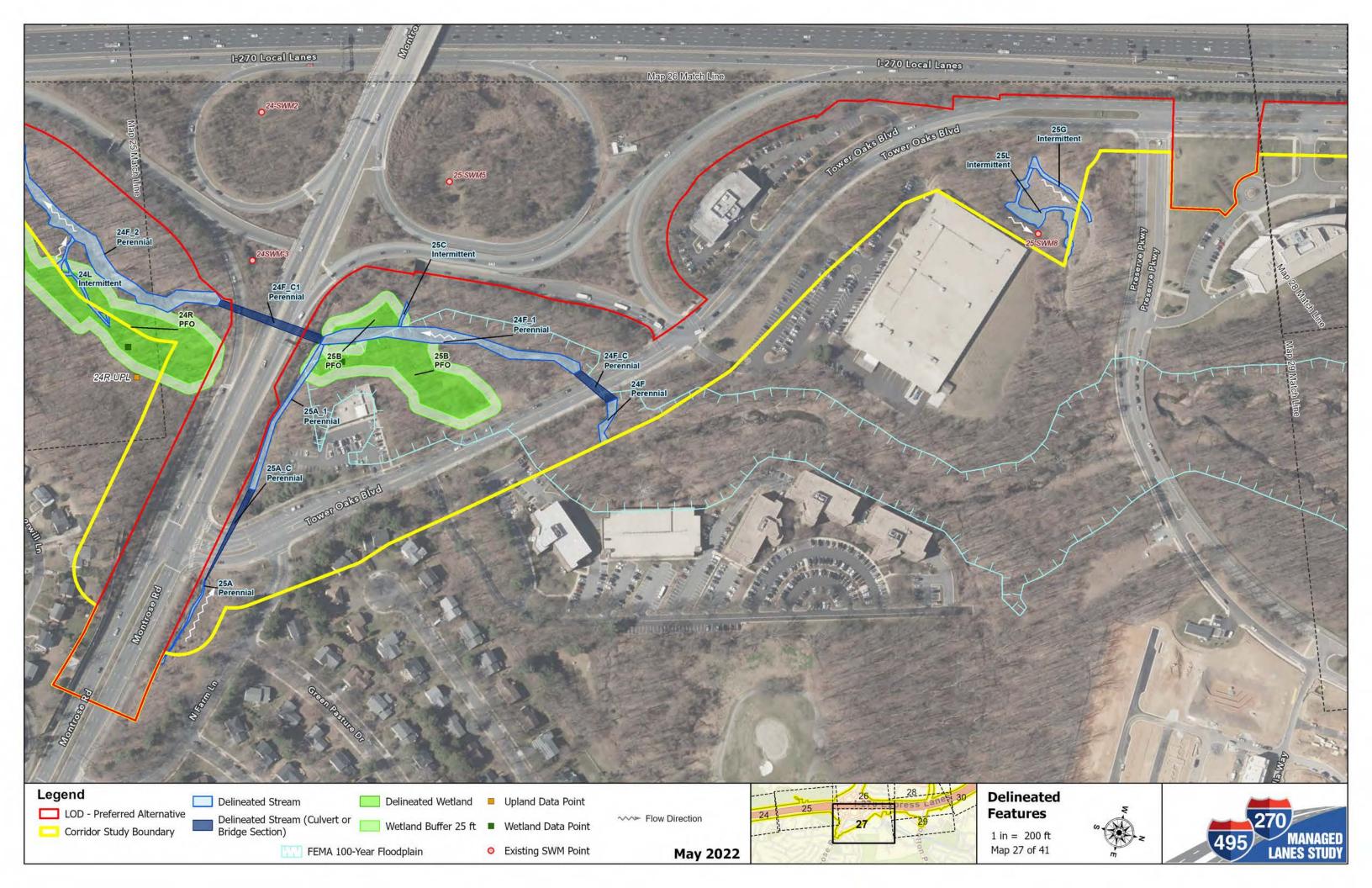


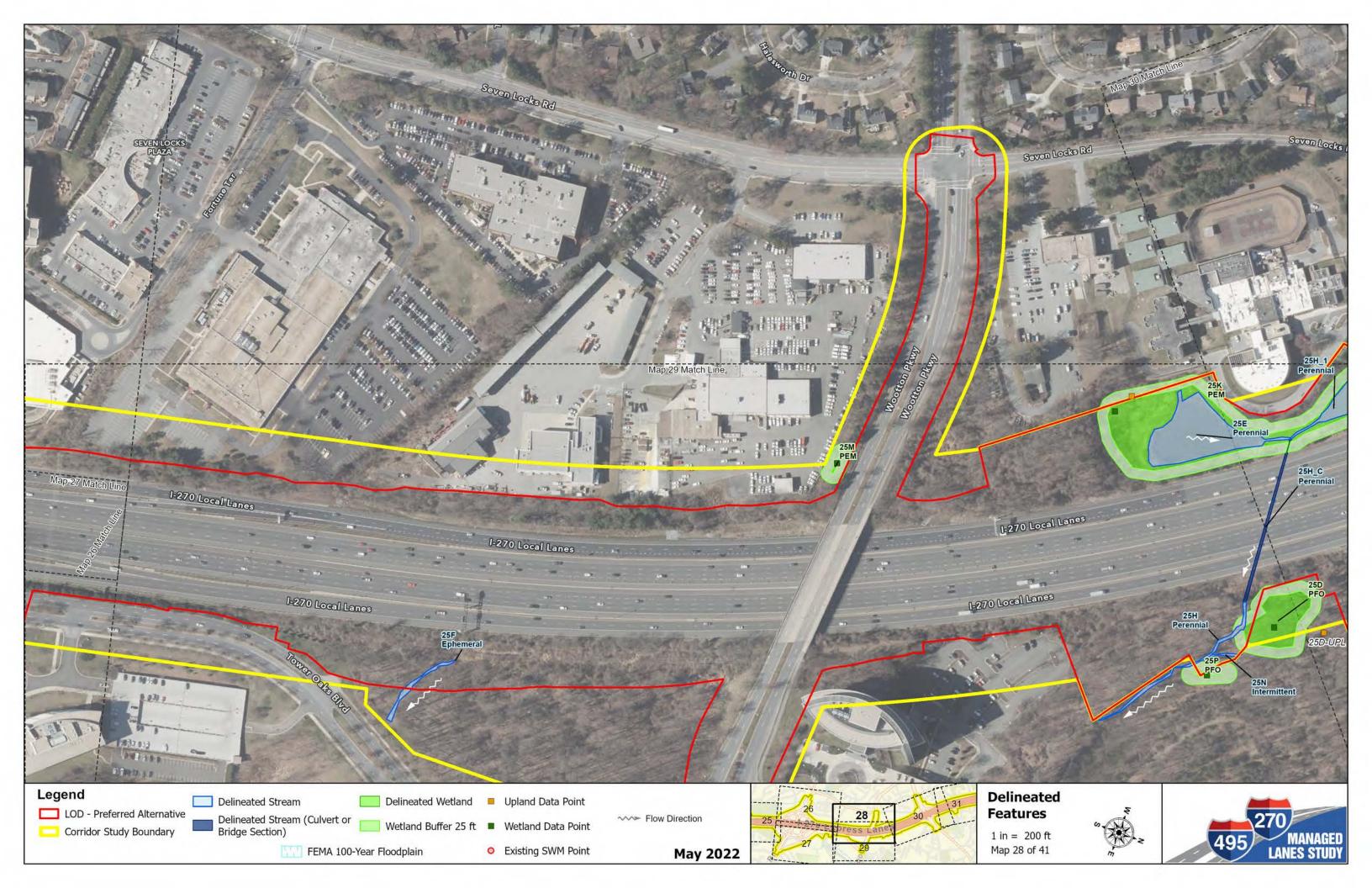


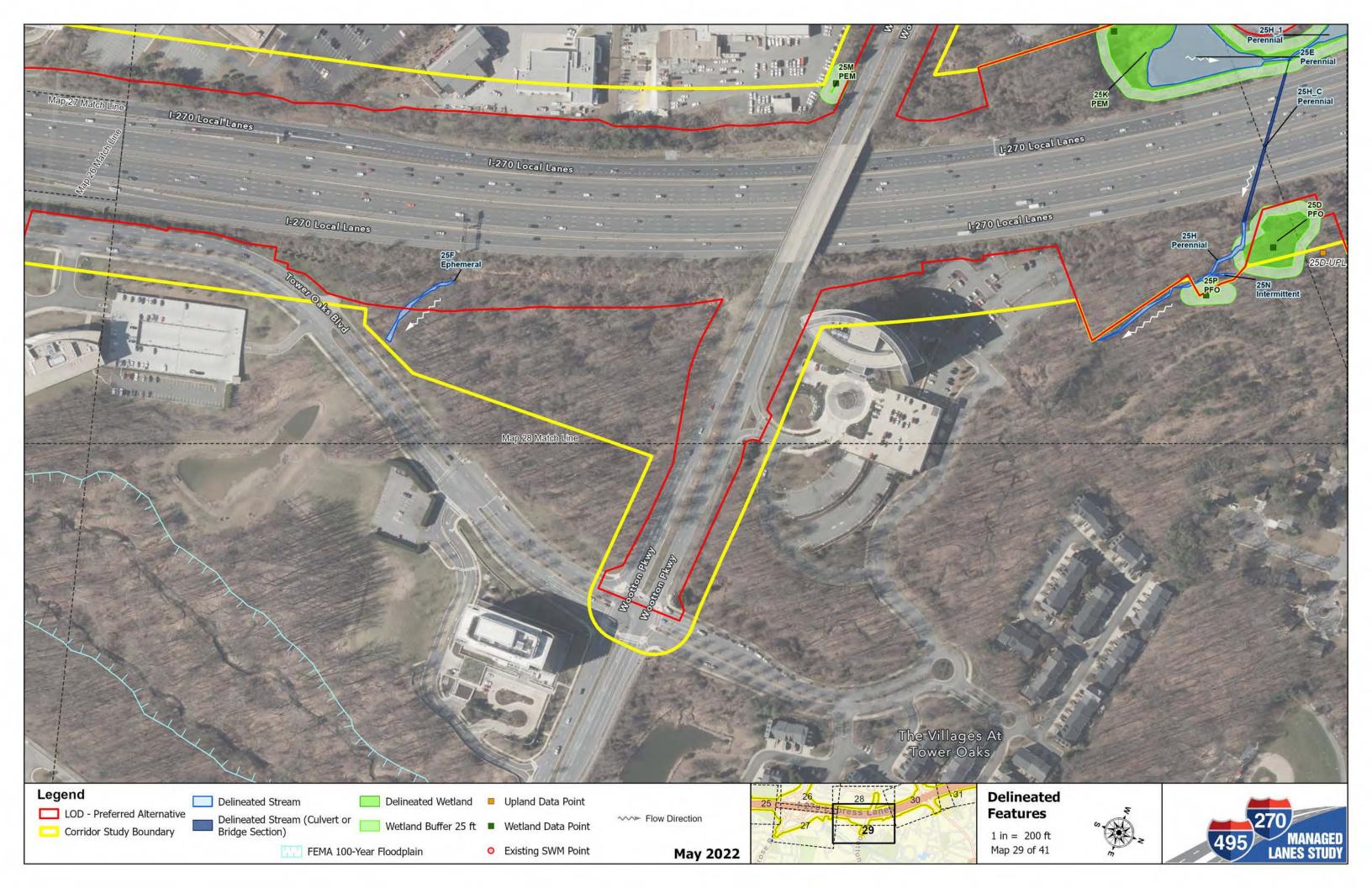


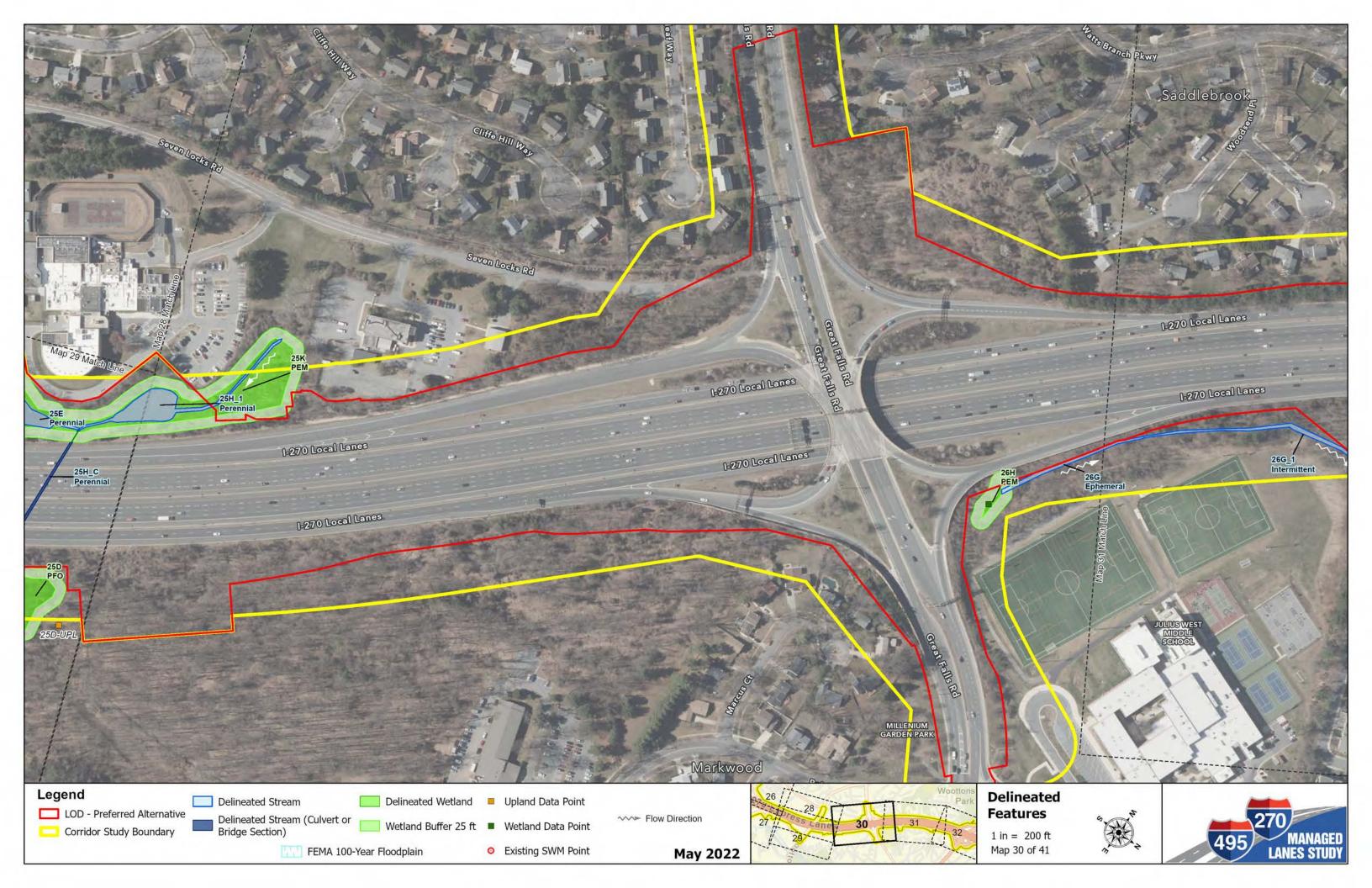


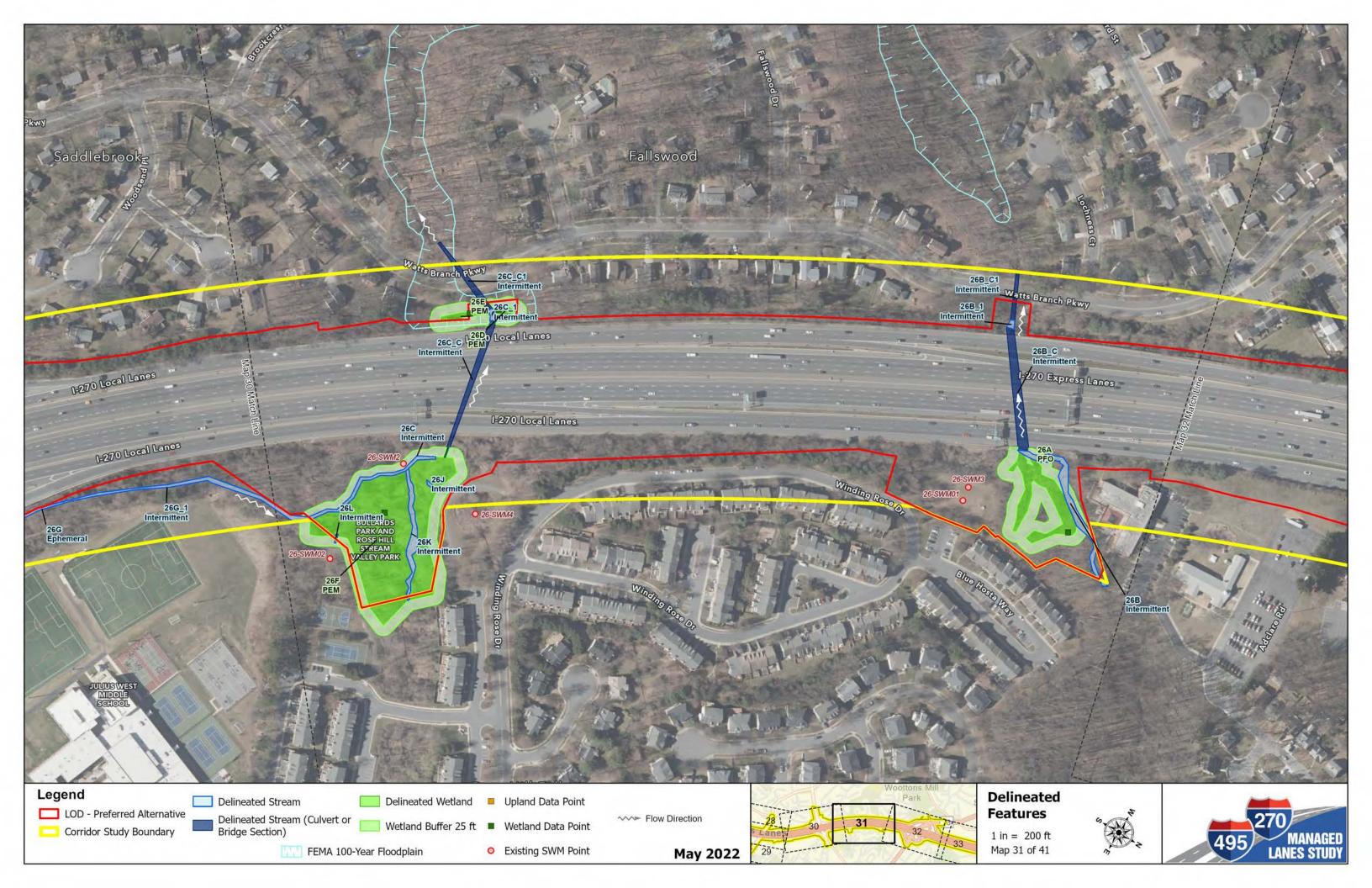


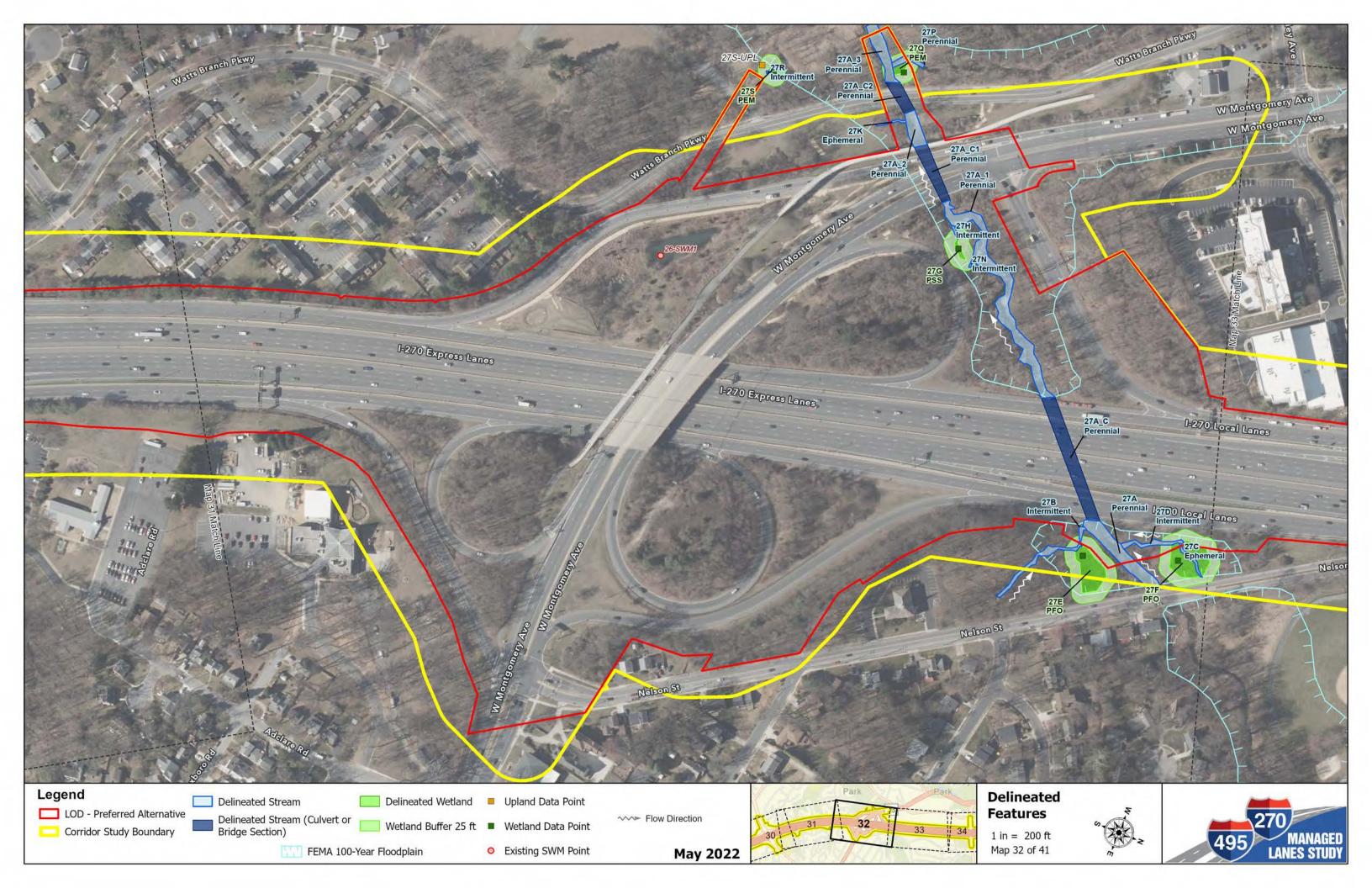


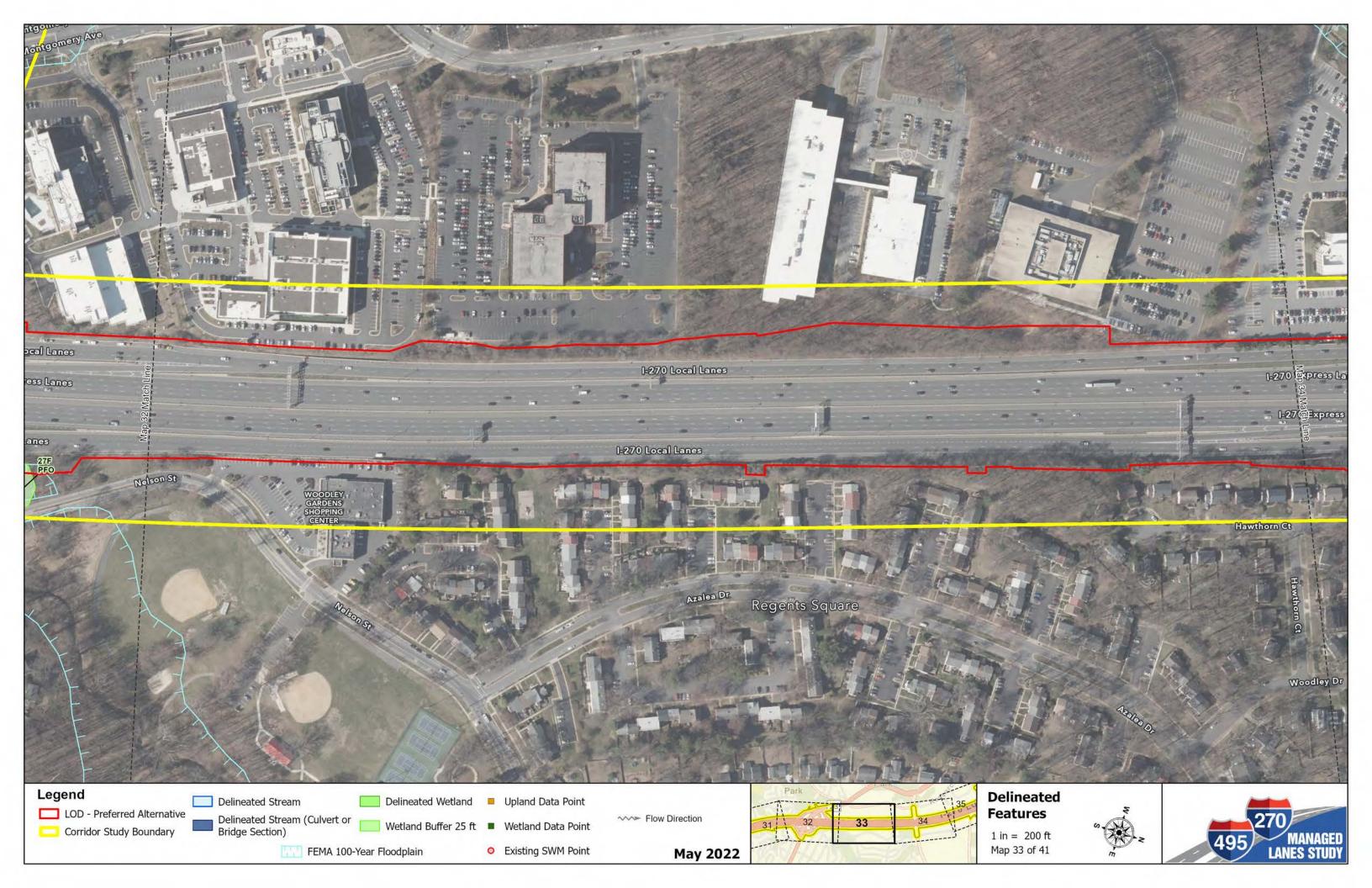


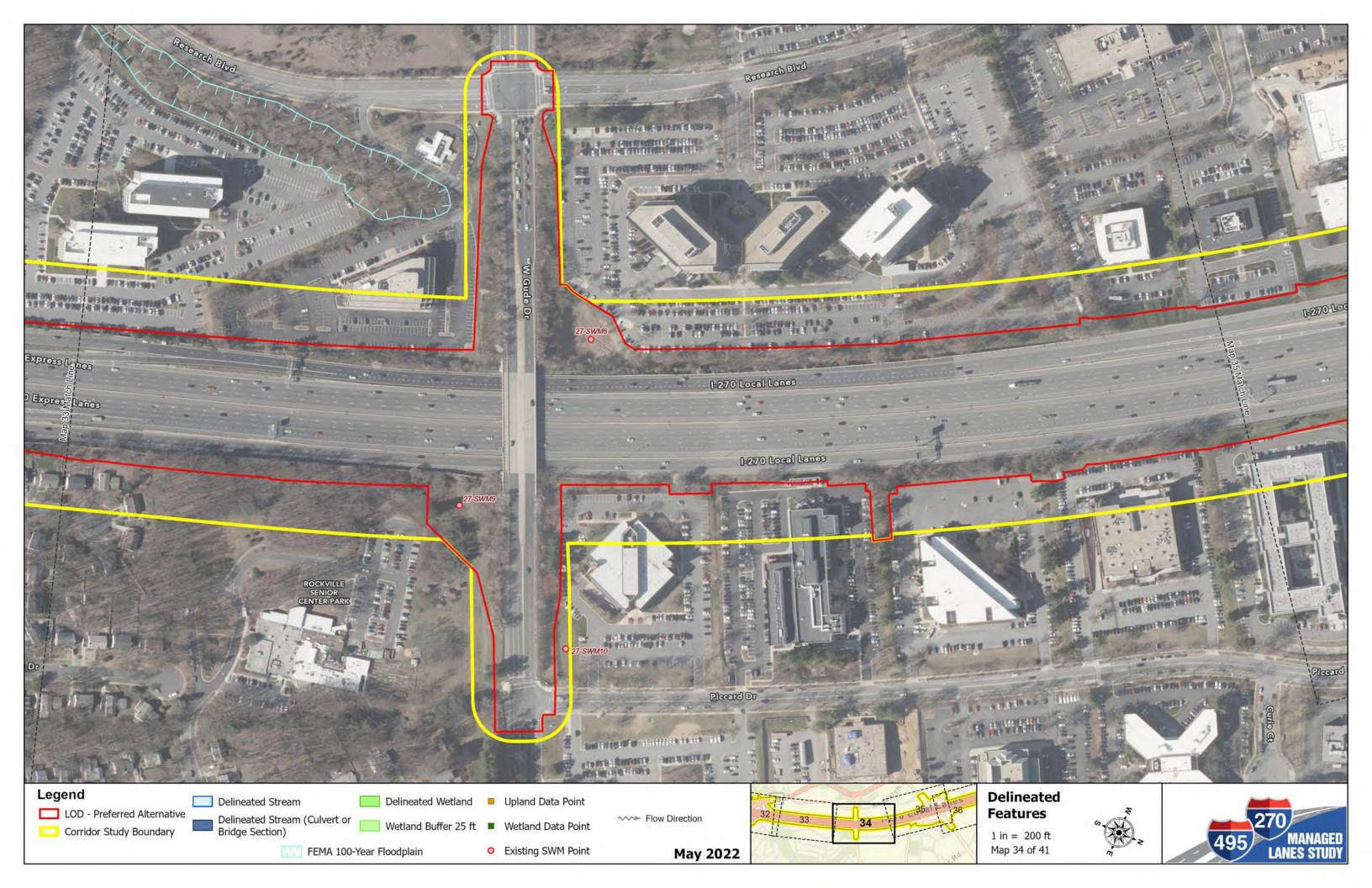


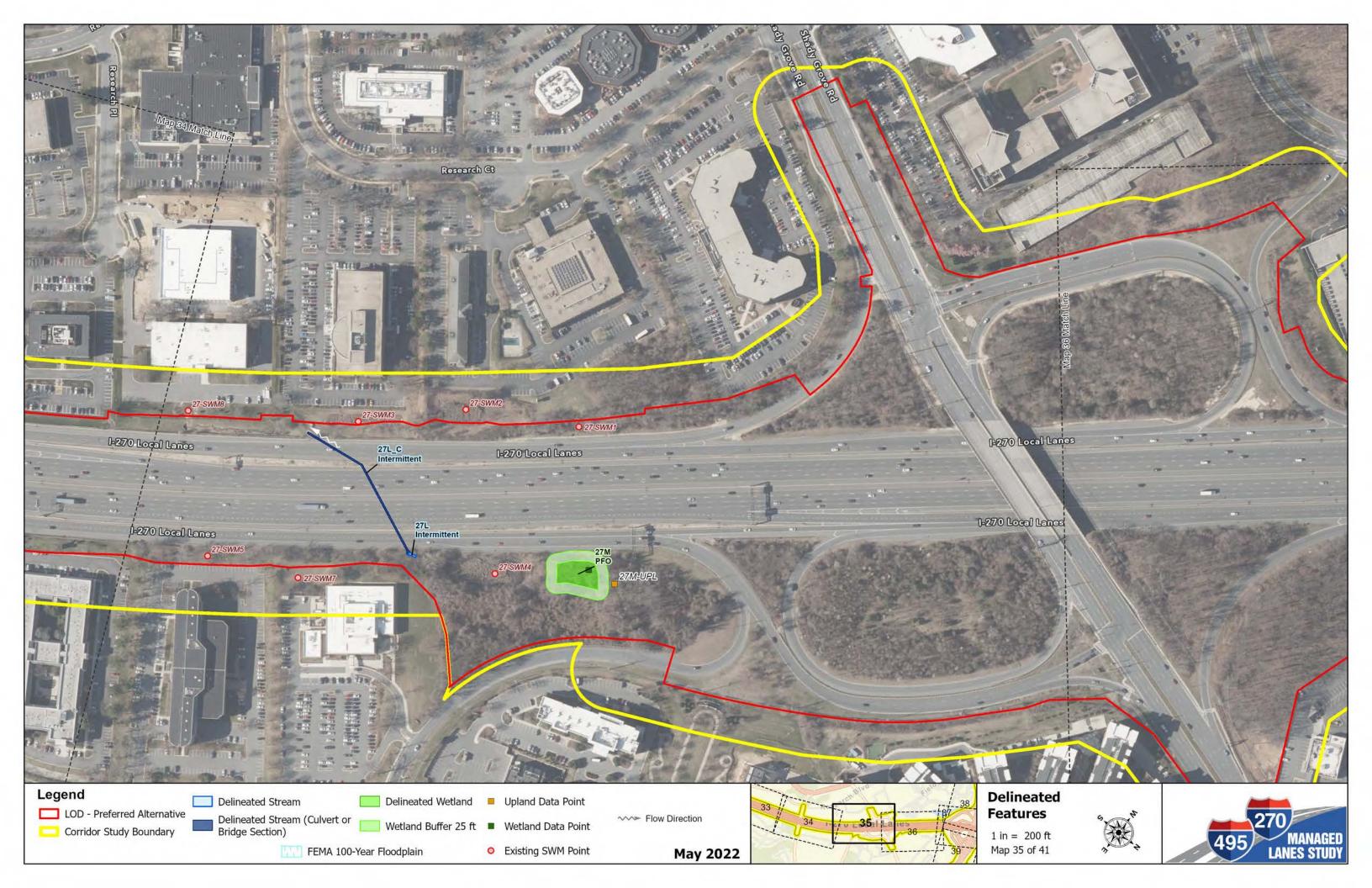


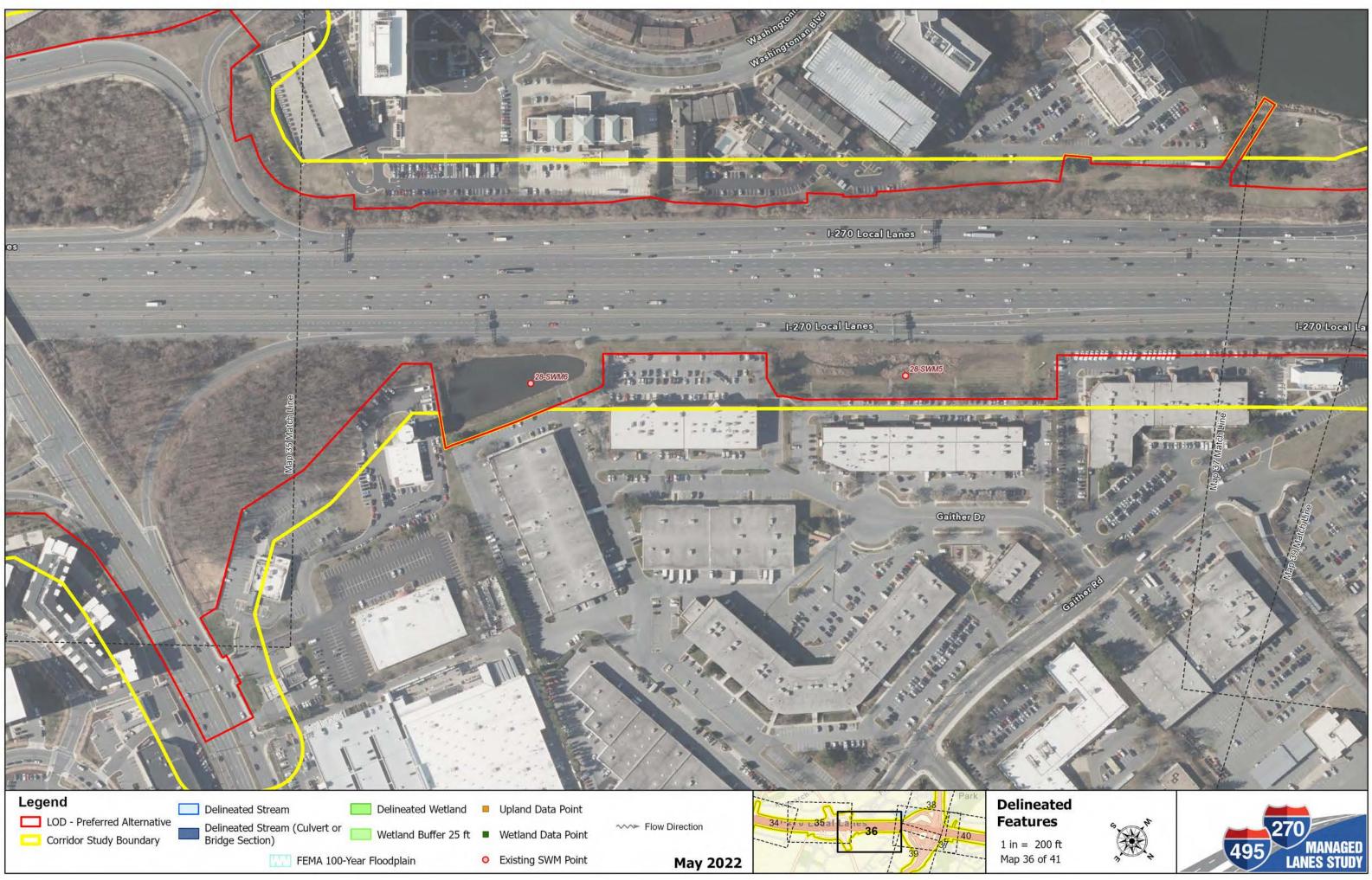


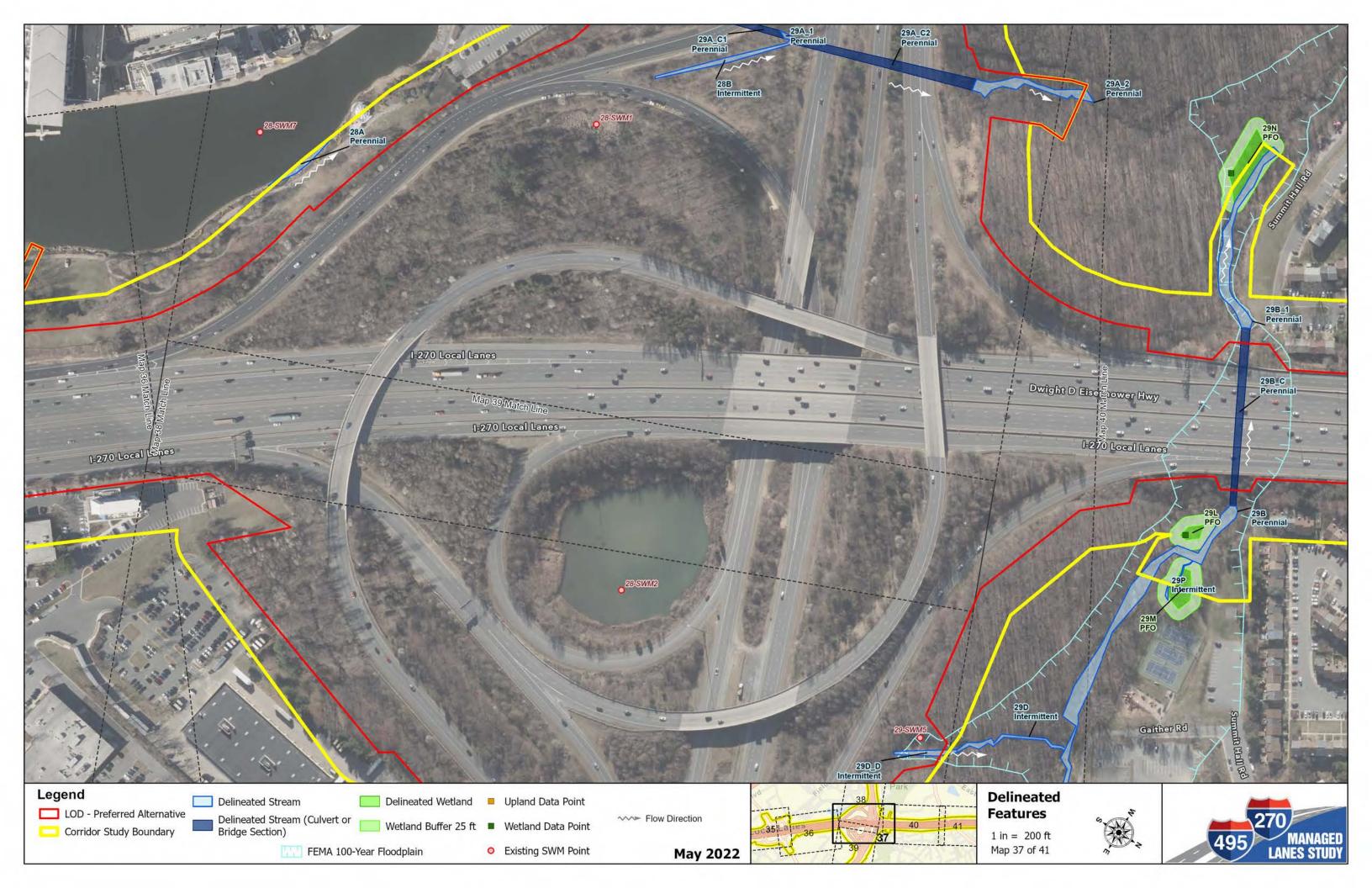


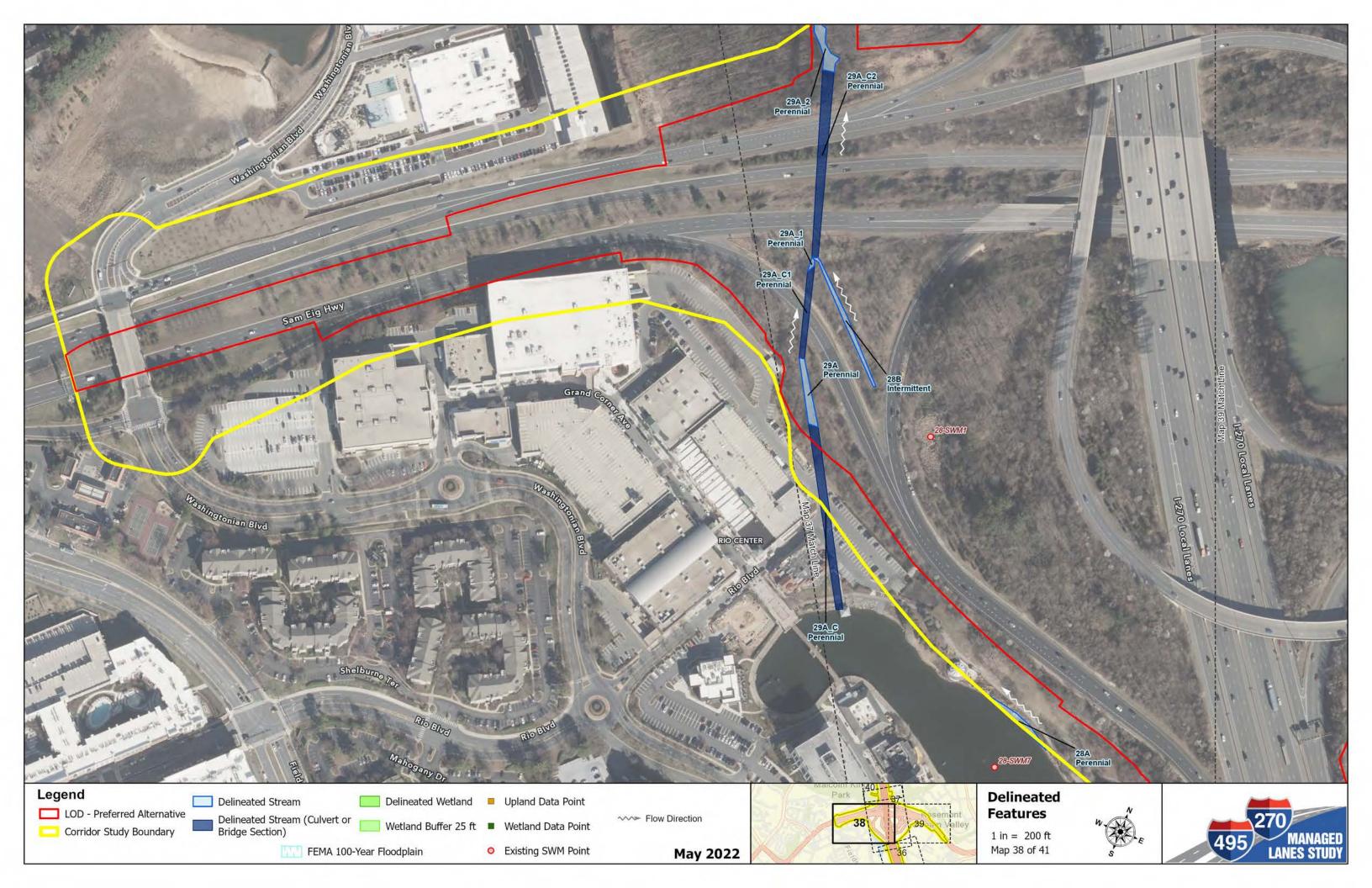


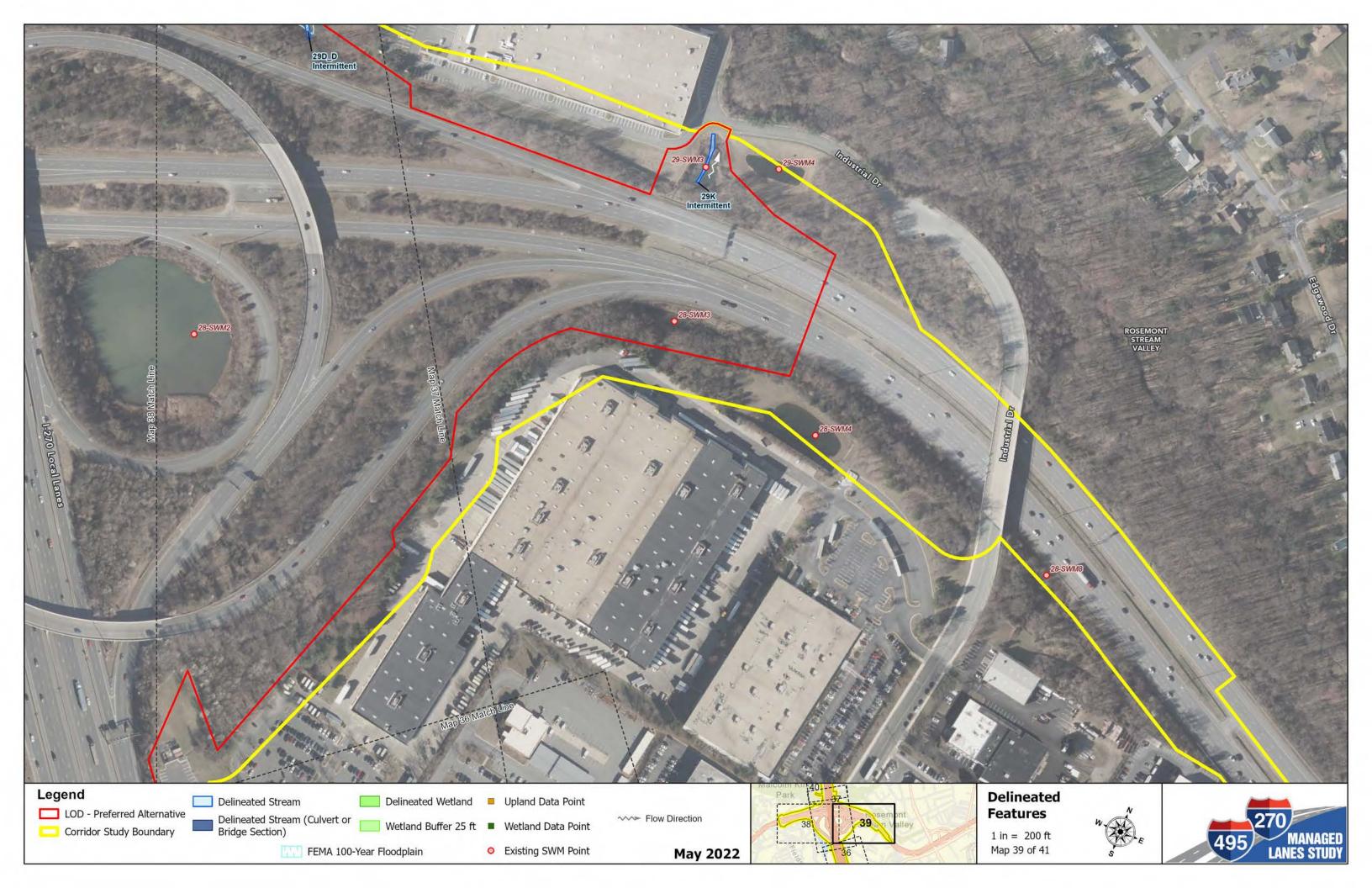


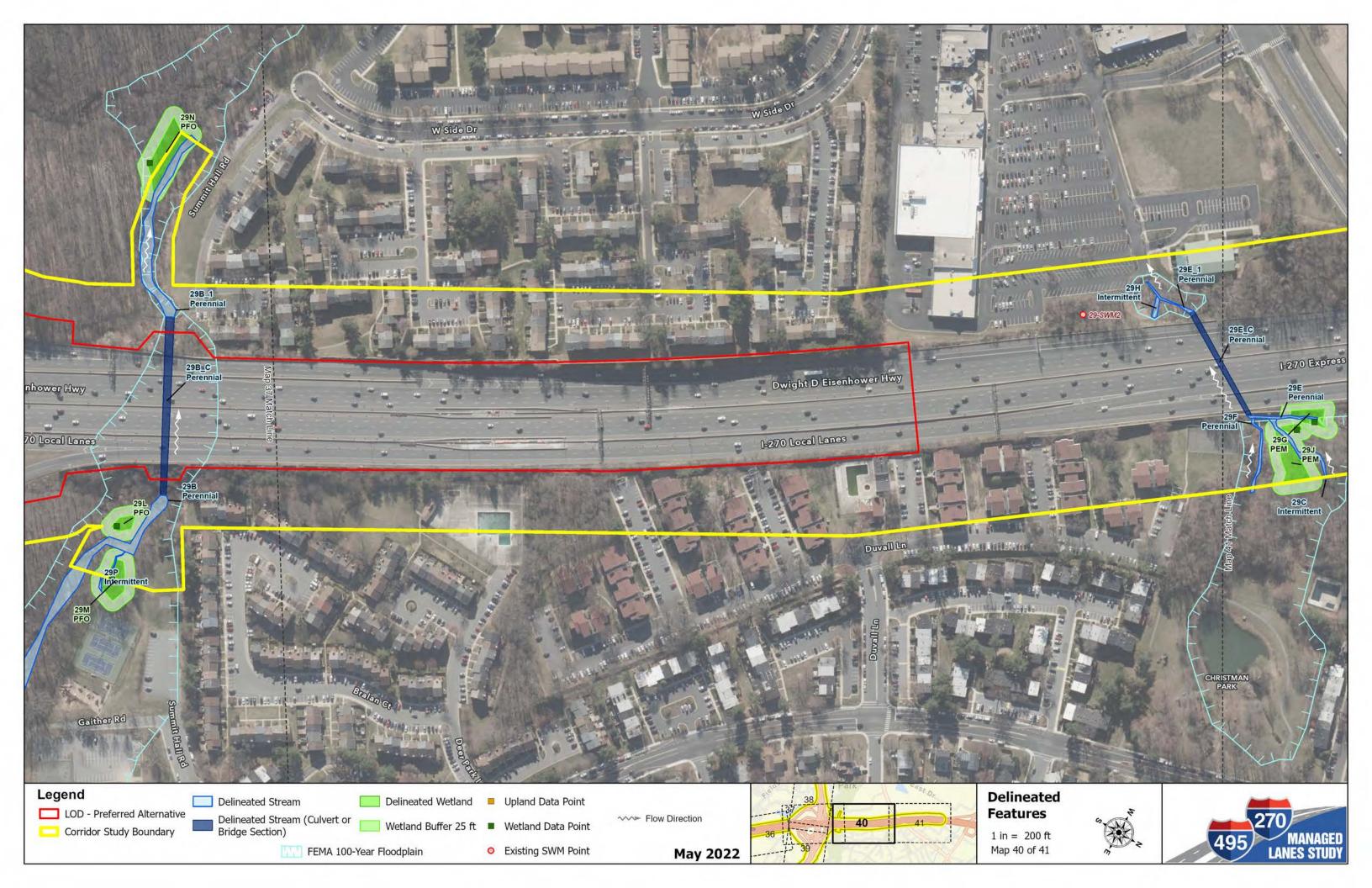


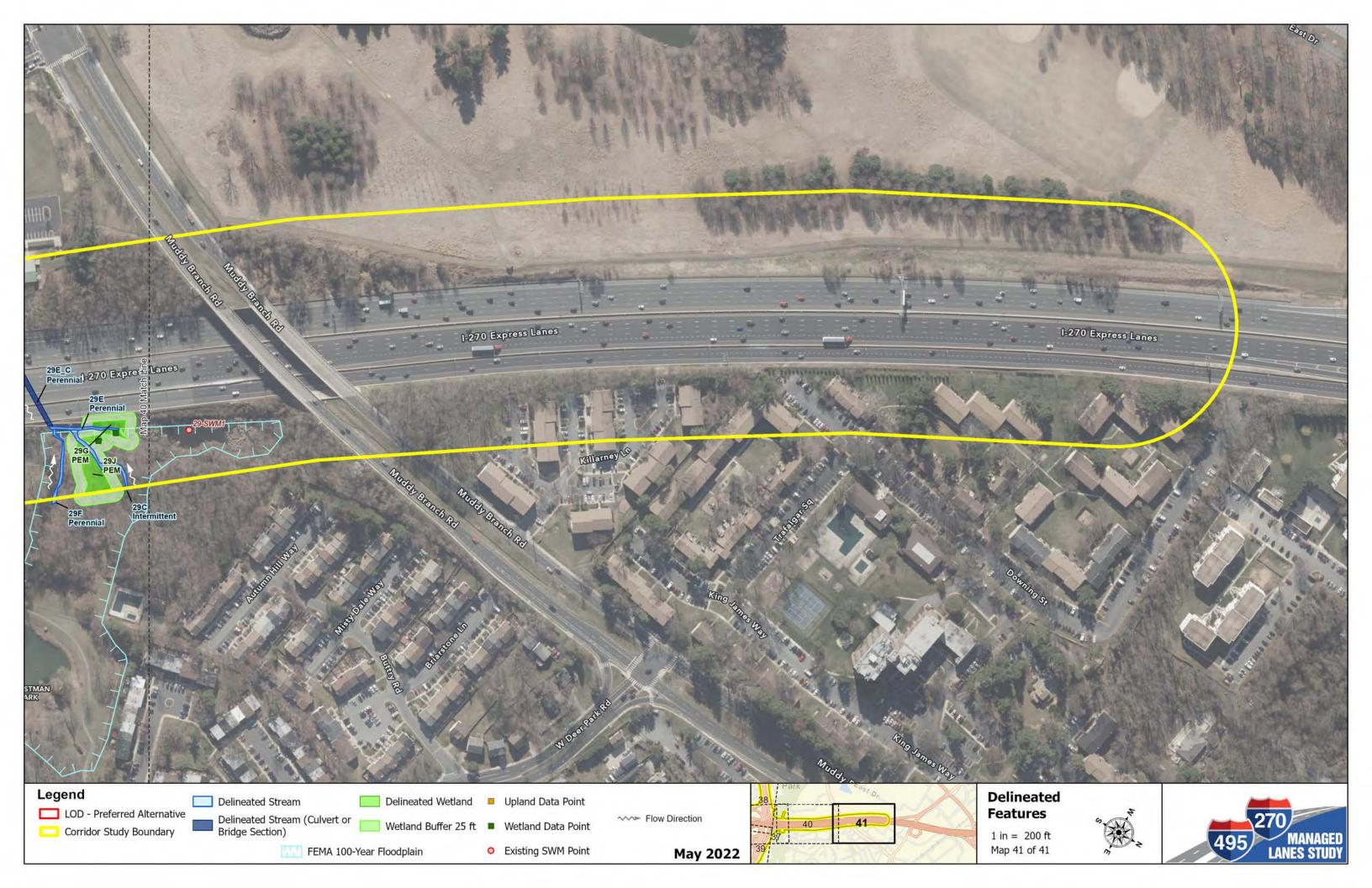


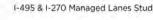




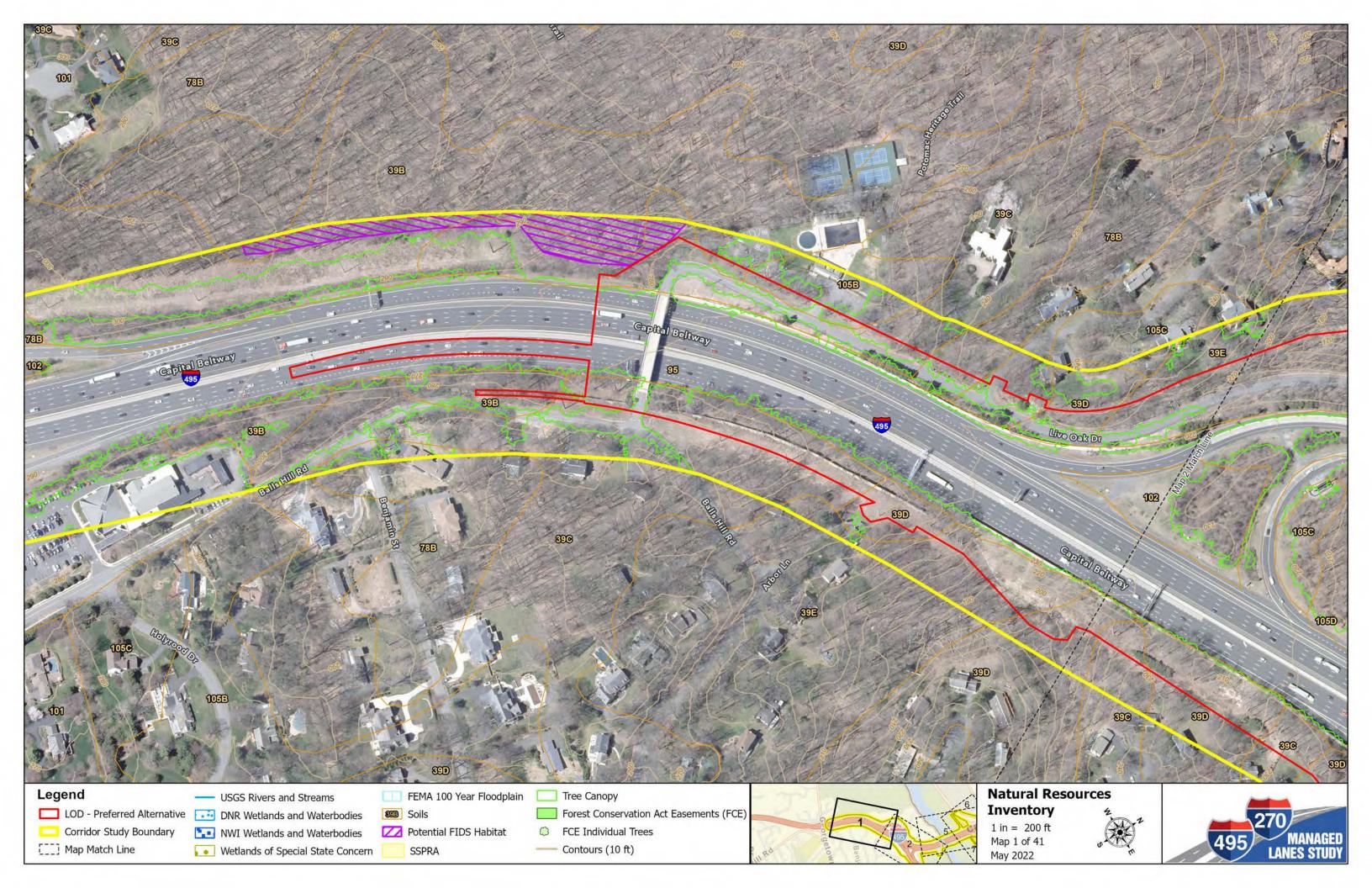


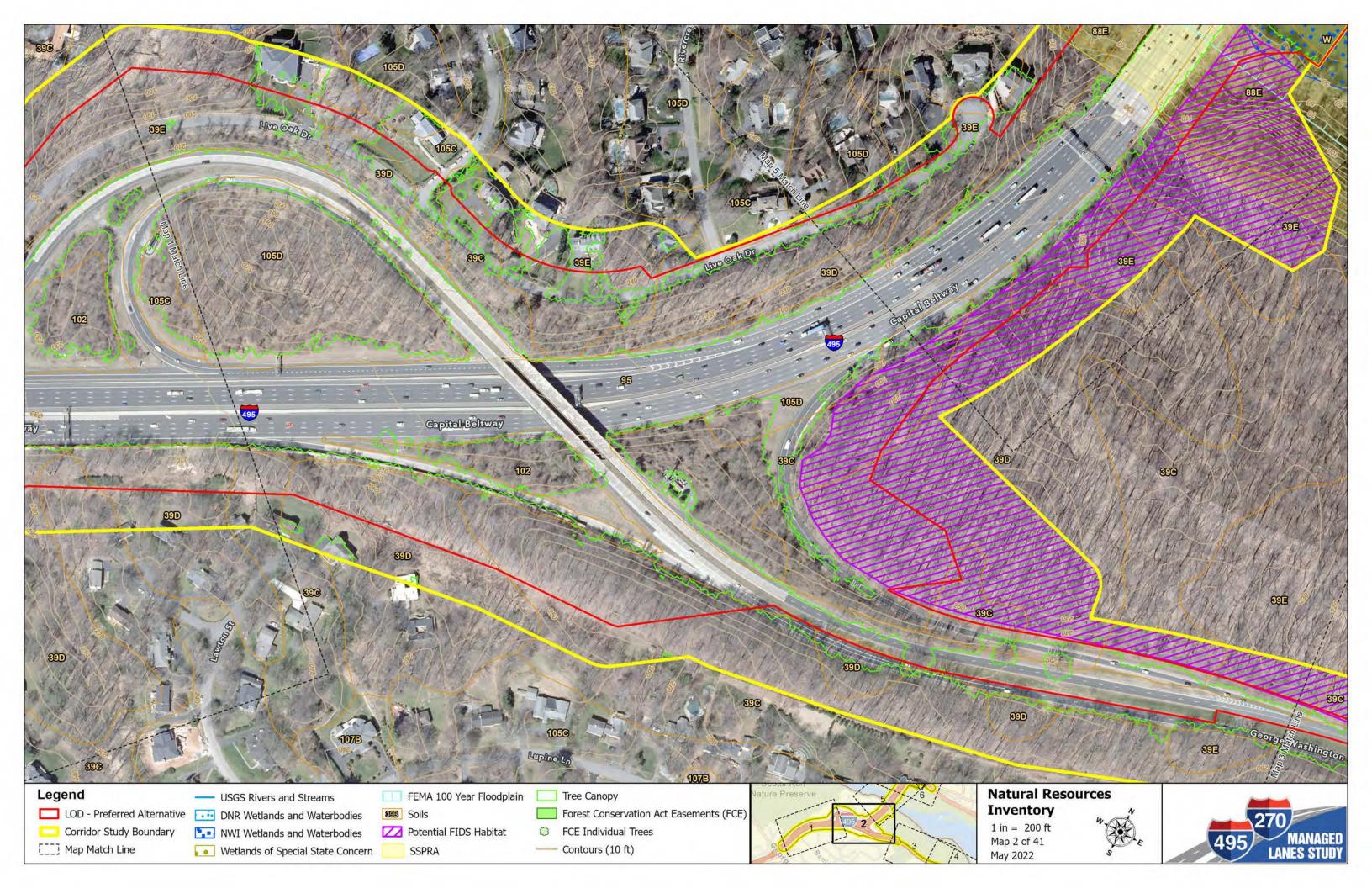


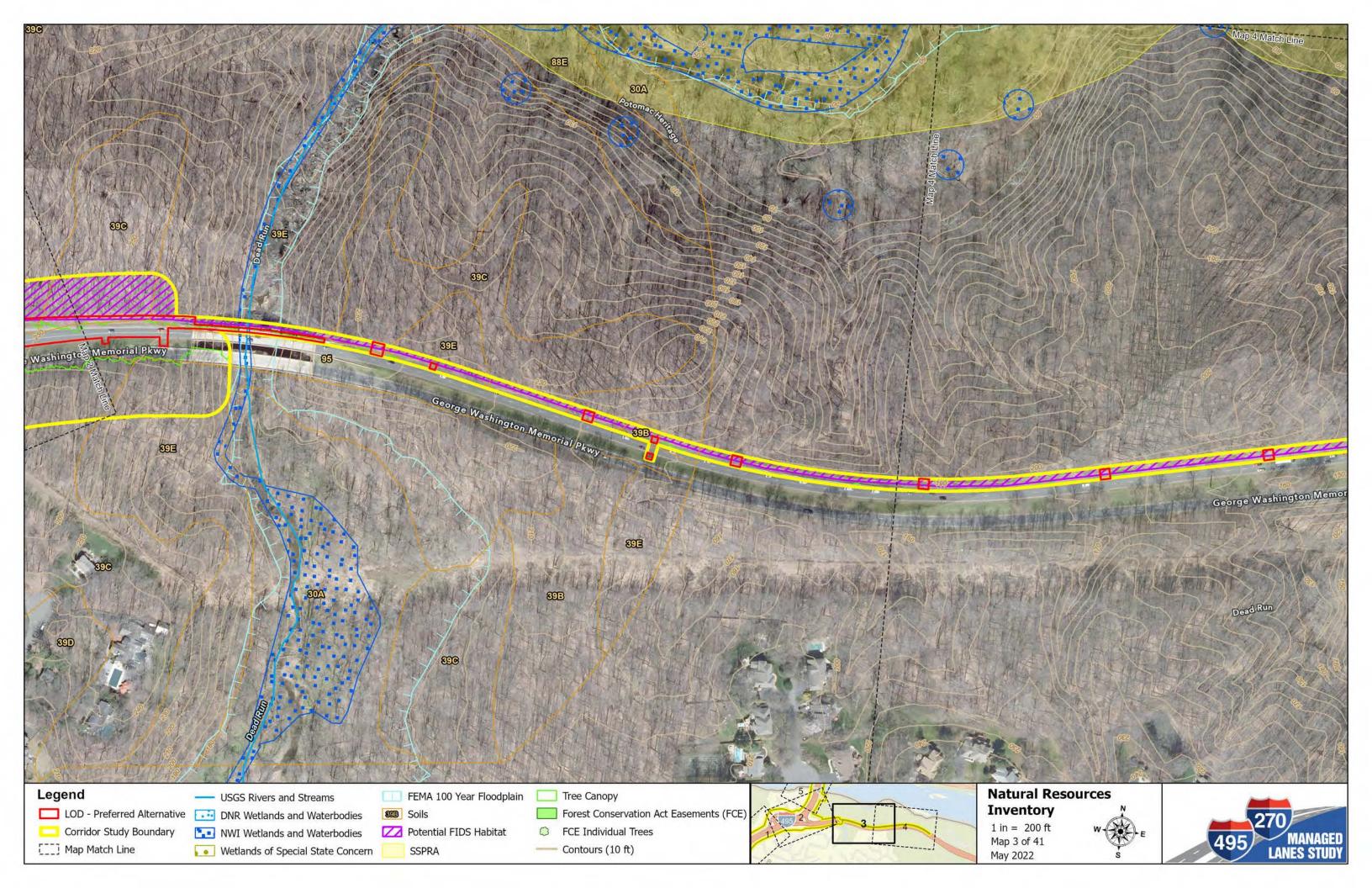




APPENDIX C: NATURAL RESOURCES INVENTORY MAPS

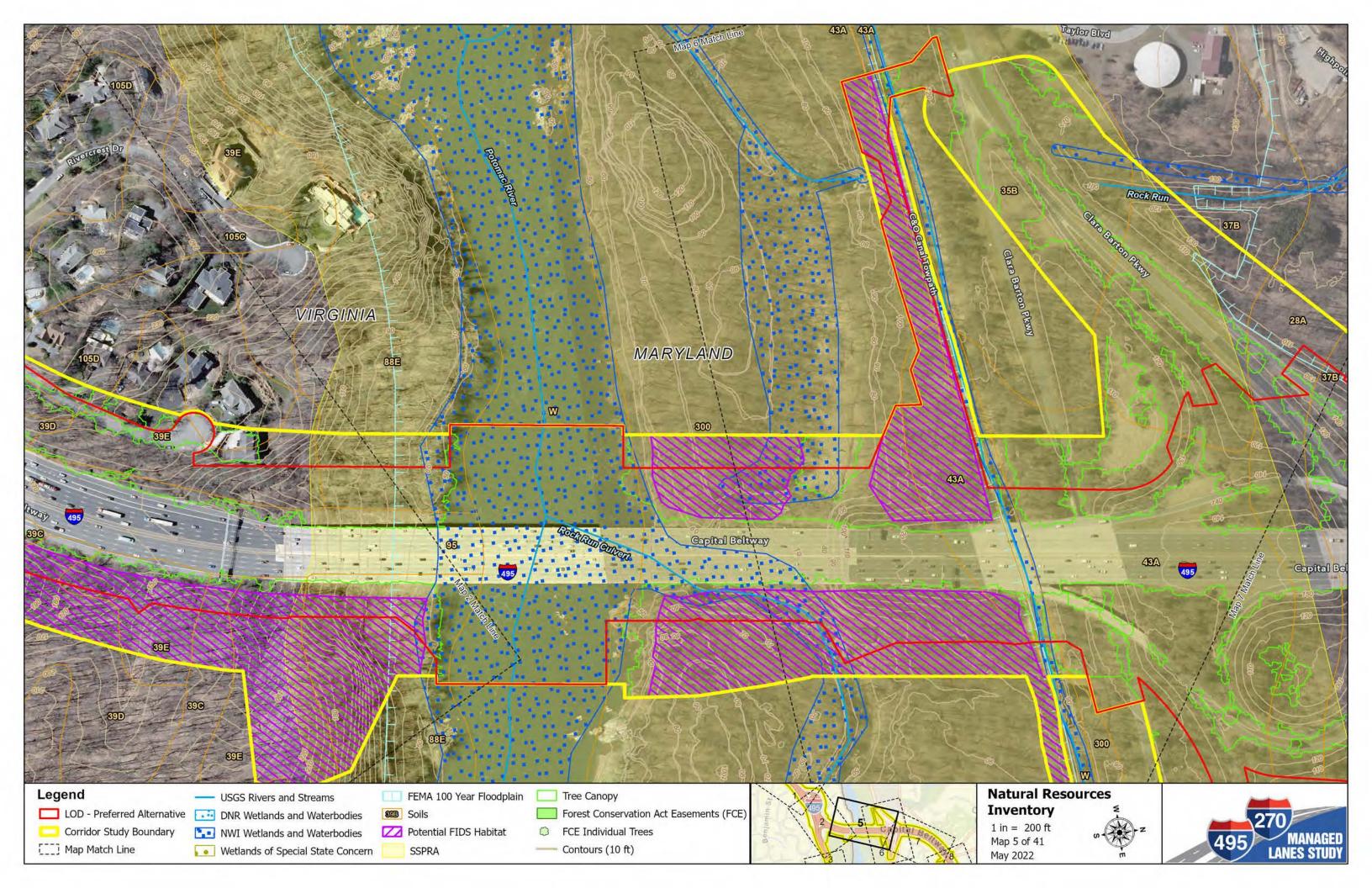


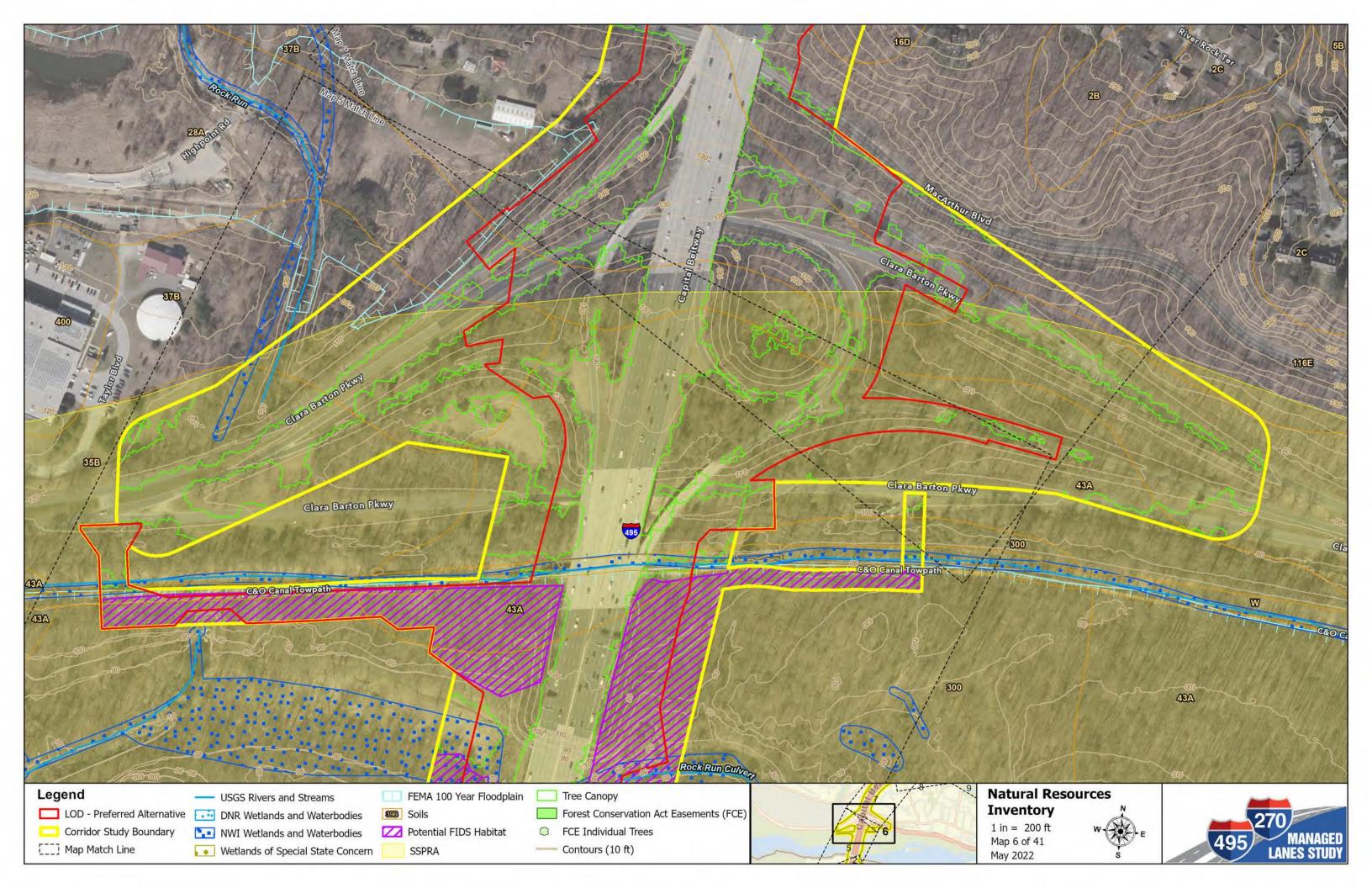


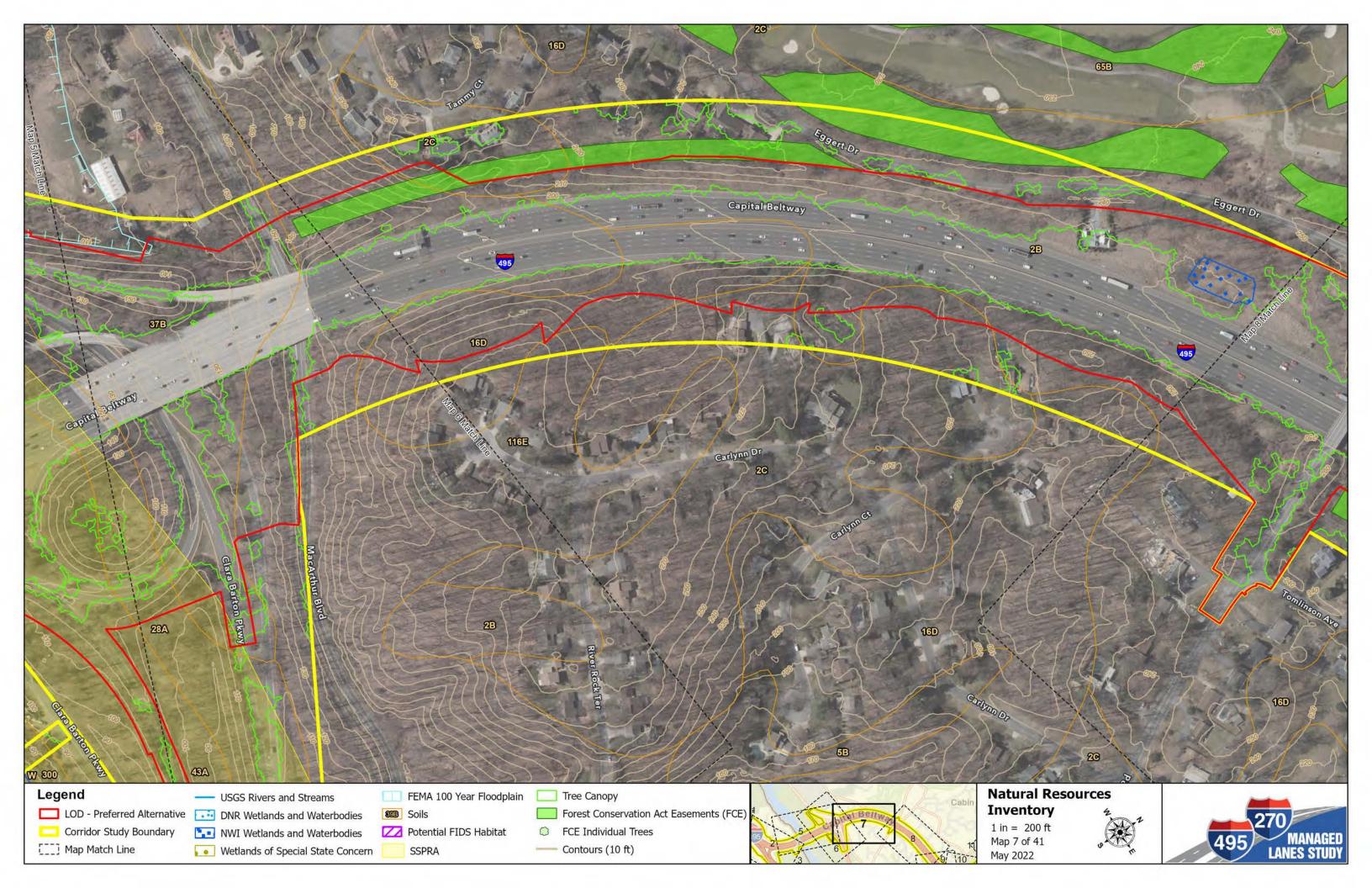


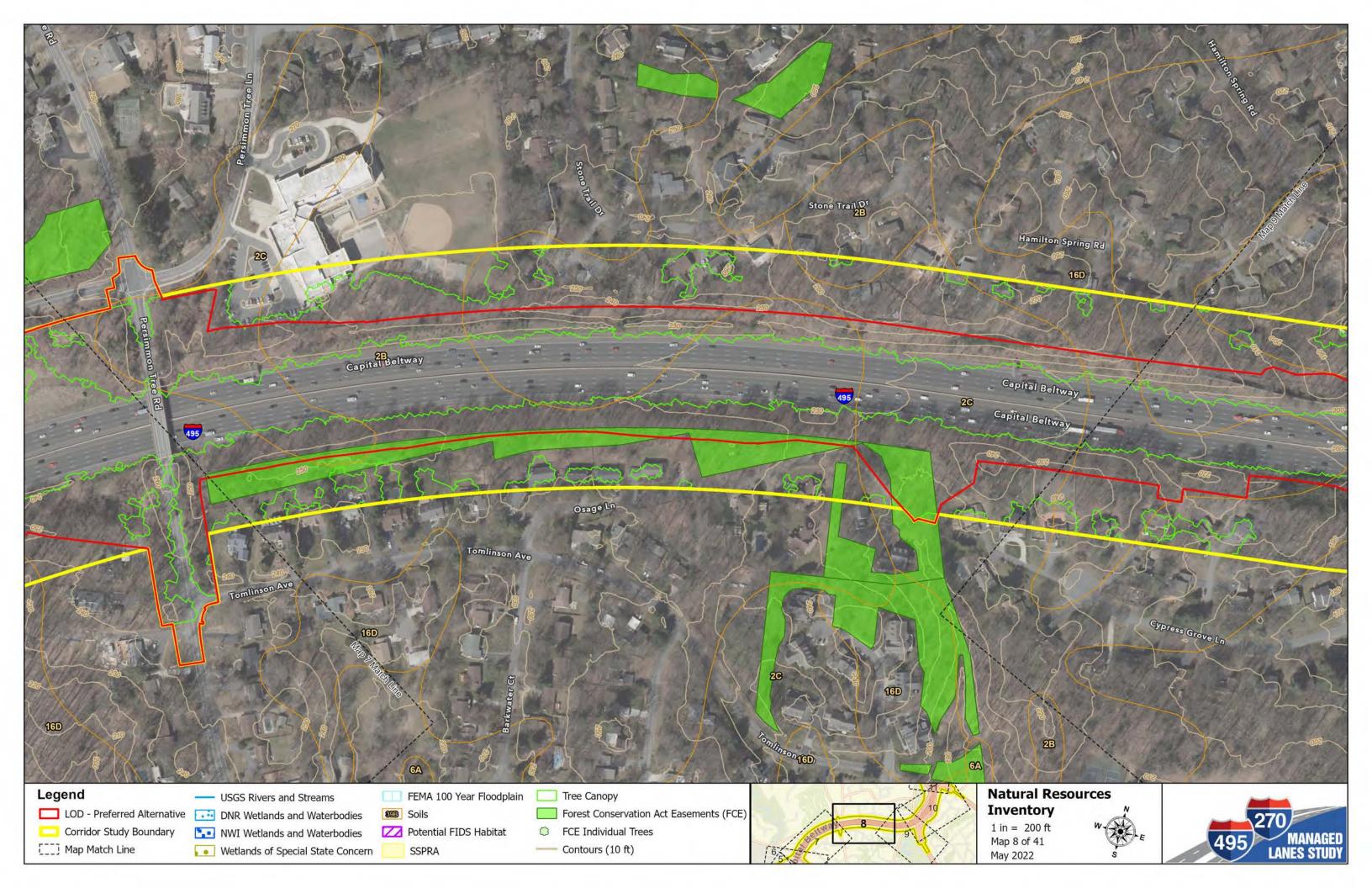
| | | Map S Match Line | | | |
|---|--|--|---|------------------|--------------------------|
| | | 150 150 Washington Memorial Pkwy 150 8 9 9 9 9 | | " George Washing | aton Memorial |
| Legend LOD - Preferred Alternative Corridor Study Boundary Map Match Line | USGS Rivers and Streams DNR Wetlands and Waterbodies NWI Wetlands and Waterbodies Wetlands of Special State Concern | FEMA 100 Year Floodplain Soils Potential FIDS Habitat SSPRA | Tree Canopy Forest Conservation Act Easements (FCE FCE Individual Trees Contours (10 ft) | | Na Inv 1 in May |

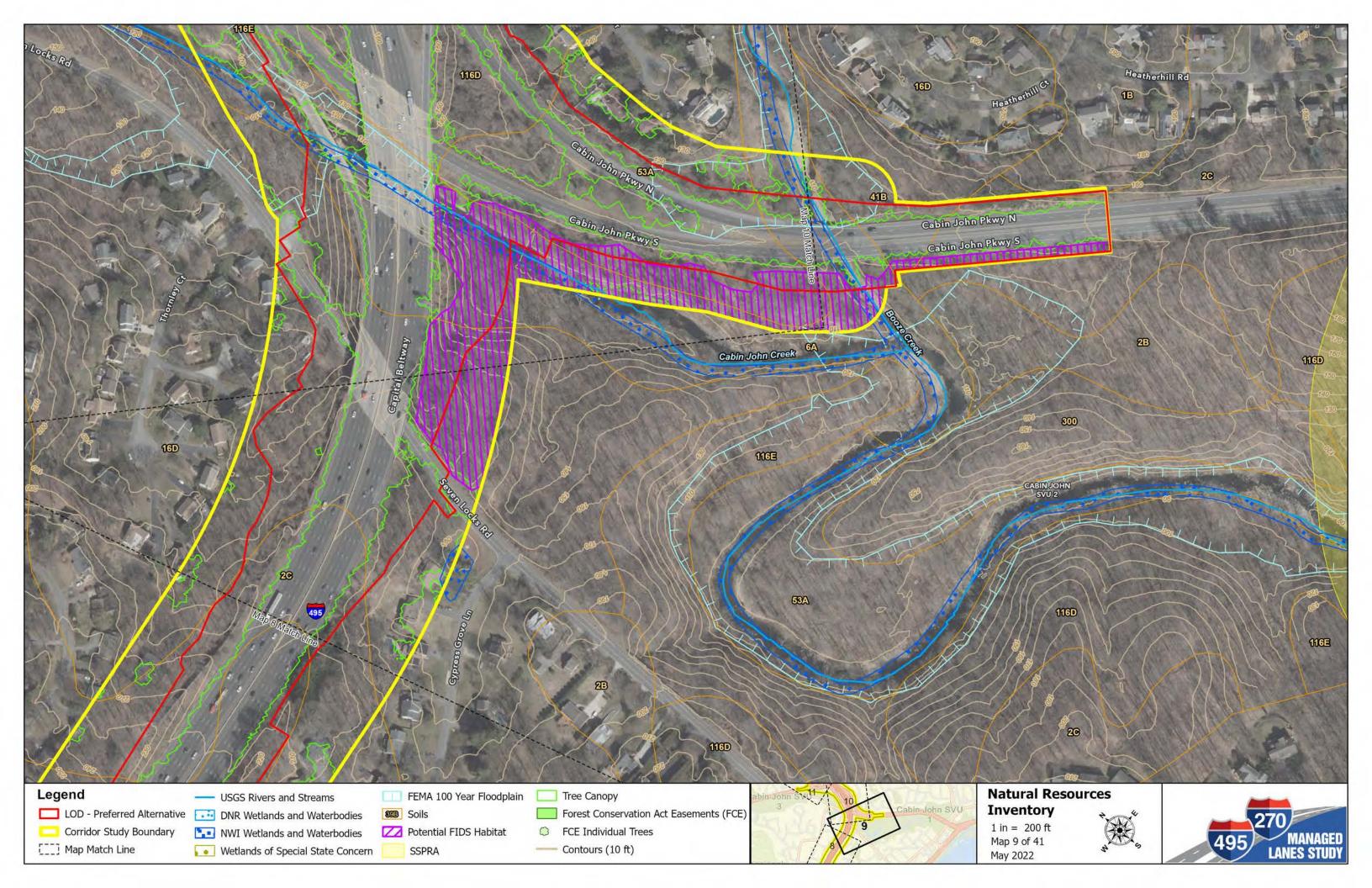


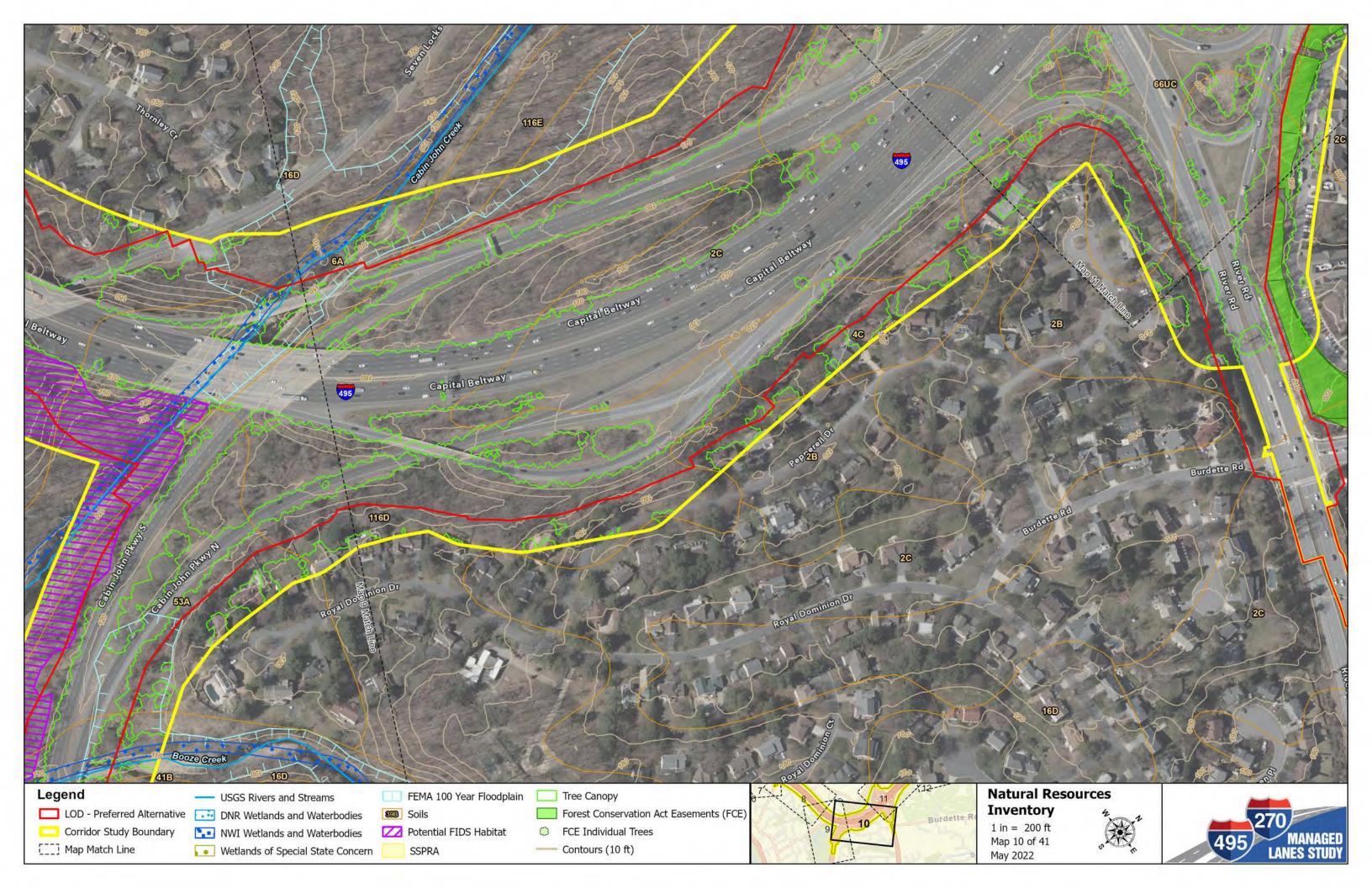


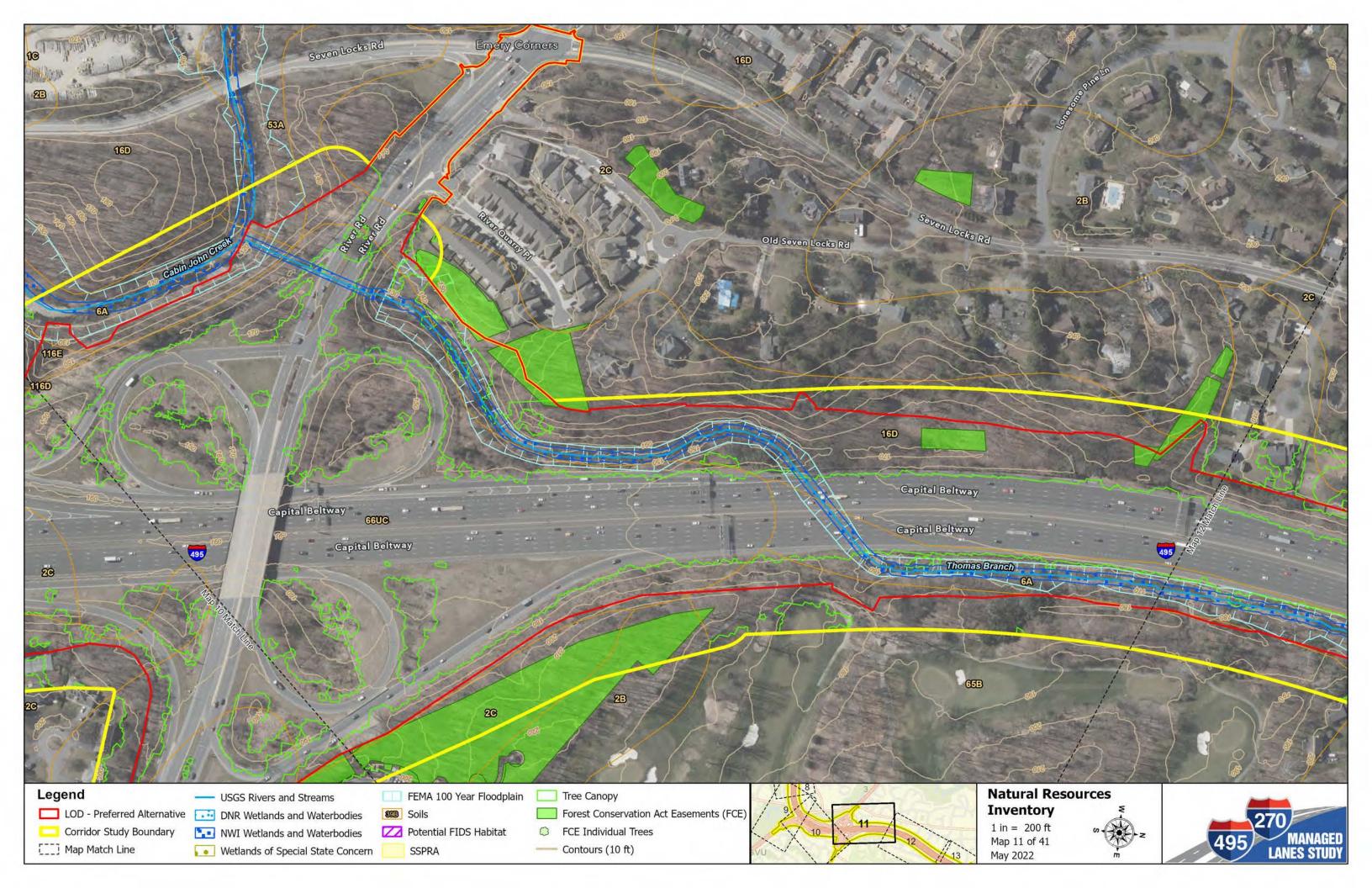


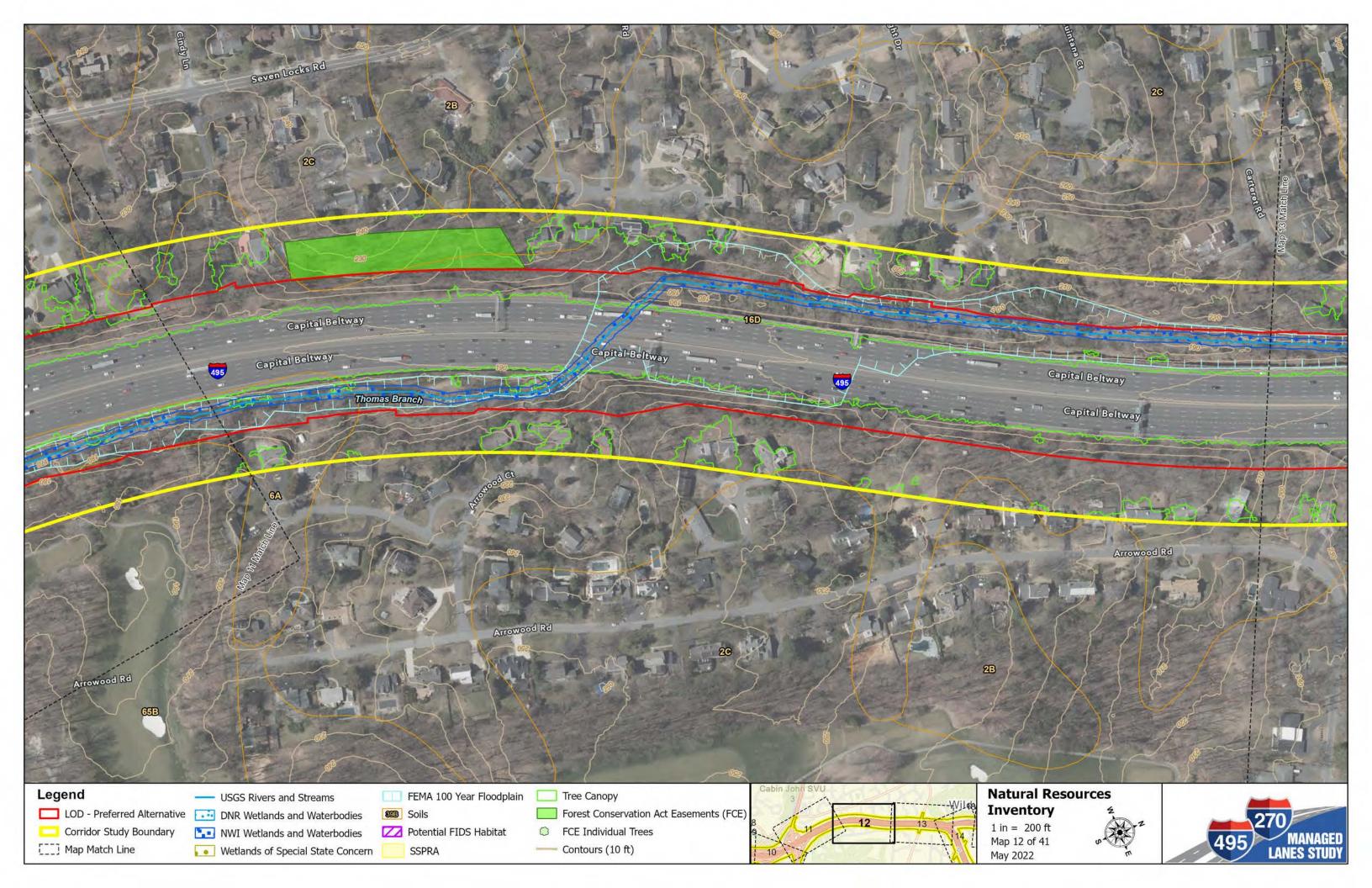


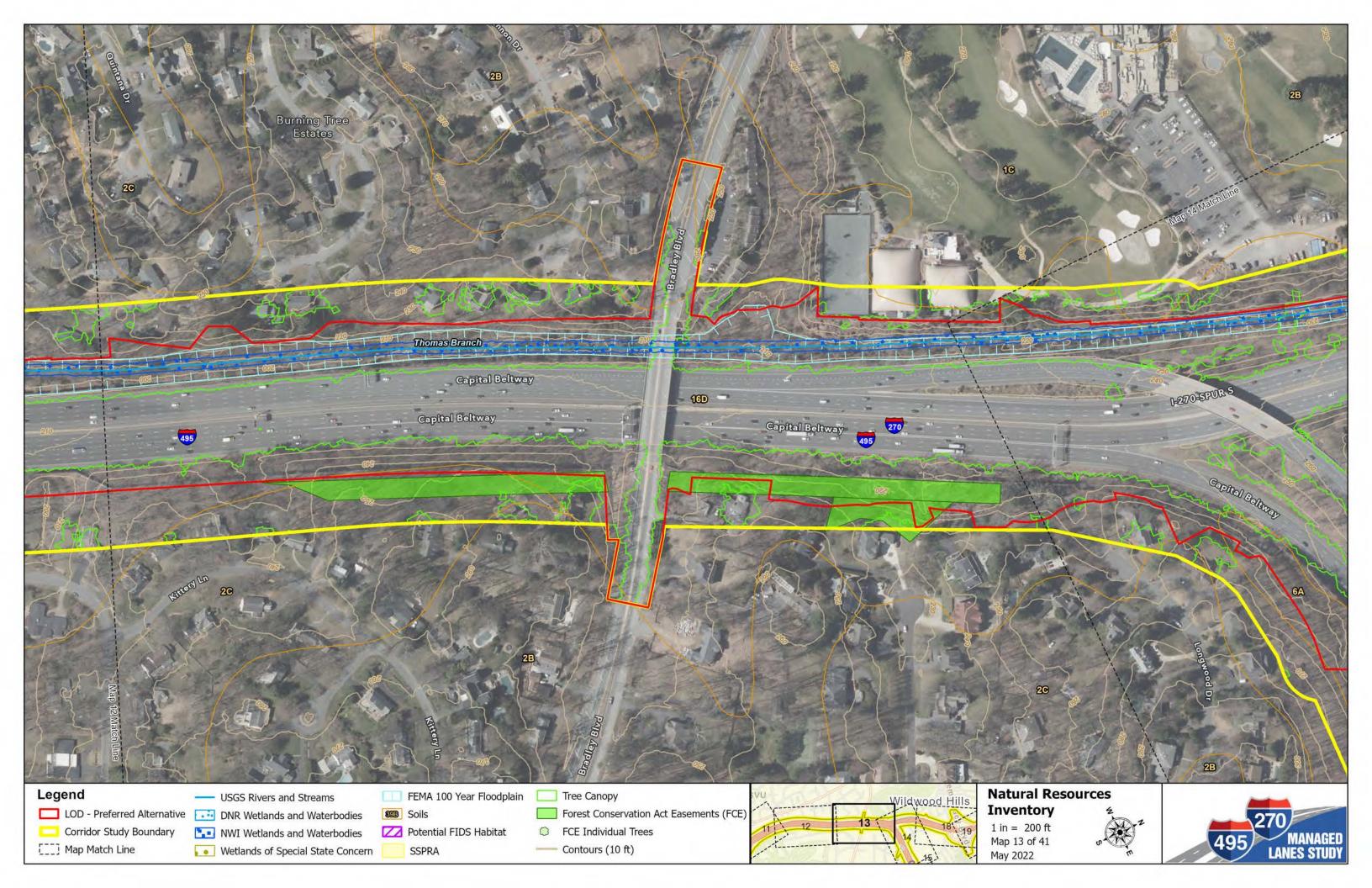


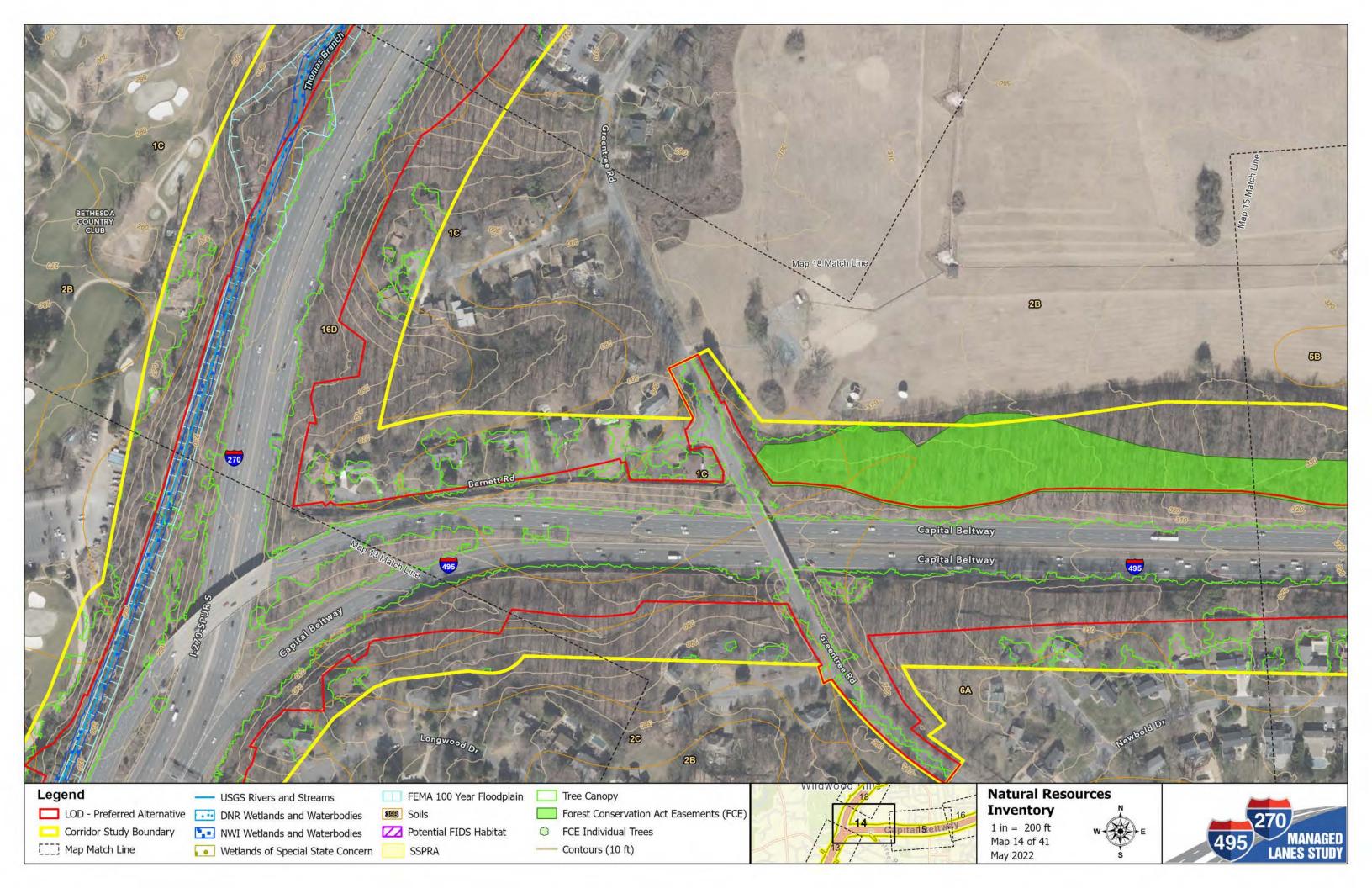


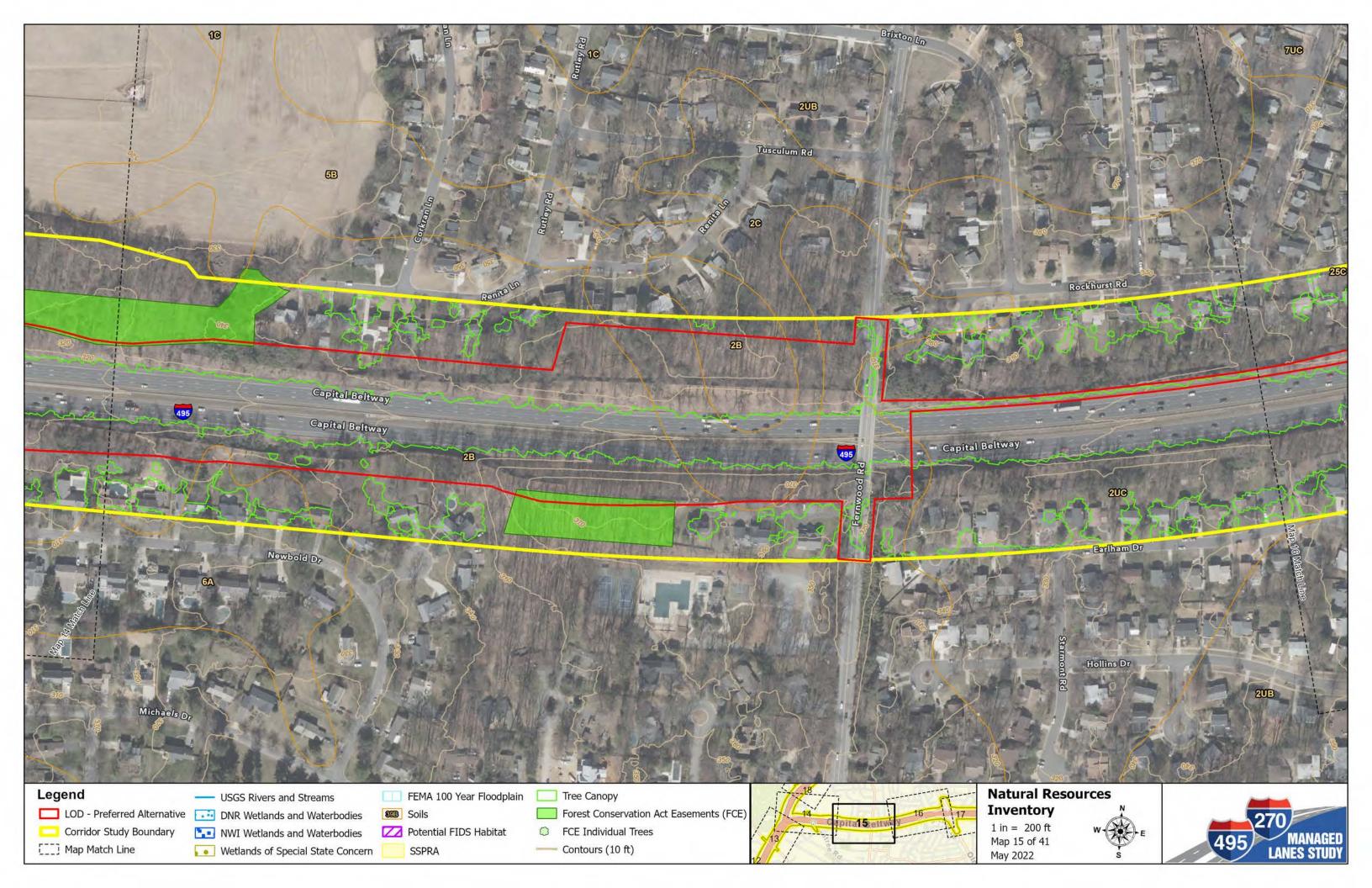


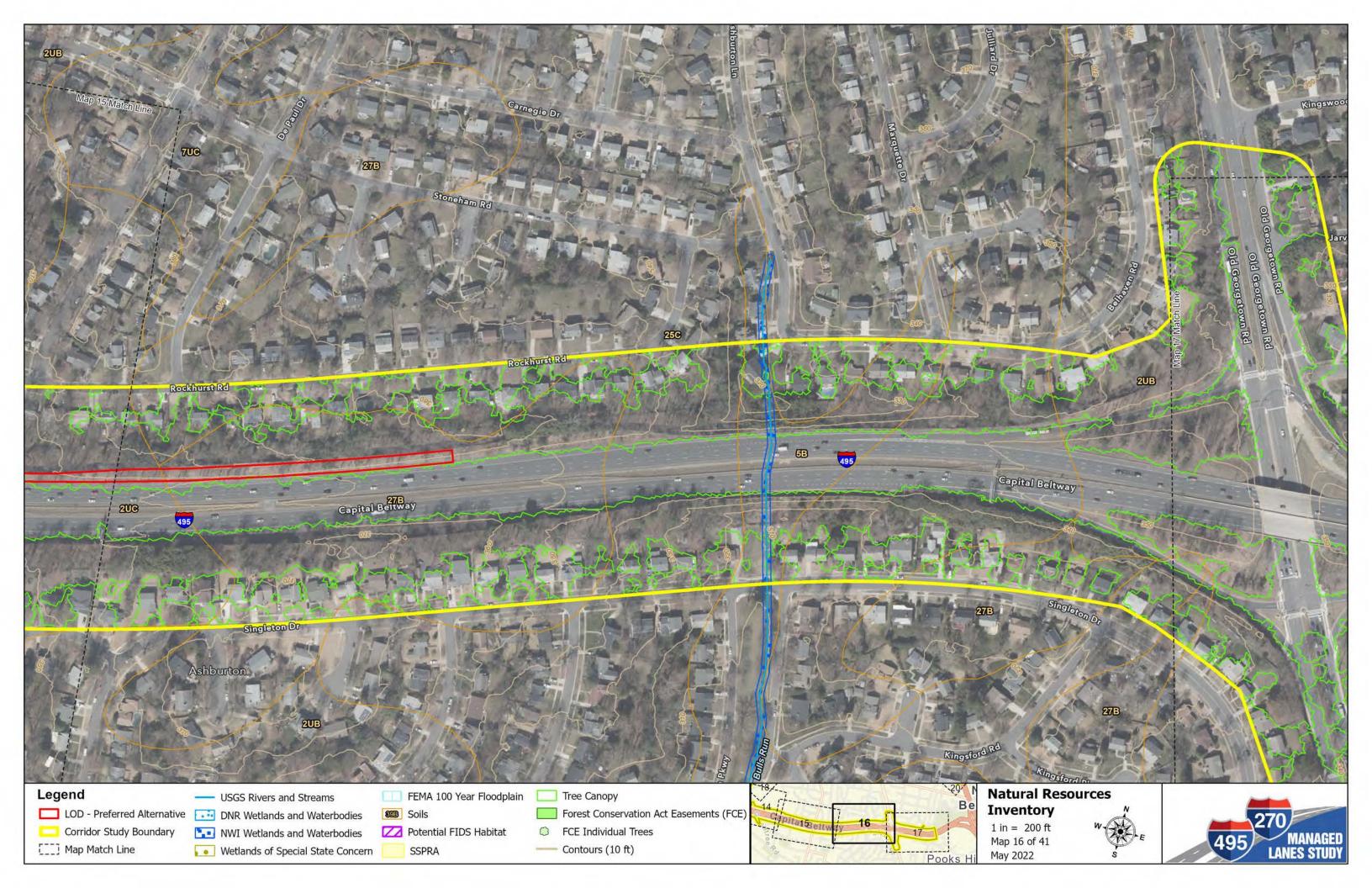


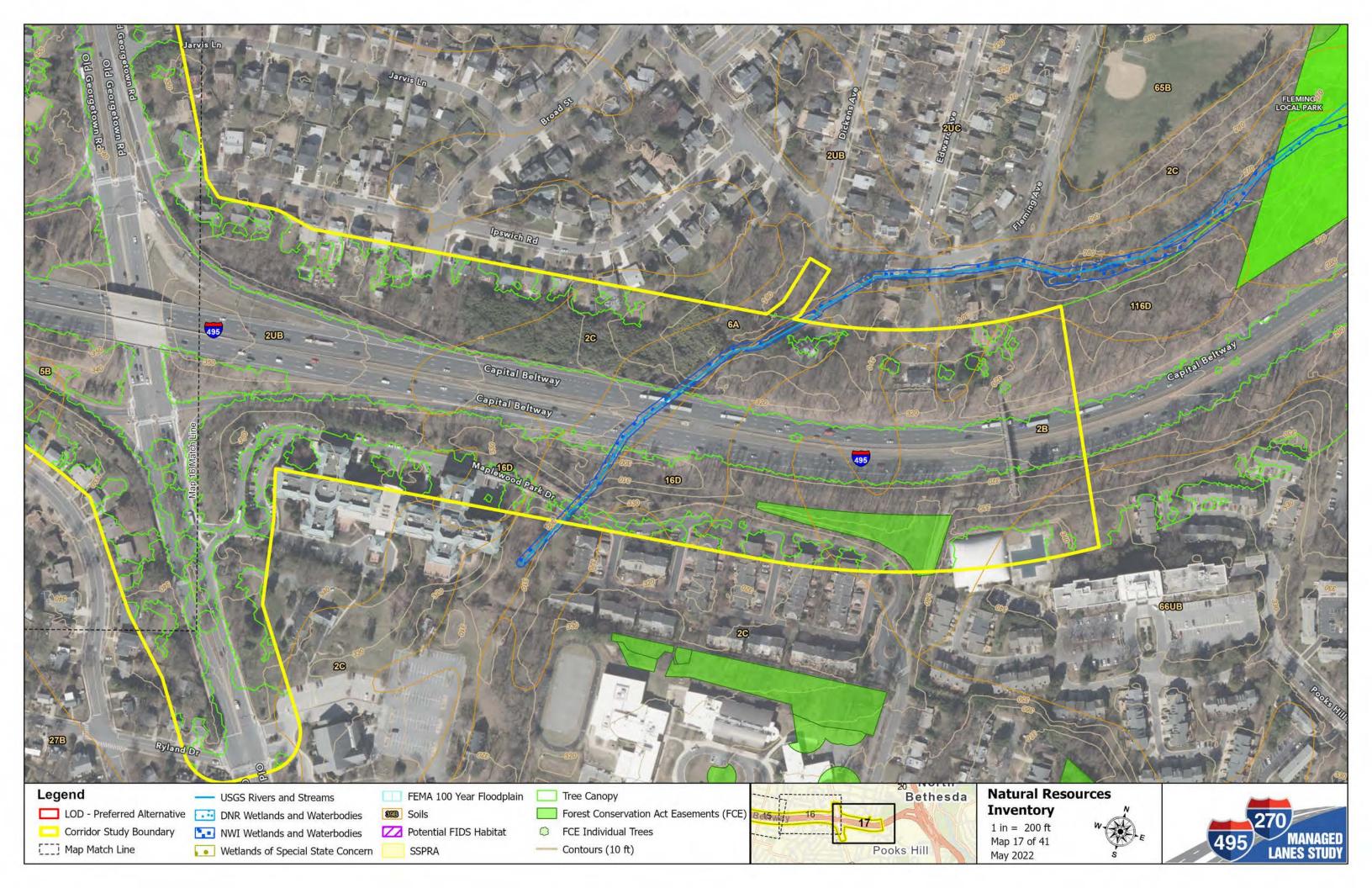


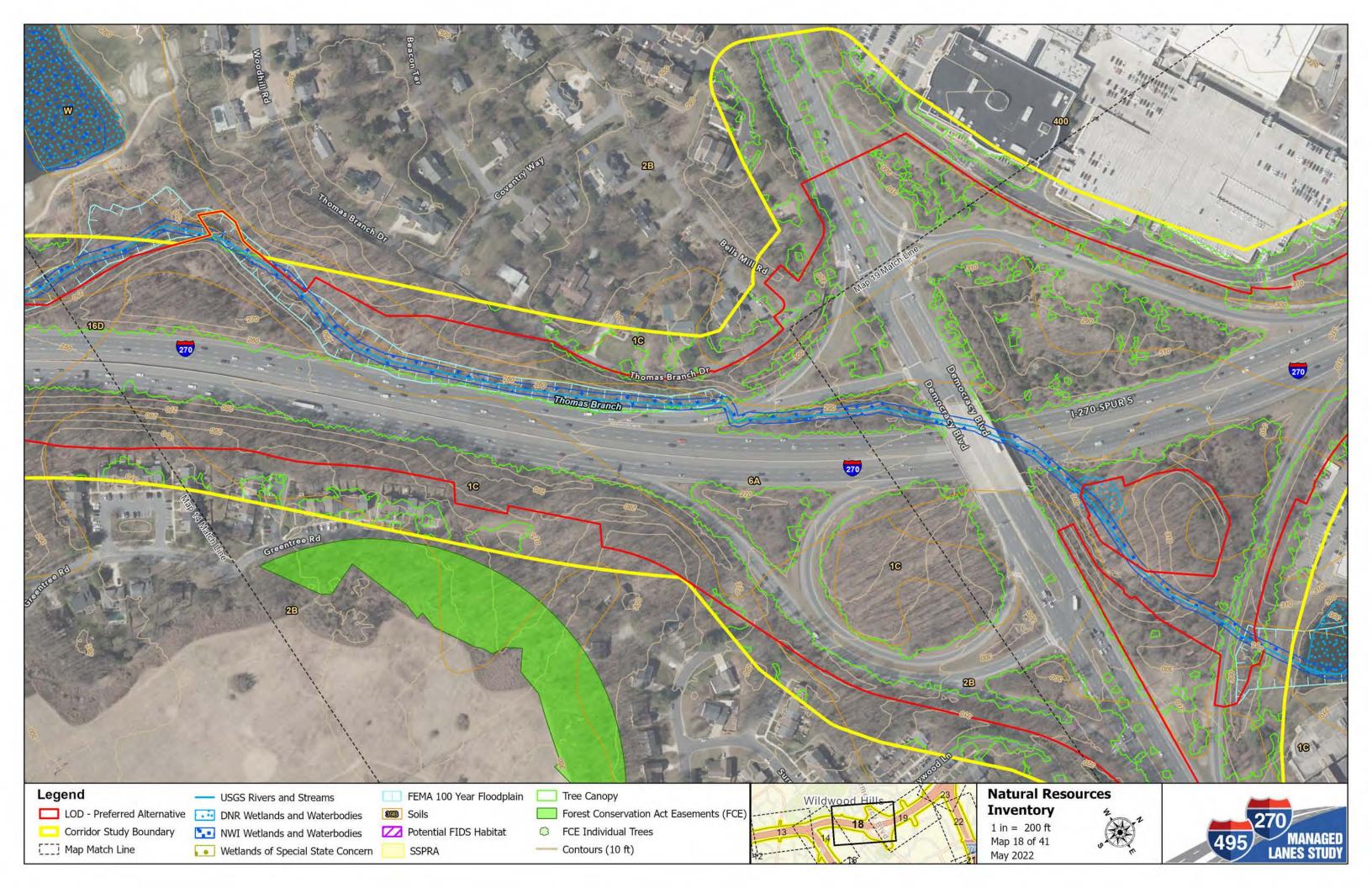


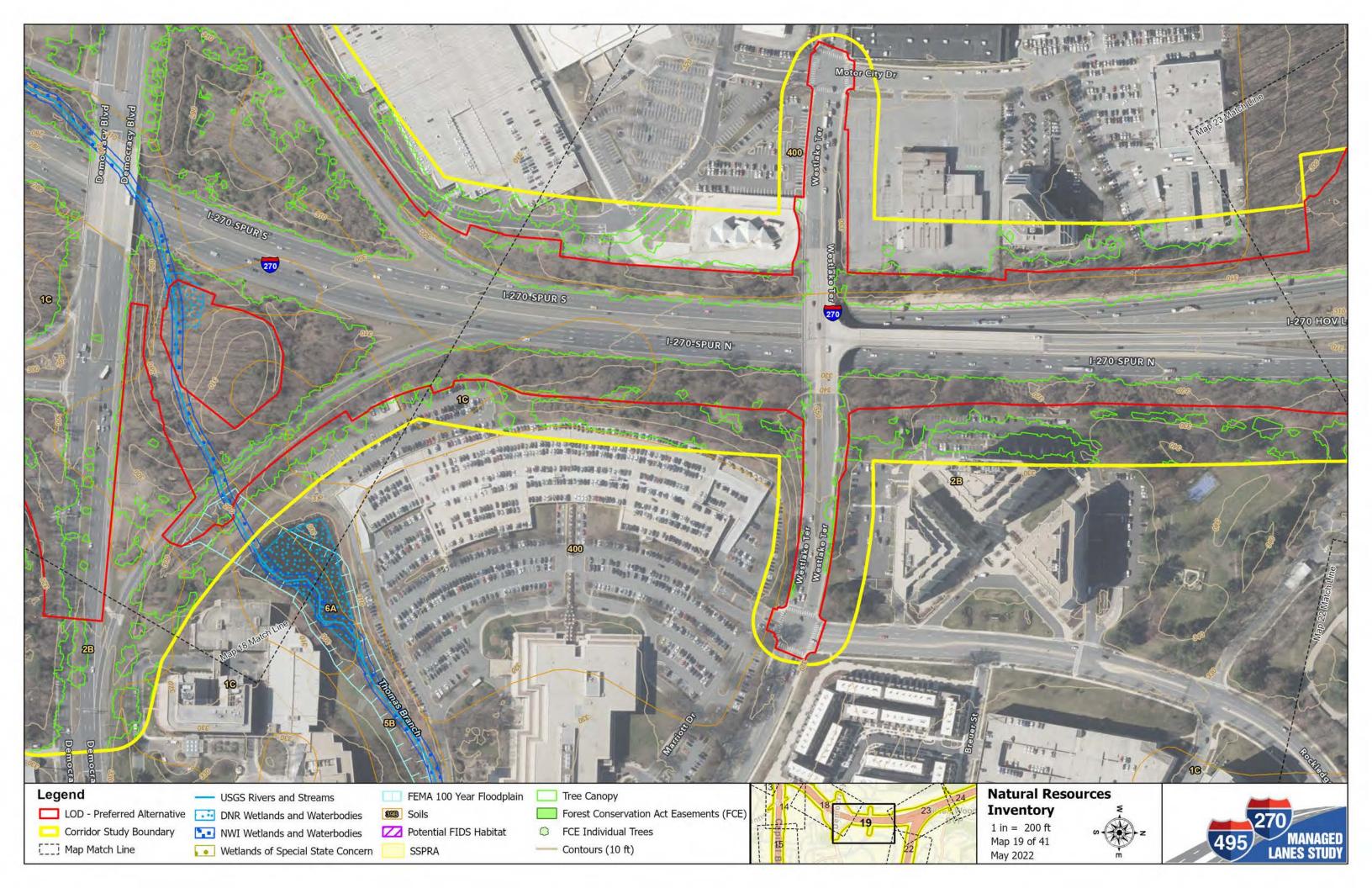


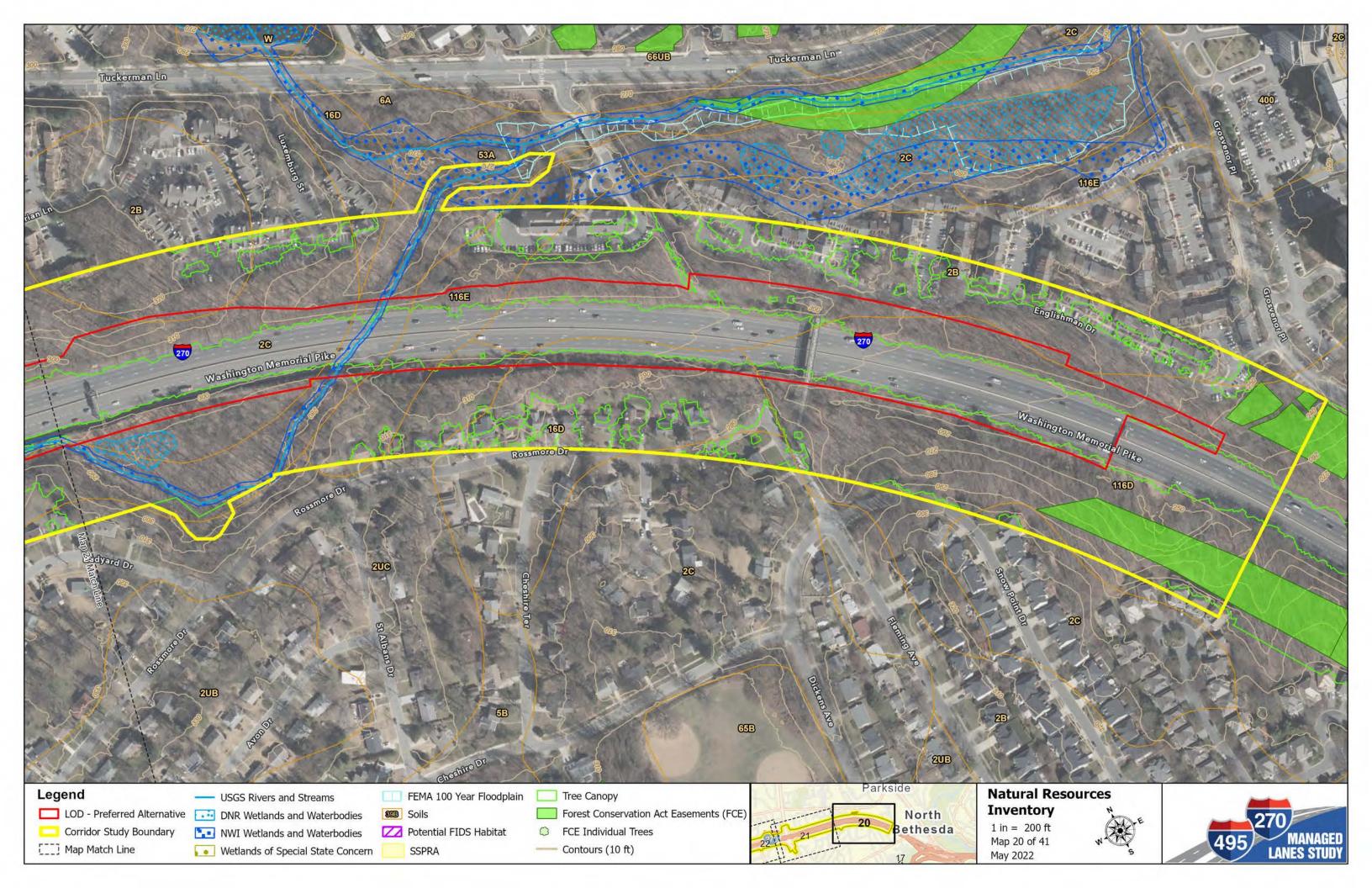


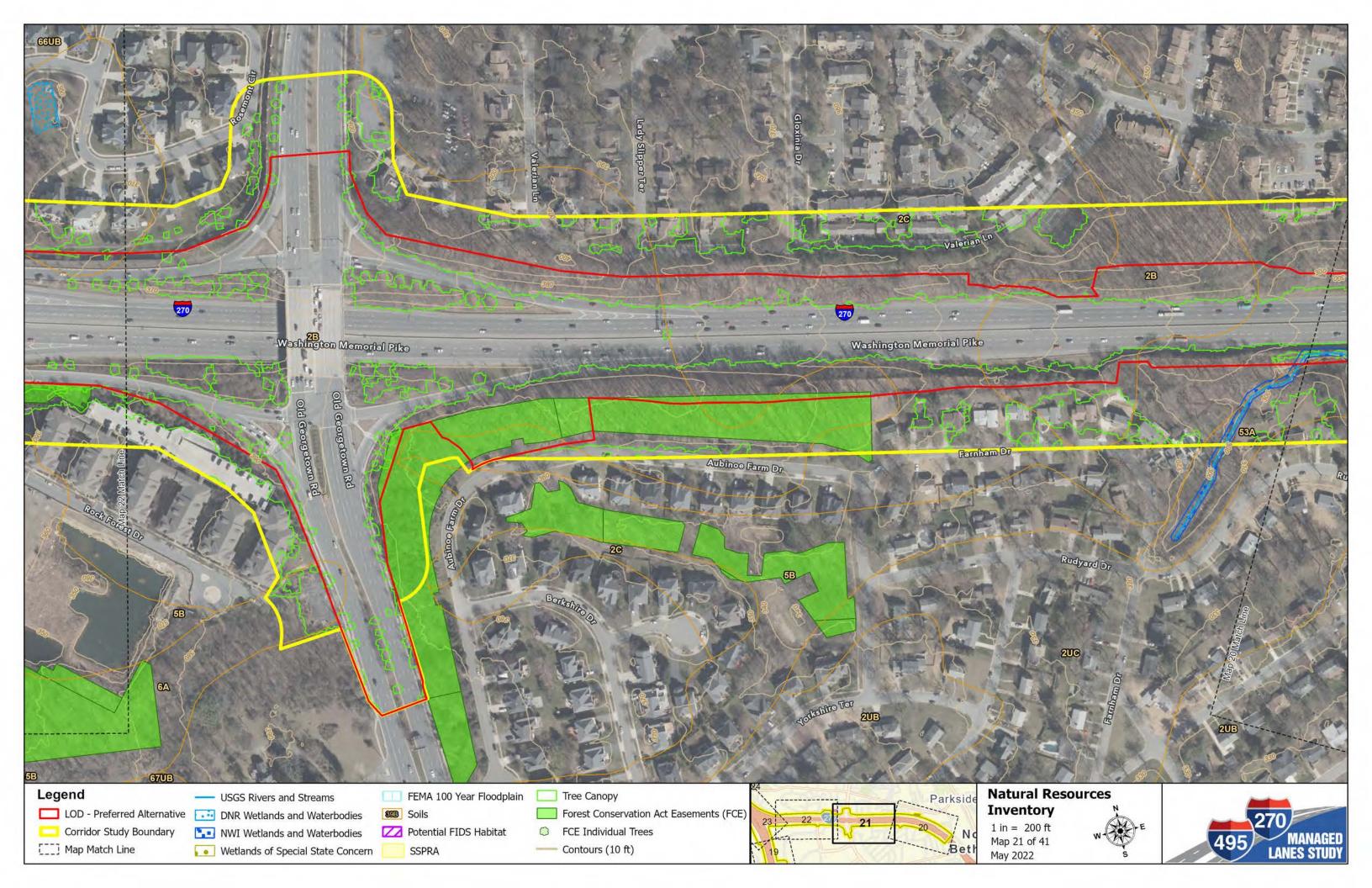


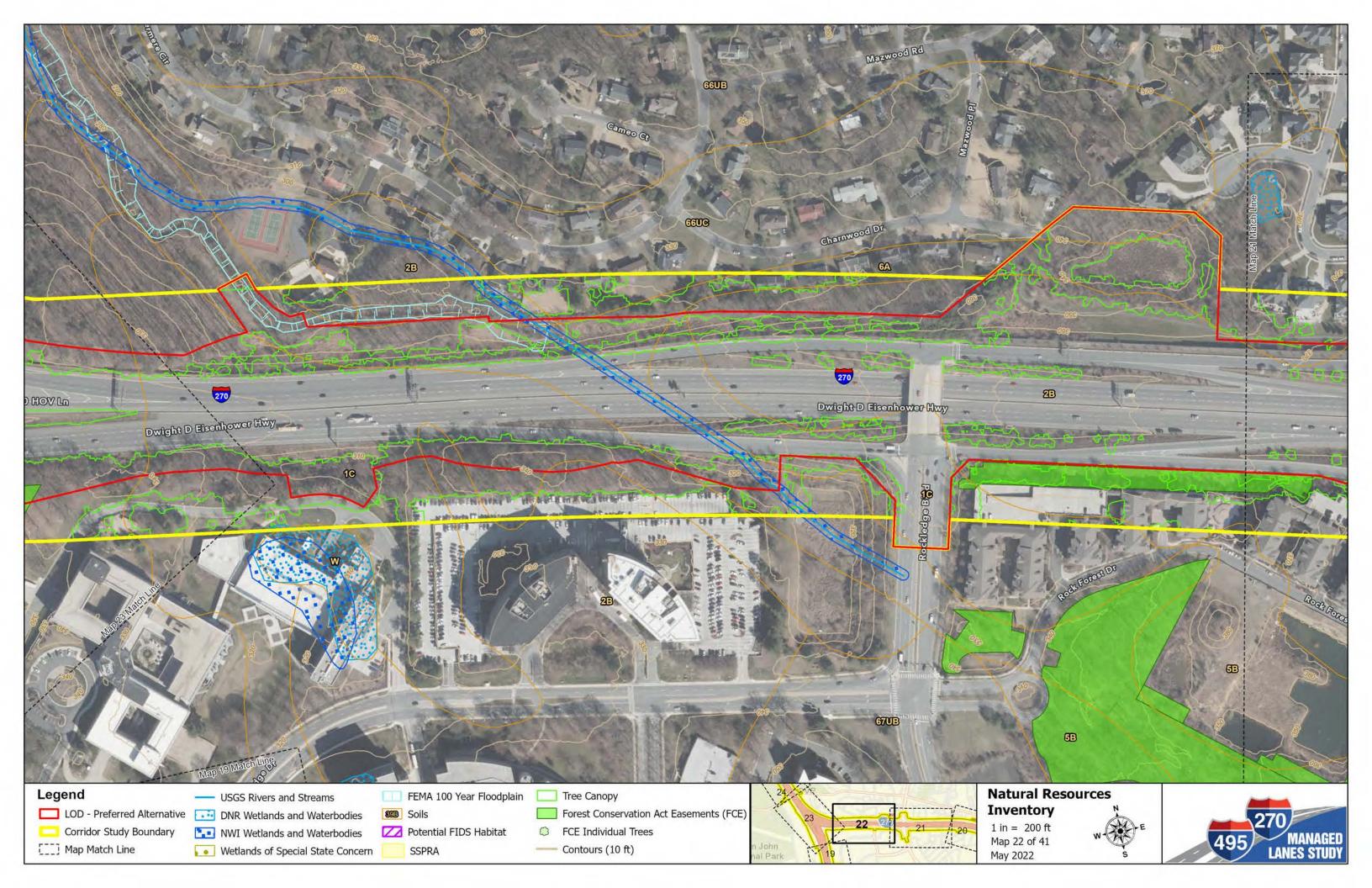


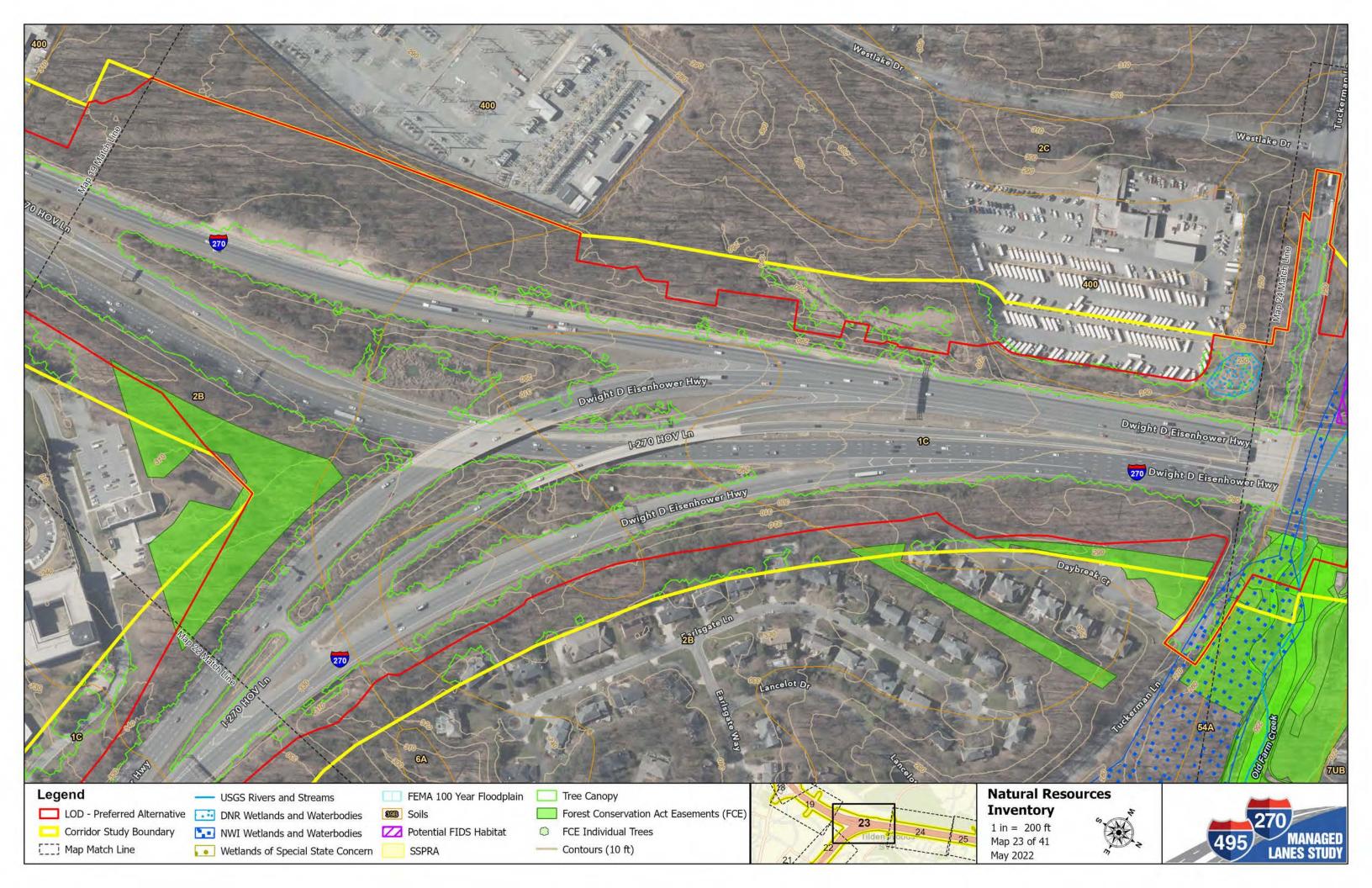


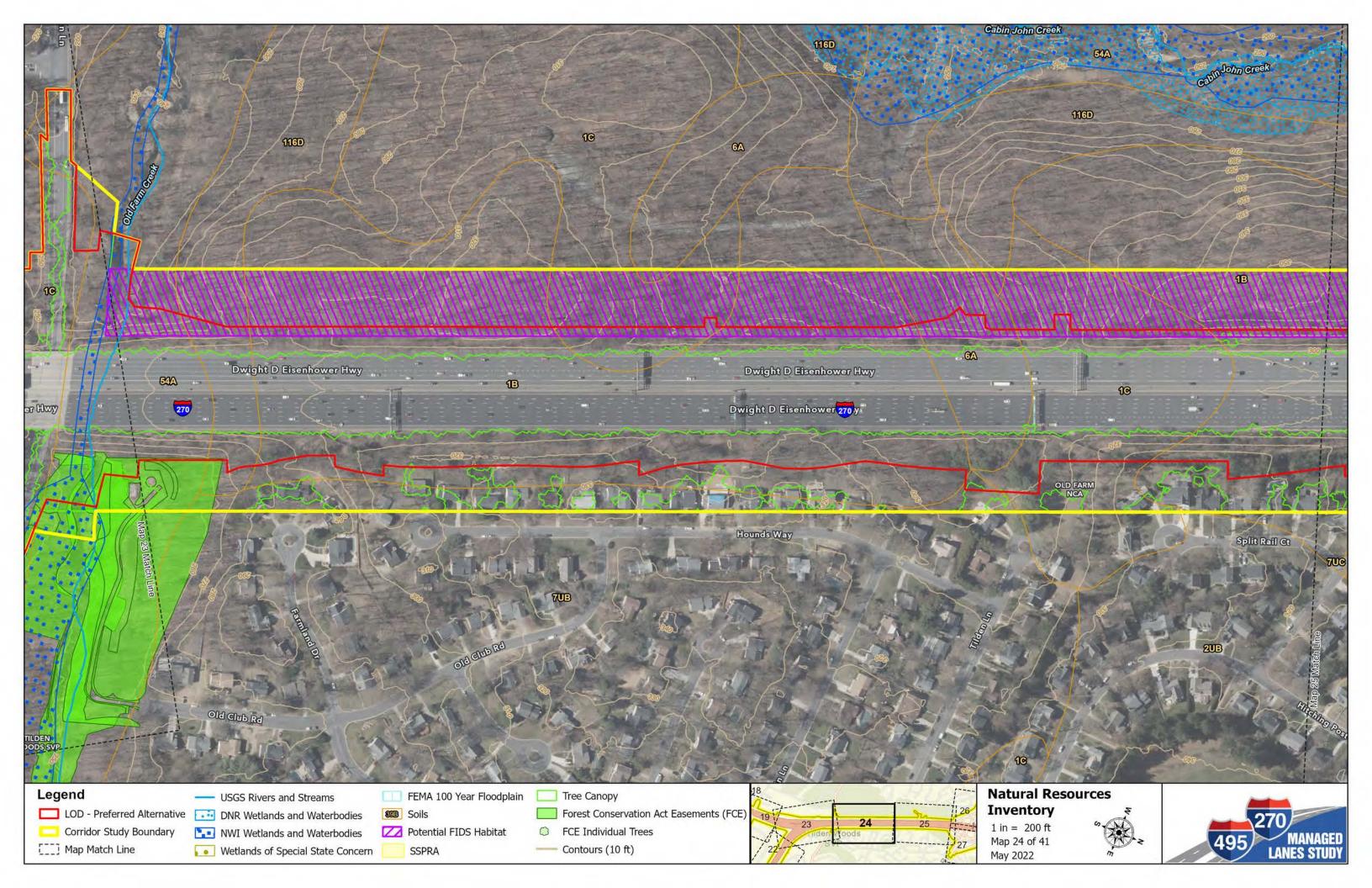


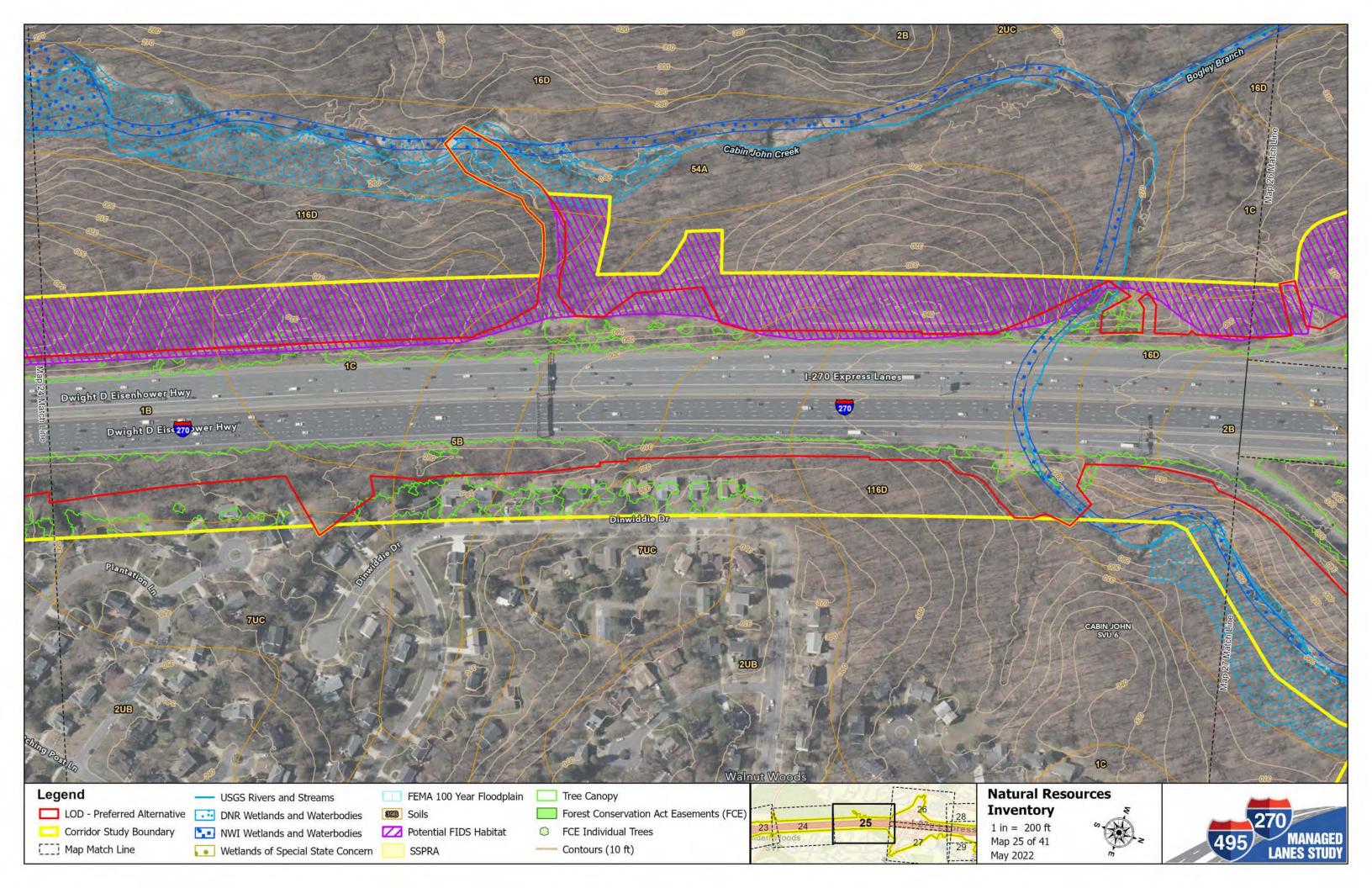


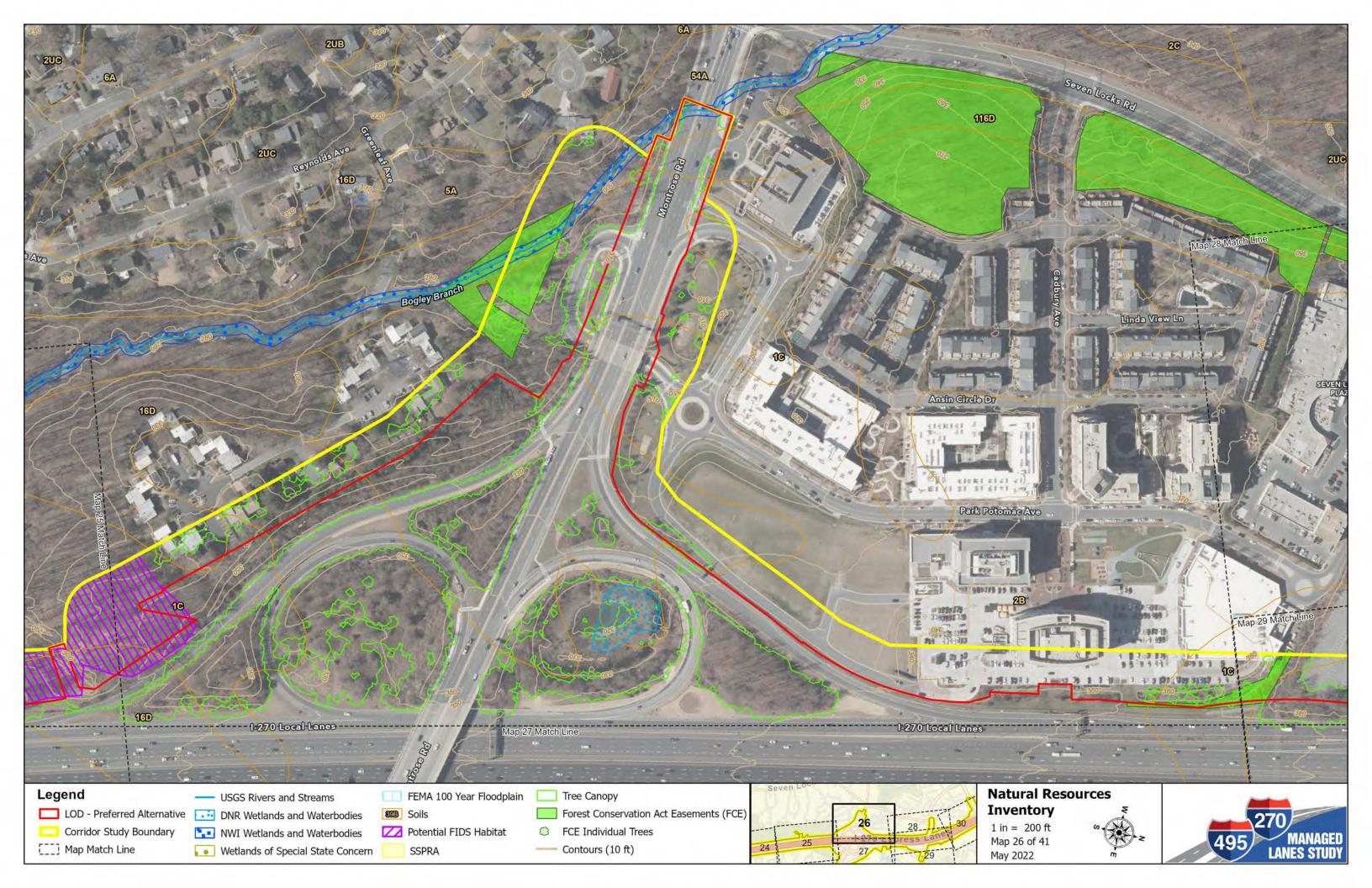


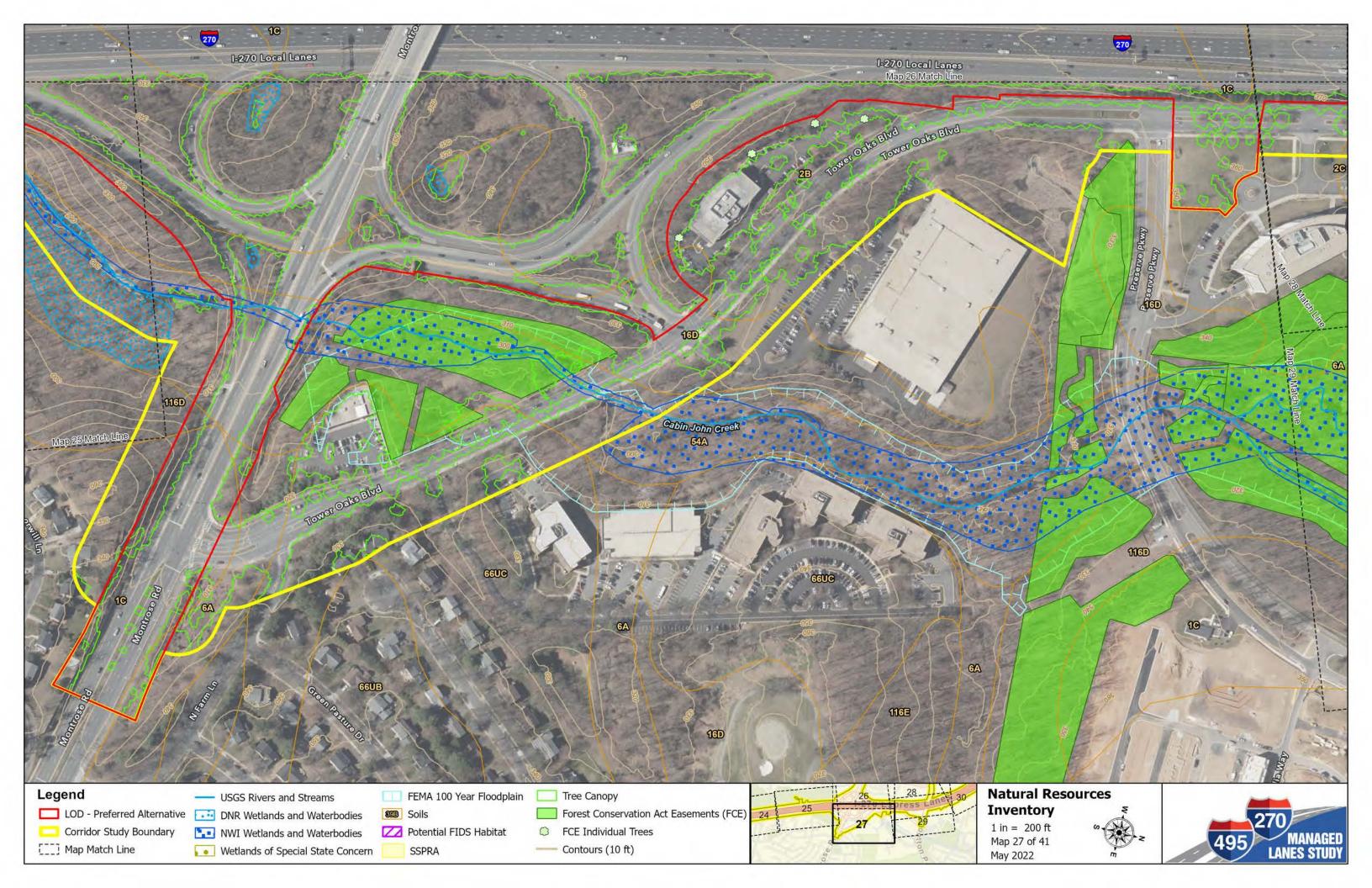


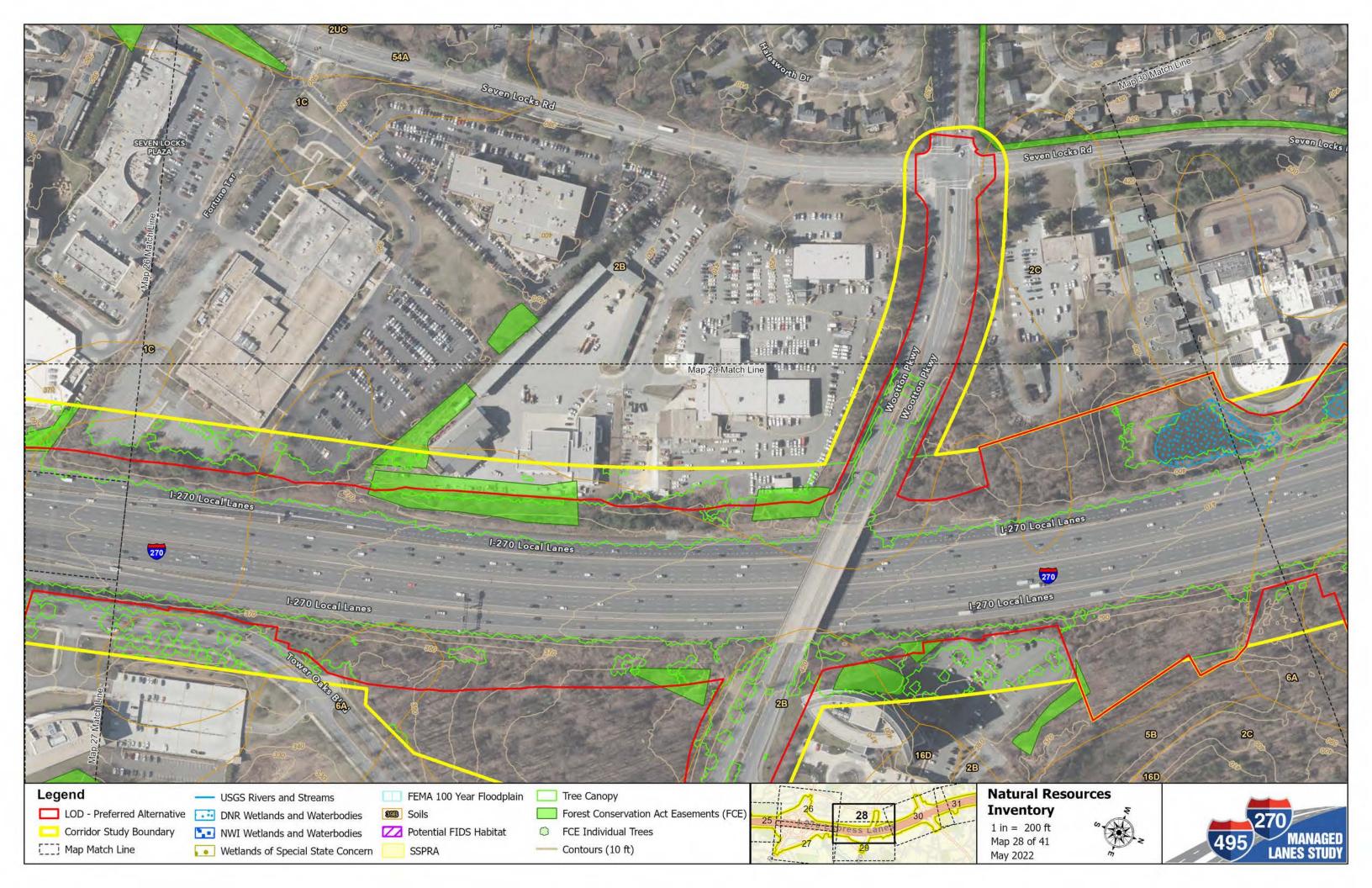


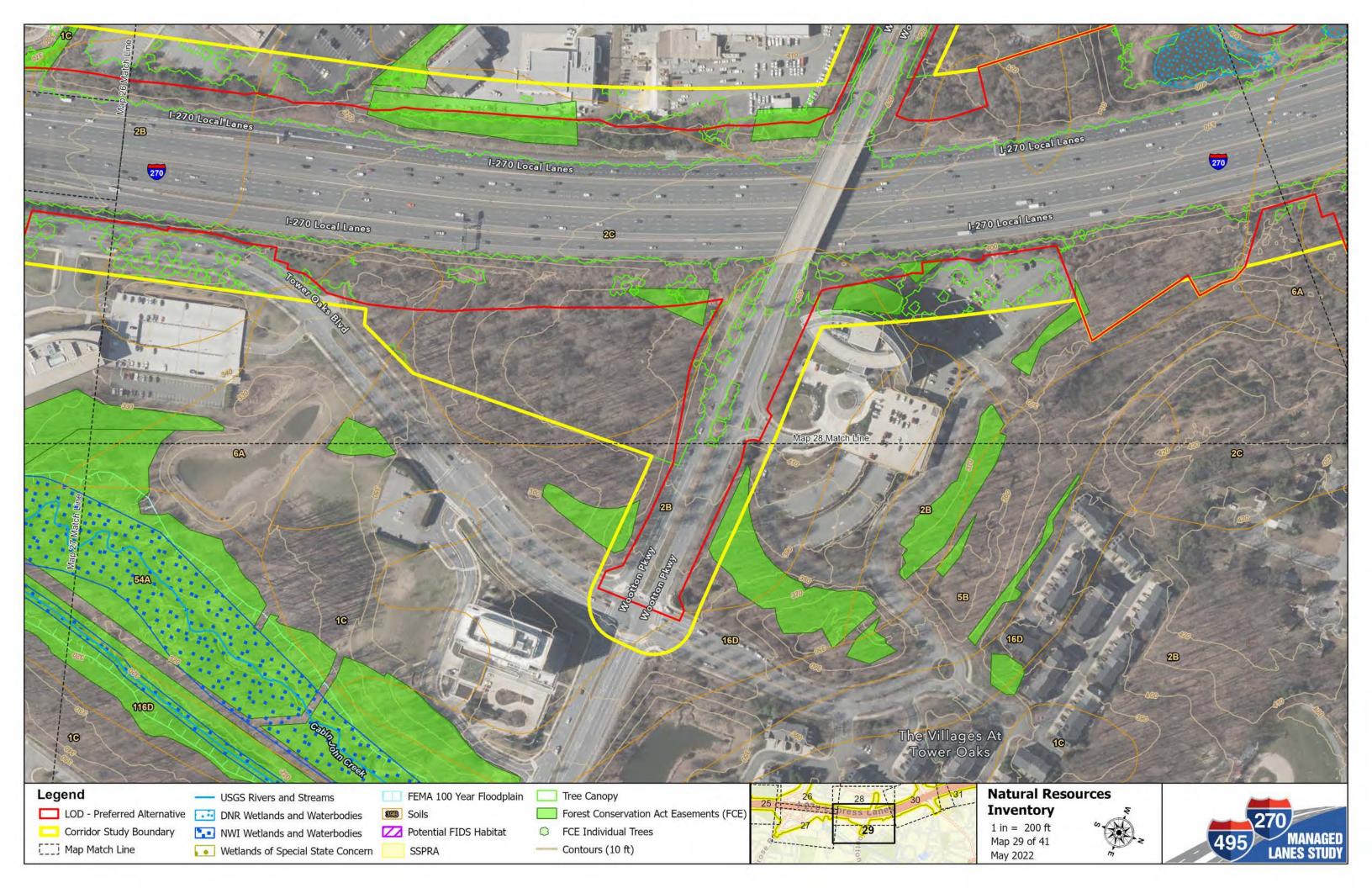


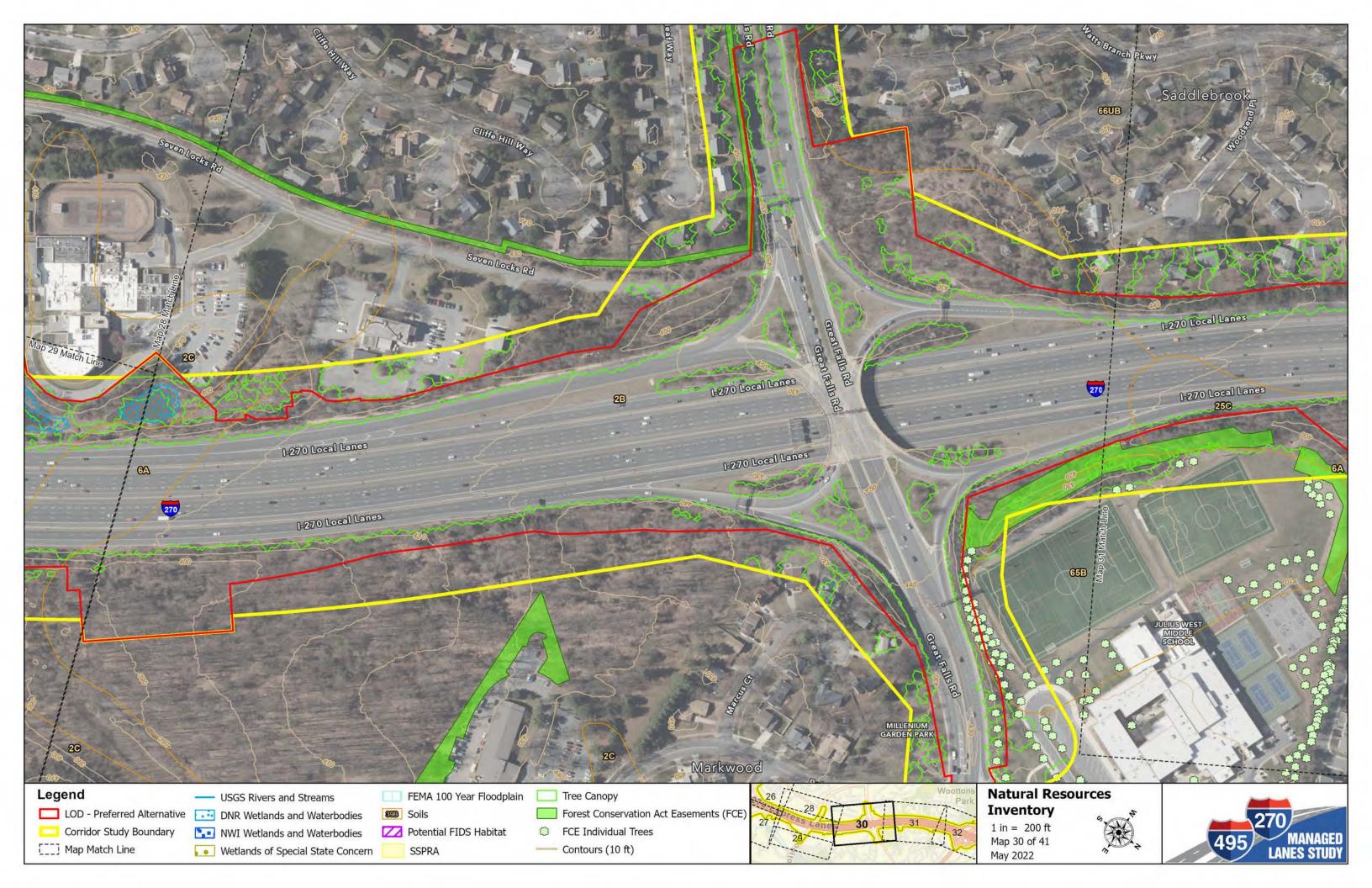


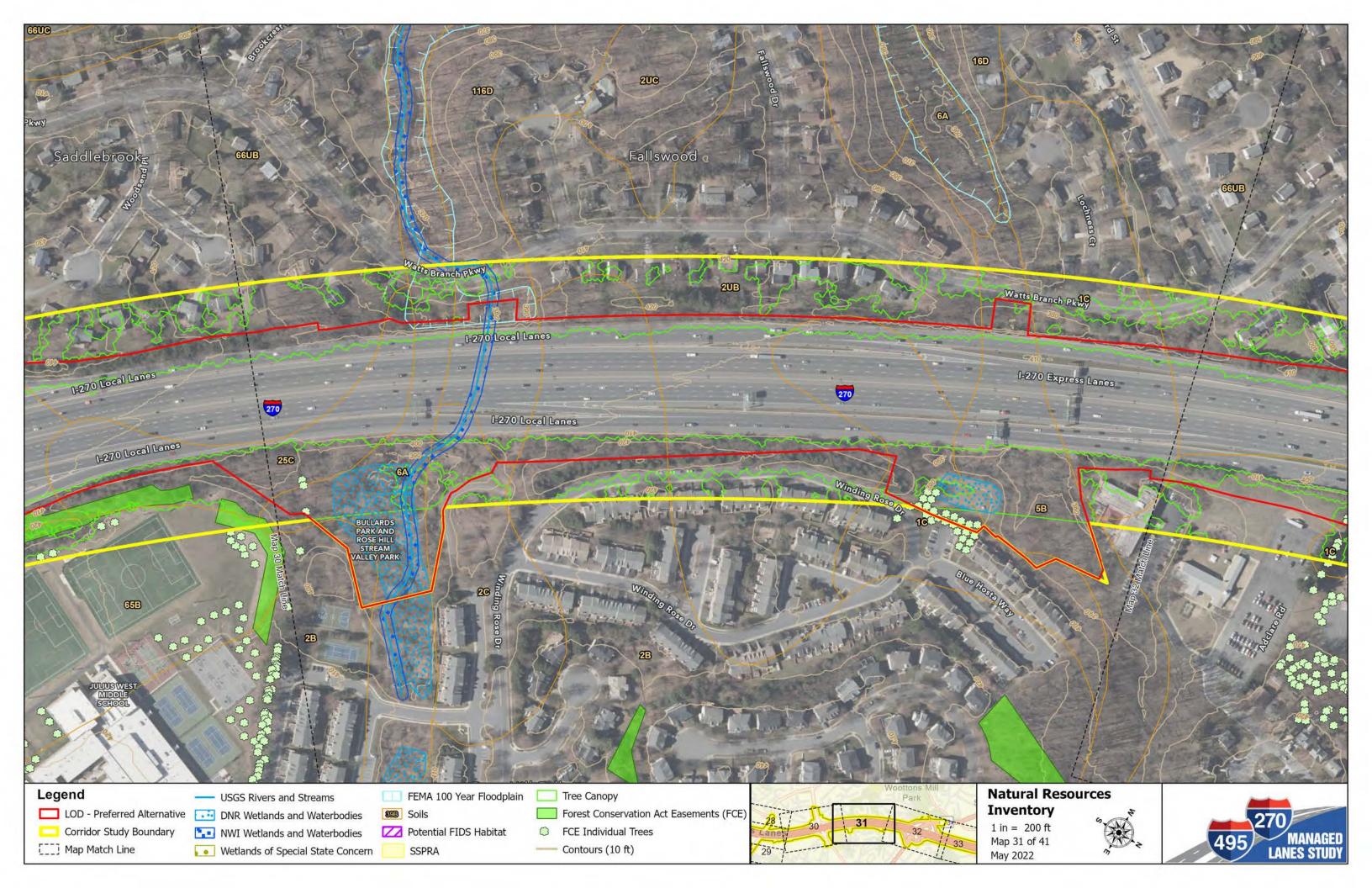


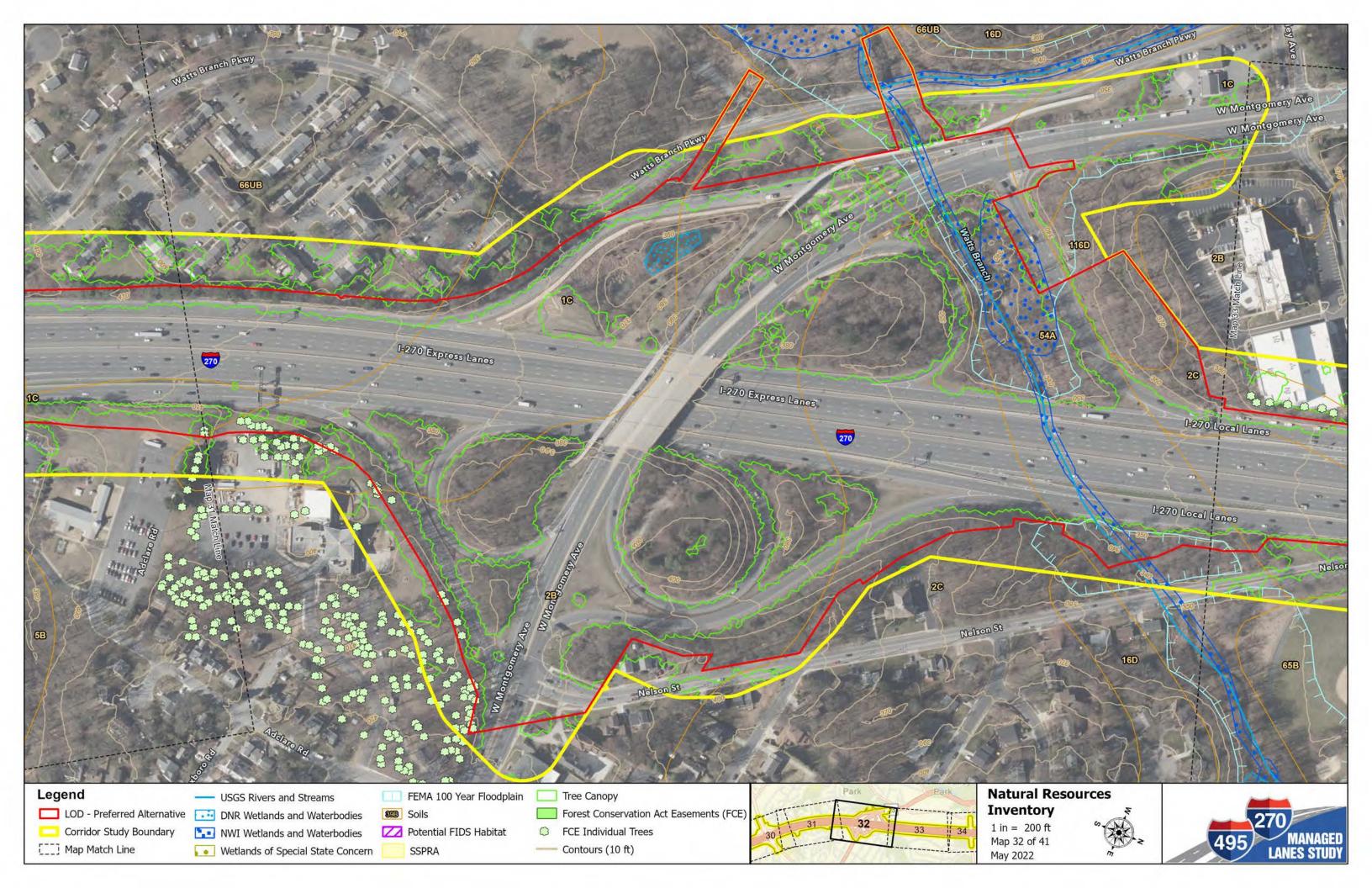


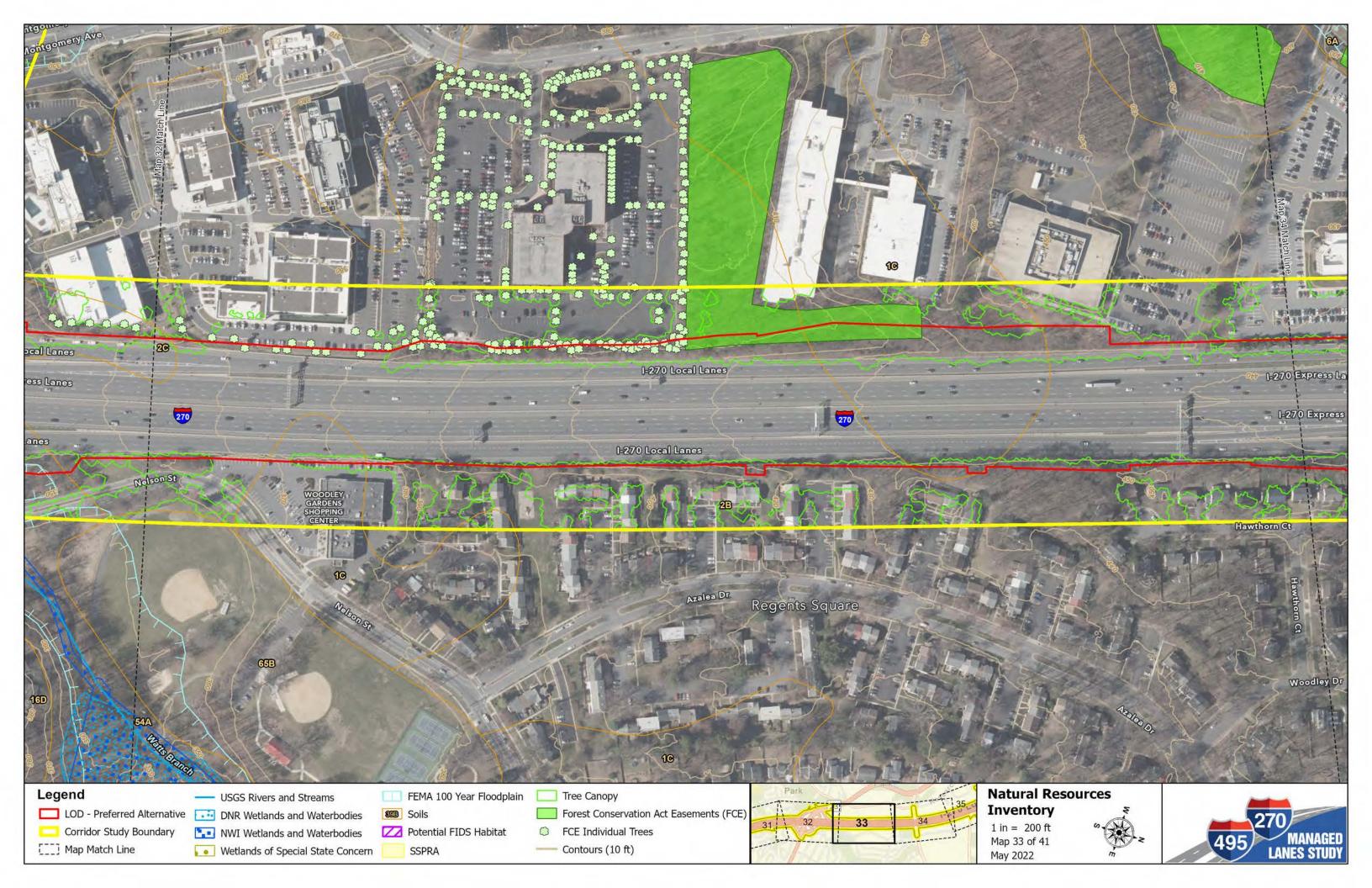


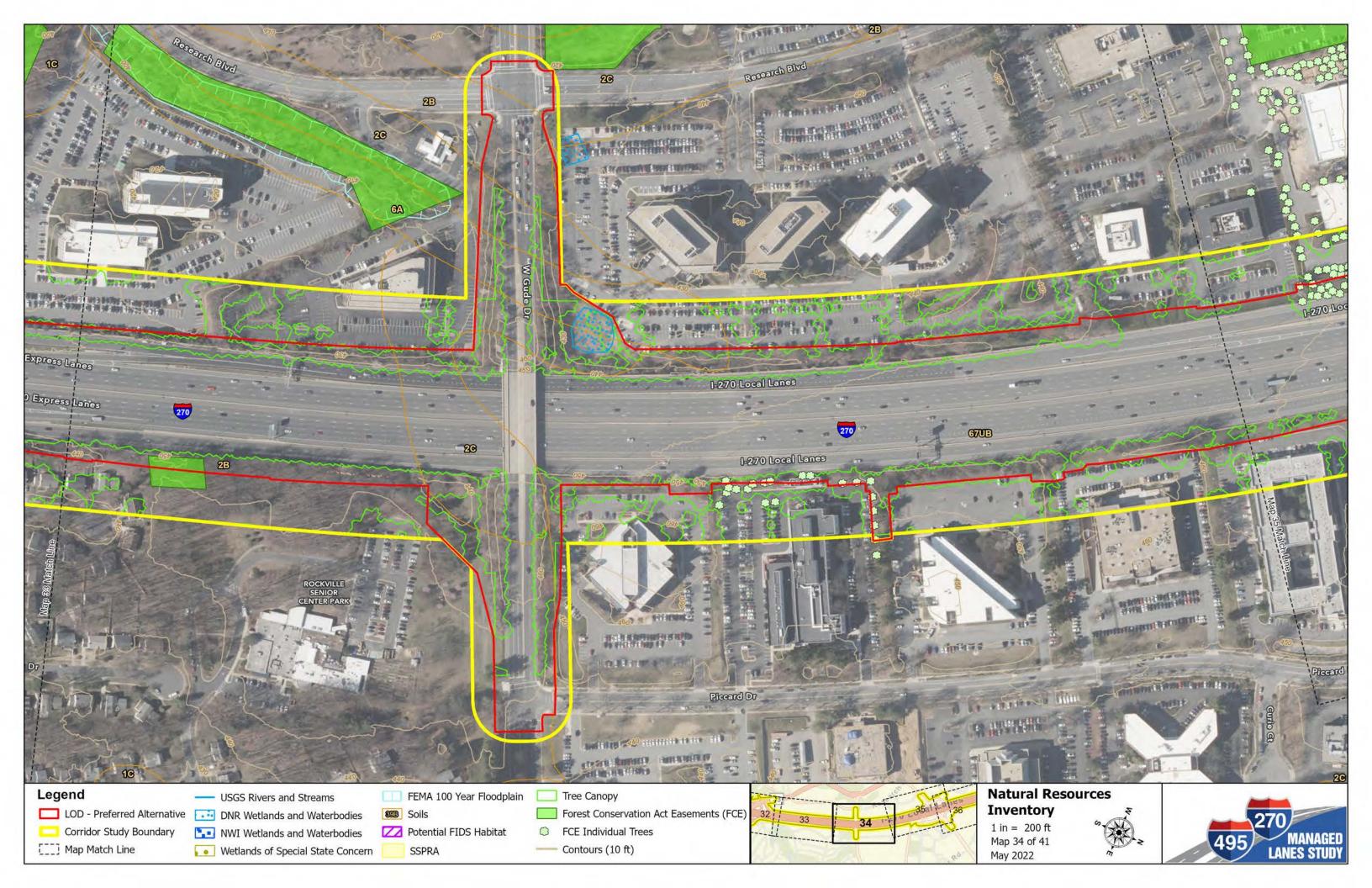


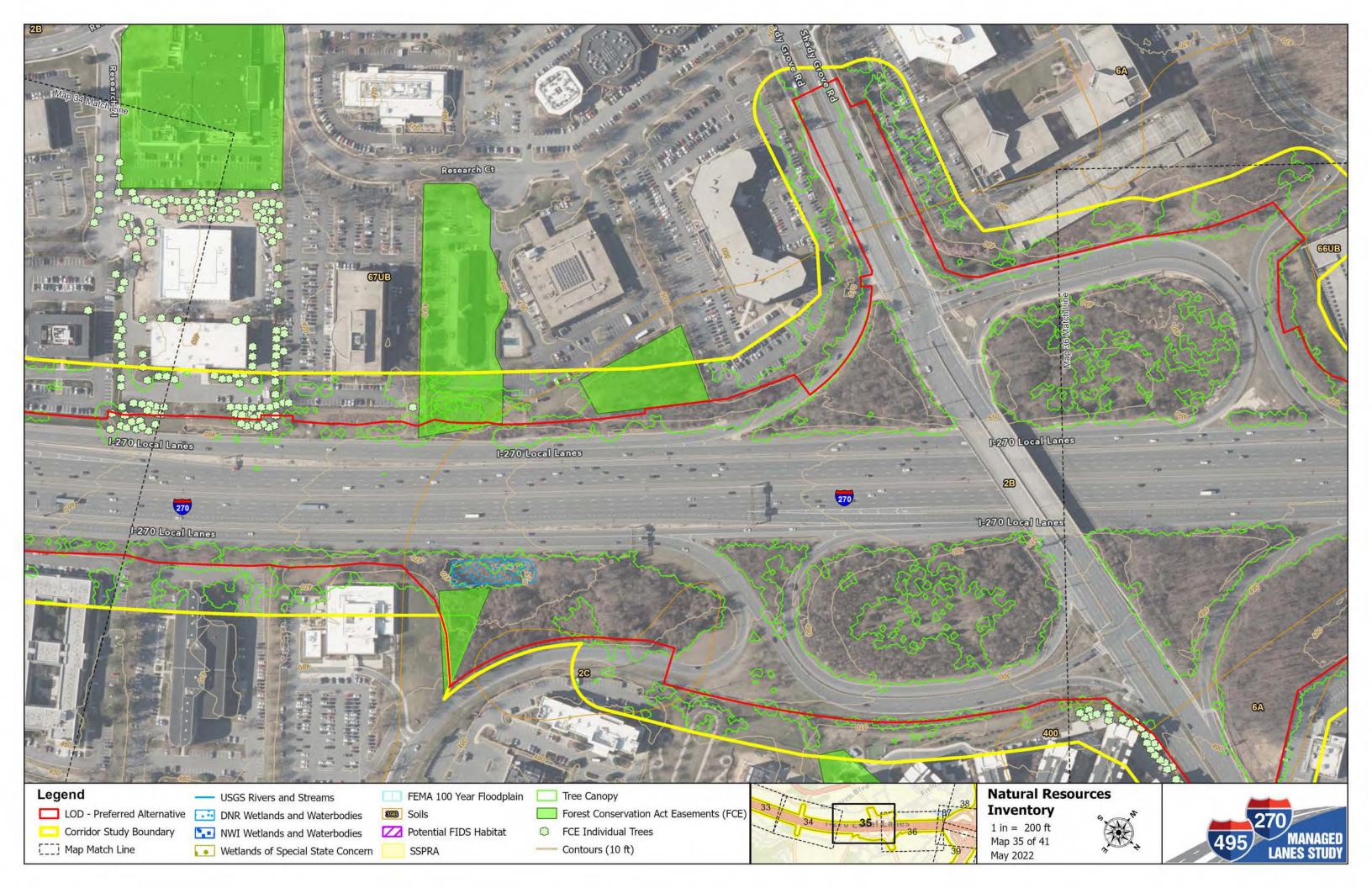


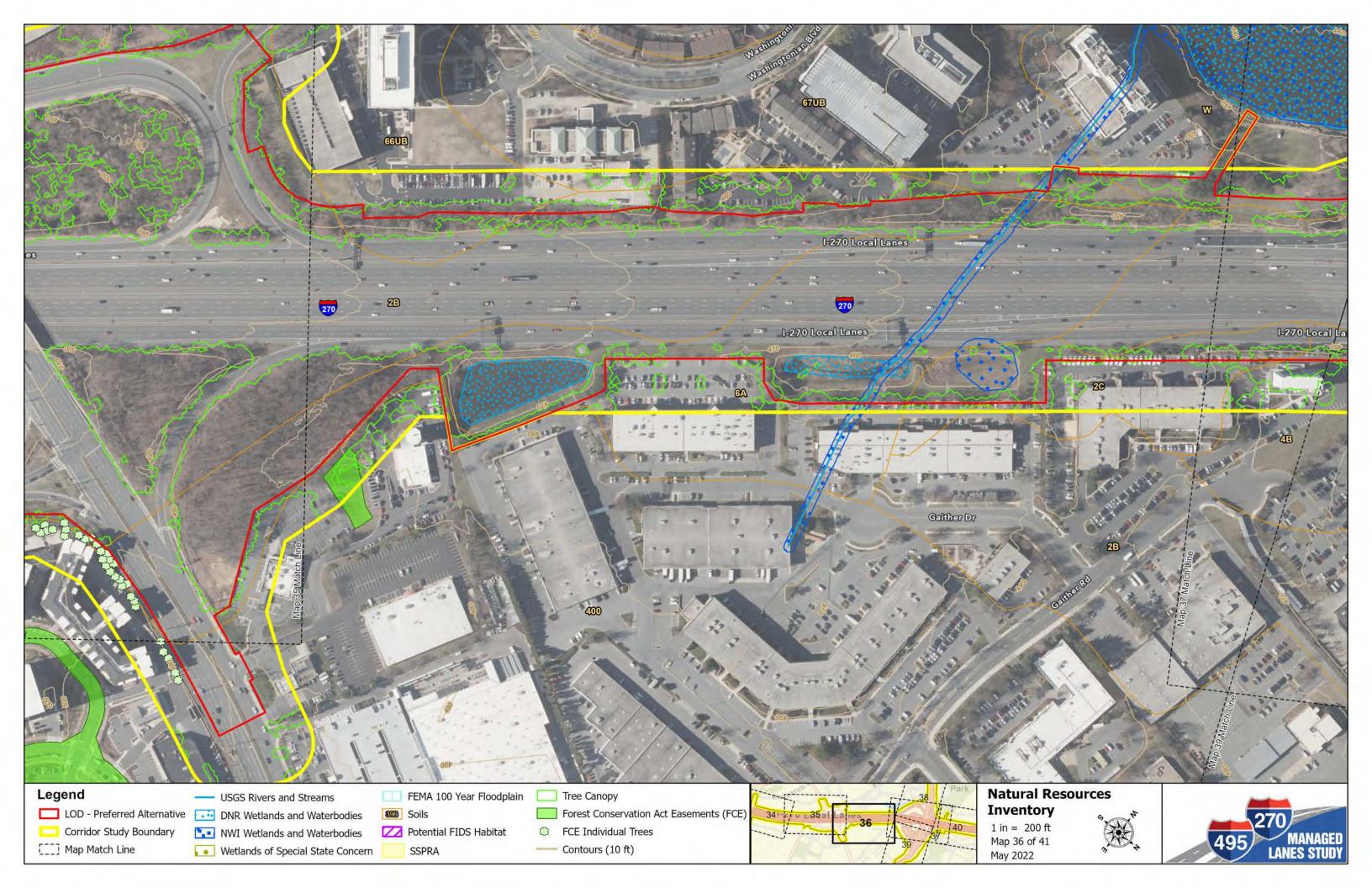


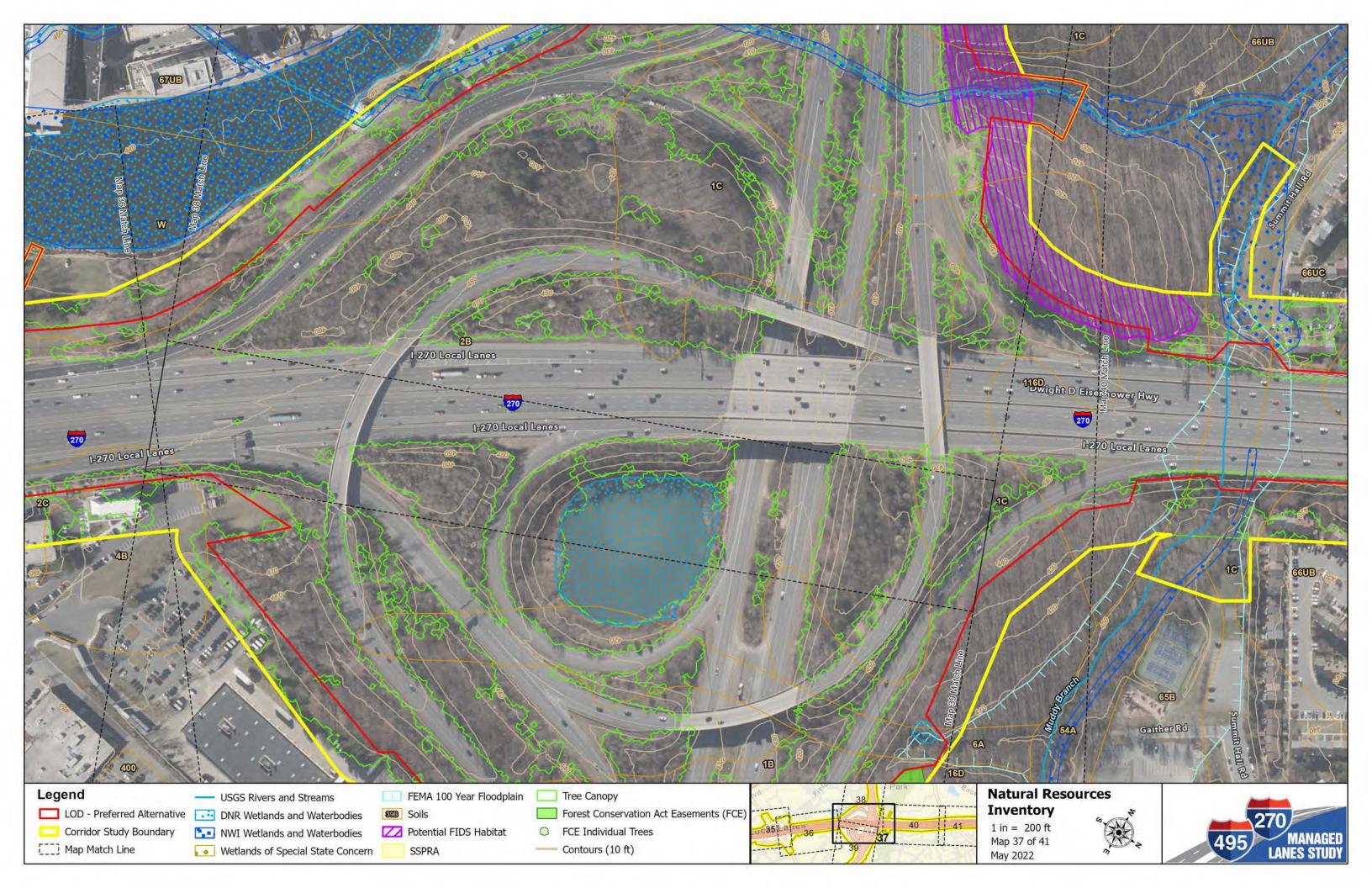


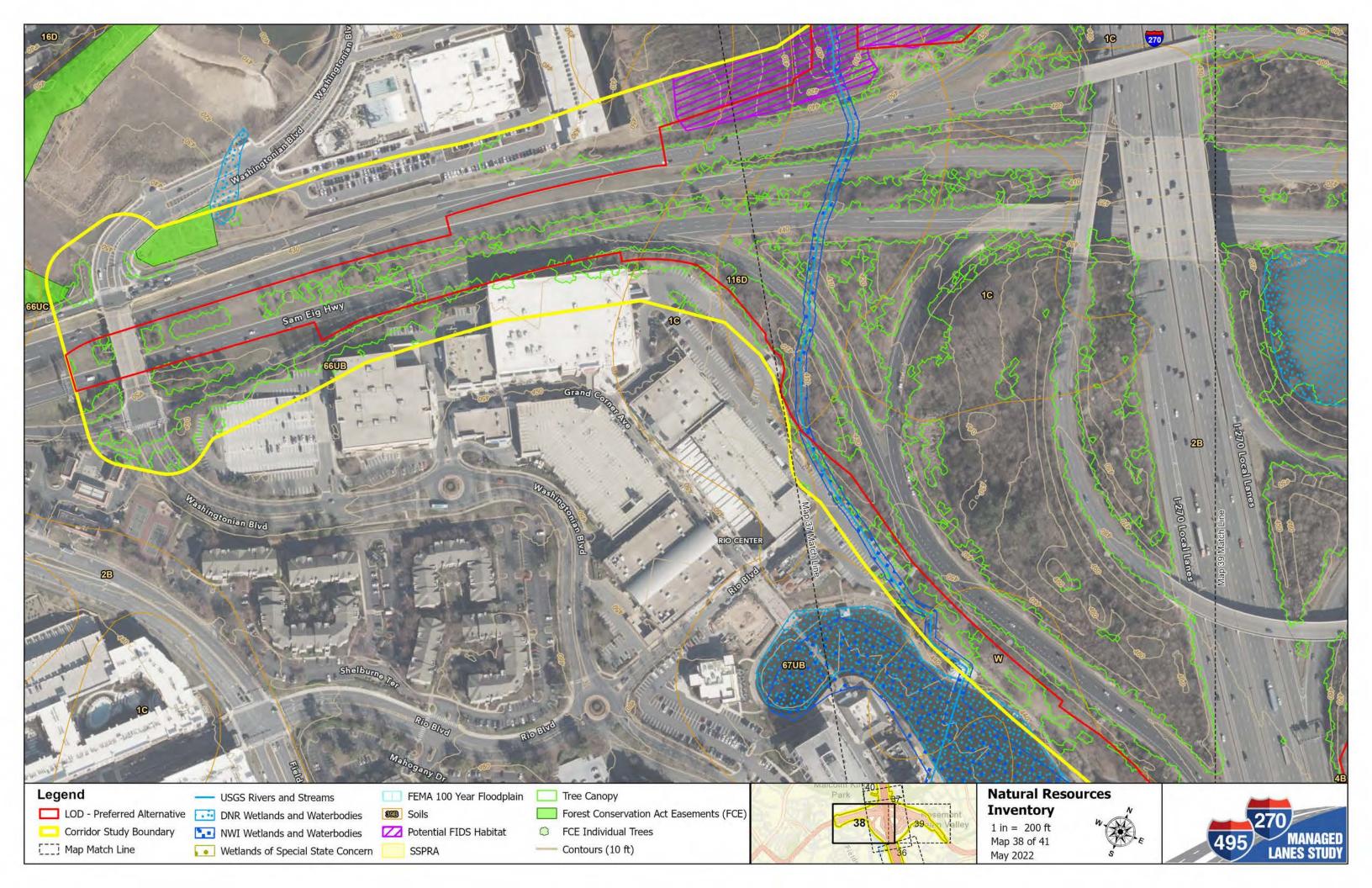


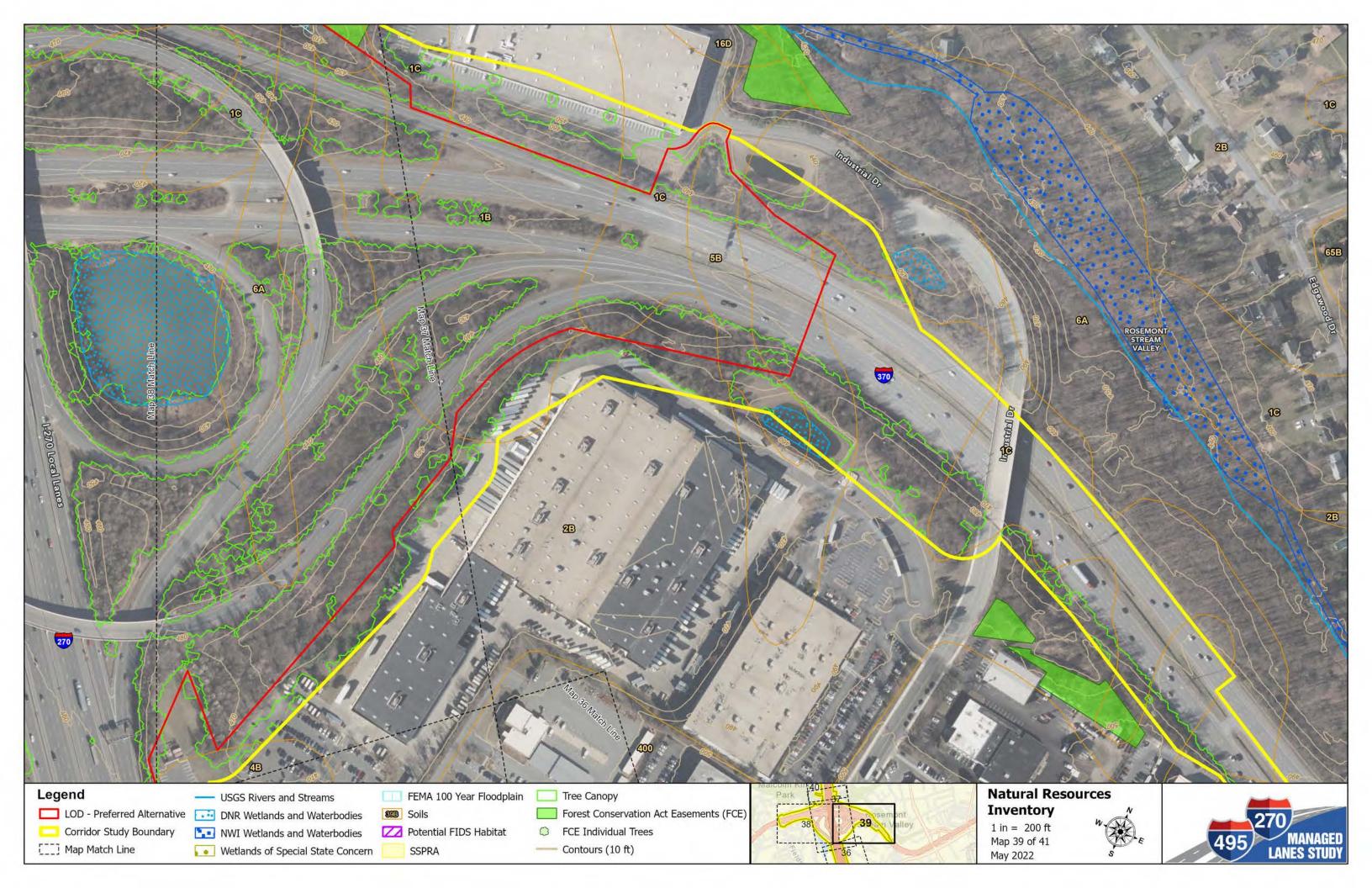


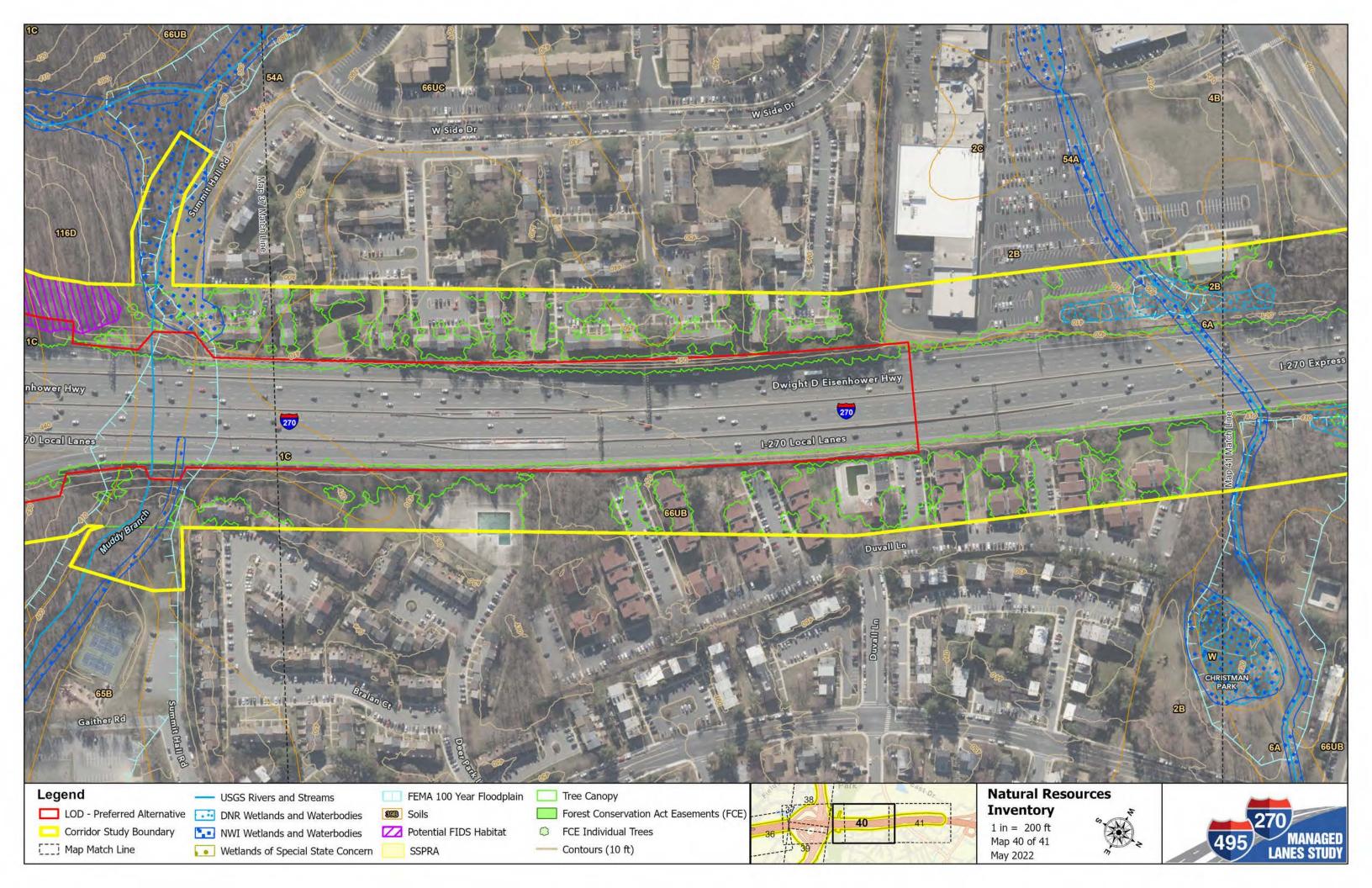












| | | 1-270 Ex | Press Lanes | | |
|--|---|----------------------|--------------------------------------|---------------------------------|-----------------|
| GGUE CGUE CGUE CGUE CGUE CGUE CGUE CGUE | | Alledy Baach Rd Baal | Kilamey & | | |
| STIMAN W RR GA 2B | | Subale was | W DeerPark Rd W DeerPark Rd 20 | COUB King danes daa Mudda | Ating James May |
| Legend LOD - Preferred Alternative | USGS Rivers and Streams DNR Wetlands and Waterbox | | Forest Conservation Act Easeme | ents (FCE) 40 41 | Nat Inv |
| Corridor Study Boundary | NWI Wetlands and Waterboo | | | 39 | 1 in Map |
| [] Map Match Line | 💽 Wetlands of Special State Co | oncern SSPRA | Contours (10 ft) | | May |





APPENDIX D: SOILS TABLE



| County | Soil Symbol | Description | K- Factor | Hydric Rating | Hydrologic Soil Group | Drainage Class | Prime Farmland? |
|------------|----------------|---|--------------|------------------|--------------------------|-------------------|-------------------------------------|
| Fairfax | 95 | Urban land | | 0 | | | Not prime farmland |
| Fairfax | 102 | Wheaton loam, 2 to 25 percent slopes | 0.37 | 0 | С | Well drained | Not prime farmland |
| Fairfax | 105B | Wheaton-Glenelg complex, 2 to 7 percent slopes | 0.37 | 0 | С | Well drained | Not prime farmland |
| Fairfax | 105C | Wheaton-Glenelg complex, 7 to 15 percent slopes | 0.37 | 0 | С | Well drained | Not prime farmland |
| Fairfax | 105D | Wheaton-Glenelg complex, 15 to 25 percent slopes | 0.37 | 0 | С | Well drained | Not prime farmland |
| Fairfax | 39B | Glenelg silt loam, 2 to 7 percent slopes | 0.37 | 0 | В | Well drained | All areas are prime farmland |
| Fairfax | 39C | Glenelg silt loam, 7 to 15 percent slopes | 0.37 | 0 | В | Well drained | Farmland of statewide importance |
| Fairfax | 39D | Glenelg silt loam, 15 to 25 percent slopes | 0.37 | 0 | В | Well drained | Farmland of statewide importance |
| Fairfax | 39E | Glenelg silt loam, 25 to 45 percent slopes | 0.37 | 0 | В | Well drained | Not prime farmland |
| Fairfax | 78B | Meadowville loam, 2 to 7 percent slopes | 0.2 | 0 | А | Well drained | All areas are prime farmland |
| Fairfax | 88E | Rhodhiss-Rock outcrop complex, 25 to 45 percent slopes | 0.24 | 0 | А | Well drained | Not prime farmland |
| Montgomery | 300 | Rock outcrop-Blocktown complex | | 0 | | | Not prime farmland |
| Montgomery | 400 | Urban land | | 0 | D | | Not prime farmland |

Soils Within the I-495 & I-270 MLS Phase I South Limits



| County | Soil Symbol | Description | K- Factor | Hydric Rating | Hydrologic Soil Group | Drainage Class | Prime Farmland? |
|------------|----------------|--|--------------|------------------|--------------------------|-------------------|-------------------------------------|
| Montgomery | 116D | Blocktown channery silt loam, 15 to 25 percent slopes, very rocky | 0.28 | 5 | D | Well drained | Not prime farmland |
| Montgomery | 116E | Blocktown channery silt loam, 25 to 45 percent slopes, very rocky | 0.28 | 5 | D | Well drained | Not prime farmland |
| Montgomery | 16D | Brinklow-Blocktown channery silt loams, 15 to 25 percent slopes | 0.24 | 5 | С | Well drained | Not prime farmland |
| Montgomery | 1B | Gaila silt loam, 3 to 8 percent slopes | 0.43 | 5 | В | Well drained | All areas are prime farmland |
| Montgomery | 1C | Gaila silt loam, 8 to 15 percent slopes | 0.43 | 5 | В | Well drained | Farmland of statewide importance |
| Montgomery | 25C | Legore silt loam, 8 to 15 percent slopes | | 0 | С | Well drained | Farmland of statewide importance |
| Montgomery | 27B | Neshaminy silt loam, 3 to 8 percent slopes | 0.37 | 0 | В | Well drained | All areas are prime farmland |
| Montgomery | 28A | Watchung silty clay loam, 0 to 3 percent slopes | 0.43 | 100 | C/D | Poorly drained | Not prime farmland |
| Montgomery | 2B | Glenelg silt loam, 3 to 8 percent slopes | 0.37 | 0 | В | Well drained | All areas are prime farmland |
| Montgomery | 2C | Glenelg silt loam, 8 to 15 percent slopes | 0.37 | 0 | В | Well drained | Farmland of statewide importance |
| Montgomery | 2UB | Glenelg-Urban land complex, 0 to 8 percent slopes | 0.28 | 0 | В | Well drained | Not prime farmland |
| Montgomery | 2UC | Glenelg-Urban land complex, 8 to 15 percent slopes | 0.28 | 0 | В | Well drained | Not prime farmland |



| County | Soil Symbol | Description | K- Factor | Hydric Rating | Hydrologic Soil Group | Drainage Class | Prime Farmland? |
|------------|----------------|--|--------------|------------------|--------------------------|-------------------------------|-------------------------------------|
| Montgomery | 35B | Chrome and Conowingo soils, 3 to 8 percent slopes | 0.37 | 0 | С | Well drained | Not prime farmland |
| Montgomery | 37B | Travilah silt loam, 3 to 8 percent slopes | 0.37 | 5 | C/D | Somewhat poorly drained | Not prime farmland |
| Montgomery | 41B | Elsinboro silt loam, 3 to 8 percent slopes | 0.49 | 0 | В | Well drained | All areas are prime farmland |
| Montgomery | 43A | Elk silt loam, 0 to 3 percent slopes, occasionally flooded | 0.49 | 0 | В | Well drained | All areas are prime farmland |
| Montgomery | 4B | Elioak silt loam, 3 to 8 percent slopes | 0.37 | 0 | С | Well drained | All areas are prime farmland |
| Montgomery | 4C | Elioak silt loam, 8 to 15 percent slopes | 0.37 | 0 | С | Well drained | Farmland of statewide importance |
| Montgomery | 53A | Codorus silt loam, 0 to 3 percent slopes, occasionally flooded | 0.32 | 15 | С | Moderately well drained | Not prime farmland |
| Montgomery | 54A | Hatboro silt loam, 0 to 3 percent slopes, frequently flooded | | 100 | B/D | Poorly drained | Not prime farmland |
| Montgomery | 5B | Glenville silt loam, 3 to 8 percent slopes | 0.37 | 10 | C/D | Moderately well drained | All areas are prime farmland |
| Montgomery | 65B | Wheaton silt loam, 0 to 8 percent slopes | 0.43 | 0 | В | Well drained | Farmland of statewide importance |
| Montgomery | 66UB | Wheaton-Urban land complex, 0 to 8 percent slopes | 0.43 | 5 | В | Well drained | Not prime farmland |
| Montgomery | 66UC | Wheaton-Urban land complex, 8 to 15 percent slopes | 0.43 | 5 | В | Well drained | Not prime farmland |



| County | Soil Symbol | Description | K- Factor | Hydric Rating | Hydrologic Soil Group | Drainage Class | Prime Farmland? |
|------------|----------------|--|--------------|------------------|--------------------------|-------------------|--------------------|
| Montgomery | 67UB | Urban land-Wheaton complex, 0 to 8 percent slopes | | 5 | D | | Not prime farmland |
| Montgomery | 6A | Baile silt loam, 0 to 3 percent slopes | 0.37 | 85 | C/D | Poorly drained | Not prime farmland |
| Montgomery | 7UB | Gaila-Urban land complex, 0 to 8 percent slopes | 0.43 | 5 | D | Well drained | Not prime farmland |
| Montgomery | 7UC | Gaila-Urban land complex, 8 to 15 percent slopes | 0.43 | 5 | D | Well drained | Not prime farmland |
| Montgomery | W | Water | | 0 | | | Not prime farmland |



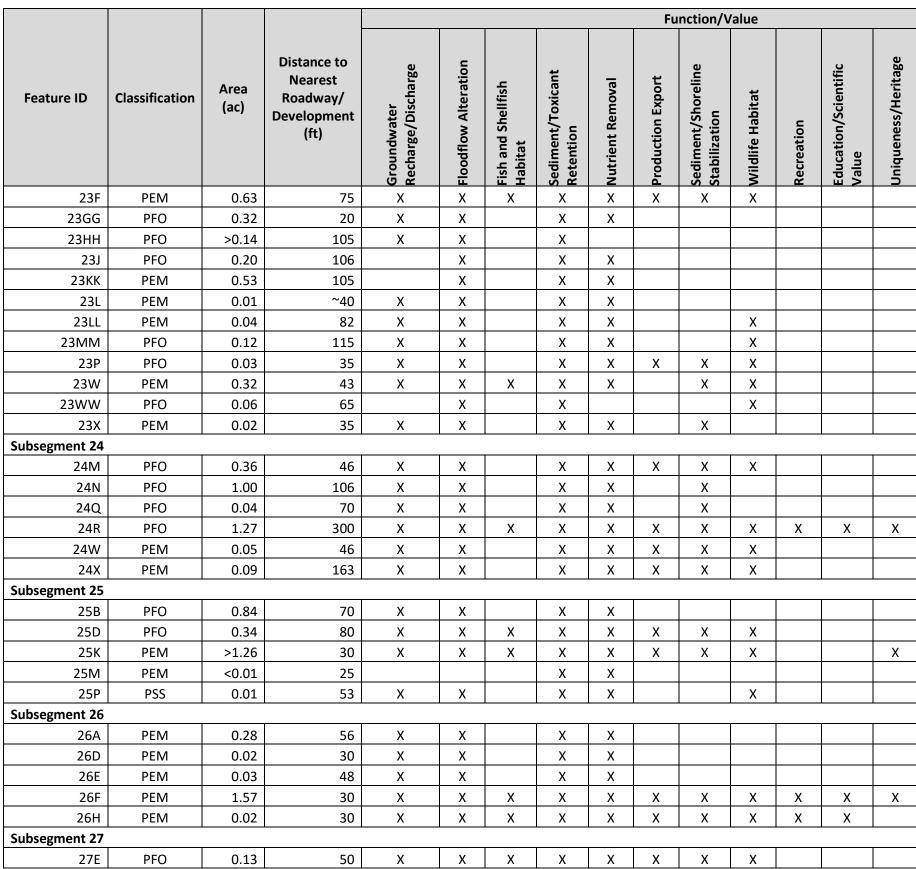


APPENDIX E: WETLAND FUNCTIONS AND VALUES TABLE



| | | | | | | | | | Fu | nction/V | alue | | | | | | |
|---------------|-----------------|--------------|---|-----------------------------------|----------------------|-------------------------------|--------------------------------|------------------|-------------------|-------------------------------------|------------------|------------|-------------------------------|---------------------|---------------------------|-------------------------------|-------|
| Feature ID | Classification | Area (ac) | Distance to Nearest Roadway/ Development (ft) | Groundwater Recharge/Discharge | Floodflow Alteration | Fish and Shellfish Habitat | Sediment/Toxicant Retention | Nutrient Removal | Production Export | Sediment/Shoreline Stabilization | Wildlife Habitat | Recreation | Education/Scientific Value | Uniqueness/Heritage | Visual Quality/Aesthetics | Endangered Species Habitat | Other |
| Subsegment 20 | – No wetlands i | dentified | | | | | | | | | | | | | | | |
| Subsegment 21 | | | , | | 1 | | 1 | r | r | 1 | | 1 | | | T | 1 | |
| 21P | PFO | 0.02 | 100 | Х | Х | | Х | Х | | | Х | | | | | | |
| 21Q | PFO | 0.07 | 90 | Х | Х | | Х | Х | Х | | Х | | | | | | ļ |
| 21T | PFO | 0.05 | 60 | Х | | | Х | Х | | | Х | | | | | | |
| Subsegment 22 | | | · · · · · | | | | | | | | | | | | | | |
| 22BBB | PFO | 0.36 | ~100 | | | | No fi | unctions | s and va | lues data | ı – delin | eated b | by VDOT | | | | |
| 22CCC | PFO | 0.13 | ~15 | | Х | | | Х | Х | | Х | | | Х | | | |
| 22E | PEM | 0.01 | 35 | Х | | | Х | Х | | | | | | | | | |
| 22F | PEM | 0.02 | 35 | Х | | | х | Х | | | | | | | | | |
| 22G | PFO | 0.02 | 32 | Х | Х | | Х | Х | | | | | | | | | |
| 22GG | PEM | 0.02 | 14 | | | | Х | Х | | | Х | | | | | | |
| 221 | PFO | 0.46 | 40 | Х | Х | | Х | Х | Х | | Х | | | | | | |
| 2211 | PFO | <0.01 | 120 | | Х | | Х | Х | Х | | Х | | | | | | |
| 22JJ | PFO | 0.01 | 100 | Х | | | Х | Х | Х | | Х | | | | | | |
| 22K | PEM | 0.05 | 100 | Х | Х | | Х | Х | | | | | | | | | |
| 22L | PEM | 0.01 | 100 | Х | Х | | Х | Х | | | | | | | | | |
| 22L_VP | PEM | 0.05 | 100 | Х | Х | | Х | Х | | | | | | | | | |
| 22LL_VP | PFO | 0.05 | 140 | | | | | | | | Х | | | | | | |
| 220 | PFO | 0.45 | 100 | Х | Х | | Х | Х | Х | | Х | | | | | | |
| 2200 | PFO | >0.84 | 50 | | | | | Х | Х | | Х | | | | | | |
| 22PP | PFO | 0.01 | 50 | Х | | | | | | | | | | | | | |
| 22R | PFO | 0.27 | 50 | Х | | | Х | Х | | | Х | | | | | | |
| 22TT | PFO | 0.82 | ~90 | | | | No fi | unctions | s and va | lues data | ı – delin | neated b | by VDOT | | | | |
| 22U | PFO | 0.02 | 50 | Х | Х | | Х | Х | Х | | Х | | | | | | |
| 22W | PEM | >1.66 | 0-150 | Х | Х | | Х | Х | Х | | Х | Х | | Х | | | |
| 22X | PFO | 0.03 | 90 | Х | | | Х | Х | | | Х | | | | | | |
| 22Y | PEM | 0.04 | ~100 | | | | Х | Х | | | Х | | | | | | |
| Subsegment 23 | | | | | | | | | | | | | | | | | |
| 23BB | PEM | 0.03 | 31 | Х | Х | | Х | Х | | Х | | | | | | | |
| 23CC | PFO | 0.07 | 26 | Х | Х | Х | Х | Х | Х | Х | | | | | | | |
| 23EE | PFO | 0.04 | 30 | Х | Х | | Х | Х | | | | | | | | | |





| Visual Quality/Aesthetics | Endangered Species Habitat | Other |
|---------------------------|-------------------------------|-------|
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| | | | | | | | | | Fu | inction/V | alue | | | | | | |
|---------------|-----------------|--------------|---|-----------------------------------|----------------------|-------------------------------|--------------------------------|------------------|-------------------|-------------------------------------|------------------|------------|-------------------------------|---------------------|---------------------------|-------------------------------|-------|
| Feature ID | Classification | Area (ac) | Distance to Nearest Roadway/ Development (ft) | Groundwater Recharge/Discharge | Floodflow Alteration | Fish and Shellfish Habitat | Sediment/Toxicant Retention | Nutrient Removal | Production Export | Sediment/Shoreline Stabilization | Wildlife Habitat | Recreation | Education/Scientific Value | Uniqueness/Heritage | Visual Quality/Aesthetics | Endangered Species Habitat | Other |
| 27F | PFO | 0.15 | 20 | Х | Х | х | Х | Х | Х | Х | Х | | | | | | |
| 27G | PSS | 0.01 | 20 | Х | Х | | Х | Х | | | | | | | | | |
| 27M | PFO | 0.13 | 20 | Х | Х | | Х | Х | Х | Х | Х | | | Х | | | |
| 27Q | PEM | 0.02 | 43 | Х | Х | х | Х | Х | | Х | Х | | | | | | |
| 27S | PEM | <0.01 | 85 | Х | Х | Х | Х | Х | | Х | | | | | | | |
| Subsegment 28 | – No wetlands i | dentified | | | | | | | | | | | | | | | |
| Subsegment 29 | | | | | | | - | | | | | | | | | - | |
| 29G | PEM | 0.05 | 45 | Х | Х | | х | Х | | Х | Х | | | | | | |
| 29J | PEM | 0.14 | 46 | Х | Х | | х | Х | | Х | | | | | | | |
| 29L | PFO | 0.04 | 300 | Х | Х | | х | Х | | Х | Х | | х | | Х | | |
| 29M | PFO | 0.09 | 32 | Х | Х | | Х | Х | | Х | Х | Х | Х | | Х | Х | |
| 29N | PFO | 0.16 | 65 | Х | Х | | Х | Х | | | Х | Х | Х | | Х | Х | |



APPENDIX F: FIELD DATASHEETS

| Drainet. 1956/325 | March | 1000 | 572 | | | | T. ANA MR. O. | Reature ID. | 7.61 | | Stream Order: | Order: | |
|---|-----------------------------|----------------------------------|-------------------------|---|---------------------------|---|---|----------------------|---|-------------------------|----------------------------------|--------------|-------------------------------|
| Date Officier al | 10/12/18 | Leve V | 1 | | Marvland | | Phot | 05:0030 | 1.00 | 9/15/15 | 4320 | 325-4329 | 31/21/c1 v c |
| mps / | LN 1-1 | 752/2 | | County: | County: Monthe aren | 21 | Last | Last Flag Number: | mber: | | - | | |
| Feature Hydrologic Class (check one): | gic Class (| check one | :(| | 2 | | - | | | | | | |
| Tida! | | Pc | Percunial | | | Intermittent | a f | | | Enl | Enhemeral | | |
| TNW (Subject to ebb and | o and | TNW - Perennial | erennial | | N RPW | RPW - Scasonal (must | l (must | z O | Non-RPW draining uplands | aining uplo | nds | | |
| (flow) | 2 | (Flowing | (Flowing year round) | (p |) (flow | flow at least 3 months a | ionths a | z O | Non-RPW crosional | osional fea | feature | | |
| | Ø | RPW - Percnnial | erennial | | year) | 0 | | z O | Non-RPW with abutting wetland | th abutting | wetland | | |
| | 2 | (Flowing | (Flowing year round) | (p | | d | | z O | Non-RPW with adjacent wetland | th adjacen | t wetland | | |
| Describe rational lege, for hydrologic class: | , ucli-bitized | ther | chonred | nt: m | abuildant | melt to | | z º O | Non-RPW wetland adjacent or abutting upstream (outside of study area) | tland adja ady area) | cent or ab | utting ups | tream |
| Hydrologic Connectivity - | | Upstream: Old Side | | study onea | | Downstream: Owlshale | | Stutu area | | Adjacent/Abutting: | ng: Nov | She | |
| Feature Description: (check all that apply) | tion: (check | c all that c | (NJddi | 1 | | | | 1 | | | | | |
| Shape | Shape (with respect to OHW) | ct to OH | (\) | | | | Substrate | ate | | 1.0 | relation (| over TVI | Veretation Cover Type (MB335) |
| Matural Channel Shape | ne | Width: | 3-15' | | × | Silts | N St | Sands | K Muck | | RB: torest, shrus | 24242 | |
| Artificial (man-made) | | Depth: | 2-12" | | | Cobbles | Z | Gravel | Other: | | | | |
| Manipulated (man-altered) | tered) | Bank Er | Bank Erosion/stability: | ility: | | Bedrock | | <u> </u> | | | - | _ | |
| Other: | | Ctehl | 2 | | Side s | Side slope: $\mathbb{X} \ge 1:1$ | :1 🕅 2:1 | 1 23:1 | 4:1 | 1:17 | LB: torest dense bankso | Len Fr | banno |
| Notes: Eastine culueded | stel when | | Myleword | Park Dr. | r. 2 49. | 5 | | | | | | | |
| d | ation Cone | litions: | | | | | | | | | | | |
| | Inches of | | | | | Mc | Monthly Drought Condition | ought C | ondition | | | | |
| During Field Visit 1. | Rain Within Last Week | httn-//v | bon www | httn://www.nede.noaa.cov | v/tenin-an | NCDC Regional PDSI v/tenn-and-precin/climatological-rankings/index php | NCDC Regional PDSI imatolovical-rankines | cegional ical-ran | PDSI dines/index | սկս | AUG | August | 20/8 |
| Ĕ | 0-0.5 | С | С | С | С | С | С | С | C | - | | | |
| O Light rain | - | 9 | بر (|)4 |) Ţ | | - |)0 | >- | 5(| |) 4 | 2 |
| O Heavy Rain O | ~ | Se | Severe Drought | ight | Moderat | Moderate Drought | | Normal | M | Moderately Wet | Wct | Severely Wet | ly Wet |
| Non-tidal tributary has: (<i>check all that apply; include ph</i> | ry has: (<i>ch</i> | eck all the | it apply; i | nclude ph | otos for ci | otos for each & list photo #) | hoto #) | | | 1 | | | |
| Red and Banks | | | | | | Ordinary High Water Mark | High W: | tter Mar | l, | | | | |
| X Yes | Clcar, ni | atural line | impresse | Clcar, natural line impressed on the bank | | Sedimer | Sediment deposition | ion | X | Sediment sorting | sorting | | |
| No | Changes | Changes in the character of soil | nracter of | soil | | | taining | | X | Scour | | | |
| | Shelving | - | | | L | X . Presenc | Presence of flood litter/debris | l litter/de | bris 🛛 | Observed | Observed/predicted flow events | flow ever | its |
| | Vegetati | on matted | down, be | Vegetation matted down, bent, or absent | cnt | Destruc | Destruction of terrestrial veg. | rrestrial v | 'cg. | Abrupt cl | Abrupt change in plant community | lant comm | unity |
| | Leaf litt | Leaf litter disturbed | p | | | Presenc | Presence of wrack line | k line | | Other: | | | |
| Tidal tributary has: (check all that apply; include photos for each & list photo #) | as: (check i | ill that ap | ply; inclu | de photos | for each | & list photo | (# | | | | | | |
| 1. (131) | High Tide Line | | | Alcan II | ligh Wate | Mean High Water Mark indicated by: | icated by | : | | winne) | Chemical Characteristics | eristics | |
| Oil or scum line along shore objects | g shore obj | cots | | Survey | Survey to available datum | ole datum | | | Water is clear | clear | | | |
| Fine shell or debris deposits (foreshore) | cposits (for | eshore) | | Physics | Physical markings | S | | | Water is a | Water is discolored | | | |
| Physical markings/characteristics | aracteristic | 0 | | J Vegeta | tion lines/ | Vegetation lines/changes in types | ypes | | Oily film | | | | |
| Tidal gauges | | | _ | | | | | | Other: | | | | |
| Notes: | | | | | | | | | | | | | |

Waters of the U.S. Data once

| Project: T- 492/1 | T-7-70 MP | MANAGED 1 AN | Wate | Waters of the U.S. Data Sheet | S. Data | Sheet Feature ID: | D: 708 | | Stream | Stream Order: 7 | F |
|--|---------------------------------------|--|------------------------------------|-------------------------------|--|---------------------------------|----------------------------------|---|---------------------------------|--|-----------|
| AT | - | | 63 | | | Photos: | i s | 9 | 207-20X10 | ONTS: Le Souchyall) | |
| Crew: MBS/CC | 0 | | County: M | ONTKRIMENCI | | Last Flag | Last Flag Number: | | centerime | (| |
| Feature Hydr | Feature Hydrologic Class (check one): | check one): | | | | | | | | | ſ |
| lubil. | | Perennial | | Inter | Intermittent | | | | Ephemeral | | |
| TNW (Subject to ebb and flow) | ebb and O | TNW – Perennial (Flowing year round) | | RPW – So flow at le | RPW – Seasonal (must flow at least 3 months a | ust hs a | Non-RPV | Non-RPW draining uplands Non-RPW erosional feature | uplands feature | | |
| (| C | RPW – Perennial | (2) | year) | | | Non-RPV | V with abu | Non-RPW with abutting wetland | | - |
| | 2 | (Flowing year round) | (pu | | | 0 | Non-RPV | V with adja | Non-RPW with adjacent wetland | - | |
| for hydrologic class: WHALL LINE (NDIUATES F | VOT FLOWING | NOT FLOWING DUVING FIELD | The Revolution from | ALC (PUN) | 1 monor | 0 | | Non-RPW wetland adj (outside of study area) | adjacent or a | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hydrologic Connectivity - | vity - Upst | Upstream: 2' PIPE | 1. | Downstream: | am: 21 | CULVENT | | Adjacent/A | Adjacent/Abutting: N/ | ,A | 1 |
| Feature Desci | ription: <i>(checl</i> | Feature Description: (check all that apply) | | | N. | WOON ST | NATOWN | 11-00 | Sound with town wes | outside sources | |
| Sha | Shape (with respect to <u>OHW</u>) | ect to <u>OHW</u>) | | | J. | Substrate | | | Vegetation | Vegetation Cover Type (MBSS) | THAN PURT |
| Natural Channel Shape | Shape | Width: S' | | X Si | Silts | Sands | | Muck R | RB: | | ZIPIK |
| Artificial (man-made) | ade) | Depth: 3 ¹¹ | | ŭ | Cobbles | Gravel | \times | Other: | SATI | I ED GEN ON | KIFEP |
| Manipulated (man-altered) | n-altered) | Bank Erosion/stability: | bility: | | -fl | Concrete | ₫ [| 2 | r D. | | |
| Uther: Notes: | | 1-122575 | 4 | Side stope: | | | | | | HEDEORON | VERSIE |
| A 1 (200) | Weather/Precinitation Conditions: | ditions: | | | | | | | | | 272 |
| | Inches of | | | | Month | Ily Droug | Monthly Drought Condition | u | | | – |
| ; | Rain Within | | | | NON | NCDC Regional PDSI | nal PDSI | | Month | Month: MMUH Year: 208 | |
| h | ast | H H H//: | le.noaa.gov/tei | np-and-pr | eerp/clima | Hological- | rankings/ii | Idev-phb | • | | |
| O Light rain | O 0-0.5 | γ C Q Q | 4 C | ې C | -7 C | -1,45 0 |)- _ | ~ C | D m | 4 C C C C C C C C C C C C C C C C C C C | |
| O Heavy Rain | 0 >1 | Severe | N | Ioderate Drought | | z | nal | Moderately Wet | ely Wet | Severely Wet | |
| Non-tidal trib | utary has: (<i>ch</i> | Non-tidal tributary has: (<i>check all that apply; include photos for each & list photo #</i>) | include photos | for each d | k list phot | (# ¢ | | | | | |
| Bed and Banks | | | | 010 | linary flig | Ordinary High Water Mark | Mark | | | | |
| Ves Ves | Clear, ni | Clear, natural line impressed on the bank | ed on the bank | N N | Sediment deposition | eposition | | 🔀 Sedin | Sediment sorting | | |
| No | Changes | Changes in the character of soil | fsoil | X | Water staining | ing | | Scour | | | |
| | Shelving | 50 | | | resence of | Presence of flood litter/debris | er/debris | Obsel | rved/predicte | Observed/predicted flow events | |
| | Vegetati | Vegetation matted down, bent, or absent | ent, or absent | | Destruction | Destruction of terrestrial veg. | rial veg. | Abru | ot change in | Abrupt change in plant community | |
| | X Leaf litt | Leaf litter disturbed | | X | resence of | Presence of wrack line | e | Other: | | | |
| Tidal tributar | y has: (check i | Tidal tributary has: (check all that apply; include photos for | ude photos for | each & list photo #) | (# otoy | | | | | | r |
| llio | High Fide Line | | Mean High Water Mark indicated by: | Water Ma | rk indicat | ed by: | | Chen | Chemical Characteristics | cteristics | |
| Oil or scum line along shore objects | long shore obje | ects | Survey to available datum | vailable da | tum | | Wate | Water is clear | | | |
| Fine shell or debris deposits (foreshore) | is deposits (fore | eshore) | Physical markings | arkings | | | Wate | Water is discolored | red | | |
| Physical markings/characteristics | s/characteristics | S | Vegetation lines/changes in types | lines/chang | ges in type | (0 | Oily film | Ilm | | | |
| Tidal gauges | | | | | | | Other: | | | | _ |
| Notes: | | | | | | | | | | | |

| 14-11 | | 1 × 1 × 1 × 1 × 1 × 1 | ALLES SIVE | | | Featu | Feature ID: ∠ | 50 | SIL | Stream Order: 5 |
|---|---------------------------------------|--|-------------------|---------------------------|---|------------------------|---------------------------------|---|-------------------------------|---|
| O Y Y | 8) | | State: | 20 | | Photos: | s: 200 | -202- | | |
| Crew: MUD-/C(| 00 | | County: | MON | TUD MEK-1 | Last F | Last Flag Number: | oer: 3 / | CONTEN | (ON |
| Feature Hyd | Feature Hydrologic Class (check one): | (check one): | | | | | | | | |
| lubiT' | | Perennial | - | | Intermittent | ł. | | | Ephemeral | eral |
| TNW (Subject to ebb and | ebb and | TNW – Perennial | al | C RPW | RPW - Seasonal (must | (must | O Non | -RPW drair | Non-RPW draining uplands | |
| (flow) |) | (Flowing year round) | (punc |) (flow | flow at least 3 months a | onths a | O Non | Non-RPW erosional | onal feature | |
| | 0 | RPW – Perennial | ы | year) | | | Non O | -RPW with | Non-RPW with abutting wetland | land |
| |) | (Flowing year round) | (pund | | | | Non O | -RPW with | Non-RPW with adjacent wetland | land |
| Describe rational F | | FLOWING WITH SIGNFICAN | 2 J | PHOLOF | LEASE CEASE | NNS SNO | O Non (outs | Non-RPW wetland ad (outside of study area) | and adjacent y area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) |
| Hydrologic Connectivity - | | Upstream: 3' MA | NI-02115 2/1- 1 | The second second | Downstream: 4 | CULL | ANT. | Adjacer | Adjacent/Abutting: | Nove |
| Feature Dese | cription: (chec | Feature Description: (check all that apply) | | | CONVO | CONVOLUES WITH | F LEVENE | NE 207 | > (ANOTHON | Lever ctrack |
| Sh | Shape (with respect to OHW) | ect to OHW) | | _ | | Substrate | te | | Vegeta | Vegetation Cover Type (MBSS) |
| Natural Channel Shape | Shape | Width: -3 | | | Silts | N Sands | ds | Muck | RB: | 01 - 1 Q |
| Artificial (man-made) | iade) | Depth: 611 | | X | Cobbles | Gravel | ivel | Other: | 22 | SCLUB/SELUD |
| Manipulated (man-altered) | n-altered) | Bank Erosion/stability: | tability: | | Bedrock | Col | Concrete | 1 | | |
| Other: | | Wadaw | ديم | Side slope: | ope: | | X3:1 | | | LB: C. I. C. I. C. M. R. |
| Notes: | | | | | | | | | 5 | ういていて |
| Weather/Pre- | Weather/Precipitation Conditions: | iditions: | | | | | | | | |
| | Inches of | | | | Mo | uthly Dro | Monthly Drought Condition | dition | M | Month. Addit Vear. 2019 |
| During Field Visit | I ast Week | http://www.nede.nosia | | V/temn-and | <pre>ev/temb-and-precip/climatological-rankings/index.php</pre> | matologic | imatological-rankinos | ov/indev n | | of the local little |
| No rain | 0-0.5 | + | | С | С | 6 | C | | C | |
| | | -6 -5 |)4 |) ⁽¹ | -7 | -1.45 | 0 | 1 2 |) (| 4 5 6 |
| Heavy Rain | >I 0 | Severe Drought | rought | Moderate | Moderate Drought | 4 | Normal | Mod | Moderately Wet | Severely Wet |
| Non-tidal tril | outary has: (c) | Non-tidal tributary has: (<i>check all that apply; include photos for each & list photo #</i>) | y; include pl | iotos for ea | ch & list ph | (# <i>oto</i> #) | | | | |
| Bed and Banks | | | | | Ordinary High Water Mark | High Wat | er Mark | | | |
| Ves Yes | 🕅 Clear, r | Clear, natural line impressed on the bank | ssed on the b | ank | Sedimer | Sediment deposition | u | S | Sediment sorting | ng |
| No | X Change | Changes in the character of soil | of soil | | Water staining | aining | | X | Scour | |
| | X Shelving | ور ور | | | Presence | of flood | Presence of flood litter/debris | Ż | bserved/pred | Observed/predicted flow events |
| | | Vegetation matted down, bent, or | , bent, or absent | ent | Destruct | ion of terr | Destruction of terrestrial veg. | | brupt change | Abrupt change in plant community |
| | X Leaf lit | Leaf litter disturbed | | | Presence | Presence of wrack line | line | | Other: | |
| Tidal tributa | ry has: (check | Tidal tributary has: (check all that apply; include photos for each & list photo #) | clude photos | for each & | E list photo | #) | | | | |
| 11 | High Fide Line | | Mean I. | ligh Water | Mean High Water Mark indicated by: | cated by: | |) | Themical Ch | Chemical Characteristics |
| Oil or scum line along shore objects | along shore obj | jects | Survey | Survey to available datum | e datum | | | Water is clear | ar | |
| Fine shell or debris deposits (foreshore) | is deposits (for | reshore) | Physic | Physical markings | | | | Water is discolored | colored | |
| Physical markings/characteristics | s/characteristic | CS | D Vegeta | tion lines/c | Vegetation lines/changes in types | pes | | Oily film | | |
| Tidal gauges | | | | | | | | Other. | | |

| 6 | | + | | the and | * | 9 | Vaters of 1 | Waters of the U.S. Data Sheet | ta Sheet | | 0.00 | | č | <i>c</i> | Г |
|------|--|---------|---------------------------|---|----------------|---------------|---------------------------|---|---------------------------------|---------------------|--|---------------------|---|--|----------|
| 2 | Project: 1-442/ | 10 | c 79 | | | States Ct | ちっち | | Feature Dhotoe | Feature ID: | 1-100 | | Stre | Stream Order: 🗸 | Т |
| | 1 2 014 | 00 | | | | Country. | NAME TO | IN TAN | I T act | Plan Nur | a houe | 2 2 4 5 | 2.4. | | T |
| 2 | Feature Hydrologic Class (check one): | logic | Class (ct | neck one): | | County. | | 100000 | TIGOL | Tast Flag Mullipet. | | 017 | 2 | | ٦ |
| | libil' | | | Pere | Perennial | | | Intermittent | μť | | | | Ephemeral | In | Γ |
| | TNW (Subject to ebb and flow) | ebb aı | \bigcirc | TNW – Perennial (Flowing year round) | ennial | | O RPW flow | RPW – Seasonal (must flow at least 3 months a | l (must ionths a | ž ž OC | on-RPW | draining | Non-RPW draining uplands Non-RPW erosional feature | | |
| | <u></u> | | 0 | RPW – Perennial | ennial | | year) | | | ž DO | on-RPW | with abu | Non-RPW with abutting wetland | and | 1 |
| - 1 | | | Ì | (Flowing year round) | sar round |) | 8 | | | Ŭ O | on-RPW | with adj | Non-RPW with adjacent wetland | and | - |
| P D | for hydrologic class: Dwown | Junova: | F-FS | ちモー | 245 | DUCI | AN ANT | LANCIAN A | J. | žē O | Non-RPW wetland adj (outside of study area) | wetland study ar | adjacent (ea) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| II | Hydrologic Connectivity - | ity – | | Upstream: Connent | Nord Sta | 25 | Dow | Downstream: L | 4' CULN | 54 | Ac | ljacent/A | Adjacent/Abutting: \wedge | N/A | |
| | Feature Description: (check all that apply) | iptio | n: <i>(check</i> | all that app | olv) | | C | CONNERLIES | EL3 S | - Forthall | 4 | 20C(| Another | L PENCENNIAL CHANNE | Nerver 1 |
| 1 | , Shap | pe (w | ith respec | Shape (with respect to OHW) | | | | | Substrate | ate | | F | Vegetati | Vegetation Cover Type (MBSS) | |
| X | Natural Channel Shape | hape | | Width: 5 | 1- | | | Silts | K Sa | Sands | Ŵ | Muck I | RB: | | Γ |
| | Artificial (man-made) | (apt | | Depth: 60 | ĝĝ | 1000 | | Cobbles | X, | Gravel | J J | Other: | 4 | roles les | |
| X | Manipulated (man-altered) | -alter | | Bank Erosion/stability: | ion/stabil | ity: | Cida c | Bedrock | X Z Z | Concrete | | Τ | LB: J | | |
| NZ I | Notes: | | | | 22 | | | | È | | | | | てららられ | |
| 1 | Weather/Precipitation Conditions: | pitati | ion Condi | itions: | | | | | | | | | | | 1 |
| | | Inc | Inches of | | | | | M | Monthly Drought Condition | ought Co | ondition | | Mar | Plut Valid Vana | Ň |
| F | During Field Visit | I act | Kain Within I ast Week | http://www. | on node | 100 0.000 | ne-nmat/ | http://www.node.noos.com/temn-and-presin/climatological-reanEinos/index.php | INCLUC Kegional PUSI | egional | ISUT | Inda vol | OTAT | | |
| | No rain | | 0-0.5 | C | C | C | С | С | | С | C | С | С | | |
| () | Light rain | 0 | 0.5-1 | φ(| ک |)4 | <u>ب</u> | 7 | -1,45 |)0 | >- | 0 |) က |) v | Т |
| () | Heavy Rain | 0 | >1 | Seve | Severe Drought | tht | Moderat | Moderate Drought | | Normal | | Modera | Moderately Wet | Severely Wet | |
| | Non-tidal tributary has: (<i>check all that apply; include photos for each & list photo #</i>) | itary | has: (che | ck all that | apply; in | clude ph | otos for eu | ich & list p | hoto #) | | | | | | |
| | Bed and Banks | | | | | | | Ordinary | Ordinary High Water Mark | ter Marl | | | | | |
| X | 7 Yes | X | Clear, nat | Clear, natural line impressed on the bank | npressed | on the ba | unk 🕞 | Sedime | Sediment deposition | ion | 4 | Seding | Sediment sorting | ß | |
| | No | X | Changes | Changes in the character of soil | acter of so | oil | | Water staining | taining | | | Scour | 5 | | |
| | | У | Shelving | | | | | Presenc | Presence of flood litter/debris | litter/det | oris 🗗 | Obse | rved/pred | Observed/predicted flow events | |
| | <u> </u> | X | Vegetatio | Vegetation matted down, bent, or | own, ben | it, or absent | nt | Destruc | Destruction of terrestrial veg. | restrial v | eg. | Abrı | pt change | Abrupt change in plant community | |
| | | | Leaf litte | Leaf litter disturbed | | | | Presenc | Presence of wrack line | k line | | Other: | 12 | | |
| | Tidal tributary has: (check all that apply; include photos for each & list photo #) | / has: | (check a | Il that appl) | v; includ | e photos | for each d | k list photo | (# | | | | | | |
| | 1011 | 1 Linh | lioh Tide Line | | | Mean II. | igh Water | Mean High Water Mark indicated by: | icated by | | | Chei | nical Cha | Chemical Characteristics | |
| | Oil or scum line along shore objects | ong si | hore objec | cts | | Survey | Survey to available datum | le datum | | | Water is clear | is clear | | | |
| | Fine shell or debris deposits (foreshore) | s depc | ssits (fores | shore) | | Physica | Physical markings | S | | | Water i | Water is discolored | red | | |
| | Physical markings/characteristics | /chara | acteristics | | | Vegetat | ion lines/c | Vegetation lines/changes in types | ypes | | Oily film | Е | | | |
| | Tidal gauges | | | | | | | | | | Other: | | | | Т |
| 20 | Notes: | | | | | | | | | | | | | | |

| Date: 4-11-20 Crew: M&5/CC | 2 | 1 | UNED UC | ちえ | | Feature ID: | I ZOF | - | Stream Urder: |
|---|---------------------------------------|---|-----------------|-------------------------------------|--------------------------|---------------------------------|------------------------|--|---|
| | 0 | | State: MD | 0 | | Photos: | 203-2 | 206 | |
| | 0 | | County: | Tont | BUNCAN | Last Flag Number: | Number: | 3/ center (IN | Ner! |
| reature Hyul | Feature Hydrologic Class (check one): | (check one): | | | | | | | |
| lubiT | | Perennial | | ul | Intermittent | | | Epho | Ephemeral |
| TNW (Subject to ebb and | ebb and | TNW - Perennial | | RPW - | RPW - Seasonal (must | (must O | Non-RPW | Non-RPW draining uplands | sbi |
| (flow) |) | (Flowing year round) | (pu | flow a | flow at least 3 months a | onths a O | Non-RPW | Non-RPW erosional feature | ure |
| | (| RPW - Perennial | | year) | | 0 | Non-RPW | Non-RPW with abutting wetland | wetland |
| |) | (Flowing year round) | nd) | e L | | 0 | Non-RPW | Non-RPW with adjacent wetland | wetland |
| for hydrologic class: CUTAN | 100 | JUNNIA ON | NI SNAS | (ショートシート) | うやってい | 1 CALIENC | Non-RPW (outside of | Non-RPW wetland adjac (outside of study area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) |
| Hydrologic Connectivity | 1 | Upstream: 2' PIPt | 1. | Downs | Downstream: 2 | Port | AG | Adjacent/Abutting: | B: NA |
| Feature Desc | ription: (chea | Feature Description: (check all that apply) | | | | | | | |
| Shi | Shape (with respect to OHW) | bect to OHW) | | a | | Substrate | | Veg | Vegetation Cover Type (MBSS) |
| Natural Channel Shape | Shape | Width: 3' | | X | Silts | Sands | W | Muck RB: | |
| Artificial (man-made) | ade) | N | BANK | | Cobbles | X Gravel | ð | | 20200 |
| Manipulated (man-altered) | n-altered) | Bank Erosion/stability | bility: | | Bedrock | Concrete | e F | 1 | んちょうひしつ |
| Other: | | STABLE | | Side slope: | pe: □ ≥1:1 | 2:1 | 3:1 □ ≤4:1 | | 20/12/24 |
| Notes: | | | | | | | | | AT1600 |
| Weather/Precipitation Conditions: | ipitation Cor | iditions: | | × | | | | | |
| | Inches of Pain Within | | | | Moi | Monthly Drought Condition | t Condition | | Month: MALLH Year: 2018 |
| During Field Visit | Last Week | http://www.nedc.noaa.gov/tenip-and-precip/climatological-rankings/indev.php | de.noaa.gov | /temp-and | -precip/cli | matological-r | ankings/inc | lev.php | |
| No rain | 0-0.5 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D Light rain | O 0.5-1 | -6 -5 | -4 | -3 | -2 | -1,15 0 | -1 | 2 3 | 4 5 |
| O Heavy Rain | 0 >1 | Severe Drought | ught | Moderate Drought | Drought | Normal | al | Moderately Wet | /et Severely Wet |
| Non-tidal trib | utary has: (c | Non-tidal tributary has: (check all that apply; inclu | include ph | ude photos for each & list photo #) | h & list ph | oto #) | | | |
| Bed and Banks | 1 | | |) | Drdinary | Ordinary High Water Mark | lark | | |
| X Yes | K Clear, 1 | Clear, natural line impressed on the bank | ed on the ba | ink 🛛 | Sedimen | Sediment deposition | | Sediment sorting | orting |
| No | Change | Changes in the character of soil | f soil | | Water staining | ining | | Scour | |
| | Shelving | ور ا | | X | Presence | Presence of flood litter/debris | /debris | Observed/ | Observed/predicted flow events |
| | X Vegeta | Vegetation matted down, bent, | pent, or absent | ent [| Destructi | Destruction of terrestrial veg. | al veg. | Abrupt cha | Abrupt change in plant community |
| | Leaf lit | Leaf litter disturbed | | | Presence | Presence of wrack line | | Other: | |
| Tidal tributar | y has: (check | Tidal tributary has: (check all that apply; include | | ohotos for each & list photo #) | list photo # | () | | | |
| 111 | High Tide Line | | Mean H | Mean High Water Mark indicated by: | Mark indi | rated by: | | Chemical | Chemical Characteristics |
| Oil or scum line along shore objects | long shore ob | jects | Survey | Survey to available datum | datum | | Water | Water is clear | |
| Fine shell or debris deposits (foreshore) | is deposits (fo | reshore) | Physica Physica | hysical markings | | | Water | Water is discolored | |
| Physical markings/characteristics | s/characteristic | cs | Vegetat | Vegetation lines/changes in types | anges in ty | pes | Oily film | ш | |
| Tidal gauges | | | | | | | Other: | | |

.

| Project: T-445/: Date: 4-12-26 Crew: M55/ST | 1200 | D MANAGI | Abro LANES | State: County | Waters of the U.S. Data Sheet MD Feat Pho | U.S. Data | Sheet Feature ID: 21/ Photos: 02 (2 Last Flag Number: | 0 | D213 Str N/A | Stream Order: | |
|---|---------|--------------------------|---|------------------|---|----------------------|--|---|---------------------------------|---|------------|
| Feature Hydrologic Class (check one): Tidad | rologi | c Class (c) | heck one): Perennial | | Infe | Intermittent | - | | Fultement | en l | - |
| O TNW (Subject to ebb and | o ebb 2 | O | TNW – Perennial | Upu | O RPW - S | RPW – Seasonal (must | 00 | Jon-RPW o | Non-RPW draining uplands | | |
| (MOIT | | Ø | RPW - Perennial | (nin | year) | | | Jon-RPW | Non-RPW with abutting wetland | tland | |
| | | 2 | (Flowing year round | (pu | | | 0 | Jon-RPW | Non-RPW with adjacent wetland | stland | |
| Describe rational for hydrologic class: | JT | 57 | Well-defred | Chennel | NFW 13 | pretoron 1 | 0 | Non-RPW wetland ad (outside of study area) | vetland adjacent study area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hydrologic Connectivity - | ivity – | n | ream: 200 | | Downstream: | eam: | 5 | [Adj | Adjacent/Abutting: | NA | |
| Feature Des | criptic | n: (check | Feature Description: (check all that apply) | | | | | | | | 1 |
| Sh | ape (v | vith respec | Shape (with respect to OHW) | | | | Substrate | | Veget: | Vegetation Cover Type (§1BSS) | |
| X Natural Channel Shape | Shape | | 2-0 | ,0 | S X | Silts | X Sands | Muck | RB: | | - |
| Artificial (man-made) | nade) | | Depth: (0-1 | 81 | | Cobbles | Gravel | Other: | | NOTIFICATION TRANSMO | 2 |
| Manipulated (man-altered) | an-alte | red) | Bank Erosion/stabi | bility: | Cida cloud | E | Concrete | | | | |
| Notes: | | | | 1 | ->doie >nic | | | | tsarat | 4ST | - |
| Weather/Precipitation Conditions: | cipitat | ion Cond | litions: | | | | | | | | 7 |
| | Rair | Inches of Rain Within | | | | Mon | Monthly Drought Condition NCDC Regional PDSI | Condition | W | Month: Whiley Year: 2018 | the second |
| During Field Visit | Las | Last Week | Letter ways HI | di finan to | d pur don a | m, y di yaa | dological rat | Lings and | A 1240 F | | |
| Ø No rain | | 0-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 | |
| O Light rain | 0 | 0.5-1 | -6 -5 | 4 | 3 | -2 | -1,45 0 | 1 | 2 3 | 4 5 6 | Г |
| O Heavy Rain | 0 | >I | Severe Drought | ought | Moderate Drought | rought | Normal | | Moderately Wet | Severely Wet | |
| Non-tidal tril | butary | has: (che | Non-tidal tributary has: (<i>check all that apply; in</i> | include ph | clude photos for each & list photo #) | & list pho | to #) | | • | | r |
| Eed and Banks | | | | | 01 | dinary H | Ordinary High Water Mark | -k | | | |
| X Yes | X | Clear, nat | Clear, natural line impressed | ed on the bank | | Sediment | Sediment deposition | | Sediment sorting | ting | 1 |
| No | | Changes | Changes in the character of soil | f soil | | Water staining | ning | | Scour | | - |
| | | Shelving | | | | Presence (| Presence of flood litter/debris | thris | Observed/pre | Observed/predicted flow events | |
| | X | Vegetatic | Vegetation matted down, bent, or absent | pent, or abse | | Destructio | Destruction of terrestrial veg. | veg. | Abrupt chang | Abrupt change in plant community | |
| | X | Leaf litte | Leaf litter disturbed | | | Presence (| Presence of wrack line | | Other: | | -1 |
| Tidal tributa | ry has. | check a | Tidal tributary has: (check all that apply; include photos for each & list photo #) | ude photos | for each & lis | t photo #) | | | | | |
| 121 | hi i le | Rioh Fide Line | | Atcan II | stean High Water Mark indicated by: | ark indic | ited by: | | Chemical Ch | Chemical Characteristics | |
| Oil or scum line along shore objects | along s | hore object | cts | Survey | Survey to available datum | atum | | Water is clear | clear | | - |
| Fine shell or debris deposits (foreshore) | is dep | osits (fores | shore) | Physica | Physical markings | | | Water is | Water is discolored | | |
| Physical markings/characteristics | s/chara | acteristics | | Vegetat | Vegetation lines/changes in types | ges in typ | S | Oily film | | | |
| Tidal gauges | | | | | | | | Uther: | | | |
| Notes: | | | | | | | | | | | |

| | C | 1 P. 1 | ALL THE | | O Ro | Waters of the U.S. Data Sheet | he U.S. D | ata Shee | | - | | - | | | |
|---|----------------|----------------------------|--|---|---------------|---------------------------------------|----------------------|------------------------|---------------------------------|---|------------------------|-------------------------------|----------------------------------|--|-----|
| Project: 1-495/1 | 12-1 | CZE | NEVER D | シントリー | | 1 | | Fea | Feature ID: | 212 | 7 | Stre | Stream Order: | e | |
| Date: 6-0-01 | PD | | | | state: | - 1 | | FDG | Photos: 02 | 1 1 | t | | | | |
| Crew: MBS/S | H+ | | | | County: MON | E | 17 and | Las | Last Flag Number: | Imber: | NA | | | - | |
| Feature Hydrologic Class (check one): | rologie | : Class (cl | heck one | | | | | | | | | | | | |
| Indi'I | | _ | Pe | Percnnial | | | Intermittent | nt | | | | Ephemeral | eral | | |
| TNW (Subject to ebb and | o ebb a | Ω | TNW - Perennial | erennial | 4 | O RPW | RPW – Seasonal (must | al (must | | Von-RPW | / drainin | Non-RPW draining uplands | | | |
| (woll | | (| Guiwory) | (FIOWING YEAR TOUNU) | (n) | MOIT | | monins a | | N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-N- | erosion | Non-KPW erosional feature | | | |
| | | 8 | KPW – Perennial | erennial | - | year) | | | | Von-RPW | with ab | Non-RPW with abutting wetland | land | | |
| | |) | (FIOWING | (r lowing year round | (p | | | | _ | M-H-KP-M | with ad | Non-KPW with adjacent wetland | tland | | |
| for hydrologic class: Constant | Con | arge, well | - Flow | D pro L | otre | 1211/17 | 475 | 1 | 0 | Non-RPW wetland ad (outside of study area) | r wetland f study a | l adjacent rea) | or abutting | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hydrologic Connectivity - | ivity - | Upstr | Upstream: 21 L/ 21 B | L,210, | 211/211 | - | Downstream: | 22AA | A | V V | djacent/ | Adjacent/Abutting: | N/A | | |
| Feature Description: (check all that apply) | criptio | n: (check | all that c | (vladi | 21M, 21 | 14,218 | 216 | | | | | | | | |
| Sh | ape (w | Shape (with respect to OHW | ct to OH | (M) | | | | Sabs | Substrate | | | Vegeta | tion Cove | Vegetation Cover Type (MBSS) | (5: |
| Natural Channel Shape | Shape | | Width: | 10-30 | -0 | | Silts | X | Sands | N | Muck | RB: C | | | |
| Artificial (man-made) | nade) | | Depth: | 4-12 | 117 | | Cobbles | X | Gravel | | Other: | P | test | | |
| Manipulated (man-altered) | in-alter | (pə. | Bank Ere | Bank Erosion/stability: RANGE | ility: RAN | R | Bedrock | X | Concrete | _ | | |) | | |
| Other: | | | STABL | 0 1 1 | NSTRUE | | Side slope: ⊠≥11 | 1:1 🖂 2:1 | 11 X 31 | 1 🗌 🖂 1 | 1 | LB: A | 122V | | |
| Notes: | | | | | | | | | | | | |) | | |
| Weather/Precipitation Conditions: | cipitat | ion Cond | itions: | | | | | | | | | | | | |
| | Inc. | Inches of | | | | | M | onthly E | Monthly Drought Condition | Condition | | L M M | 41 1 A 4 | 1 V | DIC |
| During Field Visit | TAIN ASS | Kain Wifhin Tast Week | 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1 | the state of the state | treater by | A to rule after | 1 arts cars | NCDC Keg | 6 | an FDSI | da v titu | DTAF | 100 | | 010 |
| No rain | C | 0-0.5 | С | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | | 0.5-1 | 9 | بہ (|)4 | <u>ب</u> | -2 | | 0 | 1 | 2 | 3 | 4 | | 6 |
| O Heavy Rain | 0 | >1 | Se | Severe Drought | ight | Moderate | Moderate Drought | | Normal | | Modera | Moderately Wet | Se | Severely Wet | |
| Non-tidal tributary has: (check all that apply; in | utary | has: (che | ck all the | it apply; i | nclude ph | clude photos for each & list photo #) | ch & list | (# otoya | | | | | | | |
| Red and Ranks | | | | | | | Ordinary | V High W | Ordinary High Water Mark | rk | | | | | |
| × Yes | Ż | Clear, na | tural line | Clear, natural line impressed | I on the bank | ank | Sedim | Sediment deposition | ition | | X Sedi | Sediment sorting | ing | | |
| No | | Changes | in the cha | Changes in the character of soil | soil | | Vater | Water staining | | | Scour | ır | | | |
| | X | Shelving | | | | | Presen | ce of floc | Presence of flood litter/debris | bris | X Obs | erved/prec | Observed/predicted flow events | events | |
| | X | Vegetatic | on matted | Vegetation matted down, bent, or absent | nt, or abs | ent | Destru | ction of t | Destruction of terrestrial veg. | veg. | Abr | upt change | Abrupt change in plant community | ommunity | |
| | X | Leaf litter disturbed | r disturbe | p | | | Presen | Presence of wrack line | ck line | | Other: | Ľ | | | |
| Tidal tributary has: (check all that apply; include photos for each & list photo #) | y has: | (check a | Il that ap | oly; inclu | de photos | for each & | list photo | 0 #) | | | | | | | [|
| 111 | High Lide Line | e Line | | | Atean II | Atean High Water Mark indicated by: | Mark in | dicated b | V: | | Che | mical Cha | Chemical Characteristics | CS | |
| Oil or scum line along shore objects | ulong s. | hore object | cts | | Survey | Survey to available datum | e datum | | | Water | Water is clear | | | | |
| Fine shell or debris deposits (foreshore) | is dept | sits (fores | shore) | | Physics | Physical markings | | | | Water | Water is discolored | ored | | | |
| Physical markings/characteristics | s/chara | cteristics | | | Vegeta | Vegetation lines/changes in types | nanges in | types | | Oily film | ш | | | | |
| Tidal gauges | | | | | | | | | | Other: | | | | | |
| Votes: | | | | | | | | | | | | | | | |

| Drainat. T - 4951 | 06 C.J | C MANALATING | AAG | TCL | | Reatur | Reature ID. 71 | E | ð | Stream Order | 2 |
|---|--------------------------|--|---------------------|---------------------------|------------------------------------|------------------------|---------------------------------|-------------------------|---|----------------|------------------------------|
| Date: 4-12-20 | 18 | | 5 | AN | | Photos: | s: 0218 | 120. | 5 | I CALL OT UC | |
| Crew: M65/57 | 4 | | County | County: MONT bower | -parta | Last H | Last Flag Number: | ir: J | CONTEULINO | (JAC) | |
| Feature Hydi | ologic Cla | Feature Hydrologic Class (check one): | | | • | | | | | 2 | |
| lebil. | | Perennial | hial | | Intermittent | ł | | | Ephemeral | neral | |
| TNW (Subject to ebb and | ebb and | TNW – Perennial | nial | RPW | RPW - Seasonal (must | (must | O Non-I | PW dra | Non-RPW draining uplands | S | |
| (flow) | _ | (Flowing year round) | · round) | tlow | flow at least 3 months a | onths a | O Non-I | RPW ero | Non-RPW erosional feature | Le | |
| | | C RPW – Perennial | nial | year) | | | O Non-I | ZPW wit | Non-RPW with abutting wetland | etland | |
| | e | (Flowing year round) | round) | | | | O Non-I | ZPW wit | Non-RPW with adjacent wetland | etland | |
| Describe rational | Not the | FOUND SULLE | 46 | | 100 10002104100/ | ちょう | 0 | SPW we | Non-RPW wetland adjacent or abutting upstream | it or abutting | g upstream |
| Jul hydrotogic ciuss. Write | 2 | and the transferrance | 31 | | | 2 | R | (ourside of study area) | uy aica) | × . | |
| Hydrologic Connectivity | | Upstream: Superior | Jung - | | Downstream: 🔨 | | NOMOS | Adjac | Adjacent/Abutting: | NA | |
| Feature Desi | ription: (c | Feature Description: <i>(check all that apply)</i> | (| | | | Branch) | | | | |
| Shi | ipe (with r | Shape (with respect to OHW) | | | | Substrate | te | | Veget | ation Cove | Vegetation Cover Type (MBSS) |
| Natural Channel Shape | Shape | Width: // -/ | 31 | X | Silts | X Sands | lds [| Muck | RB: WAE | 1 march | L-V HELT |
| Artificial (man-made) | iade) | Depth: G ^{tf} | | | Cobbles | Gravel | ivel | Other: | Г | 10/4m | Completion of Jos V |
| 🔀 Manipulated (man-altered) | n-altered) | Bank Erosion/stabilit | v/stability: | | Bedrock | Col X | Concrete | 1 | | ic/anip | r z C |
| Other: | | STARK | 8.0 | Side slope: | lope: | 1 🗌 2:1 | × 3:1 | <u> </u> | LB: SC | 10 Sth | WB. |
| Notes: IN RIVER | ILD INTE | PLUS INTERLETION OF AND | E QUADUANT | - | 1 NNINALOOP | t) t | 1 , 5 61 | Flows | | HEDORYON | V VOKI |
| Weather/Precipitation Conditions: | cipitation (| | Through 3" P | Pice into 1 | NW Quedrant . | advoint " | NSP | | Concrete - Trud | ned " | |
| | Inches of Dain Within | of hin | - | | | uthly Dro | Monthly Drought Condition | | 2 | Month: Mithe | H Year: 2018 |
| During Field Visit | Last Week | ek hunnanna | nede norra 26 | an temp an | d precipical | turatologwal | ad ranking | S HILLS | the second | - | |
| No rain | 0-0.5 | 0 | 0 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| O Light rain | O 0.5-1 | -9 | -5 -4 | ų | -2 | -1.F | 0 1 | | 2 3 | 4 | 5 6 |
| O Heavy Rain | 0 | | Severe Drought | Moderate | Moderate Drought | 4 | Normal | Mc | Moderately Wet | | Severely Wet |
| Non-tidal trib | utary has: | Non-tidal tributary has: (<i>check all that apply; include photos for each & list photo #</i>) | ply; include pl | iotos for ea | ch & list ph | oto #) | | | | | |
| Bed and Ranks | | | | | Ordinary Iligh Water Mark | ligh Wat | er Alark | | | | |
| Y Yes | X Clea | Clear, natural line impressed on the bank | ressed on the b | ank 🖸 | A. Sedimen | Sediment deposition | n | | Sediment sorting | ting | |
| No | Cha | Changes in the character of soi | er of soil | | Water staining | aining | | | Scour | | |
| | Shel | Shelving | | | Presence | of flood l | Presence of flood litter/debris | X | Observed/predicted/flow events | edictedflow | events |
| | X Veg | Vegetation matted down, bent, | /n, bent, or absent | ent | Destruct | ion of terr | Destruction of terrestrial veg. | | Abrupt change in plant community | ge in plant c | ommunity |
| | X Leat | Leaf litter disturbed | | | Presence | Presence of wrack line | line | | Other: | | |
| Tidal tributar | y has: (che | Tidal tributary has: (check all that apply; include | | for each & | photos for each & list photo #) | († | | | | | |
| 11 | High Fide Line | | Atean II | ligh Water | Mean High Water Mark indicated by: | rated by: | | | Chemical Characteristics | haracterist | S |
| Oil or scum line along shore objects | long shore | objects | Survey | Survey to available datum | e datum | | Ň | Water is clear | ear | | |
| Fine shell or debris deposits (foreshore) | s deposits | foreshore) | Physic: | Physical markings | | | M | Water is discolored | scolored | | |
| Physical markings/characteristics | characteri | stics | Vegeta | tion lines/cl | Vegetation lines/changes in types | pes | ö | Oily film | | | |
| Tidal gauges | | | | | | | O | Other: | | | |
| Notes: | | | | | | | | | | | |

| Project: I-495/I- | -270 | THEFT | AN AS | ALS SUN | TAP | | Featu | Feature ID: 2 | 4 | St | Stream Order: | er: 2 | |
|---|-----------------------------|---|-------------------------|-------------|---------------------------------------|--------------------------|--------------|---------------------------------|---|---|---------------|------------------------------|---|
| Date: 4-13-2018 | | | | State: 1 | 10 | | Photos: | os: 2540 | 1-254 | 1 1 | | | |
| Crew: MBS/SJF | | | | County: | County: MONTERIA | TRANK | Last. | Last Flag Number: | er: 21 f | 1041- : | 941 | | |
| Feature Hydrologic Class (check one): | ric Class (c | heck one): | | | | | | - | | | | | |
| India. | | Per | Perennial | | 11 | Intermittent | | | | Ephemeral | neral | | |
| TNW (Subject to ebb and | C | TNW - Perennial | rennial | | A RPW | RPW - Seasonal (must | (must | O Non- | RPW drai | Non-RPW draining uplands | S | | |
| (flow) |) (| (Flowing year round) | ear round | (| (flow a | flow at least 3 months a | onths a | -uon O | RPW eros | Non-RPW erosional feature | e | | T |
| | 0 | RPW – Perennial (Flowing year round) | rennial | _ | year) | | | | RPW with | Non-RPW with abutting wetland | etland | | |
| | | (I IUWIIIE) | cal tould | | | | | | NTW WIII | NON-KLY WILL ADJACENT WELIAND | elland | | |
| for hydrologic class: LINE, SCONLI > | F, Scoul, | - Sconti DWINTLL LI | 2 B | NDICHTE | に、古い | PARTICIAL F | they . | O Non- (outs | Non-RPW wetland ad (outside of study area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | ıt or abuttir | g upstream | |
| Hydrologic Connectivity - | | Upstream: Con | CONTINUES | out o | o€ Down | Downstream: 2 | 1 C | - | Adjace | Adjacent/Abutting: | A/N: | | |
| Feature Description: <i>(check all that apply)</i> | ion: <i>(check</i> | c all that a | (kjdu | Kow | | -) -) | TUDMOS | Evanch) | | | | | 1 |
| Shape (| Shape (with respect to OHW) | ct to OHW | 0 | | | | Substrate | ate | | Veget | ation Cove | Vegetation Cover Type (MBSS) | |
| Natural Channel Shape | e | Width: C | 18-1 | | | Silts | X Sa | Sands | Muck | RB: > | | | |
| Artificial (man-made) | | Depth: 8 | 211 | | X | Cobbles | Gr | Gravel | Other: | t | DILEST | 1 | |
| Manipulated (man-altered) | ered) | Bank Eros | Bank Erosion/stability: | ity: | | | | Concrete | THAP | (| | | |
| Other: | | MODONATE | NATE | | Side slope: | ppe: ⊠≥111 | 1 🛛 2:1 | 3:1 | | LB: Col | TST ME | 1 | |
| Notes: PIPED UNDER | 4 | SGANDARD | ト/ト | 005. | S INVEST | NO FOT | NAN | N BLN | 1.9 |) | | | |
| Weather/Precipitation Conditions: | tion Cond | litions: | - | | - A | st of K | KUNDL | KD | Bent | INTANA RI | R MI TON I | Jun | |
| II | Inches of | | | | | Moi | nthly Dr | Monthly Drought Condition | | 1 | - | | |
| | Rain Within | | | | | | NCDC R | NCDC Regional PDSI | IS | Ø | Month: Nutur | ut Year: 2018 | |
| During Field Visit La | Last Week | diffusion of | n n n Herte | DOLAN PRIM | ACTUP ATES | Previb. C | unatolovical | cal contang | I value v I | 1110 | | | |
| No rain | 0-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | T |
| O Light rain O | 0.5-1 | 9 | -5 | 4 | ÷ | -2 | -1,45 | 0 | 2 | 3 | 4 | 5 6 | |
| O Heavy Rain O | | Sev | Severe Drought | ht | Moderate Drought | Drought | | Normal | Moc | Moderately Wet | | Severely Wet | |
| Non-tidal tributary has: (<i>check all that apply; in</i> | y has: (che | eck all that | apply; inc | clude ph | clude photos for each & list photo #) | h & list ph | oto #) | | | | | | |
| Bed and Banks | | | | | | Ordinary High Water Mark | ligh Wa | ler Mark | | | | | |
| X Yes | Clear, na | Clear, natural line impressed | | on the bank | nk 🕅 | Sediment deposition | t depositi | on | N | Sediment sorting | ting | | |
| No | Changes | Changes in the character of soil | acter of sc | oil | X | Water staining | aining | | X | Scour | | | |
| X | Shelving | | | | X | Presence | of flood | Presence of flood litter/debris | Х | Observed/predicted flow events | edicted flov | v events | |
| X | Vegetatic | Vegetation matted down, bent, or absent | lown, bent | t, or abse | nt | Destructi | on of ten | Destruction of terrestrial veg. | 4 | Abrupt change in plant community | ge in plant | community | 1 |
| \boxtimes | Leaf litte | Leaf litter disturbed | | | X | Presence of wrack line | of wrack | line | | Other: | | | |
| Tidal tributary has: (check all that apply; include photos for each & list photo #) | s: (check a | ll that appl | y; include | photos : | for each & | list photo # | () | | | | | | |
| High File Line | de Line | | | Afcan II | Atean High Water Mark indicated by: | Mark indi | rated by: | | | Chemical Characteristics | haracterist | ics | |
| Oil or scum line along shore objects | shore object | cts | | Survey 1 | Survey to available datum | datum | | M | Water is clear | ar | | | |
| Fine shell or debris deposits (foreshore) | osits (fore | shore) | | Physica | Physical markings | | | > | Water is discolored | colored | | | - |
| Physical markings/characteristics | racteristics | | | Vegetati | Vegetation lines/changes in types | anges in tyl | pes | Ō | Oily film | | | | |
| Tidal gauges | | | | | | | | Ō | Other: | | | | - |
| Notes: | | | | | | | | | | | | | |

| H. | T.T. | 52 | MANALED | - | Waters of the U.S. Data Sheet | he U.S. Dat | ure ID | 216 | 0 | Stream Order: 7 | |
|---|---------|----------------|---|-------------------|---------------------------------------|--|---------------------------------|------------------------|--|---|---------------|
| Date: 4-15- 20 | 20 | | | State: | Country May May MINU | 1 M J M | Photos: 2542- | 1. | 243 Contraction | 100 | |
| Feature Hydrologic Class (check one): | rologi | c Class (c) | heck one): | | 01201 | | AT SET T TOPT | . 190111 | フセンシー | (m.) | |
| lubil. | | | Perennial | ial – | 1 | Intermittent | | | Ephemeral | neral | |
| O TNW (Subject to ebb and flow) | o ebb | O | TNW – Perennial (Flowing year round) | ial round) | RPW flow: | RPW – Seasonal (must flow at least 3 months a | 00 | Non-RPW | Non-RPW draining uplands Non-RPW erosional feature | S | |
| (more | | (| RPW – Perennial | ial | year) | | | Non-RPW | Non-RPW with abutting wetland | etland | T |
| | | 2 | (Flowing year round | pui | ` ` | | 0 | Non-RPW | Non-RPW with adjacent wetland | etland | |
| Describe rational Not Fue for hydrologic class: DAMP | TAT P | | SILT DEPOSITION | ABU BUD | BED INVESTIGATION, HOWEVER | SUBNICA | Olasi | Non-RPW (outside of | wetland adjacer study area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hydrologic Connectivity - | ivity - | | Upstream: 18^{4} D | DIAM. APE | Dowr | Downstream: 21C | IC from | Ad | Adjacent/Abutting: | NIA | |
| Feature Dese | criptic | on: (check | Feature Description: (check all that apply) | | | Ð | Themas Branch | (| | | 1 |
| Sh | ape (v | vith respe | Shape (with respect to OHW) | | | | Substrate | | Veget | Vegetation Cover Type (MBSS) | - |
| Natural Channel Shape | Shape | | Width: 2-5 | | | Silts | Sands | Muck | R | | 1 |
| Artificial (man-made) | nade) | | Depth: 3 " | | | Cobbles | Gravel | X Other: | er: | LEST | |
| Manipulated (man-altered) | an-alte | red) | Bank Erosion/stabi | stability: | Cide closes | βĽ | Con | 2 C | F | , | Concession of |
| Notes: EAST OF | | MUVEN R | T NO A | 1 567- | INNALLOD | ope: L 21a | | | | olest | |
| Weather/Precipitation Conditions: | cipita | tion Cond | itions: | | | | | | | | 1 |
| | ul ul | Inches of | | | | Moi | Monthly Drought Condition | Condition | | SIGC DIMI HIM | |
| During Field Visit | Lat | Last Week | hillin - mmin | trutt from A | bur tents and | DI CODIA | neutological rulanes | ICUT I | and the second s | | |
| No rain | 0 | 0-0.5 | 0 | 0 0 | | 0 | 0 | 0 | 0 | 0 0 0 | 1 |
| O Light rain | 0 | 0.5-1 | -6 -5 | 4 | ÷ | -2 | -1,45 0 | 1 | 2 3 | 4 | T |
| O Heavy Rain | 0 | >1 | Severe Drought | Drought | Moderate | Moderate Drought | Normal | _ | Moderately Wet | Severely Wet | 7 |
| Non-tidal trik | outary | has: (che | Non-tidal tributary has: (check all that apply; in | ly; include p | clude photos for each & list photo #) | ch & list ph | oto #) | | | | R |
| Bed and Ranks | | | | | | Ordinary A | Ordinary High Water Mark | rk | | | 1 |
| X Yes | | Clear, na | Clear, natural line impressed | essed on the bank | oank 🛛 | Sedimen | Sediment deposition | X | Sediment sorting | ting | - |
| No | | Changes | Changes in the character of soil | r of soil | X | Water staining | uning | | Scour | | |
| | | Shelving | | | | Presence | Presence of flood litter/debris | ebris | Observed/pre | Observed/predicted flow events | 1 |
| | | Vegetatic | Vegetation matted down, bent, or absent | 1, bent, or ab: | sent | Destructi | Destruction of terrestrial veg. | veg. | Abrupt chang | Abrupt change in plant community | Ť |
| | | Leaf litte | Leaf litter disturbed | | Δ | Presence | Presence of wrack line | | Other: | | |
| Tidal tributar | ry has | : (check a | Tidal tributary has: (check all that apply; include photos for each & list photo #) | nclude photo | s for each & | list photo # | (| | | | 1 |
| 111 | AL IN | High Tide Line | | Atean 1 | Mean Migh Water Mark Indicated by: | Mark Indi | ated by: | | Chemical C | Chemical Characteristics | |
| Oil or scum line along shore objects | along : | shore object | cts | Surve | Survey to available datum | e datum | | Water is clear | clear | | - |
| Fine shell or debris deposits (foreshore) | is dep | osits (fores | shore) | Physic | Physical markings | | | Water is | Water is discolored | | |
| Physical markings/characteristics | s/char | acteristics | | Vegeti | Vegetation lines/changes in types | nanges in tyl | Jes L | Oily film | - | | |
| Tidal gauges | | | | | | | | Other: | | | |
| Notes: | | | | | | | | | | | - |

•

| Project: T-495 Date: 4-13-20 Crew: M55/577 | LI20 | 042 | HANNTR | W State: MC County: | Waters of th | Waters of the U.S. Data Sheet | a Sheet Feature ID: 21 H Photos: フライイン Last Flag Number: | 21 H | H.C. | Stree 50/6b | Stream Order: 2 6b | |
|---|---------|----------------|--|---------------------------|---------------------------|--|---|--|----------------|---|---|------------|
| reature nyurologic Class (clicck olic). | 12010 | | neen one). Perennial | | | Intermittent | | | | Enhemeral | Ital | |
| O TNW (Subject to ebb and flow) | ebb a | þ | TNW – Perennial (Flowing year round) | li (buu | O RPW flow | RPW – Seasonal (must flow at least 3 months a | 08 | Non-RPW | draini | Non-RPW draining uplands Non-RPW erosional feature | | |
| | | C | RPW – Perennial | , I | year) | (| 0 | Non-RPW | with a | Non-RPW with abutting wetland | land | |
| | | 2 | (Flowing year round) | | | | 0 | Non-RPW | with a | Non-RPW with adjacent wetland | land | |
| Describe rational Not Fue for hydrologic class: #SWEVW | s: Howe | EVEL WAT | on line 4 | | LINC INDICATE HIGH | her line investigation that lover s | 0 3 | Non-RPW wetland adj (outside of study area) | f study | nd adjacent area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | ream |
| Hydrologic Connectivity - | vity - | Upstr | Upstream: Conmunes | Serts WC. | | Downstream: 2 | -10 | A | djacent | Adjacent/Abutting: | none | |
| Feature Desc | riptio | n: (check | Feature Description: (check all that apply) | and 21 | 8/ | | | | | | | |
| Sha | w) adu | ith respe | Shape (with respect to OHW) | | | | Substrate | | | Vegetal | Vegetation Cover Type (MBSS) | e (MBSS) |
| X Natural Channel Shape | Shape | | Width: 4' | | | Silts | Sands | M | Muck | RB: | - 1-1 c | 0 |
| Artificial (man-made) | iade) | | Depth: 12 # | | | Cobbles | X Gravel | | Other: | SCR | SCAUD/STAUNS | 8 |
| Manipulated (man-altered) | n-alter | .ed) | Bank Erosion/stability: | ability: | Sides | Side slone: X >1:1 | | 19-1-1-1-2-2-5 3-1 - 24-1 | M- | LB: | | c |
| Notes: EAST OF | RUN | UNY NU | , ON I-4 | 95- | NNELLOOT | | |] | | Sur | Surve/stru | R |
| Weather/Precipitation Conditions: | ipitat | ion Cond | itions: | | | | | | | | | |
| | Dair | Inches of | | | | Mor | Monthly Drought Condition | Condition | _ | Mo | Month: Manuel Vear: 2018 | Vear. 2018 |
| During Field Visit | Las | Last Week | HANNE HILL | Berli Bona - | bur dury ve | s (hoant | matological-rankings indu | nd vientes m | de v filt | | | 010 |
| No rain | | 0-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O Light rain | 0 | 0.5-1 | -6 -5 | 4 | <u>ب</u> | -2 | -1,45 0 | 1 | 2 | | 4 5 | 9 |
| O Heavy Rain | 0 | | Severe Droug | ought | Moderat | Moderate Drought | Normal | | Mode | Moderately Wet | Severely Wet | y Wet |
| Non-tidal trib | utary | has: (che | Non-tidal tributary has: (<i>check all that apply; i</i> | ; include p | hotos for eu | nclude photos for each & list photo #) | oto #) | | | | | |
| Bed and Ranks | | | | | | Ordinary I. | Ordinary High Water Mark | ark | | | | |
| X Yes | X | Clear, na | Clear, natural line impressed | sed on the bank | ank 🖸 | Sediment | Sediment deposition | ~ | Sei | Sediment sorting | ng | |
| No | X | Changes | Changes in the character of soil | of soil | | Water staining | ining | | Sc X | Scour | | |
| | | Shelving | | | | Presence | Presence of flood litter/debris | lebris | d V | served/pred | Observed/predicted flow events | ts |
| | X | Vegetatic | Vegetation matted down, bent, or absent | bent, or ab: | | | Destruction of terrestrial veg. | l veg. | Ab | rupt change | Abrupt change in plant community | unity |
| | | Leaf litte | Leaf litter disturbed | | | Presence | Presence of wrack line | | Ð | Other: | | |
| Tidal tributar | y has: | (check a | Tidal tributary has: (<i>check all that apply; inclua</i> | | s for each d | le photos for each & list photo #) | | | | | | |
| 11:00 | 14 1 14 | High Fide Line | | | ligh Water | Atean Migh Water Mark Indicated by: | ated by: | | CI | emical Chi | Chemical Characteristics | |
| Oil or scum line along shore objects | long s | hore obje | cts | Survey | Survey to available datum | e datum | | Water | Water is clear | | | |
| Fine shell or debris deposits (foreshore) | s depo | osits (fore: | shore) | Physic | Physical markings | | | Water is discolored | is disco | lored | | |
| Physical markings/characteristics | chara | acteristics | | Vegeti | ation lines/c | Vegetation lines/changes in types | les | Oily film | E | | | |
| Tidal gauges | | | | | | | _ | Other: | | | | |
| Notes: | • | | | | | | | | | | | |

| | - | | | | | Vaters of t | Waters of the U.S. Data Sheet | a Sheet | (| | | | |
|--|--------------|----------------|---|-----------------------|-----------------|---------------------------|--|---------------------------------|--|---------------------|---|---|------|
| t: I - 19 | HI C | of 2. | | | | | | Feature ID: | H 7:0 | | | Stream Order: 3 | |
| Date: 4-17-20 | 000 | | | | State: MC | 10 | | Photos: | 2552 | -255 | 2 | | |
| Crew: MBS/CC | 9 | | | | County: | MONTBOLEX | BALEX- | Last Flag Number: | Number: | ZAY | 20 | | |
| Feature Hydrologic Class (check one): | rologi | c Class (c | heck one) | | | | | | | | | | |
| Jepil. | | | Per | Perennial | | | Intermittent | (| | | Ephemeral | ral | |
| TNW (Subject to ebb and flow) | o ebb £ | O | TNW – Perennial (Flowing year round | rennial /ear round | (I | O RPW | RPW – Seasonal (must flow at least 3 months a | (must O | Non-RPV Non-RPV | / draini | Non-RPW draining uplands Non-RPW erosional feature | | |
| | | 0 | RPW - Perennial | rennial | | year) | | | Non-RPV | / with a | Non-RPW with abutting wetland | land | |
| | | 2 | (Flowing year round | /ear round | 1) | | | 0 | Non-RPV | / with a | Non-RPW with adjacent wetland | land | |
| Describe rational for hydrologic class: | | FLOWAR R | RAPIDY | NULL | Cred . | | nwshistrat | 0 | Non-RPW wetland adj (outside of study area) | / wetlar | id adjacent area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hydrologic Connectivity - | ivity – | Upstream: | ream: 31 | PIPE | | Dow | Downstream: 2 | -IC (Humas | 1 | djacent | Adjacent/Abutting: | NIA | |
| Feature Description: (check all that apply) | criptic | on: (check | c all that a | (Vlda | | | | | Eranch) | | | | |
| Sh | ape (w | vith respe- | Shape (with respect to OHW) | N N | | | | Substrate | | | Vegetat | Vegetation Cover Type (ABSS) | (SS) |
| Natural Channel Shape | Shape | | Width: 5 | it-s | | | Silts | X Sands | | Muck | RB: | | |
| Artificial (man-made) | nade) | | Depth: | 2 4 | | | Cobbles | X Gravel | | Other: | 194 | 202/24 (2 | |
| Manipulated (man-altered) | an-alte | red) | Bank Erosion/stabi | sion/stabi | lity: | | 5 | | | | <u>د</u> | | |
| her: | | | MON | MOREIAN | | Side slope: | ope: | 1 1 2 2:1 | 3:1 1 4:1 | | LB: Ho | LB: Horizon | |
| Notes: 58 I.7 | 042. | | | | | | | | | | | こうとうう | |
| Weather/Precipitation Conditions: | cipitat | ion Cond | itions: | | | | | | | | | | |
| | In | Inches of | | | | | Mo | Monthly Drought Condition | t Condition | - | M | Month. HAVIA Var. 7519 | DIG |
| During Field Visit | Las | Last Week | the tail in | way to the | Steve Acres Mar | A DUPORT OF ALL | 1 . O | INCUC REGIONAL FUSI | ICUT IN | de vala | UAVI. | | 012 |
| No rain | | 0-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ó Light rain | 0 | 0.5-1 | -6 | -5 | 4 | ъ. | -2 | -1,份 0 | 1 | 5 | 3 | 4 5 | 6 |
| O Heavy Rain | 0 | >1 | Sev | Severe Drought | ght | Moderate | Moderate Drought | Normal | ıal | Mode | Moderately Wet | Severely Wet | |
| Non-tidal tributary has: (<i>check all that apply; include photos for each & list photo #</i>) | outary | has: (che | ck all that | apply; in | iclude ph | otos for ea | ch & list ph | oto #) | | | | | |
| Bed and Banks | | | | | | | Ordinary 1 | Ordinary High Water Mark | lark | | | | |
| X Yes | X | Clear, na | Clear, natural line impressed | mpressed | on the bank | ink 🛛 | Sedimen | Sediment deposition | | × Sec | Sediment sorting | ng | |
| No | \mathbb{X} | Changes | Changes in the character of soil | acter of s | oil | | Water staining | aining | | Scour | ur | | |
| | X | Shelving | | | | | Presence | Presence of flood litter/debris | /debris | 90) X | served/pred | Observed/predicted flow events | |
| | X | Vegetatic | Vegetation matted down, bent, or absent | down, ben | it, or abse | ent | Destruct | Destruction of terrestrial veg. | al veg. | Ab | upt change | Abrupt change in plant community | |
| | | Leaf litte. | Leaf litter disturbed | | | | Presence | Presence of wrack line | | Other: | er: | | |
| Tidal tributary has: (check all that apply; includ | y has: | check a | ll that app | ly; includ | e photos | for each & | e photos for each & list photo #) | () | | | | | ſ |
| 11: | hi i hi | High Fide Line | | _ | Atean II | igh Water | Atean Migh Water Mark Indicated by: | rated by: | | 5 | emical Cha | Chemical Characteristics | |
| Oil or scum line along shore objects | along s | hore objec | cts | | Survey | Survey to available datum | e datum | | Water | Water is clear | | | |
| Fine shell or debris deposits (foreshore) | is depo | osits (fore: | shore) | | Physica | Physical markings | | | Water | Water is discolored | lored | | |
| Physical markings/characteristics | s/char | acteristics | | | Vegetat | ion lines/cl | Vegetation lines/changes in types | pes | Oily film | E | | | T |
| Tidal gauges | | | | _ | | | | | Other: | | | | |
| Notes: | | | | | | | | | | | | | |

| Project: T-495/I-270 MANNAGED | D LANES STUD | No. | | Feature ID: | D: 2 1 | | Strea | Stream Order: 3 | |
|---|--|---------------------------------------|--------------------------|---------------------------------|---------------------------|---|--------------------------|--|----------|
| 00 | 1 | AM : | | Photos: | 2559- | 2560 | | | |
| Crew: MUSS/STF | Cour | County: MONTHANKER | ノノンジーと | Last Flag | Last Flag Number: | 2ASL | ~~ | | |
| Feature Hydrologic Class (check one): | ıe): | | | | | | | | |
| d lebil. | Perennial | 11 11 | Intermittent | | | | Ephemeral | al | |
| (Subject to ebb and | - Perennial | C RPW | RPW - Seasonal (must | must C | Non-RP | Non-RPW draining uplands | uplands | | |
| (flowing (Flowing | (Flowing year round) | (flow a | flow at least 3 months a | iths a | Non-RP | Non-RPW erosional feature | l feature | | |
| (Flowing | KPW – Perennial Flowing year round) | year) | | 94 | Non-RP | Non-RPW with abutting wetland | Itting wetla | pu | |
| | 19 | | 2 | | _ | ine IIIM M | | | |
| for hydrologic class: Fig D INNEXT LAND | ANGA | キャッチ | キーショーキ | <u> </u> | | Non-KPW wetland ad (outside of study area) | adjacent oi ea) | Non-KPW wetland adjacent or abutting upstream (outside of study area) | cam |
| | O' PIPE (JULYER | 1 | Downstream: 2 | J | 1 | Adjacent/Abutting: | butting: A | AAL | |
| Feature Description: (check all that apply) | t apply) (218 | 6 | NL) | humas Bro | Branch) | | | | |
| Shape (with respect to OHW) | (WH | | | Substrate | | - | Vegetatic | Vegetation Cover Type (MBSS) | (ABSS) |
| Natural Channel Shape Width: | 1-1 | X | Silts | X Sands | | Muck R | RB: / | | |
| | 2-64 | | Cobbles . | X Gravel | X | [| T | POLEVON | ~ |
| ulated (man-altered) | Bank Erosion/stability: | | Bedrock | | te | | | | |
| | Stace | Side slo | Side slope: X ≥1:1 | N.P.II |]3:1 □ ≤ | ≤4:1 L | LB: HORN | and hered | |
| Notes: WEST of I. I. T. T. M. O. T 495 | INTER | CHANDE ON O | outchloof | トーイ い | 95 | | a) - | 50200 | |
| Weather/Precipitation Conditions: | | | 1. S. C. C. | | | | | | |
| Inches of | | | Mont | hly Droug | Monthly Drought Condition | u | , i | - HILVII | 0080 |
| During Rield Visit Tast Week | a second the offer many of | And the second second | N. | NCDC Regional PDSI | nal PDSI | other with the | IOIM | MORIN: MANA YEAR: 2018 | Car dulo |
| | C | 0 | | | | C | | | |
| O Lieht rain O 0.5-1 -6 | بہ C 4 | <u>ب</u> (| 70 | -1,45 0 | >- | 24 |) m | 0 4 (√ √ | e C |
| in O >1 | Severe Drought | Moderate Drought | Drought | Normal | nal | Moderately Wet | ely Wet | Severely Wet | |
| Non-tidal tributary has: (check all that apply; in | hat apply; include | clude photos for each & list photo #) | ch & list pho | to #) | | | | | |
| Bed and Banks | |) | Ordinary High Water Mark | gh Water | Mark | | | | |
| 📈 Yes 🛛 🔀 Clear, natur al line impressed | | on the bank | Sediment deposition | deposition | | X Sedin | Sediment sorting | 50 | |
| No Changes in the character of soil | haracter of soil | X | Water staining | ning | | Scour | | | |
| Shelving | | X | Presence o | Presence of flood litter/debris | :r/debris | X Obser | rved/predic | Observed/predicted flow events | |
| Vegetation matted down, ben | ed down, bent, or a | t, or absent | Destruction | Destruction of terrestrial veg. | rial veg. | Abru | ot change i | Abrupt change in plant community | nity |
| Leaf litter disturbed | | X | Presence of wrack line | of wrack lin | e | Other: | | | |
| Tidal tributary has: (check all that apply; | includ | e photos for each & list photo #) | list photo #) | | | | | | |
| High Fide Line | Atcau | Atean High Water Mark indicated by: | Mark Indica | ted by: | | Chen | Chemical Characteristics | acteristics | |
| Oil or scum line along shore objects | | Survey to available datum | datum | | Water | Water is clear | | | |
| Fine shell or debris deposits (foreshore) | Phys | Physical markings | | | Water | Water is discolored | red | | |
| Physical markings/characteristics | L Veg | Vegetation lines/changes in types | anges in type | S | Oily film | ilm | | | |
| Tidal gauges | _ | | | | Other: | | | | |
| Notes: | | | | | | | | | |

Waters of the U.S. Data Sheet

| Project: T-UGS/L | W QEZ- | MANNERTY LANES | NO BOX | | | Feature ID: | e ID: 214 | | Stre | Stream Order: 2 | Γ |
|--|----------------------------|---|-------------------------------------|------------------|--------------------------|--------------------|---|--|-------------------------------|--|-----|
| Date: 4-19-7018 | | | State: MD | 0 | | Photos: | : 2561- | 2562 | | | |
| Crew: MBS/SJ4 | | | County: N | CENOY | Parloxy | Last H | Last Flag Number: | : 2ASI | B | | |
| Feature Hydrologic Class (check one): | logic Class (c | heck one): | | | | | | | | | |
| lebil. | | Perennial | | lut | Intermittent | | | | Ephemeral | eral | |
| TNW (Subject to ebb and | bb and | TNW - Perennial | \bigotimes | RPW- | RPW - Seasonal (must | must | O Non-RI | W draini | Non-RPW draining uplands | | |
| (flow) |) | (Flowing year round) |) (pu | flow at | flow at least 3 months a | nths a | O Non-RI | W erosic | Non-RPW erosional feature | | |
| | C | RPW - Perennial | | year) | | | O Non-RI | W with a | Non-RPW with abutting wetland | tland | |
| | 2 | (Flowing year round) | l (pu | | | | O Non-RI | W with a | Non-RPW with adjacent wetland | tland | |
| Describe rational h | MODENALL DUN | the fact | + 8HELISU | HLS. POST | TT KANYAU | Cnyt | O Non-RI foutside | Non-RPW wetland adj (outside of study area) | nd adjacent | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| | | am: 4' P(P) | 17 | Downstream: | ream: 21 | J | | Adjacent | Adiacent/Abutting: | AIA | Τ |
| Feature Description: (check all that apply) | ption: <i>(check</i> | (all that apply) | (HIC) | | i | Themas | (Kanch) | | 2 | | |
| Shap | Shape (with respect to OHW | ct to OHW) | | | | Substrate | ţe. | | Vegeta | Vegetation Cover Type (fdBSS) | 15 |
| Natural Channel Shape | ape | Width: - 2/ | | X | Silts | X Sands | ds | Muck | RB: | | |
| Artificial (man-made) | le) | Depth: 0.5"- | -1.5' | | Cobbles | X Gravel | X | Other: | - | tolecon | |
| Manipulated (man-altered) | altered) | Bank Erosion/stabili | bility: | | Bedrock | Cor | Concrete RAM | AUS TONE | 2 | | |
| Other: | | MUDERAFT | L L | Side slope: 🛛 | e: ⊠ ≥11 | \square | | 4:1 | LB: Hor | LB: Honday - | |
| Notes: WEST of E | BURDUCY | BUD. ON ON | outerlear | I-495 | S | | | | 1/1 | VODVOV | |
| Weather/Precipitation Conditions: | itation Cond | litions: | | | | | | | | | |
| | Inches of Rain Within | | | | Mon N | thly Dro CDC Re | Monthly Drought Condition NCDC Regional PDSI | ion | Mo | Month: MALLY Year: 2018 | 810 |
| During Field Visit | Last Week | BUTTLE - WANTER TO I | ALTERNATION PROCESSION | ridy and 1 | III V III VAD | strolo lu u | al contanes. | rude v prh | | | |
| - | 0-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 000 | 0 |
| O Light rain | 0.5-1 | -6 -5 | 4 | <u>ب</u> | -2 | -1.45 | 0 1 | 2 | 3 | | 9 |
| O Heavy Rain C | 1< 0 | Severe Drought | - | Moderate Drought | rought | z | Normal | Mode | Moderately Wet | Severely Wet | |
| Non-tidal tribut | ary has: (chi | Non-tidal tributary has: (check all that apply; include photos for each & list photo #) | include photos | s for each | & list pho | oto #) | | | | | |
| Red and Ranks | | | | 0 | Ordinary High Water Mark | igh Wate | er Alark | | | | |
| X Yes | 🗙 Clear, na | Clear, natural line impressed on the bank | ed on the bank | X | Sediment deposition | depositio | п | Se | Sediment sorting | ng | |
| No | Changes | Changes in the character of soi | ^r soil | X | Water staining | ining | | Sci | Scour | | |
| | Shelving | | | X | Presence | of flood l | Presence of flood litter/debris | 8 X | served/pred | Observed/predicted flow events | Τ |
| | Vegetati | Vegetation matted down, bent, | ent, or absent | | Destructio | on of terre | Destruction of terrestrial veg. | Ab | rupt change | Abrupt change in plant community | |
| Party of the second sec | Leaf litte | Leaf litter disturbed | | X | Presence of wrack line | of wrack | line | DH OH | Other: | | |
| Tidal tributary | has: (check a | Tidal tributary has: (check all that apply; include | ide photos for each & list photo #) | each & li. | st photo #) | | | | | | |
| Iliuli | Rich The Line | | Atean High Water Mark indicated by: | Water M | ark indic | ated by: | _ | CI | emical Chi | Chemical Characteristics | |
| Oil or scum line along shore objects | ng shore obje | cts | Survey to available datum | vailable d | atum | | Wat | Water is clear | | | |
| Fine shell or debris deposits (foreshore) | Jeposits (fore | shore) | Physical markings | arkings | | | Wat | Water is discolored | lored | | |
| Physical markings/characteristics | haracteristics | | Vegetation lines/changes in types | lines/char | iges in typ | es | Oily film | film | | | |
| Tidal gauges | | | | | | | Other: | Ľ | | | |
| Notes: | | | | | | | | | | | ٦ |

Waters of the U.S. Data Sheet

| Project: 1-495 Date: 4-18-20 | 12 | AN 022 | NARA CED | S | State: L | Waters of t | Waters of the U.S. Data Sheet | ta Sheet Feature ID: Photos: 25 | 110: 21 L | 13 | by, 446-4 | | |
|---|---------|----------------|---|--|-------------|---------------------------|--|---------------------------------------|----------------------|----------------|---|--|-----------|
| Crew: Mb5/SJ. | 4 | | | 0 | County: | County: MONTBENCIC | 100 | Last Fl | Last Flag Number: | 2F | +2615(| E side of highlacing | |
| Feature Hydrologic Class (check one): | rolog | c Class (c | heck one): | | | | | | | | | | |
| Jepi.I. | | _ | Perennial | mial | | -1 | Intermittent | J | | | Ephemeral | eral | |
| TNW (Subject to ebb and flow) | o ebb | O | TNW – Perennial (Flowing vear round) | nnial ar round) | | O RPW | RPW – Seasonal (must flow at least 3 months a | (must onths a | O Non-RF | W dr | Non-RPW draining uplands | | |
| 6 | | Ø | RPW – Perennial | nnial | | year) | | | Non-RF | W M | Non-RPW with abutting wetland | land | |
| | | 2 | (Flowing year round) | ar round) | | | | | O Non-RF | W M | Non-RPW with adjacent wetland | land | |
| Describe rational WATEN FROMMER | WATER . | CSTICATION | and randra | \$ 770 | 1 | するまで | A | | O Non-RF (outside | W we of stu | Non-RPW wetland adjacent (outside of study area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hydrologic Connectivity - | ivity - | | 18: | PIPE CU | ULUNT | | Downstream: | CIC | | Adjac | Adjacent/Abutting: ∧ | AD | |
| Feature Description: (check all that apply) | criptic | n: (check | s all that app | (y) | | | | Themas | Evanch) | | | | |
| Sh | ape (v | vith respe | Shape (with respect to OHW) | | | | | Substrate | | | Vegetal | Vegetation Cover Type (51BSS) | |
| Natural Channel Shape | Shape | | Width: 4- | 19- | | X | Silts | X Sands | S | Muck | R | | |
| Artificial (man-made) | nade) | | Depth: / - | 8 H | | X | Cobbles | X Gravel | X | Other: | | tout to to on the . | |
| Manipulated (man-altered) | an-alte | red) | Bank Erosion/stabi | on/stabilit | lity: | | gr | Conc | rete K | V.A. | | | |
| her: | | C I LI ICAN | | W. | - | Side slope: | ope: | 2:1 | ×3:1 [] | 1:51 | LB: Hal | that the design in the | |
| INDIES. WEST OF | | | DUND. ON | 556 | 697 | ホートノ | $\overline{\mathcal{V}}$ | | | | | | a |
| Weather/Precipitation Conditions: | cipital | tion Cond | itions: | | | | | | | | | | |
| | n U | Inches of | | | | | Mo | Monthly Drought Condition | ght Conditi | uo | M | Month: WAUH Van. 2218 | |
| During Field Visit | Las | Last Week | tates was | AL DALLE D | And Albert | In the D. other | LINIA DI AL | INCUC REGIONAL FUSI | ICUT INDI | v atras | TALE . | HILL PULLE I CAL | |
| No rain | | 0-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 | Ľ | 0 | 0 0 0 | 1 |
| O Light rain | 0 | 0.5-1 | -6 | -5 | 4 | -3 | -2 | -1.45 | 0 1 | | 2 3 | 4 5 6 | |
| O Heavy Rain | 0 | >1 | Sever | Severe Drought | t | Moderate Drought | Drought | No | Normal | W | Moderately Wet | Severely Wet | \square |
| Non-tidal tributary has: (<i>check all that apply; in</i> | butary | has: (che | sck all that a | pply; incl | Inde pho | otos for eau | clude photos for each & list photo #) | oto #) | | | | | |
| Bed and Banks | | | | | | | Ordinary | Ordinary digh Water Mark | Alark | | | | |
| V Yes | X | Clear, na | Clear, natural line impressed | | on the bank | R K | Sedimen | Sediment deposition | | X | Sediment sorting | ng | |
| No | | Changes | Changes in the character of soil | ter of soi | _ | A | Water staining | aining | | | Scour | | |
| | | Shelving | | | | X | Presence | Presence of flood litter/debris | er/debris | Ă | Observed/pred | Observed/predicted flow events | |
| | | Vegetatic | Vegetation matted down, bent, or absent | wn, bent, | or absei | ut | Destruct | Destruction of terrestrial veg. | trial veg. | | Abrupt change | Abrupt change in plant community | П |
| | | Leaf litte | Leaf litter disturbed | | | | Presence | Presence of wrack line | ne | | Other: | | -1 |
| Tidal tributary has: (check all that apply; include photos for each & list photo #) | ry has | : (check a | Il that apply; | include | photos J | or each & | list photo a | () | | | | | 1 |
| 111 | Id In | High This Line | | Ч. – – – – – – – – – – – – – – – – – – – | tean ili | eh Water | Atean High Water Mark indicated by: | cated by: | | | Chemical Characteristics | uracteristics | |
| Oil or scum line along shore objects | along s | hore object | cts | | Survey t | Survey to available datum | datum | | Wate | Water is clear | ear | | |
| Fine shell or debris deposits (foreshore) | is dep | osits (fore: | shore) | | Physical | Physical markings | | | Wate | r is di | Water is discolored | | Т |
| Physical markings/characteristics | s/char | acteristics | | | Vegetati | on lines/ch | Vegetation lines/changes in types | pes | Oily film | film | | | - |
| Tidal gauges | | | | | | | | | Other: | :: | | | |
| Notes: | | | | | | | | | | | | | _ |

| Project: H-495/H-28 Prever | 1-28 | ときし | | LEVEN " | TPLS | | Featu | Feature ID: 2 | 5 | St | Stream Order: | or: 2 |
|---|-----------------------------|-----------------------|----------------------------------|---------------|--------------------------------------|--------------------------|------------------------|---------------------------------|--|---|---------------|-------------------------------|
| 1 | | | | State: | an | | Photos: | S: 256 | 1 | | | 4 |
| Crew: Mbs/s17 | | | | County: | County: Mennantevict | -Lever | Last] | Last Flag Number: | er: 2 | (certaline | (ma) | |
| Feature Hydrologic Class (check one): | gic Class (| check one | :() | | | | | | | | ~ | |
| India. | | Pc | Perennial | | 1 | Intermittent | 1 | | | Ephemeral | neral | |
| TNW (Subject to ebb and | and D | TNW - Perennial | erennial | | RPW | RPW - Seasonal (must | (must | O Non- | RPW dra | Non-RPW draining uplands | S | |
| (flow) | | (Flowing | (Flowing year round) | 1) | (flow 8 | flow at least 3 months a | onths a | O Non- | RPW ero | Non-RPW erosional feature | e | |
| | C | RPW – Perennial | erennial | 4 | year) | | | -uon | RPW wit | Non-RPW with abutting wetland | etland | |
| |) | (Flowing | (Flowing year round | 1) | | | | | RPW wit | Non-RPW with adjacent wetland | etland | |
| Describe rational fus for hydrologic class: | FLOWING S | SWITTY | FT | KG | | ALD INISTIMU | And w | O Non- (outs | Non-RPW wetland adj (outside of study area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | ıt or abuttin | g upstream |
| Hydrologic Connectivity - | | Upstream: 2 | , PiPC | | Down | Downstream: | 210 | | Adjaco | Adjacent/Abutting: NA | ま2: | |
| Feature Description: <i>(check all that apply)</i> | ion: (chec. | k all that a | (k)ddt | | | (Th | Thomas Branch | (honer) | | | | |
| Shape | Shape (with respect to OHW) | set to OH | (M) | | | | Substrate | ıte | | Veget | ation Cove | Vegetation Cover Type (F1B5S) |
| Natural Channel Shape |)e | Width: | 1-1-1 | | | Silts | Sa | Sands | Muck | RB: | | |
| Artificial (man-made) | 0 | Depth: | "2" | | | Cobbles | Gr | Gravel | Other: | 4 | terter | |
| Manipulated (man-altered) | tered) | Bank Er | Bank Erosion/stabi | lity: | | Bedrock | X | Concrete | |) | 2000 | 7 |
| Other: | | SHALL | SUE | | Side slope: | ope: ⊠≥111 | 1 🛛 🖓 🖬 | |]_4:1 | LB:4 | LB: Hendery | |
| Notes: INTEST OF BILL | BUADULY R | BUD. FN | SB | Jagna | PIT-495 | 10 | | | | | 733- | 26 |
| Weather/Precipitation Conditions: | ation Cond | litions: | | | | | | | | | | |
| | Inches of | | | | | Moi | nthly Dre | Monthly Drought Condition | lition | | | - |
| | Rain Within | | | | | | VCDC R | NCDC Regional PDSI | IS | M | Ionth: MA | Month: MMUH Year: 2018 |
| During Field Visit La | Last Week | References of | a to a the state | flora a tra | transferrated | 11111111111 | ru dolom | ead contains | values. | a fuje | | |
| No rain | 0-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O Light rain O | 0.5-1 | -9 | -5 | 4 | -3 | -2 | -1, 45 | 0 | 5 | m | 4 | 5 6 |
| O Heavy Rain O | - | Se | Severe Drought | ght | Moderate Drought | Drought | ~ | Normal | Mo | Moderately Wet | | Severely Wet |
| Non-tidal tributary has: (check all that apply; include photos for each & list photo #) | y has: (ch | eck all the | nt apply; in | iclude ph | otos for eac | ch & list ph | oto #) | | | | | |
| Bed and Banks | | | | | | Ordinary High Water Mark | ligh Wat | er Mark | | | | |
| X Yes | Clear, n | atural line | Clear, natural line impressed | on the bank | unk 🗌 | Sedimen | Sediment deposition | on | | Sediment sorting | ting | |
| No No | Changes | in the cha | Changes in the character of soil | oil | X | Water staining | aining | | | Scour | | |
| |] Shelving | - | | | | Presence | of flood | Presence of flood litter/debris | X | Observed/predicted flow events | edicted flov | / events |
| | Vegetati | on matted | Vegetation matted down, ben | it, or absent | int | Destructi | ion of ten | Destruction of terrestrial veg. | | Abrupt change in plant community | ge in plant o | community |
| | Leaf litte | Leaf litter disturbed | p | | | Presence | Presence of wrack line | line | | Other: | | |
| Tidal tributary has: (check all that apply; includ | s: (check a | ill that ap | oly; includ | e photos | e photos for each & list photo #) | list photo # | f) | | | | | |
| II IIII | High Tide Line | | | Atean II. | Atean Iligh Water Mark Indicated by: | Mark India | rated by: | | ļ | Chemical Characteristics | naracterist | ics |
| Oil or scum line along shore objects | shore obje | cts | | Survey | Survey to available datum | datum | | > | Water is clear | ar | | |
| Fine shell or debris deposits (foreshore) | posits (fore | shore) | | Physica | Physical markings | | | | Water is discolored | colored | | |
| Physical markings/characteristics | racteristics | | | Vegetat | Vegetation lines/changes in types | anges in tyl | pes | | Oily film | | | |
| Tidal gauges | | | | | | | | Ō | Other: | | | |
| Notes: | | | | | | | | | | | | |

Waters of the U.S. Data Sheet

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

| Project/Site: 1995/1270 Managed Lances S | study pollosda | Montennenz | 66 10 |
|--|----------------------------------|-------------------------------|----------------------|
| Project/Site: 1995/12 TO Pla hagen carnes of | City/County: | Sampling | Date: 0/2018 |
| Applicant/Owner: <u>SHA</u> | | State: MD Sampli | ng Point: <u>ZID</u> |
| Investigator(s): MBS/SL4 | Section, Township, Range: _ | | ſ |
| | Local relief (concave, convex, n | one): | Slope (%): |
| Subregion (LRR or MLRA): MLRA 140 Lat: 38-9989 | 35 Long: <u>-</u> | 17.157223 | Datum: NAD83 |
| Soil Map Unit Name: Baile Silf Joan 0 to 3 p | erect slopes | NWI classification: | PFO |
| Are climatic / hydrologic conditions on the site typical for this time o | f year? Yes No | (If no, explain in Remarks.) | / |
| Are Vegetation, Soil, or Hydrology signification | ntly disturbed? Are "Norm | al Circumstances" present? | Yes No |
| Are Vegetation, Soil, or Hydrology naturally | problematic? (If needed | , explain any answers in Rema | arks.) |

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

| Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No | Is the Sampled Area within a Wetland? Yes <u>No</u> |
|--|---|
| Remarks: Photos 881 - 1882 - | 5 |
| HYDROLOGY | |
| Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) |
| Surface Water (A1) True Aquatic Plants (High Water Table (A2) Hydrogen Sulfide Od | (B14) Sparsely Vegetated Concave Surface (B8) Jor (C1) Drainage Patterns (B10) res on Living Roots (C3) Moss Trim Lines (B16) d Iron (C4) Dry-Season Water Table (C2) on in Tilled Soils (C6) Crayfish Burrows (C8) C7) Saturation Visible on Aerial Imagery (C9) marks) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes |
| Remarks: | |
| | |

Sampling Point: 219

€ L.

* 1 de

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

| | Absolute Dominant Indicator | Dominance Test worksheet: |
|---|--|---|
| Tree Stratum (Plot size:) | % Cover Species? Status | Number of Dominant Species |
| 1. Acer rubrum | 90 Y FAC | That Are OBL, FACW, or FAC: (A) |
| 2 | | Total Number of Destingent |
| 3. | | Total Number of Dominant Species Across All Strata: |
| 4. | | |
| | | Percent of Dominant Species |
| 5 | | That Are OBL, FACW, or FAC: (A/B) |
| 0 | 90 = Total Cover | Prevalence Index worksheet: |
| 1./ | | Total % Cover of: Multiply by: |
| 50% of total cover: <u>45</u> | 20% of total cover: <u>16</u> | OBL species x 1 = |
| Sapling Stratum (Plot size:) | | FACW species x 2 = |
| 1N(A | | FAC species x 3 = |
| 2 | ······································ | FACU species x 4 = |
| 3. | | |
| 4 | | UPL species x 5 = (D) |
| 5 | | Column Totals: (A) (B) |
| | | Prevalence Index = B/A = |
| 6 | | |
| | = Total Cover | Hydrophytic Vegetation Indicators: |
| 50% of total cover: | 20% of total cover: | 1 - Rapid Test for Hydrophytic Vegetation |
| Shrub Stratum (Plot size:) | | ∑ 2 - Dominance Test is >50% |
| 1. Lindera benzoin | 5 Y FAC | 3 - Prevalence Index is ≤3.0 ¹ |
| 2 | | 4 - Morphological Adaptations ¹ (Provide supporting |
| 3. | | data in Remarks or on a separate sheet) |
| 4 | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 5 | | |
| 6 | | ¹ Indicators of hydric soil and wetland hydrology must |
| 0 | 5 = Total Cover | be present, unless disturbed or problematic. |
| | | Definitions of Five Vegetation Strata: |
| 50% of total cover: | 20% of total cover: | Tree – Woody plants, excluding woody vines, |
| Herb Stratum (Plot size:) | or N and | approximately 20 ft (6 m) or more in height and 3 in. |
| 1. Cinna avundinarea | as Y SACW | (7.6 cm) or larger in diameter at breast height (DBH). |
| 2. Boehmerig cylindrica | 0 N 05- | Sapling – Woody plants, excluding woody vines, |
| 3. Microsteenum vimineum | 5 N FAC | approximately 20 ft (6 m) or more in height and less |
| 4. Germ rangelense | 5 N FACU | than 3 in. (7.6 cm) DBH. |
| 5. Carev Sp. | 5 N - | Shrub – Woody plants, excluding woody vines, |
| 6. Fraxing spensylvanica | 15 Y FACW | 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 |
| 8 | | plants, except woody vines, less than approximately 3 |
| 9 | | ft (1 m) in height. |
| 10 | | Woody vine - All woody vines, regardless of height. |
| 11 | 15 | |
| | = Total Cover | |
| 50% of total cover: <u>33</u> | 20% of total cover: 15 | |
| Woody Vine Stratum (Plot size:) | r V val | |
| 1. Vitis FIDAVA | 5 T FACM | |
| 2 | | |
| 3. | | X- |
| 4. | | |
| 5. | | |
| 0 | 5 = Total Cover | Hydrophytic |
| 0.7 | | Vegetation Present? Yes No |
| 50% of total cover: | 20% of total cover: | |
| Remarks: (Include photo numbers here or on a separate s | heet.) | |

Sampling Point: 21P

| (inches) Color (moist) % Color (moist) % Type ¹ Loc ² Texture Remain of the second seco | atrix. ic Hydric Soils ³ : RA 147) A16) Soils (F19) Irface (TF12) |
|---|---|
| Image: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix Image: Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix Image: Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix Image: Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix Image: Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix Image: Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix Image: Type: C=Concentration, D=Depletion, RM=Reduced Matrix (S1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147, 148) Histic Cay Dark Surface (S7) 2 cm Muck (A10) (MLRA 147, 148) 2 cm Muck (A10) (MLRA 147, 148) Histic Cay Depleted Matrix (F2) Pledmont Floodplain S (MLRA 136, 147) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F7) 0 Other (Explain in Rem 0 Other (Explain in Rem Thick Dark Surface (A11) Depleted Dark Surface (F13) (MLRA 136, 122) 3 In | ri c Hydric Soils³: RA 147) A16) Soils (F19) Irface (TF12) |
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| Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must | |
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| Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must | c vegetation and |
| | |
| Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or prot | |
| Restrictive Layer (if observed): | , |
| Туре: | |
| Depth (inches): Hydric Soil Present? Yes | V No |
| Remarks: | |
| x | |
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| | weuland | | Function-Value Evaluation Form | |
|--|--------------------|--|---|--|
| Total area of wetland <u>0.02 at </u> Human made? | Is wetland | Is wetland part of a wildlife corridor?_ | r^2 or a "habitat island"? | Wetland I.D. 21P I arinde 28 3333 I onoinde - 77.1372 |
| Adjacent land use REALDENMAN | | Distance to nearest | Distance to nearest roadway or other development 100 l | Prepared by: W6/44 Date 6-20-18 |
| Dominant wetland systems present | | Contiguous undev | Contiguous undeveloped buffer zone present | Wetland Impact: Type FFO Area 0.02 ACA |
| is the wetland a separate hydraulic system? | D If not, | where does the wetland] | If not, where does the wetland lie in the drainage basin? MUDP UE | Evaluation based on: |
| How many tributaries contribute to the wetland? | M | Wildlife & vegetation diver | & vegetation diversity/abundance (see attached list) | Office Field Corps manual wetland delineation |
| Function/Value | Suitability Y N | Rationale (Reference #)* | Principal Function(s)/Value(s) | completed? Y NComments |
| Groundwater Recharge/Discharge | 7 | | | |
| Floodflow Alteration | | | | |
| Fish and Shellfish Habitat | > | | | |
| V Sediment/Toxicant Retention | > | | | |
| Nutrient Removal | | | | |
| Production Export | 7 | | | |
| Sediment/Shoreline Stabilization | > | | | |
| 🗠 Wildlife Habitat | 2 | | | |
| 🕂 Recreation | \geq | | | |
| Educational/Scientific Value | > | | | |
| 🜟 Uniqueness/Heritage | 7 | | | |
| Visual Quality/Aesthetics | 1 | | | |
| ES Endangered Species Habitat | | | | |
| Other | | | | |
| Votes: | | | * Refer to ba | * Refer to backup list of numbered considerations. |

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

| Project/Site: 1495/I-270 Managed Lancs City/County: Mon | Sampling Date: 7/11/18 |
|--|--|
| Applicant/Owner: | State: MD Sampling Point: 21 Q - WET |
| Investigator(s): KIR, CAS Section, Township, Range: | |
| Landform (hillslope, terrace, etc.): HIVALL Local relief (concave, convex, n | none): CONVEX Slope (%): 2% |
| Subregion (LRR or (MLRA): 148 Lat: 38.99824700 Long: - | 77.15714396 Datum: WC584 |
| Soil Map Unit Name: Baile Silt loam, 0 to 3 percent slopes | NWI classification: PF6 |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes $_$ No $_$ | _ (If no, explain in Remarks.) |
| Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Norm | nal Circumstances" present? Yes 🗹 No |
| Are Vegetation, Soil, or Hydrology naturally problematic? (If needed | , explain any answers in Remarks.) |
| SUMMARY OF FINDINGS – Attach site map showing sampling point locat | ions, transects, important features, etc. |
| Hydrophytic Vegetation Present? Yes No | / |
| Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Hydric Soil Present? Yes / No within a Wetland? | Yes No |
| Wetland Hydrology Present? Yes No | |
| Remarks: | |
| | |
| | |
| Photos 3114-311 | 5 |
| | |
| 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) True Aquatic Plants (B14) | Sparsely Vegetated Concave Surface (B8) |
| High Water Table (A2) Hydrogen Sulfide Odor (C1) | Drainage Patterns (B10) |
| Saturation (A3) Oxidized Rhizospheres on Living Roots (C3 | a war a start and a start of the start of th |
| Water Marks (B1) Presence of Reduced Iron (C4) | Dry-Season Water Table (C2) |
| Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) | Crayfish Burrows (C8) |
| Drift Deposits (B3) Thin Muck Surface (C7) | Saturation Visible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) Other (Explain in Remarks) Iron Deposits (B5) | Stunted or Stressed Plants (D1) |
| Inundation Visible on Aerial Imagery (B7) | Shallow Aquitard (D3) |
| Water-Stained Leaves (B9) | Microtopographic Relief (D4) |
| Aquatic Fauna (B13) | FAC-Neutral Test (D5) |
| Field Observations: | |
| Surface Water Present? Yes No 🔀 Depth (inches): | |
| Water Table Present? Yes No 🔀 Depth (inches): | / |
| | I Hydrology Present? Yes No |
| (includes capillary fringe) | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a | vallable: |
| Demarke | |
| Remarks: | |
| oe "∦elf a la sa sa s | 10 July 10 Jul |
| | |
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| | |

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

Sampling Point: 21 Q - WET

4 1

3

| | Absolute | Dominant | Indicator | Dominance Test worksheet: |
|--|-----------------|--------------|-----------|---|
| Tree Stratum (Plot size: 23) | % Cover | Species? | Status | Number of Dominant Species |
| 1. VIMUS americana | 50 | <u> </u> | FACW | That Are OBL, FACW, or FAC: (A) |
| 2. Aler rubrum | 20 | <u>Y</u> | FAC. | Total Number of Dominant |
| 3. Fraxinus pennsylvanica | S | N | FACW | Species Across All Strata: |
| 4. Taxodium distichum | 5 | N | OBL | Barrier Constant Desider 10.007 |
| 5 | | | | Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B) |
| 6. | | | | |
| | 80 | = Total Co | ver | Prevalence Index worksheet: |
| 50% of total cover: | | | | Total % Cover of:Multiply by: |
| | 20% 01 | total cover | | OBL species x 1 = |
| Sapling Stratum (Plot size: 23) | | | | FACW species x 2 = |
| 1. Nonl | | | | FAC species x 3 = |
| 2 | | | - | FACU species x 4 = |
| 3 | | - | | UPL species x 5 = |
| 4 | | | | Column Totals: (A) (B) |
| 5 | | | | |
| 6. | | | | Prevalence Index = B/A = |
| | | = Total Co | ver | Hydrophytic Vegetation Indicators: |
| 50% of total cover: | | | | /1 - Rapid Test for Hydrophytic Vegetation |
| | 20% 01 | total cover | · | ∠ 2 - Dominance Test is >50% |
| Shrub Stratum (Plot size: 20.) | 20 | Y | FAC | 3 - Prevalence Index is ≤3.0 ¹ |
| 1. Lindera benzoin' | ov | | - | |
| 2. VIMUS americana | 10 | <u> </u> | FACW | 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) |
| 3 | 4) | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 4 | | | | |
| 5 | | | | Indicators of builds call and until and builded builded any mount |
| 6. | | | | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| | 40 | = Total Co | ver | Definitions of Five Vegetation Strata: |
| 50% of total cover: 20 | | | ~ | Demittons of the vegetation Strata. |
| | 20% 01 | total cover | | Tree - Woody plants, excluding woody vines, |
| Herb Stratum (Plot size: (0)) | 90 | \checkmark | OBL | approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). |
| 1. Savrying cerning | | N | _ | (7.6 cm) of larger in diameter at breast height (DBH). |
| 2. Symplocarpus foctions | 20 | | OBL | Sapling – Woody plants, excluding woody vines, |
| 3. Toxicodendron radicans | 5 | N | FAC | approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. |
| 4. Alliana petiokta | 2 | N | FACU | |
| 5 | | | | Shrub – Woody plants, excluding woody vines, |
| 6. | | | | approximately 3 to 20 ft (1 to 6 m) in height. |
| 7. | | | | Herb - All herbaceous (non-woody) plants, including |
| 8. | | | | herbaceous vines, regardless of size, and woody |
| 9. | | | | plants, except woody vines, less than approximately 3 ft (1 m) in height. |
| 10. | | | | it (1 m) in neight. |
| | | | | Woody vine - All woody vines, regardless of height. |
| 11 | 112 | = Total Co | | |
| CD | | | | |
| 50% of total cover: S& | <u>ゝ</u> 20% of | total cover | 21.1 | |
| Woody Vine Stratum (Plot size: 20') | ~ | N | To 11 | |
| Woody Vine Stratum (Plot size: 20') 1. Par thenocissus quinquefolia | L | 11 | FACU | 2 |
| 2. | | ÷ | | |
| 3. | | | | |
| 4. | | | | |
| 5 | | | | |
| J | 7 | = Total Co | | Hydrophytic / |
| | | | | Vegetation Present? Yes No |
| 50% of total cover:I | 20% of | total cover | | |
| Remarks: (Include photo numbers here or on a separate s | | 5a | | |
| Buttvessed trees w | ith | 1 W | effance | A |
| | · • · · / · | - B 6 | | |

US Army Corps of Engineers

Eastern Mountains and Piedmont - Version 2.0

1 ...

Sampling Point: 212-WET

| Profile Des | cription: (Describe t | o the dep | th needed to docu | ment the i | ndicator | or confirm | the absence | of indicators.) | |
|--|--|--|----------------------------|--------------------------|---|-------------------------|-------------|--|--|
| Depth (inches) | Matrix Color (moist) | % | Redo Color (moist) | ox Feature: % | S Type ¹ | Loc ² | Texture | Rem | arke |
| $\left(\bigcirc - \right)$ | 757R4/2 | TOA | | /0 | | | C 11+ | Kein | |
| 2-6 | 754R412 | 70 | 75/4/6 | 20 | | $\overline{\mathbf{M}}$ | 011+ | a | |
| 6-9 | JENP 4/1 | CA | J SYR HIL | 40 | C | M | 1 | (a) | |
| OF IL | TIDTA VI | 80 | 7548 5K | 20 | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | | č . | |
| 1-14 | IUIN J/2 | 80 | 7.JIN 76 | ~U | | 14 | | 2 | |
| | | | | | | | | 8. | |
| | 2 | | | | | | · | | |
| | | <u> </u> | | · | | <u> </u> | | (- | |
| | | <u>10</u> | | | | | | 4 <u></u> | |
| | | | | | - | | | | |
| | a ar state mart states a | 10 10 10 10 10 10 10 10 10 10 10 10 10 1 | the of pulling of the book | | | | | P | |
| ¹ Type: C=C Hydric Soil | oncentration, D=Depl | etion, RM= | Reduced Matrix, M | S=Masked | Sand Gr | ains. | | L=Pore Lining, M=N ators for Problema | |
| Histoso | | | Dark Surface | e (S7) | | | | cm Muck (A10) (ML | - |
| and a second sec | pipedon (A2) | | Polyvalue Be | | ce (S8) (N | ILRA 147, | | oast Prairie Redox | - and the second se |
| | istic (A3) | | Thin Dark Su | | | 47, 148) | | (MLRA 147, 148) | |
| | en Sulfide (A4) d Layers (A5) | | Loamy Gleye | ~ 2011 - 여행인가 관련하는 것이 가지 | F2) | | P | iedmont Floodplain (MLRA 136, 147) | Soils (F19) |
| | uck (A10) (LRR N) | | Redox Dark | | 6) | | v | ery Shallow Dark Si | urface (TF12) |
| | d Below Dark Surface | (A11) | Depleted Da | | | | 0 | ther (Explain in Rer | narks) |
| | ark Surface (A12) Mucky Mineral (S1) (L | | Redox Depre | | | | | | |
| 21 Aug 21 | A 147, 148) | AA N, | MLRA 13 | | 35 (F12) (| LKK N, | | | |
| Sandy C | Gleyed Matrix (S4) | | Umbric Surfa | ace (F13) (| | | | icators of hydrophyt | |
| 1970 | Redox (S5) | | Piedmont Flo | | | | | tland hydrology mus | |
| | d Matrix (S6) Layer (if observed): | | Red Parent | viateriai (F | | A 127, 147 | | ess disturbed or pro | obiematic. |
| Type: | , (| | 70 | | | | | | / |
| Depth (in | ches): | | | | | | Hydric Soil | Present? Yes | No |
| Remarks: | | | | | | | | | |
| = 7 | | | | | 4 | 2.5 | | | |
| 1 | lot savnp hav | led. | NON - INI | rasid | 1. | ltdore | 5 | | |
| | has | A | not be | eren | Set 6 | rt | | | |
| | | | | | | | | | |
| | | | ydric bu | 500 | on | MG | 3 44 | diology | |
| #San | rpled 11/7 | 118 | | | | | | | |
| | 9 0 1 1 | 110 | | | | | | | x |
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ter to backup list of numbered consider

Notes:

| | 4 1 1 1 1 | N JAR Q Cal Par | In Cause | 1201 | | THAT THE | L'uture ID. | ~ 1 | | on calli Ol act. |
|--|---------------------------------------|---|-------------------|---------------------------|-------------------------------------|-----------|---|-----------------------|--|--|
| Date: 7/11/18 | | | State: | MD | and the second second | Photos: | os: 311 | 9 | | |
| Crew: Kott CA | (5 | | County: | Mo, | Balance Agentication | Last | Last Flag Number: | 12 | R-3A3 | 8 |
| Feature Hyd | Feature Hydrologic Class (check one): | (check one): | | | | | | | | |
| Tidal | | Perennial | I | | Intermittent | | | | Eph | Ephemeral |
| TNW (Subject to ebb and | o ebb and | TNW – Perennial | lı | C) RPW | RPW - Seasonal (must | (must | °N () | n-RPW d | | ds |
| (flow) |) (| (Flowing year round) | (punc |) (Ilow | flow at least 3 months a | onths a | v N | Non-RPW erosional | rosional feature | ure |
| | \bigcirc |) RPW – Perennial (Flowing vear round) | u und) | year) | | | ž ž DC | n-RPW w | Non-RPW with adutting wetland Non-RPW with adiacent wetland | vetland |
| Describe rational for hydrologic class: | No Flow | ~ during | Sitz | vis: t | | | ν ^ο Ο | n-RPW w tside of s | Non-RPW wetland adjac (outside of study area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) |
| Hydrologic Connectivity - | | Upstream: Uplands | 92 g | Dow | Downstream: Z | +11+ | | Adja | Adjacent/Abutting: | S: NONE |
| Feature Des | cription: <i>(che</i> | Feature Description: (check all that apply) | | | | | | | | |
| Sh | Shape (with respect to OHW) | pect to OHW) | | - | | Substrate | ate | | Veg | Vegetation Cover Type (MBSS) |
| Natural Channel Shape | Shape | Width: 3 ~ | 18 | | Silts | S | Sands | Muck | R | Forst |
| Artificial (man-made) | nade) | Depth: 4 - 8 | 0 | | Cobbles | U X | Gravel | Other: | ij | |
| Manipulated (man-altered) | an-altered) | 0 | tability: | | Bedrock | | Incret | [| | |
| her: | | Sever | 60 | _ | Side slope: X 21. | | 1 0:1 | | LB: | torest |
| Noies: Erery :solo | a created | row It's m | gult cons | e | d reinage | PIP | .5.d | | _ | |
| Weather/Pre | Weather/Precipitation Conditions: | nditions: | | | | | | | | |
| | Inches of Pain Within | | | | Mo | ACDC B | Monthly Drought Condition NCDC Regional PDS1 | ndition | | Month: June Year: 2018 |
| During Field Visit | Last Week | http://www.nede.noaa.gov/tenny-and-precin/climatological-rankings/index.php | ede.noaa.go | v/temp-ar | d-precin/eli | matolog | ical-rank | ings/inde | ada.v | |
| No rain | 0-0.5 | - | 0 | 0 | 0 | 0 | 0 | 0 | | 0 0 |
| D Light rain | O 0.5-1 | -6 -5 | -4 | -9 | -2 | - | 0 | 1 | 2 3 | 4 5 |
| Heavy Rain | O >1 | Severe Drought | rought | Moderat | Moderate Drought | | Normal | V | Moderately Wet | et Severely Wet |
| Non-tidal tri | butary has: (c | Non-tidal tributary has: (<i>check all that apply; inch</i> | v; include pl | iotos for e | ude photos for each & list photo #) | oto #) | | | | |
| Bed and Banks | | | | | Ordinary High Water Mark | High W: | nter Mark | | | |
| Yes | Clear, | Clear, natural line impressed on the bank | ssed on the b | ank | Sediment deposition | t deposit | tion | | Sediment sorting | orting |
| No | Chang | Changes in the character of soil | of soil | | Water staining | aining | | X | Scour | |
| | Shelving | ng | | - | X Presence | of flood | Presence of flood litter/debris | ris | Observed/ | Observed/predicted flow events |
| | A Vegeta | Vegetation matted down, bent, | , bent, or absent | ent | Destruct | ion of te | Destruction of terrestrial veg. | <u></u> | Abrupt cha | Abrupt change in plant community |
| | X Leaf li | Leaf litter disturbed | | | X Presence of wrack line | : of wrac | k line | | Other: | |
| Tidal tributa | ry has: (chech | Tidal tributary has: (check all that apply; include | | for each | photos for each & list photo #) | (H) | | | | |
| H | High Tide Line | | Mean F | ligh Wate | Ican High Water Mark indicated by: | cated by | | | Chemical | Chemical Characteristics |
| Oil or scum line along shore objects | along shore of | jects | Survey | Survey to available datum | ole datum | | | Water is clear | clear | |
| Fine shell or debris deposits (foreshore) | ris deposits (fo | oreshore) | Physic | Physical markings | S | | | Water is | Water is discolored | |
| Physical markings/characteristics | gs/characteristi | ics | Vegeta | tion lines/ | Vegetation lines/changes in types | pes | | Oily film | | |
| | | | | | | | | | | |

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

| Project/Site: <u>I-495/I-273</u> Managed City/County: <u>Montgomeny</u> CO Sampling Date: <u>9/21/18</u> Applicant/Owner: <u>SHA</u> Lanef study State: <u>MD</u> Sampling Point: <u>ZIT-WE</u> 7 |
|--|
| State. Fro Sampling Point: |
| Investigator(s): K)H, SLY Section, Township, Range: |
| Landform (hillslope, terrace, etc.): TRALACE Local relief (concave, convex, none): CONVEX Slope (%): 0 |
| Subregion (LRR or (MLRA): 148 Lat: 38.999 13945 Long: -77.15715071 Datum: W65.84 |
| Soil Map Unit Name: BAILE SILT LOAM, O TO 3 PONCENT NWI classification: PEO |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) |
| Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes V No |
| Are Vegetation, Soil, or Hydrology naturally 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 No |
| Hydrophyde Vegetation Present? Yes <u>V</u> NO Is the Sampled Area Hydric Soil Present? Yes <u>V</u> NO within a Wetland? Yes <u>No</u> |
| Wetland Hydrology Present? Yes V No |
| Remarks: |
| photos 4238-4240 |
| seep wetland at base of hillslope. |
| 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) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) |
| High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) |
| Saturation (A3) |
| Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) |
| Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) |
| Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) |
| |
| L Iron Deposits (B5) |
| ljundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) |
| Water-Stained Leaves (B9) |
| Aquatic Fauna (B13) FAC-Neutral Test (D5) |
| Field Observations: |
| Surface Water Present? Yes No Depth (inches): |
| Water Table Present? Yes Vo Depth (inches): |
| Saturation Present? Yes Vo Depth (inches): O Wetland Hydrology Present? Yes Vo |
| (includes capillary fringe) |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: |
| Remarks: |
| |
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VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 21T-wet

| . / | Absolute | Dominant | Indicator | Dominance Test worksheet: |
|--|----------|--------------|------------|---|
| Tree Stratum (Plot size: 10 t L) | % Cover | Species? | Status | Number of Dominant Species |
| 1. Platamis occidentatis | 20 | Y | FACW | That Are OBL, FACW, or FAC: (A) |
| 2. Aver rubrum | 30 | Y | FAC | |
| | | | | Total Number of Dominant Species Across All Strata: (B) |
| 3 | | | | |
| 4 | | | | Percent of Dominant Species |
| 5 | | | | That Are OBL, FACW, or FAC: (A/B) |
| 6 | n | | | Prevalence Index worksheet: |
| | - | = Total Cov | | Total % Cover of: Multiply by: |
| 50% of total cover: | 20% of | total cover: | D | |
| Sapling Stratum (Plot size:) | | | | OBL species x 1 = |
| Environmental and a second | | | | FACW species x 2 = |
| 1 | | | | FAC species x 3 = |
| 2 | | | | FACU species x 4 = |
| 3 | | | | UPL species x 5 = |
| 4 | | | . <u> </u> | Column Totals: (A) (B) |
| 5 | | | | |
| 6. | | | | Prevalence Index = B/A = |
| | | - Total Car | | |
| | | = Total Cov | | Hydrophytic Vegetation Indicators: |
| 50% of total cover: | 20% of | total cover: | | 1 - Rapid Test for Hydrophytic Vegetation |
| Shrub Stratum (Plot size: NIA) | | | | 2 - Dominance Test is >50% |
| 1 | | | | 3 - Prevalence Index is ≤3.0 ¹ |
| 2 | | | | 4 - Morphological Adaptations ¹ (Provide supporting |
| | | | | data in Remarks or on a separate sheet) |
| 3 | | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 4 | 1. | | | |
| 5 | | | | ¹ Indicators of hydric soil and wetland hydrology must |
| 6 | | | 3 <u></u> | be present, unless disturbed or problematic. |
| | | = Total Cov | er | Definitions of Five Vegetation Strata: |
| 50% of total cover: | 20% of | total cover | | |
| | 207001 | total cover. | | Tree – Woody plants, excluding woody vines, |
| Herb Stratum (Plot size: 101 2) | 5 | 1 | FAL | approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). |
| 1. <u>Persicaria longiseta</u> | | <u> </u> | | |
| 2 Euonymus fortunei | | <u> </u> | FACU | Sapling – Woody plants, excluding woody vines, |
| | 2 | N | FACW | approximately 20 ft (6 m) or more in height and less |
| 4. DUMEY Crispus | 5 | Y | FAC | than 3 in. (7.6 cm) DBH. |
| 5. Microsteinm V. mincum | 5 | Y | FAC | Shrub – Woody plants, excluding woody vines, |
| | | | TU | approximately 3 to 20 ft (1 to 6 m) in height. |
| 6 | | | | |
| 7 | | | | Herb – All herbaceous (non-woody) plants, including |
| 8 | | | | herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 |
| 9. | | | | ft (1 m) in height. |
| 10. | | | | |
| | | | | Woody vine - All woody vines, regardless of height. |
| 11 | - 20 | | | |
| | | = Total Cov | | |
| 50% of total cover: | 20% of | total cover: | 6 | |
| Woody Vine Stratum (Plot size: NA) | | | | |
| 6b | | | | |
| | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | - | | Hydrophytic / |
| | | = Total Cov | er | Hydrophytic Vegetation |
| | | | | Present? Yes V No |
| 50% of total cover: | | total cover: | | |
| Remarks: (Include photo numbers here or on a separate s | heet.) | | | |
| | | | | |

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| Sampling | Point: | 2 | IT-wet |
|----------|--------|---|--------|
| | | | |

| Profile Des | cription: (Describe | to the dep | th needed to docun | nent the i | ndicator | or confirm | n the absence of indicators.) | |
|--|-------------------------|-------------|--------------------|-------------|---------------------------------|-----------------------|---|--------|
| Depth | Matrix | | Redox | Features | ; | | | |
| (inches) | Color (moist) | | Color (moist) | | Type ¹ | _Loc ² | Texture Remarks | |
| 0-6 | 2.5Y3/2 | 90 | 578314 | 10 | C | PL,M | clay | |
| | | | | | | | 0 | |
| 6-12 | 254411 | (00 | 5YRY/4 | 40 | 0 | PL,M | clay loam | |
| -19 | <u>1</u> /1 · · · · · · | ΨU | <u> </u> | _10_ | <u> </u> | | Long loan | |
| 13-21 | FY 511 | 60 | 542516 | 40 | C | PL.M | Siltyclan | |
| 15-01 | | (0) | 510-10 | 10 | ~ | 1-11. | Shingcoup | |
| | | | | <u> </u> | | | Ŭ | |
| | | | 1 <u></u> | | | · | 1 | |
| | | | | | | | | |
| | . 19 | | 3. | | | | | |
| | | - | | | | () | | |
| | | | | | | • | | |
| | oncentration, D=Dep | letion, RM= | Reduced Matrix, MS | =Masked | Sand Gr | ains. | ² Location: PL=Pore Lining, M=Matrix. | 1 |
| Hydric Soil | | | | | | | Indicators for Problematic Hydric So | oils': |
| Histoso | | | Dark Surface | | | | 2 cm Muck (A10) (MLRA 147) | |
| 2 | pipedon (A2) | | Polyvalue Bel | | | | | |
| | istic (A3) | | Thin Dark Su | St. 5 | | 147, 148) | (MLRA 147, 148) | |
| Hydrogen Sulfide (A4)/ Loamy Gleyed Matrix (F2) | | | | | Piedmont Floodplain Soils (F19) | | | |
| Stratified Layers (A5) Depleted Matrix (F3) | | | | | (MLRA 136, 147) | | | |
| Contraction and a second secon | uck (A10) (LRR N) | | V Redox Dark S | | | | Very Shallow Dark Surface (TF12) | |
| | d Below Dark Surface | e (A11) | Depleted Dar | | | | Other (Explain in Remarks) | |
| | ark Surface (A12) | | Redox Depre | | | | | |
| | Mucky Mineral (S1) (L | .RR N, | Iron-Mangane | | es (F12) (| LRR N, | | |
| | A 147, 148) | | MLRA 136 | 1. C | | | 3 | 2 |
| | Gleyed Matrix (S4) | | Umbric Surfa | . , . | | CONTRACTOR CONTRACTOR | ³ Indicators of hydrophytic vegetation | |
| | Redox (S5) | | Piedmont Flo | | | | | 6 |
| | d Matrix (S6) | | Red Parent M | aterial (F2 | | A 127, 147 | 7) unless disturbed or problematic. | |
| | Layer (if observed): | | | | | | | |
| Type: | choc): | | | | | | | |
| Depth (in | unes). | | | | | | Hydric Soil Present? Yes V No | _ |
| Remarks: | | | | | | | | |

Į,

| | 3 | Vetl | Wetland Fur | Iction- | Valu | Function-Value Evaluation Form | ation | Form | | |
|--|------------|--------------------|--------------------------|----------------|---------------|--|--------------------------|----------------|--|----|
| Total area of wetland 0.05 Acves Human made? No Is wetland part of a wildlife corridor? Ves or a "habitat island"? | ls | wetla | ıd part of a wil | dlife corridor | Y i | 🖒 or a "hab | itat island | | Wetland I.D. 2 (7 Latitude 38,994/ Longitude -77, 157/5 | ho |
| Adjacent land use For454, Roadway | 12 | | Distanc | to nearest r | roadway | Distance to nearest roadway or other development | opment | 60' | Prepared by: K>H Date 7/19/18 | |
| Dominant wetland systems present PFo | | | Contig | uous undeve | loped bı | Contiguous undeveloped buffer zone present 745 | m | 50 | Wetland Impact: TypeArea | |
| Is the wetland a separate hydraulic system? $N\sigma$ | - | Ifno | t, where does t | he wetland li | e in the | If not, where does the wetland lie in the drainage basin? Znd >rdrv | 2 and | Npac | Evaluation based on: | |
| How many tributaries contribute to the wetland? | 0 | | Wildlife & veg | station divers | ity/abur | ्रेर्रेश्वकर्ष्त & vegetation diversity/abundance (see attached list) | Stream attached list) | Rizarian | Office Field Corps manual wetland delineation | |
| 5 Function/Value | Suita Y | Suitability Y N | Rationale (Reference #)* | le nce #)* | Prine Fune | Principal Function(s)/Value(s) | ıe(s) | - ŭ | completed? Y N | |
| Groundwater Recharge/Discharge | × | | | | | | | | | |
| Floodflow Alteration | | × | | | | | | 8 | | |
| Fish and Shellfish Habitat | | × | | | | | | | | |
| Sediment/Toxicant Retention | × | | | | | | | | | |
| Anter Removal | × | | | | | | | | | |
| Production Export | | × | | | | | | | | |
| Sediment/Shoreline Stabilization | | × | | | | | | | | |
| 🕶 Wildlife Habitat | X | | | | | | | | | |
| A Recreation | | × | | | | | | | | |
| Educational/Scientific Value | | × | | | | | | | | |
| ★ Uniqueness/Heritage | | 4 | | | | | | | | |
| Visual Quality/Aesthetics | | × | | | | | | | | |
| ES Endangered Species Habitat | | | | | | | | | | |
| Other | | | | | | | | | | |
| Notes: | | | | | | | | * Refer to bac | * Refer to backup list of numbered considerations. | |

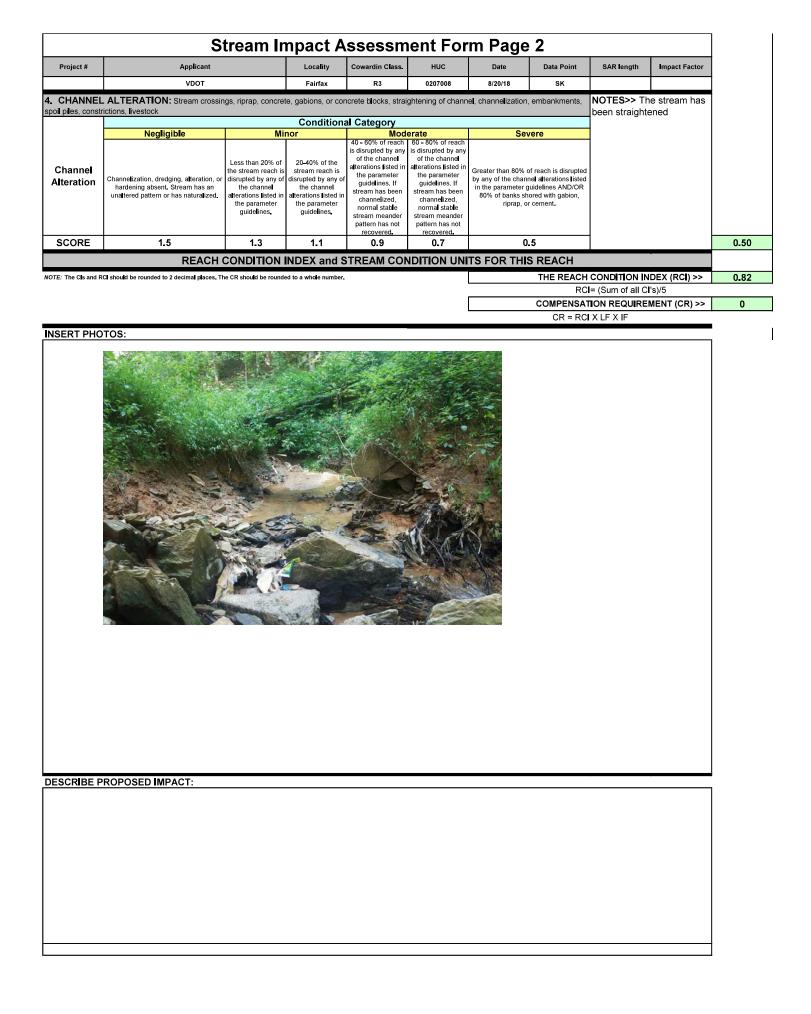
| | | | | | | | Waters of | Waters of the U.S. Data Sheet | ta Sheet | | | | | | | |
|------------|---|---------|----------------|---|----------------|---------------|---------------------------|------------------------------------|------------------------|---------------------------------|---|-------------------------|------------------|----------------------------------|--------------|-----------|
| Pr | Project: I-UG5/ | 2-II | 10F5 | Manase | ed Ca | . 5201 | Stud | 1 | Feat | Feature ID: | 512 | | Strea | Stream Order: | | |
| D | Date: 7/20/18 | | | | | State: | AW | and the second | Photos: | | 449-55 | 2 | | | | 1. N. |
| Ū | Crew: K>H, EG | | | | | County: | . No. | | Last | Last Flag Number: | mber: | 2111-40 | a/4b | ale la | 1. A. A. | 14 |
| | Feature Hydrologic Class (check one): | ologic. | c Class (c | heck one): | | | | | | | | x | | | | |
| | Tidal | | | Per | Perennial | | | Intermittent | ht | | | | Ephemeral | 'al | | |
| \bigcirc | TNW (Subject to ebb and | ebb a | \bigcirc | TNW – Perennial | rennial | F | C RPV | RPW – Seasonal (must | l (must | $\frac{z}{0}$ | Non-RPW draining uplands | draining u | Iplands | | | |
| | (MOIT | | 1 | RPW – Perennial | rennial | In | - vear) |) (- | 11 1 | | Non-RPW with abutting wetland | with abut | ting wetla | put | | |
| | | | $\mathbf{)}$ | (Flowing year round) | ear roun | (p | • | 1 1 , | | z O | Non-RPW with adjacent wetland | with adja | cent wetla | put | | |
| De | Describe rational for hydrologic class: | Flo. | her no | in Ju | 14.0. | 20 | Vain 3 | days | PUiJY | z 9 0 | Non-RPW wetland adjacent or abutting upstream (outside of study area) | wetland a study area | djacent o a) | r abutting | upstream | - |
| Hy | Hydrologic Connectivity - | vity – | | Upstream: CULVER | turt | | Dov | Downstream: | 218 | | Ad | Adjacent/Abutting: | | None | | |
| | Feature Description: (check all that apply) | riptio | n: (check | call that a | (A)de | | | A | | | | | | | | · |
| | Sha | ipe (w | ith respe | Shape (with respect to OHW) | ۲) (ک | | | | Substrate | rate | | _ | Vegetati | Vegetation Cover Type (MBSS) | Type (N | (SSII |
| | Natural Channel Shape | Shape | | Width: ^ | 5-15 | 1 | | Silts | X | Sands | Muck | | RB: FUNST | tor | | |
| | Artificial (man-made) | ade) | | Depth: | 3-6" | | | Cobbles | X | Gravel | X Other: | ier: | - | 1 | | |
| X | Manipulated (man-altered) | n-alter | red) | Bank Erosion/stability: | sion/stab | ility: | in the second | Bedrock | | Concrete | N'pura N | | ١ | 1 | | |
| | Other: | | | moderate | ite er | he: ser | | Side slope: Side Side | | 2:11 3:1 | 1 □ ≤4:1 | | LB: Forsy | 4.5 | | |
| No | Notes: | | | | | | | | | | | | | | | |
| | Weather/Precipitation Conditions: | ipitat | ion Cond | litions: | | | | | | | | | | | | |
| | | Inc | Inches of | | | | | M | onthly D. | rought C | Monthly Drought Condition | | ; | 1 | | 6 |
| ć | Total Visit | Rair | Rain Within | | a local states | | the second second | NCDC Regional PDSI | NCDC 1 | NCDC Regional PDSI | PDSI | and a sec | Mon | Month: dem | | Year: 20% |
| | | Lials | N CCN | W//-0111 | | | | | | | | | 0 | 0 | C | C |
| DC | I ight rain | DC | 0.5-1 | γC |) Y | P ⊂ | ٦° | л С | - C |) - |) - | D c |) ~ | D 4 C |) v | |
| 0 | Heavy Rain | 0 | - 1~ | | Severe Drought | | Modera | Moderate Drought | - | Normal | • | Moderately Wet | ly Wet | | Severely Wet | |
| | Non-tidal tributary has: (check all that apply; include photos for each & list photo #) | utary | has: (chu | eck all than | t apply; i | nclude p | hotos for e | ach & list p | hoto #) | | | | | | | |
| Re . | Bed and Banks | 1 | | | | | | Ordinary High Water Mark | High W | ater Mar | ik. | | | | | |
| \geq | Yes | | Clear, ni | Clear, natural line impressed | mpressed | d on the bank | ank | V Sedime | Sediment deposition | tion | | Sedim | Sediment sorting | ស្ត | | |
| | No | 9 | Changes | Changes in the character of soil | racter of | soil | | Water staining | taining | | | Scour | 4 | | | |
| | | 5 | Shelving | 20 | | | | Presence | e of floo | Presence of flood litter/debris | bris | Obser | ved/predi | Observed/predicted flow events | events | |
| | | > | Vegetati | Vegetation matted down, bent, or absent | down, be | int, or abs | sent | Destruc | tion of te | Destruction of terrestrial veg. | veg. | Abrup | t change | Abrupt change in plant community | ommunity | - |
| | | 1 | Leaf litte | Leaf litter disturbed | Ч | | | Presence | Presence of wrack line | ck line | | Other: | | | | |
| | Tidal tributary has: (check all that apply; include photos for each & list photo #) | y has | : (check a | all that app | ily; inclu | de photo. | s for each | & list photo | (# | | | | | | | |
| | 111g | th Tid | High Tide Line | | | Mean I | High Wate | Mean High Water Mark indicated by: | icated b | y: | | Chem | ical Cha | Chemical Characteristics | cs | |
| | Oil or scum line along shore objects | ulong s | shore obje | ects | | Survey | Survey to available datum | ble datum | | | Water is clear | s clear | | | | |
| | Fine shell or debris deposits (foreshore) | is dep | osits (for | eshore) | | Physic | Physical markings | gs | | | Water i | Water is discolored | ed | | | |
| | Physical markings/characteristics | s/char | acteristic | S | | Veget | ation lines. | Vegetation lines/changes in types | ypes | | Oily film | n | | | | |
| | Tidal gauges | | | | _ | | | | | | Other: | | | | | |
| No | Notes: | | | | | | | | | | | | | | | |

| | | | 1 | Vaters of th | Waters of the U.S. Data Sheet | a Sheet | 5 | 1.1.1 | | č | | Г |
|---|---------------------------------------|--|----------------|---------------------------|--|------------------|---------------------------------|---------------------|---|------------------|---|-----|
| ::] | 570 Managed | ised Lanes S. | tudy | | | Featu | | | 0011 | Strear | Stream Order: | - 1 |
| Date: 7/26/18 | | | State: | ND | States and | Photos: | 550 :S | ¥ | 2456 | | | T |
| Crew: KSH, ET | 1 | | County: | No. | a strange | Last] | Last Flag Number: | | 7017b | | | |
| Feature Hydr | Feature Hydrologic Class (check one): | check one): | | | | | | | | | | Г |
| Tidal | | Perennial | | - | Intermittent | | | | E | Ephemeral | | T |
| TNW (Subject to ebb and flow) | ebb and | TNW – Perennial (Flowing vear round) | (pt | RPW flow a | RPW – Seasonal (must flow at least 3 months a | (must inths a | C Non | -RPW d -RPW e | Non-RPW draining uplands Non-RPW erosional feature | lands eature | | |
| (| C | RPW – Perennial | | year) | | | O Non | -RPW w | Non-RPW with abutting wetland | ng wetlar | p | |
| |) | (Flowing year round) | (pu | | | | O Non | -RPW w | Non-RPW with adjacent wetland | int wetlar | Id | T |
| Jescribe rational Completed | Completel. Flowing | Flowing - 12/2 dry or 1/27-Howw | 118 " L' MAN | F vain v | week po | Ac:nd | O Non (out | -RPW w side of s | Non-RPW wetland adj (outside of study area) | acent or | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hydrologic Connectivity – | _ | Upstream: outside study | study Area | | Downstream: 2 | 212 | , | Adja | Adjacent/Abutting: | | None | |
| Feature Dese | ription: (chec | Feature Description: (check all that apply) | | | (11) | Themes ! | (HOURCH) | | | | | |
| Sha | Shape (with respect to OHW | ect to <u>OHW</u>) | | | | Substrate | ate | | V | egetatio | Vegetation Cover Type (MBSS) | |
| Natural Channel Shape | Shape | Width: 4-6' | | X | Silts | \times Sa | Sands | Muck | k RB: | Forest | 454 | |
| Artificial (man-made) | iade) | Depth: 3 · 6 " | | X | Cobbles | K Gr | Gravel | Other: | Ľ. | | 6 | |
| Manipulated (man-altered) | n-altered) | osion/st | bility: | | Bedrock | ° C | Concrete | | - | | 1 | |
| Other: | | moderate l | Rafinh | Side slope: | ope: 🖂 刘 🗐 | $1 \ge 2$ | □ <u></u> 3:1 | ∑ ≤4:11 | LB: | | torest | |
| Notes: | | | | | | | | | _ | | | |
| Weather/Prec | Weather/Precipitation Conditions: | ditions: | | | | | | | | | | 1 |
| | Inches of | | | | Moi | ithly Dr | Monthly Drought Condition | dition | | Mont | Manthe Marth Vanc 7.010 | - |
| During Field Visit | Last Week | http://www.nede | | v/temn-and | noba gov/temp-and-precip/climatological-rankings/index nhp | matologi | imatological-rankings | Jos/inde | սկս չ | | | |
| () No rain | O 0-0 5 | | | С | C | C | C | | | C | | 1 |
| | 0 0.5-1 | - |)4 | ې ب | -2 |) - |)0 | | 5 |) () | 5 | T |
| O Heavy Rain | >1 | Severe Drought | ught | Moderate | Moderate Drought | | Normal | V | Moderately Wet | / Wet | Severely Wet | |
| Non-tidal trib | outary has: (<i>cl</i> | Non-tidal tributary has: (check all that apply; in | include ph | otos for en | clude photos for each & list photo #) | oto #) | | | | | | 1 |
| , Bed and Banks | | | | | Ørdinary High Water Mark | Iigh Wa | ter Mark | | | | | - |
| V Yes | Clear, n | Clear, natural line impressed | ed on the bank | ank 🗸 | Sediment deposition | t depositi | on | 2 | Sedime | Sediment sorting | | |
| No | Change | Changes in the character of soil | Fsoil | | Water staining | aining | |) | Scour | | | 1 |
| | Shelving | 50 | | | ~ | of flood | Presence of flood litter/debris | S | Observe | cd/predict | Observed/predicted flow events | - |
| | Vegetat | Vegetation matted down, bent, or absent | ent, or abse | ent | Destruct | on of ter | Destruction of terrestrial veg. | | Abrupt | change ir | Abrupt change in plant community | 1 |
| | Leaf lit | Leaf litter disturbed | | > | | of wrac! | ¢ line | | Other: | | | |
| Tidal tributar | Y has: (check | Tidal tributary has: (check all that apply; includ | ude photos | for each & | e photos for each & list photo #) | († | | | | | | 1 |
| III | High Tide Line | | Mean H | ligh Water | Mean High Water Mark indicated by: | cated by | | | Chemie | al Chara | Chemical Characteristics | 1 |
| Oil or scum line along shore objects | ilong shore obj | ects | Survey | Survey to available datum | e datum | | | Water is clear | clear | | | |
| Fine shell or debris deposits (foreshore) | is deposits (for | reshore) | Physic | Physical markings | | | | Water is | Water is discolored | P | | T |
| Physical markings/characteristics | s/characteristic | S | Vegeta | tion lines/c | Vegetation lines/changes in types | pes | | Oily film | | | | |
| Tidal gauges | | | | | | | | Other: | | | | - |
| Notes: | | | | | | | | | | | | _ |

| Project: 1-496/270 Managed Lanes Study | anes Stud | y | | | | | Featu | Feature ID: 22AA | | Stre | Stream Order: | |
|--|-----------------|---------------------------|---|----------------|--|--|------------------|---|--|-------------------------------------|---|-----------------------|
| Date: 5/15/2018 | | | | State: | te: MD | | Photo | Photos: 2753-2754 | | | | |
| Crew: MBS/AGA | | | | Count | County: Montgomery | | Last] | Last Flag Number: None (LIDAR data) | r: None (LID, | AR data) | | |
| Feature Hydrologic Class (check one): | ologic | Class (ch | ieck one): | | | | | | | | | |
| Tidal | | | Perennial | ial | I | ntermittent | | | | Ephemeral | ral | |
| O TNW (Subject to ebb and flow) | ebb aı | \bigcirc | TNW – Perennial (Flowing year round) | iial round) | O RPW flow | RPW – Seasonal (must flow at least 3 months a | must nths a | O Non-R | <u>PW drai</u> | Non-RPW draining uplands | | |
| | | | RPW – Perennial | ial | year) | | 3 | O Non-R | PW with | Non-RPW with abutting wetland | and | |
| | | | (Flowing year round) | round) | | | | | <u>PW wit</u> | Non-RPW with adjacent wetland | land | |
| Describe rationalFlowing at time of site visit; wide channel;for hydrologic class:Cabin John Creek | Flowir Cabin | ig at time o John Cree | if site visit; wide k | echannel; ma | mapped on DNR/NWI GIS; part of | NWI GIS; par | t of | O Non-R (outsic | Non-RPW wetland adj (outside of study area) | and adjacent (ly area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | tream |
| Hydrologic Connectivity – | ity – | Upstre | Upstream: outside study area | area | Dowr | Downstream: outside study area | study area | | Adjace | Adjacent/Abutting: 22HH; 22DD; 22KK | 2HH; 22DD; 22KK | |
| Feature Description: <i>(check all that apply)</i> | iptio | n: <i>(check</i> | all that apply, | | | | | | | | | |
| Sha | pe (w | ith respec | Shape (with respect to <u>OHW</u>) | | | | Substrate | ate | | Vegetation | ion Cover Tyl | Cover Type (MBSS) |
| ✓ Natural Channel Shape | hape | | Width: 30' | | | Silts | V Sa | Sands | Muck | RB: forest | + | |
| Artificial (man-made) | ade) | | Depth: 10" | | | Cobbles | Gr | Gravel | Other: | | | |
| Manipulated (man-altered) | -alter | | Bank Erosion/stability: | /stability: | | Bedrock | Cc | Concrete | | | | |
| Other: | | 0) | Stable | | Side slope: | lope: $\Box \ge 1:1$ | 2:1 | ✓ 3:1 □ | ≤4:1 | LB: forest | st | |
| Notes: Cabin John Creek | Cree | < | | | | | | | | | | |
| Weather/Precipitation Conditions: | ipitati | ion Condi | itions: | | | | | | | | | |
| | Inc | Inches of | | | | Mon | thly Dr | Monthly Drought Condition | ition | | | |
| During Field Visit | Kain Las | Kain Within Last Week | http://www | .ncdc.noaa. | NCDC Regional PDSI http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php | N d-precip/clir | CDC R natolog | NCDC Regional PDSI imatological-rankings | l s/index. | | :01 | r ear: 2018 |
| O No rain | 0 | 0-0.5 | 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O Light rain | 0 | 0.5-1 | - 9- | -5 -4 | ς | -2 | -1 | 0 1 | 2 | 3 | 4 | 5 6 |
| O Heavy Rain | \odot | >1 | Severe | Severe Drought | Moderate | Moderate Drought | , . | Normal | Mo | Moderately Wet | Severe | Severely Wet |
| Non-tidal tributary has: (<i>check all that apply; include photos for each & list photo #</i>) | utary | has: (<i>che</i> | ck all that ap | oly; include | photos for ea | ich & list pho | <i>oto</i> #) | | | | | |
| Bed and Banks | | | | | | Ordinary High Water Mark | ligh Wa | ter Mark | | | | |
| V Yes | | Clear, nat | Clear, natural line impressed on | - | the bank 🛛 🔽 | | deposit | ion | | Sediment sorting | ng | |
| No | | Changes | Changes in the character of soil | er of soil | | Water staining | ining | | | Scour | | |
| | | Shelving | | | | | of flood | Presence of flood litter/debris | | <u> Observed/prec</u> | Observed/predicted flow events | nts |
| | > | Vegetatic | Vegetation matted down, bent, or | n, bent, or a | c absent | Destructi | on of ter | Destruction of terrestrial veg. | | <u>Abrupt change</u> | Abrupt change in plant community | nunity |
| | | Leaf litte | Leaf litter disturbed | | ~ | Presence of wrack line | of wracl | ς line | | Other: | | |
| Tidal tributary has: (check all that apply; include p | y has: | check a | ll that apply; I | include pho | hotos for each & list photo #) | k list photo # | (| | | | | |
| Hig | h Tid | High Tide Line | | Mea | Mean High Water Mark indicated by: | r Mark indic | sated by | • • | | Chemical Ch | Characteristics | |
| Oil or scum line along shore objects | long s | hore objec | cts | Surv | Survey to available datum | le datum | | ≥ | Water is clear | ear | | |
| Fine shell or debris deposits (foreshore) | s dep | osits (fore: | shore) | Phy. | Physical markings | S | | ≥ | Water is discolored | scolored | | |
| Physical markings/characteristics | :/chara | acteristics | | | egetation lines/changes in types | changes in tyl | pes | Ö | Oily film | | | |
| Tidal gauges | | | | | | | | Ot | Other: | | | |
| Notes: | | | | | | | | | | | | |

Waters of the U.S. Data Sheet

| | Stre | eam A | | | | - | n 1) | | | |
|--|---|--|---|--|---|--|---|---|---|------------|
| | | | | lethodology for nels classified as | | | | | | |
| Destant # | Desised Norma | | | Cowardin | | | 0.4D # | Impact/SAR | mpact | |
| Project # | Project Name | 9 | Locality | Class. | HUC | Date | SAR # | length | Factor | |
| | I-495 NEXT | | Fairfax | -sκ -R3 | 02070008 | 8/20/2018 | _зк_ 22 | ААА | | |
| | e(s) of Evaluator(s) , Laura Cooper, Kyle Haynes, Evan | | and Informa | | | | | | | |
| | Fowler, Emily Onufer | unnamed trit | butary to the H | Potomac Rive | ſ | | | | | |
| Channel C | ondition: Assess the cross-secti | on of the stream a | | lition (erosion, agg Conditional Categor | | | | | | |
| | Optimal | Subo | ptimal | Marc | | Pc | or | Sev | /ere | |
| | | 1 de | ~ | Often incised, but | ass than Savara or | Overwiden | adjincised | Истру полоси | S concerne (a), | |
| Channel Condition | Very little incision or active erosion; 80- 100% stable banks, Vegetative surface protection or natural rock, prominent (80-100%). AND/OR Stable point bars/bankful benches are present. Access to their original floodplain or fully developed wide bankful benches, Mid-channel bars, and transverse bars few. Transient sediment deposition covers less than 10% of bottom. | erosion or unprotect of banks are si Vegetative protect prominent (60- Depositional feat stability. The ban channels are well di has access to ba newly developed portions of the ri- sediment covers 10 | 80%) AND/OR ures contribute to hkfull and low flow efined. Stream likely nkfull benches, or floodplains along reach. Transient >40% of the stream | Poor. Banks more si Poor banks more si Poor due to low Erosion may be pre both banks, Vegetat 60% of banks, S bevertical or unde 60% of stream is cc Sediment may be t contribute instabili contribute to st forming/present. A channels have vege | table than Severe or rer bank slopes, asent on 40-60% of ive protection on 40 treambanks may rcut, AND/OR 40- overed by sediment, emporary/transient, ty. Deposition that ability, may be NND/OR V-shaped | Vertically/laterally widen further, Maj are near vertical. Er 80% of banks. Ve present on 20-405 insufficient to preve 60-80% of the strr sediment. S temporary/transic | unstable. Likely to ority of both banks osion present on 60 getative protection 6 of banks, and is nt erosion. AND/OR am is covered by Sediment is ant in nature, and ability. AND/OR V- have vegetative | incision, flow cor banks. Streamb rooting depth, r vertical/undercut. \ present on less that not preventing eroor sloughing present. on 80-100%, AN channel. Greater to bed is covered | stability. Severe ntained within the de below average najority of banks (/egetative protection na 20% of banks, is sion. Obvious bank Erosion/raw banks D/OR Aggrading han 80% of stream I by deposition, vability. Multiple | |
| | | | tom. | > 40% of the bank features which cor | s and depositiona htribute to stability | banks and stable se abs | diment deposition is ent. | thread channels a | nd/or subterranean w | CI |
| Score | 3 | 2 | .4 | 2 | 2 | 1. | 6 | | 1 | 1.6 |
| | Optimal | Cor | areas along the er Iditional Categ ptimal | ntire SAR. (rough g ory Març | ginal | Po | y be acceptab l e) or | NOTES>> Th this stream ha | is mature | |
| Riparian Buffers | | Cor Subo High Suboptimal: | ditional Cate | gory | Jinal Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with | - | | | as mature hificant and has an I understory | |
| Riparian | Optimal Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wetlands | Cor Subo High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained | timal Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% | Jinal Low Marginal: Non-maintained, dense herbaccous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree | Pc High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable | this stream ha trees with sigr canopy cover un-maintained | as mature hificant and has an I understory | |
| Riparian | Optimal Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wetlands | Cor Subo High Suboptimal: Riparian areas with tree stratum (dbh stratum and the tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 30% tree canopy cover and a maintained understory. Recent cutover (dense | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Jinal Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory. | Pc High Poor: Lawns, mowed, and maintained areas, nurseries; no-till crogland; actively grazed pasture, sparsely vegetated nor-maintained area, recently seeded and stabilized, or other comparable | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | this stream ha trees with sigr canopy cover un-maintained | as mature hificant and has an I understory | |
| Riparian Buffers Condition Scores Delineate ripa | Optimal Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wetlands located within the riparian areas. | Cor Subo High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. High 1.2 into Condition Cate or estimating leng | th and width. Cate | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover, High 0.85 | Jinal Low Marginal: Non-maintained, dense herbaccous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory. Low 0.75 the descriptors. | Pc High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated nor-maintained area, recently seeded and stabilized, or other comparable condition. High 0.6 | or Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. Low 0.5 he sums iparian | this stream ha trees with sigr canopy cover un-maintained | as mature hificant and has an I understory | |
| Riparian Buffers Condition Scores Delineate ripa Determine squ Enter the % R | Optimal Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wetlands located within the riparian areas. 1.5 rian areas along each stream bank uare footage for each by measuring tiparian Area and Score for each rip. % Riparian Area> 100% | Cor Subo High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. High 1.2 into Condition Cate or estimating leng | th and width. Cate | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover, High 0.85 | Jinal Low Marginal: Non-maintained, dense herbaccous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory. Low 0.75 the descriptors. | Pc High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated nor-maintained area, recently seeded and stabilized, or other comparable condition. High 0.6 Ensure t of % F | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. Low 0.5 he sums liparian qual 100 | this stream ha trees with sigr canopy cover un-maintained | as mature hificant and has an d understory se vegetation | |
| Riparian Buffers Condition Scores Delineate ripa Determine squ Enter the % R | Optimal Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wellands located within the riparian areas. 1.5 rian areas along each stream bank uare footage for each by measuring tiparian Area and Score for each riparian Areas % Riparian Areas 100% % Riparian Areas 100% | Cor Subo High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. High 1.2 into Condition Cate or estimating leng | th and width. Cate | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover, High 0.85 | Jinal Low Marginal: Non-maintained, dense herbaccous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory. Low 0.75 the descriptors. | Pc High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated nor-maintained area, recently seeded and stabilized, or other comparable condition. High 0.6 Ensure t of % F | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. Low 0.5 he sums liparian qual 100 | this stream ha trees with sign canopy cover un-maintained with very dens with very dens CI= (Sum % RA * S Rt Bank CI > | as mature hificant and has an d understory se vegetation cores*0.01)/2 1.10 | CI |
| Riparian Buffers Condition Scores Delineate ripa Determine squ Enter the % R Right Bank Left Bank | Optimal Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wellands located within the riparian areas. 1.5 rian areas along each stream bank uare footage for each by measuring tiparian Area and Score for each rip. % Riparian Area> 100% Score > % Riparian Area> 100% | Cor Subo | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 30% tree canopy cover and a maintained understory, Recent cutover (dense vegetation). Low 1.1 agories and Condi th and width. Calc he blocks below. | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. High 0.85 | jinal Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, if present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory. Low 0.75 the descriptors, ed for you below. | Pc High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated nor-maintained area, recently seeded and stabilized, or other comparable condition. High 0.6 Ensure t of % F Blocks e | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. Low 0.5 he sums iparian qual 100 100% | this stream ha trees with sign canopy cover un-maintained with very dens with very dens Cl= (Sum % RA * S Rt Bank Cl > Lt Bank Cl > NOTES>> Ha | as mature hificant and has an d understory se vegetation cores*0.01)/2 1.10 1.10 bitat | CI 1.10 |
| Riparian Buffers Condition Scores Delineate ripa Determine squ Enter the % R Right Bank Left Bank INSTREAM anks; root mats | Optimal Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wetlands located within the riparian areas. 1.5 1.5 rian areas along each stream bank uare footage for each by measuring liparian Area and Score for each ripu % Riparian Area 100% Score > 1.1 % Riparian Area> 100% Score > 1.1 % Riparian Area> 100% Score > 1.1 % Riparian Area> 100% Score > 1.1 | Cor Subo | Aditional Cates ptimal Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). Low 1.1 egories and Condit th and width. Cate blocks below. blocks below. Conditional | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. High 0.85 tion Scores using ulators are provide and leafy debris; : | jinal Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water, if present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory. Low 0.75 the descriptors. ed for you below. stable substrate; I | Pc High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated nor-maintained area, recently seeded and stabilized, or other comparate condition. High 0.6 Ensure t of % F Blocks e | Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. | this stream ha trees with sign canopy cover un-maintained with very dens with very dens Cl= (Sum % RA * S Rt Bank Cl > Lt Bank Cl > | as mature hificant and has an d understory se vegetation cores*0.01)/2 1.10 1.10 bitat marginal for | |
| Riparian Buffers Condition Scores Delineate ripa Determine squ Enter the % R Right Bank Left Bank | Optimal Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wellands located within the riparian areas. 1.5 rian areas along each stream bank uare footage for each by measuring tiparian Area and Score for each rip. % Riparian Area> 100% Score > % Riparian Area> 100% Score > | Cor Subo | Aditional Categorial Pitimal Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). Low 1.1 agories and Condit th and width. Cate blocks below. blocks below. Conditional ptimal ments are typically | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. High 0.85 tion Scores using ulators are provide | jinal Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory. Low 0.75 the descriptors. ed for you below. stable substrate; I ginal ments are typically of the reach and are | Pc High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated nor-maintained area, recently seeded and stabilized, or other comparate condition. High 0.6 Ensure t of % F Blocks e | Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. Low 0.5 he sums iparian qual 100 100% shade; undercut shade; undercut listed above are stable. Habitat ally present in less | this stream ha trees with sign canopy cover un-maintained with very dens with very dens Cl= (Sum % RA * S Rt Bank Cl > Lt Bank Cl > NOTES>> Ha elements are | as mature hificant and has an d understory se vegetation cores*0.01)/2 1.10 1.10 bitat marginal for | |



| Project: L- 496/ | T 230 | MANALI-ED LA | ANES STUDY | Waters of the U.S. Data Sheet | he U.S. Dat | a Sheet Featu | heet Feature ID: 2 | SB | Str | Stream Order: | |
|---|----------------|--|-----------------|-------------------------------------|---------------------------|---------------------|---------------------------------|---|-------------------------------|---|---|
| Date: 4-13-201 | | | State: | AN | | Photos: | SH22 :548 | -254 | 6 | | Γ |
| Crew: MSS/ST | 4 | | County: | MON | Frank | [Last] | Last Flag Number: | er: 3 / | contro (| (JAC) | |
| Feature Hydrologic Class (check one): | ologic Class | (check one): | | | | | | | | | 1 |
| lebi'l' | | Perennial | 1 | 1 | Intermittent | | | | Ephemeral | teral | |
| TNW (Subject to ebb and | ebb and | TNW – Perennial | al | RPW | RPW - Seasonal (must | (must | O Non- | RPW dra | Non-RPW draining uplands | | |
| (flow) |) | (Flowing year round) | (pund) | > flow : | flow at least 3 months a | onths a | O Non- | RPW ero | Non-RPW erosional feature | 0 | |
| | | RPW – Perennial | - | year) | | | O Non- | RPW wit | Non-RPW with abutting wetland | tland | |
| |) | - | | | | | O Non- | RPW wit | Non-RPW with adjacent wetland | stland | |
| for hydrologic class: LANDON | LANNON RUMAR | RIPLAN | CHANNELS CO | CONVENTION | P A A | Purs IS | O Non- (outs | Non-RPW wetland ad (outside of study area) | land adjacen ly area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hydrologic Connectivity - | | Upstream: 2 whowever | JULIA RIPHAR | - | Downstream: 2 | JC WRIAM | AL LINE | Adjace | Adjacent/Abutting: | AVA | |
| Feature Desci | ription: (che | Feature Description: (check all that apply) | CHANNEL | 2 | | | | | | | 1 |
| Sha | pe (with res | Shape (with respect to OHW) | | | | Substrate | ate | | Veget: | Vegetation Cover Type (MBSS) | |
| Natural Channel Shape | Shape | Width: 3' | | | Silts | Sa | Sands | Muck | RB: | | |
| Artificial (man-made) | ade) | Depth: 6 | | | Cobbles | G | Gravel | Other: | £ | INTERNATION | |
| Manipulated (man-altered) | n-altered) | Bank Erosion/stability: | tability: | | Bedrock | S | Concrete | RIPUAN | etc. | | |
| Other: | | STABL | 1) | Side slope: | ope: □ ≥1:1 | 1 🖂 2:1 | 3:1 |]_4:1 | TrB: | LB: Herland Front | |
| Notes: | | | | | | | | | = | ~~~~~ | |
| Weather/Precipitation Conditions: | ipitation Co | nditions: | | | | | | | | | 1 |
| | Inches of | | | | Mo | athly Dre | Monthly Drought Condition | lition | | | 1 |
| During Field Wisit | Rain Within | | | | | VCDC R | NCDC Regional PDSI | | W | Month: MULL Year: 2018 | 2 |
| | LIAST AVCCH | | | | | | 14111 | 11111 | - | | |
| O I inht rain | 0-0.5 | ру С Ру С | PAC | ٥٣ | л С | | | 0-0- | ° C | v C | 0 |
| | | Severe | | Moderate Drought | Drought | | Normal | Mo | derately | Severely Wet | |
| Non-tidal tribi | ntary has: (| Non-fidal tributary has: (check all that apply: inc) | o: include ph | ude nhotos for each & list nhoto #) | ch & list ph | | | | | | 1 |
| Bed and Ranks | | | | | Ordinary Iligh Water Mark | ligh Wa | ter Mark | | | | |
| V Yes | Clear. | Clear, natural line impressed on the bank | ised on the ba | ank | Sedimen | Sediment deposition | uo | | Sediment sorting | ting | |
| No | Chang | Changes in the character of soil | of soil | | Water staining | aining | | | Scour | | Γ |
| | Shelving | ng | | × |] Presence | of flood | Presence of flood litter/debris | | Observed/pre | Observed/predicted flow events | |
| | Vegeti | Vegetation matted down, bent, | bent, or absent | ent [| Destruct | ion of ten | Destruction of terrestrial veg. | | Abrupt chang | Abrupt change in plant community | |
| | Leaf li | Leaf litter disturbed | | | Presence of wrack line | of wrack | : line | | Other: | | |
| Tidal tributary | y has: (check | Tidal tributary has: (check all that apply; include | | photos for each & list photo #) | list photo # | () | | | | | |
| Icill | High The Line | | | tean Migh Water Mark Indicated by: | Mark indi | rated by: | _ | | Chemical Ch | Chemical Characteristics | |
| Oil or scum line along shore objects | ong shore of | ojects | Survey | Survey to available datum | e datum | | × | Water is clear | ar | | |
| Fine shell or debris deposits (foreshore) | s deposits (fo | oreshore) | Physica | Physical markings | | | > | Water is discolored | colored | | |
| Physical markings/characteristics | /characteristi | ics | Vegetat | Vegetation lines/changes in types | langes in ty | pes | | Oily film | | | |
| Tidal gauges | | | | | | | 0 | Other: | | | 1 |
| Notes: | | | | | | | | | | | ٦ |
| | | | | | | | | | | | |

| | | | | | | V | Waters of the U.S. Data Sheet | he U.S. Da | ta Sheet | | | | | | ſ |
|------------|---|---------|----------------------------|--------------------------------------|--|---------------|------------------------------------|--|------------------------|---------------------------------|---|----------------------|-------------------------------|---|------|
| Pr | Project: I-495 / | 062-I/ | | Managed | Lanes | 4 | study | | Feat | Feature ID: | 22-33 | | Strea | Stream Order: | |
| Da | Date: 6/15/18 | | | | | State: | am | | Photos: | 52 | 2-1462 | 2695 | | | |
| Ü | Crew: KJH SJF | | | | | County: | Mo. | Control and all | Last | Last Flag Number: | mber: | 1A | | | の語言 |
| | Feature Hydrologic Class (check one): | ologia | c Class (cl | heck one) | | | | | | | | | | | ſ |
| | Tidal | | | Pe | Perennial | | I | Intermittent | ١t | | | | Ephemeral | ral | |
| \bigcirc |) TNW (Subject to ebb and flow) | ebb a | \bigcirc | TNW – Perennial (Flowing vear rou | TNW – Perennial (Flowing vear round) | 4 | O RPW | RPW – Seasonal (must flow at least 3 months a | l (must onths a | ž ž | Non-RPW draining uplands Non-RPW erosional feature | draining | uplands feature | | |
| | (| | C | RPW – Perennial | srennial | 6 | year) | | | 1 | on-RPW | with abu | Non-RPW with abutting wetland | and | |
| | | | 2 | (Flowing | (Flowing year round) | 1) | | | | Ž O | on-RPW | with adja | Non-RPW with adjacent wetland | and | |
| De | Describe rational No Water for hydrologic class: weak be | No | | ter in b | Channel bank at | | up stream | (Voitra | 5 | z e O | Non-RPW wetland ad (outside of study area) | wetland study are | adjacent o :a) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hy | Hydrologic Connectivity – | vity - | Upstr | | | Lann | Dowr | Downstream: | 22-55 | . 1 | Ac | Adjacent/Abutting: | | None | |
| | Feature Description: (check all that apply) | riptio | n: (check | all that a | (v)dd. | | | | | | | | | | |
| | Sha | ipe (w | Shape (with respect to OHW | ct to OHN | | | | 1 | Substrate | rate | | | Vegetati | Vegetation Cover Type (MBSS) | () |
| | Natural Channel Shape | Shape | | Width: | 1- 1 | | 2 | Silts | S S | Sands | Mı | Muck F | RB: F | Farst | |
| | Artificial (man-made) | ade) | | Depth: | 11 - 0 | |) | Cobbles | 2 | Gravel | Ot | Other: | e. | | |
| \times | Manipulated (man-altered) | n-alter | red) | Bank Erc | ion/s | lity: | 0.00 | Bedrock | | Concrete | 8 | | | + | |
| | Other: | | | Minor | | erosion | Side slope: | ope: □ ≥1:1 | :1 🛛 2:1 | :1 3:1 | [| | LB: To | 1 5210 J | |
| No | Notes: sections | 40 | channel | | ~ Pallit | 1 dirbuit | | | ad lacey | t land | | ALANS | | | |
| | Weather/Precipitation Conditions: | ipitat | ion Cond | itions: | | | | | | | | | | | |
| | | In | Inches of | | | | | M | onthly D. | Monthly Drought Condition | ondition | | | | 0 |
| ć | | Rair | Rain Within | 1 | - | | | - / - · · · · · · · · · · | NCDC | NCDC Regional PDSI | PDSI | | Mor | Month: May Year: 2 | 2018 |
| | | C | Last week | V/:dnii | Interprise of the second secon | | | -brecib/c | | | | diid | C | _ | |
| DC | T ioht rain | | 0 5-1 | γC | ٦Ÿ | ₽ 7 | ٦°C |) c | - כ | | D |) (|) " | 4 0 2 2 2 | 0 |
| 0 | Heavy Rain | 0 | >1 | | Severe Drought | | Moderate | Moderate Drought | | Normal | | Moderately Wet | ely Wet | Sever | |
| | Non-tidal tributary has: (check all that apply; include photos for each & list photo #) | utary | has: (che | ck all the | tt apply; it. | nclude ph | totos for ea | ch & list p | hoto #) | | | | | | |
| | Bed and Banks | | | | | | | Ordinary High Water Mark | High W | ater Mar | 14- | | | | |
| \succ | Yes | | Clear, na | tural line | Clear, natural line impressed | l on the bank | ank | Sedime | Sediment deposition | tion | | Sedir | Sediment sorting | ß | |
| | No | | Changes | in the chi | Changes in the character of soil | soil | | Water staining | taining | | | X Scour | | | |
| | | | Shelving | | | | | Presence | e of floo | Presence of flood litter/debris | bris | □ Obse | rved/predi | Observed/predicted flow events | |
| | | × | Vegetati | on matted | Vegetation matted down, bent, or absent | nt, or abs | ent 🛛 | Destruc | tion of te | Destruction of terrestrial veg. | /eg. | Abru | ot change | Abrupt change in plant community | |
| | | X | Leaf litte | Leaf litter disturbed | p | | <i>•</i> | X Presenc | Presence of wrack line | ck line | | Other: | | | |
| | Tidal tributary has: (check all that apply; includ | y has | : (check a | Il that ap | ply; inclue | de photos | e photos for each & list photo #) | k list photo | (# | | | | | | |
| | Hig | th Tic | High Tide Line | | | Mean E | Mean High Water Mark indicated by: | · Mark inc | licated b | y: | | Chei | nical Cha | Chemical Characteristics | |
| | Oil or scum line along shore objects | long: | shore obje | cts | | Survey | Survey to available datum | le datum | | | Water | Water is clear | | | |
| | Fine shell or debris deposits (foreshore) | is dep | osits (fore | shore) | | Physic | Physical markings | | | | Water | Water is discolored | red | | |
| | Physical markings/characteristics | s/char | acteristics | | | Vegeta | Vegetation lines/changes in types | hanges in t | sypes | | Oily film | ш | | | |
| | Tidal gauges | | | | _ | | | | | | Other: | | | | T |
| No | Notes: | | | | | | | | | | | | | | ٦ |

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

| Project/Site: 1-495 Northern Express Lanes | _ City/County: Fairfax County | Samplin | g Date: <u>8/16/2018</u> |
|--|------------------------------------|-----------------------------|------------------------------------|
| Applicant/Owner: Virginia Department of Transportation | | | ling Point: DP-SP 22BBB |
| Investigator(s): <u>Scott Shifflett, Laura Cooper, Kyle Haynes, Evan Fowler, Emily Onufe</u> | 🥙 Section, Township, Range: | | |
| Landform (hillslope, terrace, etc.): <u>floodplain</u> I | Local relief (concave, convex, non | e): <u>concave</u> | Slope (%): |
| Subregion (LRR or MLRA): LLRS Lat: 38.961246° | Long: <u>-77.1</u> | 86870° | Datum: NAD83 |
| Soil Map Unit Name: <u>Glenelg silt loam, 25 to 45 percent slopes</u> | | NWI classification: PF | -0 |
| Are climatic / hydrologic conditions on the site typical for this time of | year? Yes No 🔀 (I | lf no, explain in Remarks.) | |
| Are Vegetation, Soil, or Hydrology significan | tly disturbed? Are "Normal | Circumstances" present? | Yes 🖌 No |
| Are Vegetation, Soil, or Hydrology naturally (| problematic? (If needed, ex | kplain any answers in Rem | narks.) |

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

| Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? | Yes <mark>√</mark> Yes <mark>√</mark> Yes <u>√</u> | No No No | Is the Sampled Area within a Wetland? | Yes No |
|---|--|----------------|---------------------------------------|--------|
| Remarks: | | | | |
| One of highest years of rainf | all on record. | | | |
| | | | | |
| | | | | |
| | | | | |

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) |
| | r (C1) Drainage Patterns (B10) s on Living Roots (C3) Moss Trim Lines (B16) lron (C4) Dry-Season Water Table (C2) in Tilled Soils (C6) Crayfish Burrows (C8) ') Saturation Visible on Aerial Imagery (C9) |
| Field Observations: | |
| Surface Water Present? Yes No _ ✓ Depth (inches): | _ |
| Water Table Present? Yes No 🖌 Depth (inches): | |
| Saturation Present? Yes <u>✓</u> No <u>Depth</u> (inches): <u>2"</u> (includes capillary fringe) | Wetland Hydrology Present? Yes <u>√</u> No |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previ | ous inspections), if available: |
| | |
| Remarks: | |

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

Sampling Point: DP-SP 22BBB

| | Absolute | Dominant | Indicator | Dominance Test worksheet: |
|---|----------|--------------|-----------|--|
| <u>Tree Stratum</u> (Plot size: <u>30 ft</u>) | | Species? | | Number of Dominant Species |
| 1. Acer rubrum | 45 | <u>Y</u> | FAC | That Are OBL, FACW, or FAC: 4 (A) |
| 2 Linodendron tulipifera | 5 | N | FACU | |
| 3 Fraxinus pennsylvanica | 5 | N | FACW | Total Number of Dominant Species Across All Strata: 4 (B) |
| | | | | Species Across All Strata. (B) |
| | | | | Percent of Dominant Species |
| 5 | | | | That Are OBL, FACW, or FAC: 100 (A/B) |
| 6 | | | | Prevalence Index worksheet: |
| | 55 | = Total Cov | er | |
| 50% of total cover: <u>27.5</u> | 20% of | total cover: | 11 | Total % Cover of: Multiply by: |
| Sapling Stratum (Plot size: 30 ft) | | | | OBL species $\frac{0}{10}$ x 1 = $\frac{0}{20}$ |
| 1 Fraxinus pennsylvanica | 35 | Y | FACW | FACW species <u>40</u> x 2 = <u>80</u> |
| | 5 | N | FAC | FAC species <u>140</u> x 3 = <u>420</u> |
| | | | 17.0 | FACU species <u>10</u> x 4 = <u>40</u> |
| 3 | | | | UPL species $5 \times 5 = 25$ |
| 4 | | | | Column Totals: 195 (A) 565 (B) |
| 5 | | | | |
| 6 | | | | Prevalence Index = $B/A = \frac{2.9}{1.9}$ |
| | 40 | = Total Cov | er | Hydrophytic Vegetation Indicators: |
| 50% (1) 1 20 | | | | 1 - Rapid Test for Hydrophytic Vegetation |
| 50% of total cover: <u>20</u> | 20% of | total cover: | 0 | \checkmark 2 - Dominance Test is >50% |
| Shrub Stratum (Plot size: <u>15 ft</u>) | | | | |
| 1. Lindera benzoin | 25 | Y | FAC | \checkmark 3 - Prevalence Index is ≤3.0 ¹ |
| 2 | | | | 4 - Morphological Adaptations ¹ (Provide supporting |
| 3 | | | | data in Remarks or on a separate sheet) |
| 4 | | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| | | | | |
| 5 | | | | ¹ Indicators of hydric soil and wetland hydrology must |
| 6 | ~ - | | | be present, unless disturbed or problematic. |
| | 25 | = Total Cov | er | Definitions of Five Vegetation Strata: |
| 50% of total cover: <u>12.5</u> | 20% of | total cover: | 5 | |
| Herb Stratum (Plot size: 5 ft) | | | | Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. |
| 1 Microstegium vimineum | 60 | Y | FAC | (7.6 cm) or larger in diameter at breast height (DBH). |
| 2 Ligustrum japonicum | 5 | N | UPL | |
| 3. Lonicera japonica | 5 | N | FACU | Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less |
| | 5 | <u>N</u> | | than 3 in. (7.6 cm) DBH. |
| 4. Acer rubrum | 5 | IN | FAC | |
| 5 | | | | Shrub – Woody plants, excluding woody vines, |
| 6 | | | | approximately 3 to 20 ft (1 to 6 m) in height. |
| 7 | | | | Herb – All herbaceous (non-woody) plants, including |
| 8 | | | | herbaceous vines, regardless of size, and woody |
| 9. | | | | plants, except woody vines, less than approximately 3 |
| | | | | ft (1 m) in height. |
| 10 | | | | Woody vine – All woody vines, regardless of height. |
| 11 | | | | |
| | 75 | = Total Cov | er | |
| 50% of total cover: <u>37.5</u> | 20% of | total cover: | 15 | |
| <u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>) | | | | |
| ▲ None | | | | |
| | | | | |
| 2 | | | | |
| J | | | | |
| 4 | | | | |
| 5 | | | | Hydrophytic |
| | 0 | = Total Cov | er | Vegetation |
| 50% of total cover: | 20% of | total cover | | Present? Yes / No |
| | | | | |
| Remarks: (Include photo numbers here or on a separate s | nee(.) | | | |

| Profile Desc | ription: (Describe | to the dep | oth needed to docu | ment the | indicator | or confirn | n the absence | e of indicators.) |
|---------------|--------------------------------------|------------|--------------------|-------------|-------------------|------------------|-----------------------------------|--|
| Depth | Matrix | | | x Feature | | 3 | | |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | Texture | Remarks |
| 0 - 12 | 10YR4/2 | 90% | 10YR6/6 | 10 | <u> </u> | <u>M</u> | SL | |
| | | | | | | | | |
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| | | | | | | | | |
| 1 T | | DM | =Reduced Matrix, M | C-Maaka | | | ² 1 a satismu 1 | PL=Pore Lining, M=Matrix. |
| Hydric Soil | | | -Reduced Matrix, M | 5-masked | u Sanu Gra | ams. | | cators for Problematic Hydric Soils ³ : |
| Histosol | | | Dark Surface | (97) | | | | 2 cm Muck (A10) (MLRA 147) |
| | oipedon (A2) | | Polyvalue Be | • • | (S8) /N | | | Coast Prairie Redox (A16) |
| Black Hi | • • • | | Thin Dark St | | | | , 140) | (MLRA 147, 148) |
| | n Sulfide (A4) | | Loamy Gleye | | , . | 41, 140, | | Piedmont Floodplain Soils (F19) |
| | Layers (A5) | | ✓ Depleted Ma | | (• =) | | | (MLRA 136, 147) |
| | ick (A10) (LRR N) | | Redox Dark | . , | -6) | | , | Very Shallow Dark Surface (TF12) |
| | Below Dark Surfac | e (A11) | Depleted Da | rk Surface | , (F7) | | | Other (Explain in Remarks) |
| Thick Da | ark Surface (A12) | | Redox Depre | essions (F | 8) | | | |
| Sandy N | lucky Minera l (S1) (I | LRR N, | Iron-Mangan | ese Mass | es (F12) (| LRR N, | | |
| MLRA | 147, 148) | | MLRA 13 | 6) | | | | |
| Sandy G | leyed Matrix (S4) | | Umbric Surfa | • • | • | | | dicators of hydrophytic vegetation and |
| | edox (S5) | | Piedmont Flo | - | | - | - | etland hydrology must be present, |
| | Matrix (S6) | | Red Parent I | Material (F | -21) (MLR | A 127, 14 | 7) u | nless disturbed or problematic. |
| Restrictive I | _ayer (if observed): | : | | | | | | |
| Туре: | | | | | | | | |
| Depth (ind | ches): | | | | | | Hydric So | il Present? Yes <u>√</u> No |
| Remarks: | | | | | | | 1 | |
| | | | | | | | | |
| | | | | | | | | |

| Project: 1-495 | 14 | 056- | MANAT | (trat) | ANSI | Waters of | Waters of the U.S. Data Sheet | ta Sheet Featu | heet Feature ID: | 322 | | Stream | Stream Order: | |
|--|-----------------|---------------|---|----------------|-------------|---------------------------|--|------------------------|---------------------------------|---------------------|---|-----------|---|---|
| Date: 4-13-24 | 010 | 5 | -7 | · · | State: MD | 9 | | Photos: | 0s: 75 | 46-2 | 547 | | | |
| Crew: MUSS/SUL | e | | | | County: | MONT | County: MONALON | 430.000 | Last Flag Number: | mber: | 3 (Cer | ALL P | (me) | |
| Feature Hydrologic Class (check one): | rologi | ic Class (c | heck one): | | | | | | | | 2 | | | |
| IchiT. | | | Per | Perennial | | | Intermittent | ſ | | | El | Ephemeral | | |
| C TNW (Subject to ebb and flow) | ebb ; | O | TNW - Perennial (Flowing year round) | rennial | 1) | RPW flow | RPW – Seasonal (must flow at least 3 months a | (must onths a | ž ž OC | on-RPW | Non-RPW draining uplands Non-RPW erosional feature | lands | | |
| ` | | C | RPW - Perennial | rennial | | year) | (| | ž O | on-RPW | Non-RPW with abutting wetland | ig wetlar | p | |
| | | 2 | (Flowing year round | ear round | (J | | | | | on-RPW | Non-RPW with adjacent wetland | nt wetlar | p | |
| for hydrologic class: IN | MANCH FINNIS | | ASTIGNICULARIA | THE | L L | RL QL- | they way | TIME OF | ze O | on-RPW utside of | Non-RPW wetland adj (outside of study area) | acent or | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hydrologic Connectivity - | vity - | | Upstream: 3' PIP | PIPE | | Dow | Downstream: 3 | , APE | | A (| Adjacent/Abutting: | ting: N | H. | |
| Feature Description: (check all that apply) | criptic | on: (check | all that ap | (k]dı | | | | | | | | | | |
| Sha | ape (v | vith respe- | Shape (with respect to OHW | 0 | | | | Substrate | ate | | 1 | rectation | Vegetation Cover Type (MBSS) | |
| Natural Channel Shape | Shape | | Width: 3 | 12 | | | Silts | Sa | Sands | W | Muck RB: | | | Γ |
| Artificial (man-made) | nade) | | Depth: 6 | MC | | | Cobbles | G | Gravel | Q V | er: | + | Charles and | |
| Manipulated (man-altered) | n-alte | red) | V | sion/stabi | lity: | | Bedrock | Ŭ | Concrete | RICK | A.P | - | | |
| Other: | | | STAB | R | | Side slope: | lope: □ ≥1:1 | 1 2.2.1 | 3:1 | □ ≤4:1 | LB: | | Halan n. | |
| Notes: | | | | | | | | , | | | | | フラショ | |
| Weather/Precipitation Conditions: | cipital | tion Cond | itions: | | | | | | | | | | | 1 |
| | ul U | Inches of | | | | | Mo | uthly Dr | Monthly Drought Condition | ondition | | Mont | Month: Ball | 0 |
| During Field Visit | Las | Last Week | HILLS W | in the dis | THE PART OF | V REPUBLICATION | 1 CUMAR | n at olo | matological fundances | ICU. | a table | | INTEL I CAL | 0 |
| No rain | 0 | 0-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 | |
| O Light rain | 0 | 0.5-1 | -9 | -5 | 4 | ч. | -2 | - | 0 | 1 | 2 | 3 | | |
| O Heavy Rain | 0 | >1 | Sevi | Severe Drought | ght | Moderat | Moderate Drought | | Normal | | Moderately Wet | Wet | Severely Wet | |
| Non-tidal tributary has: (<i>check all that apply; include photos for each & list photo #</i>) | utary | has: (che | ck all that | apply; in | clude ph | otos for ea | ich & list ph | 010 #) | | | | | | |
| Bed and Ranks | | | | | | | Ordinary High Water | ligh Wa | ter Mark | | | | | |
| X Yes | X | Clear, na | Clear, natural line impressed | | on the bank | ink D | Z Sedimen | Sediment deposition | ion | | Sediment sorting | t sorting | | |
| No | | Changes | Changes in the character of soil | acter of su | oil | ĻX | Water staining | aining | | | Scour | | | |
| | | Shelving | | | | | A Presence | of flood | Presence of flood litter/debris | oris | Observed | 1/predict | Observed/predicted flow events | |
| | X | Vegetatic | Vegetation matted down, bent, or absent | lown, ben | it, or abse | ut | Destruct | ion of ter | Destruction of terrestrial veg. | à. | Abrupt c | hange in | Abrupt change in plant community | T |
| | | Leaf litte | Leaf litter disturbed | | | | A Presence | Presence of wrack line | ¢ line | | Other: | | | |
| Tidal tributary has: (check all that apply; includ | y has | : (check a | ll that appl | v; includ | | for each & | e photos for each & list photo #) | () | | | | | | [|
| 111 | II I II | High The Line | | | Atean II | igh Water | Ntean High Water Mark indicated by: | rated by: | _ | | Chemica | I Chara | Chemical Characteristics | |
| Oil or scum line along shore objects | long s | thore object | cts | | Survey | Survey to available datum | e datum | | | Water is clear | s clear | | | Т |
| Fine shell or debris deposits (foreshore) | is dep | osits (fore: | shore) | | Physica | Physical markings | | | | Water i | Water is discolored | | | Т |
| Physical markings/characteristics | s/char | acteristics | | | Vegetat | ion lines/c | Vegetation lines/changes in types | pes | | Oily film | n | | | T |
| Tidal gauges | | | | | | | | | | Other: | | | | |
| Notes: | | | | | | | | | | | | | | |

| | Wa | Waters of the U.S. Data Sheet | nta Sheet | | | | |
|---|-------------------|--|---------------------------------|-------------------------|---|--|------------|
| - | Lonis S. | hold | Feature ID: | ID: 22 - | | Stream Order: | 1.1000 |
| Date: 6/15/19 | State: N | M.D. | Photos: | Photos: 2973- | Atoz | たた らて | 14100 1410 |
| Crew: KOH, SOF | County: MD. | No. | East Fla | Last Flag Number: | NA NN | 11 1000 10 100 100 100 100 100 100 100 | |
| Feature Hydrologic Class (check one): | | | | | | | |
| | Ie | Intermittent | ot | | Ep | Ephemeral | |
| \bigcirc TNW (Subject to ebb and \bigcirc TNW – Perennial | | RPW – Seasonal (must | | | Non-RPW draining uplands | ands | |
| (| ouna) | Ilow at least 5 months a | nonths a | _ | Non-KPW erosional feature | ature | |
| C KPW – Perennial | al Mind) | year) | 9 | Non-RPV | Non-RPW with abutting wetland | g wetland | |
| | 1 | M. serie | | IN IN INVI | | it wettand | |
| ss: 1-4" standing water | in populians | | ·) (• |) Non-KPV (outside d | Non-KPW wetland adja (outside of study area) | Non-KPW wetland adjacent or abutting upstream (outside of study area) | |
| Hydrologic Connectivity – Upstream: $R_{ip} t_{\omega_{f}} d$ | channe / | Downstream: | AQ.22 | A | Adjacent/Abutting: | ing: 22-BB, 23 | 11 |
| Feature Description: (check all that apply) | draining uple | curals | | | | | |
| Shape (with respect to OHW) | | | Substrate | | V | Vecetation Cover Type (MBSS) | 1358 |
| Natural Channel Shane Width: 7'- | (~ f | & Silts | X Sands | | Much BB. | t | lana |
| Depth: 1 | - | X Cohhles | A Gravel | | T | + 5 2 A C - 1 | |
| ered) | stability: | Bedrock | X Concrete |] | | | |
| | ute etasian | Side slope: X > | | <u> </u> 831 [V] ≪431 | II LB: | Forest | |
| Notes: Weak bed & bank just US | i D'S af | Seven Locks | cd. | 5 | (9247) | | |
| on Conditio | y incred | at uppercount | 1 | 8+ 67 . | 8 | | |
| Inches of | | M | Monthly Drought Condition | ht Conditio | | | |
| Rain Within | | | NCDC Regional PDSI | nal PDSI | | Month: May Year: | 2218 |
| uring Field Visit Last | icdc.noaa.gov/t | noaa.gov/temp-and-precip/climatological-rankings/index.php | limatological | rankings/in | dex.php | | |
| 0 0-0.5 | | | 0 | | 0 | | 0 |
| 0.5-1 -6 | -4 | -3 -2 | -1 0 | | 2 | 3 4 5 | 6 |
| U Heavy Rain U >1 Severe Droug | ht | Moderate Drought | Normal | nal | Moderately Wet | Wet Severely Wet | |
| Non-tidal tributary has: (check all that apply; include photos for each & list photo #) | v; include photo | os for each & list p | hoto #) | | | | |
| Bed and Banks | | Ordinary | Ordinary High Water Mark | Mark | | | |
| X Yes Clear, natural line impressed | ssed on the bank | X | Sediment deposition | | X Sediment sorting | sorting | |
| No Changes in the character of soil | of soil | Water staining | taining | | X Scour | | |
| | | × | Presence of flood litter/debris | er/debris | Observed | Observed/predicted flow events | |
| X Vegetation matted down, bent, or absent | , bent, or absent | | Destruction of terrestrial veg. | rial veg. | Abrupt cl | Abrupt change in plant community | |
| Leaf litter disturbed | | X Presenc | Presence of wrack line | e | Other: | | |
| Tidal tributary has: (check all that apply; includ | clude photos fo. | e photos for each & list photo #) | (# | | | | |
| High Tide Line | Mean Higl | Mean High Water Mark indicated by: | icated by: | | Chemica | Chemical Characteristics | |
| Oil or scum line along shore objects | Survey to | Survey to available datum | | Water | Water is clear | | |
| Fine shell or debris deposits (foreshore) | Physical markings | narkings | | Water | Water is discolored | | |
| Physical markings/characteristics | Vegetation | Vegetation lines/changes in types | ypes | Oily film | lm | | |
| Tidal gauges | | | | Other: | net. | | |
| Notes: | | | | | | | |
| | | | | | | | |

| | A Canessorchy City/County: Mont. | |
|--|---|--|
| Applicant/Owner: HOUTSHA | 0 | State: Sampling Point: 22610 - |
| Investigator(s): DRS, MN, LN | Section, Township, Rar | |
| andform (hillslope, terrace, etc.): Depres | | vex, none): <u>(an Lave</u> Slope (%): <u>ED</u> |
| Subregion (LRR or (MLRA):) 148 | | g: -77.174974 Datum: NAD83 |
| | p-Blocktain complex | 07.410 |
| | · · · · · · · · · · · · · · · · · · · | |
| Are climatic / hydrologic conditions on the site ty | | (If no, explain in Remarks.) |
| Are Vegetation, Soil, or Hydrolog | gy significantly disturbed? Ni Are "I | Normal Circumstances" present? Yes No |
| Are Vegetation, Soil, or Hydrolog | gy naturally problematic? N (If new | eded, explain any answers in Remarks.) |
| SUMMARY OF FINDINGS – Attach | site map showing sampling point lo | ocations, transects, important features, etc. |
| Hydrophytic Vegetation Present? Yes | No Laboration | 2.2.1 전 1.1 전 2.4 전 2.4 전 4.1 전 1.1 1.1 2.1 |
| Hydric Soil Present? Yes | Is the Sampled | |
| Wetland Hydrology Present? Yes | within a wedan | 1d? Yes <u>V</u> No |
| Remarks: | | |
| Philos HYDROLOGY | | |
| | | |
| Wetland Hydrology Indicators | | Secondary Indicators (minimum of two secures 4) |
| Wetland Hydrology Indicators: | t chock all that aprily) | Secondary Indicators (minimum of two required) |
| Primary Indicators (minimum of one is required | | Surface Soil Cracks (B6) |
| Primary Indicators (minimum of one is required | True Aquatic Plants (B14) | Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) |
| Primary Indicators (minimum of one is required | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) | Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) |
| Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) | True Aquatic Plants (B14) | Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) s (C3) Moss Trim Lines (B16) |
| Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots | Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) s (C3) Moss Trim Lines (B16) Dry-Season Water Table (C2) |
| Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) | Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) s (C3) Moss Trim Lines (B16) Dry-Season Water Table (C2) |
| Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C | Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Sturted or Stressed Plants (D1) |
| Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Thin Muck Surface (C7) | Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) |
| Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inumetation Visible on Aerial Imagery (B7) | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Thin Muck Surface (C7) | Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) |
| Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Thin Muck Surface (C7) | Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Sturted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) |
| Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Mater-Stained Leaves (B9) Aquatic Fauna (B13) | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Thin Muck Surface (C7) | Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) |
| Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Numeration Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Thin Muck Surface (C7) Other (Explain in Remarks) | Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Sturted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) |
| Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Numeration Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): | Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Sturted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) |
| Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inumeration Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes No Water Table Present? | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): | Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) s (C3)Moss Trim Lines (B16) Dry-Season Water Table (C2) C6)Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Sturited or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) |
| Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inumedation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes No Saturation Present? Yes No (includes capillary fringe) | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): 0* 4 Depth (inches): 0* Wet | |
| Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inumeration Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes No Water Table Present? Yes | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): 0* 4 Depth (inches): 0* Wet | |

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: 22CCL-WET

| | Absolute | Dominant I | ndicator | Dominance Test worksheet: |
|--|--------------|---|-----------------------|---|
| Tree Stratum (Plot size: <u>30</u> ') | | | Status | |
| | 40 | <u>opecies.</u> | FAC | Number of Dominant Species |
| 1. Aler Norm | - 40 | | | That Are OBL, FACW, or FAC: (A) |
| 2. Ulmis umeniana | 2 | | PAC, | Total Number of Dominant |
| 3. Traxims pennsul vonica | 20 | | PAUN | Species Across All Strata: (B) |
| 4. | | • | | |
| 5. | 1.19 | 1.1 | and the second second | Percent of Dominant Species 79 (A/B) |
| 6 | - | | 1.2.1 | |
| 7 | | <u></u> | | Prevalence Index worksheet: |
| | 65 | = Total Cove | er | Total % Cover of: Multiply by: |
| 50% of total cover: 32. | | | | OBL species x 1 = |
| Sapling/Shrub Stratum (Plot size: 33) | .!. | | 1.1 | FACW species x 2 = |
| 1. Lindera penzoin | 8 | V | TAC | FAC species x 3 = |
| 2. Acer no ando | T | | FAC | FACU species x 4 = |
| 3. Fravins pennsylvanicus | 3 | • | FALW | UPL species x 5 = |
| | | | | Column Totals: (A) (B) |
| 4. Roa multifiara | 6 | | than 1 | |
| 5. Azimina triloba | 5 | <u> </u> | FAC | Prevalence Index = B/A = |
| 6 | 105.01 | <u>1.11.1</u> | | Hydrophytic Vegetation Indicators: |
| 7 | 14 - A 14 | · · · · · · · · · · · · · · · · · · · | | 1 - Repid Test for Hydrophytic Vegetation |
| 8 | sin in the | | | 2 - Dominance Test is >50% |
| 9. | | | 1.11 | |
| | 23 | = Total Cove | er i i i | 3 - Prevalence Index is ≤3.0 ¹ |
| 50% of total cover: 11.5 | | | | 4 - Morphological Adaptations ¹ (Provide supporting |
| Herb Stratum (Piot size: 30 () | 7 | 5.25 | | data in Remarks or on a separate sheet) |
| The out and the out of | 70 | 1 | FAC | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 1. Microstegium Mininerm | 30 | | | 그는 물 가 있는 것 같아. 말 것 같아? |
| 2. Cinna annainace a | | | THEW | ¹ Indicators of hydric soil and wetland hydrology must |
| 3. Bochmenia cylindinia | 3 | · <u></u> | FACW | be present, unless disturbed or problematic. |
| 4. Carex SO | 2 | 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - | | Definitions of Four Vegetation Strata: |
| 5. Lonium japanica | 3 | | FACIL | |
| 6. | | 10.0 | | Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or |
| 7 | | | | more in diameter at breast height (DBH), regardless of height. |
| | | | | neight. |
| 8 | | | | Sapling/Shrub - Woody plants, excluding vines, less |
| 9 | | | | than 3 in. DBH and greater than or equal to 3.28 ft (1 |
| 10 | · | - <u>18 - 2 - 14</u> | | m) tall. |
| 11 | · · · · · | · | | Herb - All herbaceous (non-woody) plants, regardless |
| 그는 소문 엄마 소난 동안 영영 것이라는 | | = Total Cove | | of size, and woody plants less than 3.28 ft tall. |
| 50% of total cover: 54 | 20% o | f total cover: | 21,6 | Woody vine - All woody vines greater than 3.28 ft in |
| Woody Vine Stratum (Plot size:) | | 0 | 1.1 | height. |
| 1. Smilax potendifolia | 3 | 1 | FAC | |
| 2. / ontiera japonica | 7 | V | FAUL | [14] 이 이 아이는 것이 |
| 2 univa uponen | | | TISVOL | 동물 감독 전문을 가지 않는 것 같은 것이다. |
| 3 | | 2 | | |
| 4 | . <u></u> | · · · · · · · · · · · · · · · · · · · | | Hydrophytic |
| 5 | | 민희리 | <u> </u> | Vegetation |
| 이는 것 같아요. 이는 것 같아요. 이는 것 같아요. 것이는 것이 같아요. | 5 | = Total Cove | | Present? Yes <u>No</u> |
| 50% of total cover: 2. | <u>20% o</u> | f total cover: | | |
| Remarks: (Include photo numbers here or on a separate : | sheet.) | | | |
| | | | | |

| Depth Matrix | Redox Features | |
|--|--|---|
| (inches) Color (moist) % | Color (moist) % Type ¹ Loc ² | Texture Remarks |
| 0-3 2.583 2. 99 | IOYRAIA I C M | Sil |
| 3-7 1088412 92 | 7.5484/4 8 C MIPL | sicl |
| 7-14 INK412 85 | TURALIS | sic |
| 1-11 101F4/2 00 | 1011-10 13. CC FI | |
| | | |
| a daga da a | . <u>1913 (1986)</u> s <u>aina an ing sain</u> s | |
| | | |
| | | |
| | · · · · · · · · · · · · · · · · · · · | |
| and the second sec | | |
| | | |
| | | |
| uno: C-Concentration D-Depletion PM | Deduced Metrix MC Masked Cand Casing | 31 anation Di Dan Lining M Mathin |
| | | |
| | I=Reduced Matrix, MS=Masked Sand Grains. | ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ : |
| dric Soil Indicators: | | Indicators for Problematic Hydric Soils ³ : |
| ydric Soil Indicators: _ Histosol (A1) | Dark Surface (S7) | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) |
| dric Soil Indicators: | Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 1 | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) |
| ydric Soil Indicators: _ Histosol (A1) _ Histic Epipedon (A2) _ Black Histic (A3) | Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 1 Thin Dark Surface (S9) (MLRA 147, 148) | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) |
| rdric Soil Indicators: _ Histosol (A1) _ Histic Epipedon (A2) _ Black Histic (A3) _ Hydrogen Sulfide (A4) | Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 147) Thin Dark Surface (S9) (MLRA 147, 148) Loamty Gleyed Matrix (F2) | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) |
| rdric Soil Indicators: _ Histosol (A1) _ Histic Epipedon (A2) _ Black Histic (A3) _ Hydrogen Sulfide (A4) _ Stratified Layers (A5) | Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 1 Thin Dark Surface (S9) (MLRA 147, 148) | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) |
| rdric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) | Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 147) Thin Dark Surface (S9) (MLRA 147, 148) Loarny Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) |
| ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) | Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 147) Thin Dark Surface (S9) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) |
| ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) | Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 147) Thin Dark Surface (S9) (MLRA 147, 148) Loarny Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) |
| Additional Section Additional Add | Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 148) Thin Dark Surface (S9) (MLRA 147, 148) Loarny Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) |
| ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) | Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 147) Thin Dark Surface (S9) (MLRA 147, 148) Loarny Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) | Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 148) Thin Dark Surface (S9) (MLRA 147, 148) Loarny Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and |
| ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) | Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 147) Thin Dark Surface (S9) (MLRA 147, 148) Loardy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136) | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, |
| ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) | Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 17) Thin Dark Surface (S9) (MLRA 147, 148) Loardy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148 | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, |
| ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) | Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 17) Thin Dark Surface (S9) (MLRA 147, 148) Loardy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148 | Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, |

| | We | Wetland Function-Value Evaluation Form | ulue | Evaluation Form | |
|---|--------------------|--|----------|-------------------------------------|--|
| Total area of wetland $\frac{20,15^{\circ}C}{2}$ Human made? <u>N</u> | - | Is wetland part of a wildlife corridor? | 63 | or a "habitat island"? | Wetland I.D. 22 CCC Latitude 38 · 77 2134 Longitude - 77.146950 |
| Adjacent land use for est | | Distance to nearest roadway or other development | lway or | other development $\sim 15^4$ | Prepared by: MN, DKS Date 1/11/21 |
| Dominant wetland systems present PfD | | Contiguous undeveloped buffer zone present | ed buffe | sr zone present N_{O} | Wetland Impact: Type 770 Area |
| Is the wetland a separate hydraulic system? Ves | | If not, where does the wetland lie in the drainage basin? | the dra | inage basin? | Evaluation based on: |
| How many tributaries contribute to the wetland? | 0 | _Wildlife & vegetation diversity/abundance (see attached list) | abundar | nce (see attached list) | Office Field Corps manual wetland delineation |
| Function/Value | Suitability Y N | Rationale (Reference #)* | rincip | Principal Function(s)/Value(s) C | Comments |
| Groundwater Recharge/Discharge | 2 | 2, 6,15 | | theoreph | |
| Floodflow Alteration | 7 | 2,3,5,6,9,18 | | Kolaled system 0 | |
| -Fish and Shellfish Habitat | > | - | | | |
| Sediment/Toxicant Retention | | 3,4,7,9 | | | |
| Mutrient Removal | 7 | 3,5,7,8,9,10,11 | | not libudy to be an al | not lituly to be an abadence of excess netressin poroff |
| Production Export | > | 1,2,4,5,1,8,13 | > | Evidence of deer within welland | Ain wellone |
| Sediment/Shoreline Stabilization | 2, | 52 | | | |
| 🝆 Wildlife Habitat | 2 | 1,3,4,5,7,8,9,13,15, | > | Endrustri Idlitie, tees | hees - maks |
| A Recreation | \sum | 1,4,5,12 | | | |
| Educational/Scientific Value | > | 2,4,5,6,10,13 | | | |
| 📩 Uniqueness/Heritage | 5 | 10,16,17,19,28 | > | Part of Polomac Buge | Buge, and Croccord dow pully |
| CHAST Visual Quality/Aesthetics | 7 | 2,5,6,7,819 | | | > |
| ES Endangered Species Habitat | 7 | | | | |
| Other | | | | | |
| Notes: | | | | * Refer to ba | * Refer to backup list of numbered considerations |

| Feature ID: 220 Stream Order: Distance | Last Flag Number: 2 (centre live) | ľ | Enhemeral | O Non-RPW draining | | | O Non-RPW wetland adjacent or abutting upstream (outside of study area) | Rucower Adjacent/Abutting: N/A | to remain 226 | Substrate Vegetation Cover Type (§1858) | Muck R1 | Other: | Concrete | 21 31 24:1 LB: FOLEST | | | | NCDC Regional PDSI Month: MML Year: 20(8 | 0 0 0 0 0 0 0 0 | 0 1 2 3 4 5 6 | Normal Moderately Wet Severely Wet | | fater Atark | ition Sediment sorting | Scour | od litter/debris 🛛 🖂 Observed/predicted flow events | errestrial veg. [] Abrupt change in plant community | | | vr Chemical Characteristics | Water is clear | Water is discolored | Oily film | Other: | |
|--|-----------------------------------|---------------------------------------|--------------|--|-------------------|-----------------------|---|--------------------------------|---|---|-----------------------|-----------------------|---------------------------|------------------------------|--------|-----------------------------------|-----------|---|-----------------|---------------|------------------------------------|--|--------------------------|--|----------------------------------|---|---|------------------------|---|-------------------------------------|--------------------------------------|---|-----------------------------------|--------------|---|
| SUDY State: UD | Y: MON DON ON | | Intermittent | d) RPW – Seasonal (must and the a | | 111 12-24-1025-041 0 | 9 NI NOLUSI KANNI A | Downstream: UNDOR | 4 | Subs | Silts | les | Bedrock X | Side slope: $\Box \ge 131$ K | | | Monthly D | NCDC Registered and present timatological | 0 | -4 -3 -2 -1 | ght Moderate Drought | nclude photos for each & list photo #) | Ordinary High Water Mark | on the bank Sediment deposition | oil 🛛 🕅 Water staining | Presence of flood litter/debris | it, or absent Destruction of terrestrial veg. | Presence of wrack line | le photos for each & list photo #) | Atean Migh Water Mark indicated by: | Survey to available datum | Physical markings | Vegetation lines/changes in types | | |
| C-270 MANARID LANKS | t a | Feature Hydrologic Class (check one): | Perennial | ebb and D TNW – Perennial (Flowing vear round) | C RPW – Perennial | (1 TOWING YEAR TOULIN | FLUNING AT TIME OF THE | ity - Upstream: 3' PRE | Feature Description: (check all that apply) | Shape (with respect to OHW) | hape Width: 2' | | H | STAGLE | | Weather/Precipitation Conditions: | Inches of | Last Week http://www.mude | 0 0.5 | O 0.5-1 -6 -5 | O >1 Severe Drought | Non-tidal tributary has: (<i>check all that apply; in</i> | | 🔀 Clear, natural line impressed | Changes in the character of soil | Shelving | Vegetation matted down, bent, or absent | Leaf litter disturbed | Tidal tributary has: (check all that apply; include photos for each & list photo #) | High Fide Line | ong shore objects | Fine shell or debris deposits (foreshore) | characteristics | | |
| Project: I-495/I | Nibs 18 | Feature Hydro | Iepi.I. | O TNW (Subject to ebb and flow) | | | Joe hydrologic class: | Hydrologic Connectivity – | Feature Descr | Shar | Natural Channel Shape | Artificial (man-made) | Manipulated (man-altered) | Other: | Notes: | Weather/Preci | | During Field Visit | No rain | O Light rain | O Heavy Rain | Non-tidal tribu | Bed and Banks | X Yes | No | | | | Tidal tributary | 11-11 | Oil or scum line along shore objects | Fine shell or debris | Physical markings/characteristics | Tidal gauges | and |

Waters of the U.S. Data Sheet

| | | | 1 | Waters of the U.S. Data Sheet | e U.S. Dat | a Sheet | | ļ | | | | Γ |
|---|---------------------------------------|--|---|------------------------------------|--|------------------|---------------------------------|-----------------------|---|------------------|---|----|
| Project: T-445/T | 022- | Managed L | wires stu | dy | 29,25,65 | Featu | ä | 00 | | Stream | Stream Order: | |
| Date: 6/15/18 | | | State: MD, | -1251 | and the other | Photos: | 2 | 479 - 2 | 981 | | | |
| | L | | County: | Mo. | | Last. | Last Flag Number: | ber: N | . N | | the week of the | |
| Feature Hydr | Feature Hydrologic Class (check one): | check one): | | | | | | | | | | ſ |
| Tidal | | Perennial | ial | In | Intermittent | | | | EI | Ephemeral | | |
| O TNW (Subject to ebb and flow) | ebb and O | TNW – Perennial (Flowing year round) | nial round) | RPW - | RPW – Seasonal (must flow at least 3 months a | (must onths a | | n-RPW d | Non-RPW draining uplands Non-RPW erosional feature | lands | | |
| (| C | RPW - Perennial | ial | year) | | | N N | n-RPW w | Non-RPW with abutting wetland | ig wetland | 1 | |
| |) | (Flowing year round) | round) | | | | O Noi | 1-RPW w | Non-RPW with adjacent wetland | nt wetland | Ţ | |
| Describe rational for hydrologic class: | shallow flows | the primety | worker t | out fail | | | No) ON | n-RPW w tside of s | Non-RPW wetland adj (outside of study area) | acent or a | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hydrologic Connectivity - | | Upstream: colved | outall | Downs | Downstream: 22 | RA-11 | | Adja | Adjacent/Abutting: | ting: 22 | 2-50 | |
| Fcature Desc | ription: (checi | Feature Description: (check all that apply) | | | | | | | | | | |
| Sha | Shape (with respect to OHW | ect to OHW) | | | | Substrate | ate | | V. | egetation | Vegetation Cover Type (MBSS) | () |
| Natural Channel Shape | Shape | Width: 2 - 8 | 01 | X | Silts | 🗡 Sa | Sands | Muck | k RB: | tovec. | +- | |
| X Artificial (man-made) | ade) | Depth: 1"- 12 | 13 21 | X | Cobbles | X Gr | Gravel | Other: | ü | - | | |
| X Manipulated (man-altered) | n-altered) | Bank Erosion/stability: | /stability: | 5.45 | Bedrock | о Х | Concrete | | ; | 1 | 7 | |
| Other: | | mode rate | eva | Side slope: | be: X≥13 | 1 🕅 2:11 | 3:1 | | LB: | Y 3475 | 1.3 | |
| Notes: Upper 2 | sequent - Lo | concrete (: | lined . down | Bowestien 5 | sequences | nedurallz | 1201 | | | | | - |
| Weather/Prec | Weather/Precipitation Conditions: | ditions: | | | | | | | | | | |
| | Inches of | | | | Moi | thly Dr | Monthly Drought Condition | ndition | | Month | Var. 1 | 0 |
| During Field Visit | Kain Within Lost Wook | | httn://www.node.nogg.gov/tenn_and_meein/elimatelogical_rgolings/index.nhn | v/temn-and | I ila/diaard- | matalog | imatological-rankings | uas/inde | տիո չ | | monine production of the content | 0 |
| No rain | | | | | | C | C | | | C | | C |
| - | 0.5-1 | ې ې(| ن 4 | ې، ر |) ? |) - |)0 |) | 0 |) ന | 4 5 | 0 |
| O Heavy Rain | O >1 | Severe Drough | Drought | Moderate Drought | Drought | | Normal | V | Moderately Wet | Wet | Severely Wet | |
| Non-tidal trib | utary has: (<i>ch</i> | Non-tidal tributary has: (<i>check all that apply; include photos for each & list photo #</i>) | dy; include ph | notos for eac | ch & list ph | oto #) | | | | | | |
| Bed and Banks | | | | | Ordinary High Water Mark | High Wa | ter Mark | | | | | |
| X Yes | N Clear, n | Clear, natural line impressed on the bank | essed on the bi | | Sediment deposition | t deposit | ion | X | Sedimer | Sediment sorting | | |
| No | Change | Changes in the character of soil | sr of soil | 7 | Water staining | aining | | × | Scour |) | | |
| | Shelving | ъr | | X | Presence | of flood | Presence of flood litter/debris | ris 🖌 | Observe | d/predicte | Observed/predicted flow events | |
| | X Vegetat | Vegetation matted down, bent, | n, bent, or absent | ent | Destruct | on of ter | Destruction of terrestrial veg. | i. | Abrupt o | change in | Abrupt change in plant community | |
| | Leaf litt | Leaf litter disturbed | | 7 | Presence of wrack line | of wrac | k line | | Other: | | | |
| Tidal tributar | Y has: (check | Tidal tributary has: (check all that apply; include | include photos | photos for each & list photo #) | list photo a | <i>(</i>) | | | | | | |
| Ilig | High Tide Line | | Mean F | dean High Water Mark indicated by: | Mark indi | cated by | • | | Chemic | al Chara | Chemical Characteristics | |
| Oil or scum line along shore objects | nlong shore obj | ects | Survey | Survey to available datum | e datum | | | Water is clear | clear | | | |
| Fine shell or debris deposits (foreshore) | is deposits (for | ·eshore) | Physic. | Physical markings | | | | Water is | Water is discolored | | | |
| Physical markings/characteristics | s/characteristic | S | Vegeta | Vegetation lines/changes in types | nanges in ty | pes | | Oily film | | | | |
| Tidal gauges | | | | | | | | Other: | | | | Т |
| Notes: | | | | | | | | | | | | 7 |

| | VORIFIED |
|---|---|
| | MBS 4/17/18 |
| | |
| Landform (hillslope, terrace, etc.): | Eastern Mountains and Pledmont Region Units: |
| HYDROLOGY Wetiand Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) | r (C1) Drainage Patterns (B10) s on Living Roots (C3) Moss Trim Lines (B16) Iron (C4) Dry-Season Water Table (C2) in Tilled Soils (C6) Crayfish Burrows (C8) 7) Saturation Visible on Aerial Imagery (C9) arks) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) |
| Aquatic Fauna (B13) Field Observations: | FAC-Neutral Test (D5) |
| Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, prev | Wetland Hydrology Present? Yes No |
| | |
| Remarks: | |

Eastern Mountains and Piedmont - Version 2.0

ZZE-UPL Sampling Point: <u>OI-B-UP(</u>

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

| Tree Stratum (Piot size:) | Absolute Dominant Indicator % Cover Species? Status | Dominance Test worksheet: Number of Dominant Species |
|---|--|--|
| 1 2 | | That Are OBL, FACW, or FAC: (A) |
| 3 | | Total Number of Dominant Species Across All Strata:(B) |
| 4 5 | | Percent of Dominant Species |
| 6 | · | That Are OBL, FACW, or FAC: (A/B) |
| | = Total Cover | Prevalence index worksheet: Total % Cover of: Multiply by: |
| 50% of total cover: Sapiling Stratum (Plot size:) | 20% of total cover: | OBL species X 1 =O |
| 1 | | FACW species x 2 =O |
| 2 | | FAC species O x 3 = O |
| 3 | | FACU species 35 , $x_4 = 140$ UPL species 15 , $x_5 = 75$ |
| 4 | | Column Totals: 50 (A) 215 (B) |
| 5 6 | | Prevalence index = $B/A = 4.3$ |
| | = Total Cover | Hydrophytic Vegetation Indicators: |
| | 20% of total cover: | 1 - Rapid Test for Hydrophytic Vegetation |
| Shrub Stratum (Plot size:) | | 2 - Dominance Test is >50% |
| 1 | | 3 - Prevalence Index Is ≤3.0 ¹ |
| 2 | | 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) |
| 3 | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 5 | | |
| 6 | | ¹ Indicators of hydric soll and wetland hydrology must be present, unless disturbed or problematic. |
| | = Total Cover | Definitions of Five Vegetation Strata: |
| | 20% of total cover: | Tree - Woody plants, excluding woody vines, |
| Herb Stratum (Plot size: 32 rad US) 1. Setand tober | | approximately 20 ft (6 m) or more in height and 3 in |
| 2. Schedonorus praten 5 | -15 V OPL | (7.6 cm) or larger In diameter at breast height (DBH). |
| 3. Andurpoan virginicus 4. | 10 FAIL | Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. |
| 5 6 | | Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. |
| 7 | | Herb - All herbaceous (non-woody) plants, including |
| 8 | | herbaceous vines, regardless of size, and woody |
| 9 | | plants, except woody vines, less than approximately 3 ft (1 m) in height. |
| 10 | | Woody vine – All woody vines, regardless of height. |
| 11 | 50 = Total Cover | social vine vin voory vines, regardless of height. |
| 50% of total cover: 25 | - | |
| Woody Vine Stratum (Plot size:) | _ 20% of total cover: | |
| 1/ | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | the same of the same same same same same same same sam | Hydrophytic / |
| | = Total Cover | Vegetation Present? Yes No |
| 50% of total cover: | | |
| Remarks: (Include photo numbers here or on a separate s | neet.) | |

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Eastern Mountains and Pledmont - Version 2.0

| | 22E-UPL |
|-----------------|-----------|
| Sampling Point: | OH-B-UP/- |

| Profile Description: (Describe to the Depth Matrix | | | r or confirm | the absence o | of Indicators.) |
|--|--------------------------------|--------------------|------------------|---------------------|--|
| (inches) Color (moist) | % Color (moist) | <u>K Features</u> | Loc ² | Texture | Remarks |
| 0-5 7.54R4/4 1 | 00 | | | Sul | 5 Totoo |
| | | | | | Rejected @ 5" |
| | | | | | Uh: da is a |
| | | | | | - yrip rap |
| | | | | | |
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| | | | | - | |
| | | | _ | | |
| Type: C=Concentration, D=Depletion | RM=Reduced Matrix MS | =Masked Sand C | | 21 11 | |
| lydric Soll Indicators: | , the reduced matrix, mo | -Maskeu Sand G | rains. | -Location: PL= | =Pore Lining, M=Matrix. ors for Problematic Hydric Soils ³ : |
| Histosol (A1) | Dark Surface | (\$7) | | | |
| Histic Epipedon (A2) | | ow Surface (S8) | MLRA 147. | 148) 2 di | m Muck (A10) (MLRA 147) ast Prairie Redox (A16) |
| Black Histic (A3) | Thin Dark Sur | face (S9) (MLRA | 147, 148) | | MLRA 147, 148) |
| Hydrogen Sulfide (A4) | Loamy Gleyed | | | | dmont Floodplain Soils (F19) |
| Stratified Layers (A5) 2 cm Muck (A10) (LRR N) | Depleted Matr | | | (| MLRA 136, 147) |
| Depleted Below Dark Surface (A1 | Redox Dark S Depleted Dark | urface (F6) | | Ver | ry Shallow Dark Surface (TF12) |
| _ Thick Dark Surface (A12) | Redox Depres | | | Oth | ner (Explain in Remarks) |
| _ Sandy Mucky Mineral (S1) (LRR I | | se Masses (F12) | (LRR N. | | |
| MLRA 147, 148) | MLRA 136 | | (2011) 14 | | |
| Sandy Gleyed Matrix (S4) | Umbric Surfac | e (F13) (MLRA 1 | 36, 122) | ³ Indica | ators of hydrophytic vegetation and |
| Sandy Redox (S5) | Piedmont Floor | odplain Soils (F19 |) (MLRA 148 | B) wetla | and hydrology must be present, |
| Stripped Matrix (S6) Restrictive Layer (If observed): | Red Parent M | aterial (F21) (MLI | RA 127, 147 |) unles | ss disturbed or problematic. |
| Type: | | | | | |
| Depth (inches): | | | | Hydric Soil P | Man Na |
| Remarks: | - 10 mm | | | Hydric Soli P | resent? Yes No V |
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| , | VEMFIED M65 4/17/2018 |
|--|--|
| Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u> significantly disturbed? Are "Norma | 4/17/2018 State: MD State: State: State: MD State: State: State: MD State: State: State: |
| Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No Remarks: No No | Yes No |
| Isolated depression viewed by MDE and USACE Photo to 2567-2558 | |
| HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Sturited or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) |
| Field Observations: Surface Water Present? Yes No Depth (inches): I - 2 '' Water Table Present? Yes No Depth (inches): Wetland I Saturation Present? Yes No Depth (inches): Wetland I (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available Remarks: | Hydrology Present? Yes No |

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2ZE-WET

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

| | | plants, except woody vines, less than approximately 3 |
|--|---|---|
| | | herbaceous vines, regardless of size, and woody |
| | | Herb - All herbaceous (non-woody) plants, including |
| | | |
| | | approximately 3 to 20 ft (1 to 6 m) in height. |
| 1 | | Shrub – Woody plants, excluding woody vines, |
| Schedononis pratonsis | 15 FALL | than 3 In. (7.6 cm) DBH. |
| Juncus effusus | 10 1ACW | approximately 20 ft (6 m) or more in height and less |
| Echinochiod municata | - so rach | Sapling - Woody plants, excluding woody vines, |
| Floundchaland mining | | |
| Penium Virantum | 25 / Far | approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). |
| erb Stratum (Plot size: * irreaular) | | Tree - Woody plants, excluding woody vines, |
| 50% of total cover: | 20% of total cover: | |
| | | Definitions of Five Vegetation Strata: |
| | = Total Cover | be present, unless disturbed or problematic. |
| · | | ¹ Indicators of hydric soll and wetland hydrology must |
| | | |
| · | | |
| | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| · | | data in Remarks or on a separate sheet) |
| · | | 4 - Morphological Adaptations ¹ (Provide supporting |
| · | | 3 - Prevalence Index Is ≤3.0 ¹ |
| | | |
| hrub Stratum (Plot size:) | 20 % or total cover: | 2 - Dominance Test is >50% |
| 50% of total cover- | 20% of total cover: | 1 Rapid Test for Hydrophytic Vegetation |
| | = Total Cover | Hydrophytic Vegetation indicators: |
| · | | Prevalence Index = B/A = |
| · | | |
| * | | Column Totals: (A) (B) |
| ×* | | UPL species x 5 = |
| | | FACU species x 4 = |
| · | | FAC species x 3 = |
| · | | FACW species x 2 = |
| Sapling Stratum (Plot size:) | | OBL species x 1 = |
| 50% of total cover: | 20% of total cover: | Total % Cover of:Multiply by: |
| | = Total Cover | |
| · | | Prevalence Index worksheet: |
| | | That Are OBL, FACW, or FAC:OO (A/B) |
| i | 13. Sector 10. Sector | Percent of Dominant Species |
| l | | |
| J | | Species Across All Strata:2 (B) |
| <u>. </u> | | Total Number of Dominant |
| | | That Are OBL, FACW, or FAC: (A) |
| ree Stratum (Piot size:) | | Number of Dominant Species |
| | Absolute Dominant Indicator % Cover Species? Status | Dominance Test worksheet: |

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22E-WET

| Profile Description: (Describe to the de | pth needed to document the Indicator or confirm | the absence of indicators.) |
|--|---|--|
| Depth <u>Matrix</u> (inches) Color (moist) % | Redox Features | - Interior Pro- |
| $\frac{(\text{inches})}{1-Q+} = \frac{\text{Color(moist)}}{104 \text{ k} 4/2} = \frac{\%}{70}$ | $\frac{\text{Color}(\text{moist})}{7.5 \text{ YK4/6} 30} \frac{\text{W}}{C} M$ | Texture Remarks |
| - is Direrta 10 | 7.54R4/6 30 C M | sich w/gravel |
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| | | |
| ¹ Type: C=Concentration, D=Depletion, RM | I=Reduced Matrix, MS=Masked Sand Grains. | ² Location: PL=Pore Lining, M=Matrix. |
| Hydric Soil Indicators: | | Indicators for Problematic Hydric Soils ³ : |
| Histosol (A1) Histic Epipedon (A2) | Dark Surface (S7) | 2 cm Muck (A10) (MLRA 147) |
| Black Histic (A3) | Polyvalue Below Surface (S8) (MLRA 147, Thin Dark Surface (S9) (MLRA 147, 148) | |
| Hydrogen Sulfide (A4) | | (MLRA 147, 148) Piedmont Floodplain Soils (F19) |
| Stratified Layers (A5) | Depleted Matrix (F3) | (MLRA 136, 147) |
| 2 cm Muck (A10) (LRR N) | Redox Dark Surface (F6) | Very Shallow Dark Surface (TF12) |
| Depleted Below Dark Surface (A11) Thick Dark Surface (A12) | Depleted Dark Surface (F7) | Other (Explain in Remarks) |
| Sandy Mucky Mineral (S1) (LRR N, | Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, | |
| MLRA 147, 148) | MLRA 136) | |
| Sandy Gleyed Matrix (S4) | Umbric Surface (F13) (MLRA 136, 122) | ³ Indicators of hydrophytic vegetation and |
| Sandy Redox (S5) | Piedmont Floodplain Soils (F19) (MLRA 14 | wetland hydrology must be present. |
| Stripped Matrix (S6) | Red Parent Material (F21) (MLRA 127, 147 | unless disturbed or problematic. |
| Restrictive Layer (if observed): | | |
| Type: | | |
| Depth (inches): Remarks: | | Hydric Soil Present? Yes No |
| Remarks. | | |
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| ped buffer zone present | tion diversity/abu | Adjacent land use_MOMED_HAVIN_ROW Distance to nearest roadway or other development. 35' Dominant wetland systems present_NO |
|-------------------------|--------------------|---|
|-------------------------|--------------------|---|

| | | | | | V | Waters of the U.S. Data Sheet | ie U.S. Da | ta Sheet | | | | | | |
|--|------------|-----------------------------------|---|-------------------|-------------|---|--|------------------------|---|---|----------------------|---|---|----|
| Project: I -465 | -I/5 | CE2 | Nancord | 1 LCM | wes | 5trd | 1 | Feat | Feature ID: | 72 E E | | Stre | Stream Order: | 10 |
| Date: 6/13/ | 10 | | | | State: | am | | Photos: | 02: SG | 045 | | 「「「「「「「「「「」」」 | 「「「「「「「「」」」」」 | |
| Crew: KJH & | 700 | Serie Provide | | 0 | County: | .ew | | Last | Last Flag Number: | mber: | NA | | 御行のか 特子 ちしょう | |
| Featuré H | Iydrolog | ic Class (c | Feature Hydrologic Class (check one): | | | | | | | | | | | 1 |
| Tidal | I | | Perennial | inial | | I | Intermittent | t | | | | Ephemeral | ral | |
| O TNW (Subject to ebb and flow) | ct to ebb | \bigcirc | TNW – Perennial (Flowing year round | nnial r round) | | O RPW flow a | RPW – Seasonal (must flow at least 3 months a | (must onths a | z z OC | on-RPW | draining | Non-RPW draining uplands Non-RPW erosional feature | | |
| (| | C | RPW – Perennial | nial | | year) | | | | on-RPW | with ab | Non-RPW with abutting wetland | and | |
| | |) | (Flowing year round) | Ir round) | | | | | N O | on-RPW | with ad | Non-RPW with adjacent wetland | and | |
| Describe rational for hydrologic class: | | volt. | i'r | chands | | ol uv ing | 5.71 | Visit | 0 | Non-RPW wetland ad (outside of study area) | wetland f study a | adjacent (rea) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hydrologic Connectivity - | ectivity - | - Up | Upstream: Cell | Culvert | | Down | Downstream: | ZICC | | A | ljacent/# | Adjacent/Abutting: | 2 Juck | |
| Feature I | Descriptio | on: (check | Feature Description: (check all that apply) | (4) | | | | | | | | | | |
| | Shape (1 | with respe | Shape (with respect to OHW) | | | | | Substrate | rate | | | Vegetat | Vegetation Cover Type (MBSS) | |
| Natural Channel Shape | nel Shape | 0 | Width: L | 101-1 | | X | Silts | XS | Sands | V | Muck | RB: F01 | +52AC | |
| X Artificial (man-made) | un-made) | | Depth: O- | ''P | | | Cobbles | IJ | Gravel | 0 | Other: | | | |
| Manipulated (man-altered) | (man-alte | sred) | Bank Erosion/stabil | on/stabili | lity: | See a | Bedrock | Хc | Concrete | | | 1 | | |
| Other: | | | Severe | EVD | Sion | Side slope: | ope: [√] ≥1:1 | :1 2:1 | 1 3:1 | □ ≤4:1 | | LB: For | 75810 | |
| Notes: | | | | | | | | | | | | | | |
| Weather/J | Precipita | Weather/Precipitation Conditions: | litions: | | | | | | | | | | | |
| | ц. | Inches of | | | | | Mo | uthly Di | Monthly Drought Condition | ondition | | M | Sic c mont | |
| During Field Visit | | Kain Within Last Week | httn://www.ncdc | node v | 100 000 | NCDC Regional PDSI noss aov/temn-and-precin/climatological-rankingev.nhn | lo/nioo-n- | imatolog | NCDU Kegional PDSI imatological-rankings | Lings/in | nhn veh | OTAT | | |
| No rain | ľ | 0-0.5 | C | C | C | C | C | С | С | C | C | С | | T |
| - | | 0.5-1 | ې (| ېر |)4 | <u>ب</u> | - ² | - (|)0 | - | 0 |) (n | 4 5 6 | Τ |
| O Heavy Rain | 0 | >1 | Seven | Severe Drought | ht | Moderate Drought | Drought | | Normal | | Modera | Moderately Wet | Severely Wet | |
| Non-tidal | tributar | y has: (<i>ch</i> | Non-tidal tributary has: (<i>check all that apply; in</i> | | lude ph | clude photos for each & list photo #) | ch & list pl | hoto #) | | | | | | |
| Bed and Banks | S | | | | | | Ordinary High Water Mark | High W: | ater Mar | y. | | | | |
| X Yes | | Clear, né | Clear, natural line impressed | pressed o | on the bank | urk X | Sedimer | Sediment deposition | tion | | Sedi | Sediment sorting | gu | 1 |
| No | | Changes | Changes in the character of soil | cter of so | lio | | Water staining | taining | | | X Scour | IL | × | |
| | | Shelving | F 0 | | | \sim | Presence | e of flood | Presence of flood litter/debris | bris | Obs | erved/pred | Observed/predicted flow events | |
| | X | Vegetati | Vegetation matted down, bent, or absent | wn, bent | t, or abse | ent 🗌 | Destruc | tion of te | Destruction of terrestrial veg. | veg. | Abr | upt change | Abrupt change in plant community | |
| | X | Leaf litte | Leaf litter disturbed | | | X | Presence | Presence of wrack line | ck line | | Other: | sr: | | |
| Tidal trib | utary ha | s: (check u | Tidal tributary has: (check all that apply; include photos for each & list photo #) | ; include | e photos | for each & | list photo | (# | | | | | | |
| | High Ti | High Tide Line | | | Mean H | Mean High Water Mark indicated by: | Mark ind | icated by | y: | | Che | mical Chi | Chemical Characteristics | |
| Oil or scum line along shore objects | ine along | shore obje | ects | | Survey | Survey to available datum | e datum | | | Water | Water is clear | | | |
| Fine shell or debris deposits (foreshore) | debris de | posits (for | eshore) | | Physica | Physical markings | | | | Water | Water is discolored | ored | | |
| Physical markings/characteristics | kings/cha | racteristics | ~ | | Vegeta | Vegetation lines/changes in types | hanges in t | ypes | | Oily film | lm | | | Т |
| Tidal gauges | | | | _ | | | | | | Other: | | | | Т |
| Notes: | | | | | | | | | | | | | | |

| VERIFIED 4-18-2018 MBS (EXTENDED FORMALE) | |
|--|-----|
| WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region | 018 |
| Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No Hydric Soil Present? Yes Yes No Wetland? Yes Yes No Wetland Hydrology Present? Yes Yes No No No No Remarks: Phodo # : +1= To damy Warth 25666-25667 2567 | |
| HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) | |
| Field Observations: Surface Water Present? Yes No Depth (inches): /- 4 '' Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: | |

US Army Corps of Engineers

| | 22F-WET |
|-----------------|---------|
| Sampling Point: | OH WET |

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

| | Absolute Dominant Indicator | Dominance Test worksheet |
|--|--|--|
| Tree Stratum (Plot size:) | <u>% Cover</u> <u>Species?</u> <u>Status</u> | Dominance Test worksheet: |
| 1 | | Number of Dominant Species That Are OBL, FACW, or FAC: |
| 2 | | |
| 3 | | |
| 4 | | Species Across All Strata: (B) |
| 4 | | Percent of Dominant Species |
| 5 | | That Are OBL, FACW, or FAC:() () (A/B) |
| 6 | | |
| | = Total Cover | Prevalence Index worksheet: |
| 50% of total cover: | 20% of total cover: | Total % Cover of: Multiply by: |
| Sapling Stratum (Plot size:) | | OBL species x 1 = |
| 1 | | FACW species x 2 = |
| 2 | | FAC species x 3 = |
| 2 | | FACU species x 4 = |
| | | UPL species x 5 = |
| 4 | | Column Totals: (A) (B) |
| 5 | | (B) |
| 6 | | Prevalence Index = B/A = |
| | = Total Cover | Hydrophytic Vegetation Indicators: |
| EAO/ of total covers | 20% of total cover: | 1_Rapid Test for Hydrophytic Vegetation |
| | 20% or total cover: | 2 - Dominance Test is >50% |
| Shrub Stratum (Plot size:) | | And the second s |
| 1 | | 3 - Prevalence Index Is ≤3.0 ¹ |
| 2 | | 4 - Morphological Adaptations ¹ (Provide supporting |
| 3 | | data In Remarks or on a separate sheet) |
| 4 | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 5 | | |
| 6 | | ¹ Indicators of hydric soil and wetland hydrology must |
| | | be present, unless disturbed or problematic. |
| | = Total Cover | Definitions of Five Vegetation Strata: |
| 50% of total cover: | 20% of total cover: | Tree – Woody plants, excluding woody vines, |
| Herb Stratum (Plot size: 30 11h car) | | approximately 20 ft (6 m) or more in height and 3 in |
| 1. Fchinschloa minicata | 10 / FACW | (7.6 cm) or larger in diameter at breast height (DBH). |
| 2. Indeviaia Dr. 18ms | 15 V 081- | Conling Mandu -last |
| 3. Ludwigia diferritatia | 4 FACW | Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less |
| 4. Richana hedera coor | 5 FAril | |
| 5. Arabra on hispid 15 | 10 | and a start strate of |
| 6. Panic m di hotom Honm | Id V FAR | Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. |
| - partic del de la del del del del de la del | 4 | |
| 7. Junus effinus | FACIN | Herb - All herbaceous (non-woody) plants, including |
| 8 | | herbaceous vines, regardless of size, and woody |
| 9 | | plants, except woody vines, less than approximately 3 ft (1 m) in height. |
| 10 | | |
| 11 | | Woody vine – All woody vines, regardless of height. |
| | 54 = Total Cover | |
| 11. | | |
| 50% of total cover: <u>27</u> | 20% of total cover: 10-8 | |
| Woody Vine Stratum (Plot size:) | | |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | 1 |
| | | |
| 5 | | Hydrophytic |
| | = Total Cover | Vegetation |
| 50% of total cover: | 20% of total cover: | Present? Yes No |
| Remarks: (Include photo numbers here or on a separate s | | |
| | | |

US Army Corps of Engineers

| | 6 |
|-----------------|-------------|
| | 22t-WET |
| Sampling Point: | al-1-totto- |

| Depth Matrix Redor Features Total Loc Cold mobil % Total S1 Glada (S1 redited S1 redited S | Profile Desc | ription: (Describe f | to the dept | th needed to docum | ent the l | ndicator | or confirm | the absence | of indicators.) |
|---|--------------|----------------------|-------------|--------------------|---------------------------------------|--------------------|-------------------|--------------------|--|
| 0-1 2.5 \ 4/2 40 7.5 \ 2 \ 4/2 40 7.5 \ 2 \ 4/2 40 7.5 \ 2 \ 4/2 6 6 4.0 \ 5 \ 5 \ 7.5 \ | Depth | Matrix | | Redox | Features | 3 | | | |
| Image: Set of the second se | (inches) | | | Color (moist) | % | _Type ¹ | _Loc ² | | |
| 2. SY 4/2 40 3. SY 4/2 85 4 | 0-1 | | | | | | | 21 | O Man is + rritets preserve |
| Image: Construction of the second | 1-4 | 2.544/2 | 40 | 7.54R4/10 | 20 | C | M, PL | -feel | 0 |
| Image: Construction of the second | | 2.5Y4/3 | 40 | , | | | | U | |
| Image: Indicators: Image: Indicators: Image: Ima | 4-62 | 2 5Y4/2 | | SYR 4/1. | 5 | C | M | sich | |
| Image: | | | | | 10 | C | M | | |
| Hydric Soli Indicators: Indicators: Indicators: Indicators for Problematic Hydric Solis ³ : | | | | 1.5112.110 | | | | | |
| Hydric Soli Indicators: Indicators: Indicators: Indicators for Problematic Hydric Solis ³ : | | | | | | | | | |
| Hydric Soli Indicators: Indicators: Indicators: Indicators for Problematic Hydric Solis ³ : | | | | | | | | | |
| Hydric Soli Indicators: Indicators: Indicators: Indicators for Problematic Hydric Solis ³ : | | | | | | | | | |
| Hydric Soli Indicators: Indicators: Indicators: Indicators for Problematic Hydric Solis ³ : | | | | | | | | | |
| Hydric Soli Indicators: Indicators: Indicators: Indicators for Problematic Hydric Solis ³ : | | | | | | ¢ | | | |
| Hydric Soli Indicators: Indicators: Indicators: Indicators for Problematic Hydric Solis ³ : | | | etion PM- | Peduced Matrix MS | -Mackad | Cand Cr | | 21 continue D | |
| Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147) Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Piedmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F2) Piedmont Floodplain Soils (F19) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Iron-Manganese Masses (F12) (LRR N, MLRA 136) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) No | Hydric Soli | indicators: | | Reduced Matrix, MS | -Waskeu | Sand Gr | ains. | Location: P | L=Pore Lining, M=Matrix. |
| Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147, 148) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147, 148) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (If observed): Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type: Depth (inches): Hydric Soil Present? Yes No | 7 | | | Dark Surface | (97) | | | | |
| Black Histic (A3) | | | | | | ce (S8) (1 | I RA 147 | 148)2 | |
| | | | | Thin Dark Sur | face (S9) | (MLRA 1 | 47. 148) | (40) <u> </u> | |
| Stratified Layers (A5) L*Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type: Depth (inches): Hydric Soil Present? Yes No | | | | Loamy Gleyed | d Matrix (I | F2) | ,, | P | 14 July 14 Jul |
| 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type: Depth (inches): Hydric Soll Present? Yes No | Stratified | d Layers (A5) | | | | | | | |
| Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Restrictive Layer (If observed): Type: Depth (inches): Hydric Soil Present? Yes No | | | | Redox Dark S | urface (F | 6) | | V | |
| Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Restrictive Layer (If observed): Type: Depth (inches): | | | e (A11) | | | | | C | Other (Explain in Remarks) |
| MLRA 147, 148) MLRA 136) | | | | | | | | | |
| Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type: Depth (inches): Hydric Soil Present? Yes No | | | KK N, | | | es (F12) (| LRR N, | | |
| | | S | | | 1 | MI DA 12 | 6 422) | 3100 | licetors of budgesbudie uppet time and |
| | | | | | | | | | |
| Restrictive Layer (if observed): Type: Depth (inches): Hydric Soll Present? Yes | | | | | | | | State and a second | |
| Depth (inches): Hydric Soll Present? Yes No | | | | | , , , , , , , , , , , , , , , , , , , | | | <u>,</u> | / |
| | Type: | | | | | | | | |
| Remarks: | Depth (in | ches): | | | | | | Hydric Soll | Present? Yes No |
| | Remarks: | | | | | | - | | |
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| | Wetland Function-Value Evaluation Form | (|
|---|---|--|
| Total area of wetland $0.01 \text{ acc}^{\text{A}}$ Human made? No Is wetland part of | Is wetland part of a wildlife corridor? <u>Ves</u> or a "habitat island"? <u>No</u> | Wetland I.D. 224- WCT Latitude 38.98355 Longitude - 74.157451 |
| Adjacent land use ROAD ROW - MC | ROAD ROW - MOWN (NAKS Distance to nearest roadway or other development 35' | Prepared by: MDS Date 4-18-2018 |
| Dominant wetland systems present NO | Contiguous undeveloped buffer zone present NO | Wetland Impact: Type fton Area 0.01 aux |
| Is the wetland a separate hydraulic system? $\overline{N\mathcal{O}}$ | If not, where does the wetland lie in the drainage basin? MIDDLE | Evaluation based on: |
| How many tributaries contribute to the wetland? \bigcirc | Wildlife & vegetation diversity/abundance (see attached list) | Office Field Corps manual wetland delineation |
| Si Function/Value | Suitability Rationale Principal Y N (Reference #)* Function(s)/Value(s) Co | completed? Y <u>N</u> Comments |
| Groundwater Recharge/Discharge | | |
| - Floodflow Alteration | | |
| Fish and Shellfish Habitat | > | |
| K Sediment/Toxicant Retention | | |
| Nutrient Removal | | |
| Production Export | | |
| Sediment/Shoreline Stabilization | | |
| Wildlife Habitat | | |
| 🕂 Recreation | | |
| Educational/Scientific Value | | |
| 🜟 Uniqueness/Heritage | | |
| 大学 Visual Quality/Aesthetics | 2 | |
| ES Endangered Species Habitat | | |
| Other | | |
| Notes: | * Refer to buch | * Refer to backup list of numbered considerations. |

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| | | | | | | Waters of | Waters of the U.S. Data Sheet | Data Shee | t | 1 | | | | |
|--|--------------------------|------------|---------------------------------|-------------------|---|-----------------------|---|------------------------|---------------------------------|---------------------------|-------------------------------|------------------|---|--------|
| Project: T-495 /7 | 082-1 | | Manand | Langs | 13 5. | - ton | | Fe | Feature ID: | 22 FF | | Stream | Stream Order: | |
| Date: 6/28/18 |) | | 4 | | State: | MD | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Ph | Photos: 31 | 3107 - 3 | 108 | | | 1 |
| Crew: KJH, RL | | | | | County: | · Wo | | Ta: | Last Flag Number: | | NA . | | (4), 13 (4), 13 | |
| Feature Hydrologic Class (check one): | ologic C | lass (ch | eck one) | | | | | | | | | | | |
| Tidal | | | Pei | Perennial | | | Intermittent | ent | | | E | Ephemeral | | |
| TNW (Subject to ebb and | ebb and | O | TNW – Perennial | erennial | 4 | O RPV | RPW – Seasonal (must | nal (must | | Von-RPW | Non-RPW draining uplands | lands | | |
| (WOII | | | PDW Daving year round | renniel | (n | Vear | ר וכמסו וס ע ר) | | | VOIL-INT W | Non-RPW with abuiting wetland | no wetlan | - | |
| | | \sum | (Flowing year round) | /ear roun | (p | <u>у</u> сш | | | | Von-RPW | Non-RPW with adjacent wetland | int wetlan | | |
| Describe rational | Dry | duing | 12 6 | くや く | Visi+ | | | | 0 | Von-RPW | wetland adj | acent or a | Non-RPW wetland adjacent or abutting upstream | am |
| for hydrologic class: | | | | | - | | | | | outside of | (outside of study area) | | | |
| Hydrologic Connectivity - | ity – | Upstre | Upstream: sheet flow | et flow | From | Dov | Downstream: | ortside | Stedy | Aven Ad | Adjacent/Abutting: | tting: 🔨 | Suc | |
| Feature Description: (check all that apply) | iption: | (check | all that a | (A)da | Culvert | 1+ | Flows | to | perronia | 1 Steem | to | | | |
| Sha | pe (with | respec | Shape (with respect to OHW) | () () | | | | Subs | Substrate | | V | egetatior | Vegetation Cover Type (MBSS) | (MBSS) |
| Natural Channel Shape | hape | | Width: | 15-8 | | | × Silts | X | Sands | Muck | | RB: Forred | 7 | |
| Artificial (man-made) | ide) | | Depth: (| 0 - 611 | | | Cobbles | X | Gravel | Otl | Other: | 2 | | |
| 🔀 Manipulated (man-altered) | -altered | | Bank Erosion/stability: | sion/stab | ility: | 200 1 4 4 1 4 7 | Bedrock | | Concrete | | | | Ţ | |
| Cother: | | | moderate | | e109:20 | Side | Side slope: ∑ ≥13 | | 2:11 3:1 | 1 □ ≤4:1 | LB: | 10100 | H | |
| Notes: | | | | | | | | | | | | | | |
| Weather/Precipitation Conditions: | ipitation | Londi | tions: | | | | | | | | | | | |
| | Inches of | s of | | | | | r. | Aonthly J | Drought (| Monthly Drought Condition | | Mont | Month Mart Vo | 0 0 C |
| During Field Visit | Kain Within Last Week | Veek | http://w | http://www.nede.n | c.noaa.go | ov/temp-a | oaa.gov/temp-and-precip/climatological-rankings/index.php | /climatol | imatological-rankings | rust ikings/ind | ex.php | TITOTAT | ng | 0 |
| No rain | 0 | 0-0.5 | С | С | С | С | C | 0 | C | | 0 | 0 | 0 | 0 |
| | 0 | 0.5-1 | φ | ېر ا | 4 |) ⁽ | -7 | | 0 | - | 2 | 0 | 4 5 | 6 |
| O Heavy Rain | 0 | >1 | Set | Severe Drought | ight | Modera | Moderate Drought | t | Normal | | Moderately Wet | / Wet | Severely Wet | Wet |
| Non-tidal tributary has: (<i>check all that apply; include photos for each & list photo #</i>) | utary ha | is: (cheo | ck all tha | t apply; | include p | hotos for e | each & list | (# otoita #) | | | | | | |
| Bed and Banks | | | | | | | Ordinal | y High V | Ordinary High Water Mark | rk | | | | |
| X Yes | | lear, nat | ural line | impresse | Clear, natural line impressed on the bank | ank | X Sedin | Sediment deposition | sition | | Sedimer | Sediment sorting | | |
| No | | hanges i | Changes in the character of soi | racter of | soil | | U Wate | Water staining | | | Scour | | | |
| - | S | Shelving | | | | 4 | X Prese | nce of flo | Presence of flood litter/debris | ebris | ☐ Observe | sd/predict | Observed/predicted flow events | |
| | N | egetatio | Vegetation matted down, bent, | down, be | ent, or absent | sent | X Destr | uction of | Destruction of terrestrial veg. | veg. | Abrupt | change in | Abrupt change in plant community | iity |
| | N Le | eaf litter | Leaf litter disturbed | q | | | Prese | Presence of wrack line | ack line | | Other: | | | |
| Tidal tributary has: (check all that apply; include | y has: (c | heck al | I that app | oly; inclu | ide photo | s for each | photos for each & list photo #) | to #) | | | | | | |
| Hig | High Tide Line | anic | | | Mcan] | High Wat | Mean High Water Mark indicated by: | ndicated | by: | | Chemic | cal Chara | Chemical Characteristics | |
| Oil or scum line along shore objects | long sho | re objec | ts | | Surve | y to availa | Survey to available datum | | | Water is clear | s clear | | | |
| Fine shell or debris deposits (foreshore) | s deposi | ts (fores | (hore) | | Physic | Physical markings | gs | | | Water i | Water is discolored | P | | |
| Physical markings/characteristics | /charact | eristics | | | Veget | ation lines | Vegetation lines/changes in types | ו types | | Oily film | Е | | | |
| Tidal gauges | | | | | | | | | | Other: | | | | |
| Notes: | | | | | | | | | | | | | | |

VEN4FIO MBS 4-18-2018

| Landform (hillslope, terrace, etc.): $Slarge$ Local rel Subregion (LRR or MLRA): $MLKA + 48$ Lat: $38 \cdot 98382$ Soil Map Unit Name: CalorVS Sift Lan, 0 th 3^{-1} Signes, or casis Are climatic / hydrologic conditions on the site typical for this time of year? Y Are Vegetation N , Soil N , or Hydrology N significantly distur Are Vegetation N , Soil N , or Hydrology N naturally problem | County: <u>Mantationus</u> on, Township, Range: ief (concave, convex, no <u>Long: Township</u> instant <u>Long: Township</u> instant <u>Lo</u> | State: <u>MD</u> Sampling Date: <u>MD</u> Sampling Point: <u>Grad</u> -UPI 224/226-UPL ne): <u>Note</u> Slope (%): 2-3 <u>37.15808</u> Datum: NA D83 NVI classification: (If no, explain in Remarks.) I Circumstances" present? Yes <u>No</u> explain any answers in Remarks.) |
|---|--|---|
| SUMMARY OF FINDINGS – Attach site map showing sam Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: Pholo I | npling point location | Yes No |
| Water Marks (B1) Presence of Reduce Sediment Deposits (B2) Drift Deposits (B3) Thin Muck Surface (C Algal Mat or Crust (B4) Other (Explain in Re Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) | for (C1) res on Living Roots (C3) d Iron (C4) on in Tilled Soils (C6) C7) | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) |
| Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, program Remarks: Remarks: | | Hydrology Present? Yes No ailable: |

| | | 224/226 |
|---|---|--|
| EGETATION (Five Strata) – Use scientific na | | Sampling Point: |
| ree Stratum (Plot size: 30' radius) | Absolute Dominant Indicator % Cover Species? Status | Dominance Test worksheet: |
| Tunipenb Arginiand | 4.4 | Number of Dominant Species |
| | | That Are OBL, FACW, or FAC: (A) |
| Quertis nord | 25 V FACU | Total Number of Dominant |
| Acernon | _5FAC | Species Across All Strata: (B) |
| | | |
| | | Percent of Dominant Species That Are OBL, FACW, or FAC: 12.5 (A/B) |
| | | That Are OBL, FACW, or FAC: (A/B) |
| | 70 | Prevalence Index worksheet: |
| 0 | = Total Cover | Total % Cover of: Multiply by: |
| 50% of total cover:5 | 20% of total cover: 4 | <u> </u> |
| pling Stratum (Plot size: 30'radius) | / | <u>^</u> |
| Tinipenus inirainiand | 5 J FAW | FACW species x 2 = |
| Aarnraundo | 15 IV TAK | FAC species 30 x 3 = 60 |
| 17 CP ATOMA OF | 10 V TAC | FACU species $(65 \times 4 = 660)$ |
| 0 | 12 | UPL species 30 x'5 = (50) |
| | | 05 02 |
| | | |
| | | Prevalence Index = B/A = 4.05 |
| | 20 = Total Cover | Hydrophytic Vegetation Indicators: |
| 1 | | |
| 50% of total cover: 1.D | 20% of total cover: | 1 - Rapid Test for Hydrophytic Vegetation |
| rub Stratum (Plot size: 30' radius) | 1 | 2 - Dominance Test is >50% |
| Lonicera maghii | | 3 - Prevalence Index Is ≤3.0 ¹ |
| Rasa multi trava | 40 / FACU | 4 - Morphological Adaptations ¹ (Provide supporting |
| | | data In Remarks or on a separate sheet) |
| | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| | | |
| | | ¹ Indicators of hydric soll and wetland hydrology must |
| | | be present, unless disturbed or problematic. |
| | = Total Cover | Definitions of Five Vegetation Strata: |
| 50% of total cover: _35 | / | Deminions of Five vegetation Strata: |
| erb Stratum (Plot size: 30' red (V)) | 20% of total cover:1~7 | Tree – Woody plants, excluding woody vines, |
| | - 1 -: | approximately 20 ft (6 m) or more in height and 3 in. |
| Allum vincale | 5 V FACU | (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. |
| | | 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. |
| · | | |
| | = Total Cover | |
| 50% of total cover: 2.5 | 20% of total cover: | |
| pody Vine Stratum (Plot size: 30'radus) | | |
| | 50 FAUL | |
| Lonicera japonica | 50 / FAUL | - |
| J | | |
| | And the second se | |
| | | |
| 1 | | / |
| | EN THE | Hydrophytic |
| ^× | 50 = Total Cover | Vegetation |
| | 20% of total cover: 10 | Present? Yes No |
| 50% of total cover: 25 | 2070 01 10101 00401. | |

US Army Corps of Engineers

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| 7.2 | F1226-UPL |
|----------------|-----------|
| Point: <u></u> | tote upl |
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| SOIL | | | | | | | | ampling Point: | or after |
|---|---------------------------------|-------------|----------------------|----------------------|------------------|---------------------------|---------------|----------------|---------------------------|
| Profile Desc | ription: (Describe t | o the dept | n needed to documen | t the indicator o | r confirm | the absence | of Indicato | ors.) | |
| Depth | Matrix | | Redox Fe | | | | | (*) | |
| (inches) | Color (moist) | % | Color (moist) | % Type ¹ | Loc ² | Texture | | Remarks | |
| 0-5 | 104K 4/3 | 50 | | | | 51 | | | |
| | 101-18510 | ≤ 0 | | | | | | | |
| 3-12- | | 18.0 | | | | <u> </u> | | | |
| 5-10- | 1041 3/10 | 100 | | | | -) [| u/a | time (| |
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| 'Type: C=Co | ncentration, D=Deple | etion, RM=F | Reduced Matrix, MS=M | lasked Sand Grai | ns. | ² Location: Pl | L=Pore Linii | ng, M=Matrix. | |
| Hydric Soil I | | | | | | Indica | ators for Pr | oblematic Hy | dric Solls ³ : |
| Histosol | | | Dark Surface (S | | | 2 | cm Muck (/ | 10) (MLRA 1- | 47) |
| | ipedon (A2) | | Polyvalue Below | Surface (S8) (ML | .RA 147, | 148) C | | Redox (A16) | |
| Black His | | | | ce (S9) (MLRA 14 | 7, 148) | | (MLRA 14 | | |
| 0.0000000000000000000000000000000000000 | n Sulfide (A4) | | Loamy Gleyed N | | | P | | odplain Soils | (F19) |
| | Layers (A5) ck (A10) (LRR N) | | Depleted Matrix | | | | (MLRA 13 | | |
| | Below Dark Surface | (111) | Redox Dark Surf | | | | | Dark Surface | |
| | rk Surface (A12) | (~1) | Redox Depression | | | 0 | ther (Explai | n in Remarks) | |
| | ucky Mineral (S1) (LI | RRN | | Masses (F12) (LI | DD M | | | | |
| | 147, 148) | , | MLRA 136) | 10103363 (1 12) (11 | ININ IN, | | | | |
| | leyed Matrix (S4) | | | (F13) (MLRA 136 | 122) | ³ Indi | icators of by | /drophytic veg | etation and |
| | edox (S5) | | | plain Soils (F19) (I | | | | logy must be p | |
| | Matrix (S6) | | | erial (F21) (MLRA | | | | ed or problema | |
| Restrictive L | ayer (If observed): | | | 1 /1 | | · · · · · · | | er er problem | |
| Type: | | | | | | | | | / |
| Depth (inc | hes): | | | | | Hydric Soli | Drocont? | Vac | No |
| Remarks: | | | | | | Tryanc 301 | Flesentr | Yes | NOV |
| Nemarks. | | | | | | | | | |
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VERLED MBS 4-18-2018

| WETLAND DETERMINATION DATA FORM – Eastern Mo | untains and Piedmont Region |
|--|---|
| I495/IZ70 MANAGED LAWES SMOY | 4-18-2018 |
| Project/Site: 1-495 JRIA Montoppen County: Monde | Anu v-Co Sampling Date: 11/21/14- |
| Applicant/Owner: | State: MD Sampling Point: at-te Wat |
| Investigator(s): AT-MALAM MBS/SJFF Section, Township, Ra | 776.117 |
| | |
| | vex, none): \underline{Cacauc} Slope (%): 5-6 |
| | ng: 77.15812 Datum: NAD83 |
| Soil Map Unit Name: CodorUS 511+ 10am, 0+3-1. stopes, occasionally | |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes NB | (If no, explain in Remarks.) |
| | "Normal Circumstances" present? Yes No |
| Are Vegetation \underline{N} , Soil \underline{N} , or Hydrology \underline{N} naturally problematic? (If ne | eeded, explain any answers in Remarks.) |
| SUMMARY OF EINDINGS Attach site men showing compling point I | andiana Ananasta increatori factura at |
| SUMMARY OF FINDINGS – Attach site map showing sampling point I | ocations, transects, important features, etc. |
| Hydrophytic Vegetation Present? Yes No | |
| Hydric Soil Present? Yes No is the Sampled within a Wetlan | |
| Wetland Hydrology Present? Yes No | |
| Remarks: | |
| Nulas SER-2519 | |
| Photos 2568-2569 | |
| | |
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| | |
| 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) True Aquatic Plants (B14) | Sparsely Vegetated Concave Surface (B8) |
| High Water Table (A2) Hydrogen Sulfide Odor (C1) | Drainage Patterns (B10) |
| Saturation (A3) Oxidized Rhizospheres on Living Root | ts (C3) Moss Trim Lines (B16) |
| Water Marks (B1) Presence of Reduced iron (C4) | Dry-Season Water Table (C2) |
| Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (| C6) Crayfish Burrows (C8) |
| Drift Deposits (B3) Thin Muck Surface (C7) | Saturation Visible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) Other (Explain in Remarks) | Stunted or Stressed Plants (D1) |
| Iron Deposits (B5) | ✓ Geomorphic Position (D2) |
| inundation Visible on Aerial Imagery (B7) | Shallow Aquitard (D3) |
| Water-Stained Leaves (B9) | Microtopographic Relief (D4) |
| Aquatic Fauna (B13) | FAC-Neutral Test (D5) |
| Field Observations: | |
| Surface Water Present? Yes No Depth (inches): /- 2 // | |
| Water Table Present? Yes No Depth (inches): | 1 |
| Saturation Present? Yes No Depth (inches): | etland Hydrology Present? Yes No |
| (includes capillary fringe) | N 17 |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections | s), if available: |
| Deventer | |
| Remarks: | |
| | |
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Sampling Point: AI-K-WET

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

| Tree Stratum (Plot size: 30 (1 real) 1. Salix higra 2. 3. 4. 5. 6. 50% of total cover: 5 Sapling Stratum (Plot size: 30 1. heal) 1. Francinus pernos di vani ca 2. 4. 5. 6. 50% of total cover: 5 Sapling Stratum (Plot size: 30 1. heal) 1. Francinus pernos di vani ca 2. 4. 5. 4. 5. 4. 5. 4. | | = Total Cov total cover: | <u>Status</u> <u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u> | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: |
|--|--------------------------------------|-----------------------------|--|--|
| 50% of total cover: Shrub Stratum (Plot size:) 1 | 20% of | Total Cover: | FACU. | Prevalence index = B/A = |
| 50% of total cover: <u>50% of total cover</u> : <u>50% of total cover</u> : <u>50% of total cover</u> . 1. <u>Loni cera japonica</u> 2. <u>50% of total cover</u> : <u>2.5</u> Remarks: (Include photo numbers here or on a separate sh ACRU, OWA ADIVI IN CANOPY D | <u>5</u> = 20% of th neet.) | Total Cove | | Hydrophytic Vegetation Present? Yes <u>No</u> |

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Sampling Point: Otto WET

| Profile Des | cription: (Describe t | o the dept | h needed to docum | nent the I | ndicator | or confirm | the absence | of Indicators.) |
|---------------------------------------|--------------------------------|------------|--------------------|-------------|------------|------------------|---------------------------|---|
| Depth | Matrix | | | Features | | | | , |
| (inches) | Color (moist) | | Color (moist) | % | Type | Loc ² | Texture | Remarks |
| 0-3 | 2-5YA12 | 70 | 7-5484/6 | 30 | C | M.PL | sid | |
| 3-12 | 2.514/1 | 85 | 5 YR 4/16 | 15 | | M | 5101 | - W Coarse travinents |
| · · · · · · · · · · · · · · · · · · · | | | | | | | | |
| | | | | | | | | |
| ¹ Type: C=C | oncentration, D=Depl | etion, RM= | Reduced Matrix, MS | =Masked | Sand Gra | ains. | ² Location: Pl | _=Pore Lining, M=Matrix. |
| Hydric Soli | indicators: | | | | | | Indica | ators for Problematic Hydric Soils ³ : |
| Histosol | (A1) | | Dark Surface | (S7) | | | | cm Muck (A10) (MLRA 147) |
| Histic E | pipedon (A2) | | Polyvalue Bel | | ce (S8) (N | ILRA 147. | | oast Prairie Redox (A16) |
| Black H | istic (A3) | | Thin Dark Su | face (S9) | (MLRA 1 | 47, 148) | | (MLRA 147, 148) |
| Hydroge | en Sulfide (A4) | | Loamy Gleye | | | 20 | Pi | iedmont Floodplain Soils (F19) |
| Stratified | d Layers (A5) | | Copleted Mat | rix (F3) | | | | (MLRA 136, 147) |
| | uck (A10) (LRR N) | | Redox Dark S | | | | V | ery Shallow Dark Surface (TF12) |
| | d Below Dark Surface | (A11) | Depleted Dar | k Surface | (F7) | | 0 | ther (Explain in Remarks) |
| | ark Surface (A12) | | Redox Depre | ssions (F | 8) | | | |
| | Aucky Mineral (S1) (L | RR N, | Iron-Mangane | | es (F12) (| LRR N, | | |
| | A 147, 148) | | MLRA 136 | | | | | |
| | Bleyed Matrix (S4) | | Umbric Surface | | | | | icators of hydrophytic vegetation and |
| | Redox (S5) | | Piedmont Flo | | | | | tland hydrology must be present, |
| | I Matrix (S6) | | Red Parent N | laterial (F | 21) (MLR | A 127, 147 |) unl | ess disturbed or problematic. |
| Restrictive | Layer (if observed): | | | | | | | |
| Туре: | | | | | | | | |
| Depth (in Remarks: | ches): | | | nolimerowa | | | Hydric Soil | Present? Yes <u>No</u> |
| Remarks. | | | | | | | | |
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| | en model and the second second | | | | | | | |

| | Wetland Function-Value Evaluation Form | |
|--|--|--|
| Total area of wetland 0.02 at ^A Human made? <u>NO</u> | Is wetland part of a wildlife corridor? Wess or a "habitat island"? NO | Wetland I.D. 22 6 - WET I atimide 38.98408 I aminida -77.156036 |
| Adjacent land use for 924 | | Prepared by: MbS Date 4-18-2018 |
| Dominant wetland systems present $\mathbb{N}_{\mathbb{O}}$ | | Wetland Impact: Type PFO Area 0.02 aurt |
| Is the wetland a separate hydraulic system? $\mathcal{N}_{\mathbb{C}}$ | UNA N | Evaluation based on: |
| How many tributaries contribute to the wetland? | | Office / Field / |
| Function/Value | Suitability Rationale Principal complete Y N (Reference #)* Function(s)/Value(s) Comments | completed? Y \swarrow N |
| Groundwater Recharge/Discharge | | |
| Floodflow Alteration | | |
| Fish and Shellfish Habitat | | |
| & Sediment/Toxicant Retention | | |
| Nutrient Removal | | |
| Production Export | | |
| Sediment/Shoreline Stabilization | | |
| 🐿 Wildlife Habitat | | |
| 🕂 Recreation | | |
| Educational/Scientific Value | | |
| 🜟 Uniqueness/Heritage | | |
| Visual Quality/Aesthetics | | |
| ES Endangered Species Habitat | | |
| Other | | |
| Notes: | * Refer to backup | * Refer to backup list of numbered considerations |

| Subregion (LRR or MLRA): <u>MLRA 148</u> Lat: <u>38.98282</u> Soil Map Unit Name: <u>Codom is 51H loann</u> , <u>0+037.510005</u> , <u>orcas ionally</u> Are climatic / hydrologic conditions on the site typical for this time of year? Yes <u>V</u> N Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u> significantly disturbed? | 6/28/18 <u>Ax-lgowery Co.</u> State: <u>MD</u> Sampling Date: 4/24114 State: <u>MD</u> Sampling Point: 61-0-045 , Range: 2266-0PL convex, none): <u>nonc</u> Slope (%): 0 Long: <u>777.15709</u> Datum: NAD83 <u>Hooded</u> NWI classification. Upbrd |
|--|---|
| SUMMARY OF FINDINGS - Attach site map showing sampling poi Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: KWSSL duess & planting area beyond SHA Server KWSSL duess & planting area beyond SHA Server KWSSL duess & planting area beyond SHA Server KWSSL duess & planting area beyond SHA Server | pled Area |
| HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) | Dry-Season Water Table (C2) |
| Field Observations: Surface Water Present? YesNoDepth (inches): Water Table Present? YesNoDepth (inches): Saturation Present? YesNoDepth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspect Remarks: Remarks: | Wetland Hydrology Present? Yes No |

ZZGG-→PL Sampling Point:

| Tree Stratum (Plot size:) | Absolute Dominant Indicator | Dominance Test worksheet: |
|--|--|---|
| 1) | <u>% Cover</u> <u>Species?</u> <u>Status</u> | Number of Dominant Species That Are OBL, FACW, or FAC: (A) |
| 2 | | |
| 3 | | Total Number of Dominant Species Across All Strata:(B) |
| 4 | | |
| 5 | | Percent of Dominant Species DO (A/B) |
| 6 | | |
| | = Total Cover | Prevalence Index worksheet: |
| 50% of total cover: | 20% of total cover: | Total % Cover of:Multiply by: OBL species x 1 = |
| Sapling Stratum (Plot size:) | | EACW species Q $x_{1} = Q$ |
| 1 | | FACW species O x 2 = O FAC species S x 3 = 2.55 FACU species 5 x 4 = 20 |
| 2 | | FACU species $5 \times 4 = 20$ |
| 3 | | UPL species O x 5 = O |
| 4 | | Column Totals: 90 (A) 275 (B) |
| 5 | | A CONTRACT OF A |
| 6 | | Prevalence Index = B/A = 3.05 |
| | = Total Cover | Hydrophytic Vegetation Indicators: |
| 50% of total cover: | 20% of total cover: | Appendix 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% |
| | | 3 - Prevalence Index is $\leq 3.0^{1}$ |
| 2. | | 3 - Prevalence index is \$3.0 4 - Morphological Adaptations¹ (Provide supporting |
| 2 | | data in Remarks or on a separate sheet) |
| 4 | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 5 | | |
| б. <u></u> | | ¹ Indicators of hydric soil and wetland hydrology must |
| | = Total Cover | be present, unless disturbed or problematic. |
| 50% of total cover: | 20% of total cover: | Definitions of Five Vegetation Strata: |
| Horh Stratum (Plot size: 3 Kad) N | , | Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. |
| 1. Participanted) | - 85 FAC | (7.6 cm) or larger in diameter at breast height (DBH). |
| 2. refolium vopens | 5 FACU | Sapling – Woody plants, excluding woody vines, |
| 3 | | approximately 20 ft (6 m) or more in height and less |
| 4 | | than 3 in. (7.6 cm) DBH. |
| 5 | | Shrub - Woody plants, excluding woody vines, |
| 6 | | approximately 3 to 20 ft (1 to 6 m) in height. |
| 7 | | Herb – All herbaceous (non-woody) plants, including |
| 8 | | herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 |
| 9 | | ft (1 m) in height. |
| 10 | | Woody vine – All woody vines, regardless of height. |
| 11 | 90 = Total Cover | |
| and the second | | |
| | 4.5 20% of total cover: 18 | |
| Woody Vine Stratum (Plot size:) | | |
| 2 | | |
| 2 | | |
| 4 | | / |
| 5 | | |
| | = Total Cover | Hydrophytic |
| | | Vegetation / |
| 50% of total acuto | 20% of total cover: | Present? Yes V No |

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2266-CPL

| Depth | cription: (Describe) Matrix | | Redox | Features | | | | | |
|-----------|-----------------------------------|---------------------------------------|-------------------|----------|----------|-------------------|------------------------|-------------------|---|
| (inches) | Color (moist) | | Color (moist) | % | Type | _Loc ² | Texture | | Remarks |
| 0-12 | 7.57R314 | 100 | | | | | 51 | w/gravel | disturbed |
| | | | | | | | | | |
| | | · · · · · · · · · · · · · · · · · · · | | | | | • • | - I | |
| | · | | | | | | ······ | | |
| | | | | | | | · | | |
| Type: C=C | concentration, D=Dep | letion, RM=R | educed Matrix, MS | =Masked | Sand Gra | ains. | ² Location: | PL=Pore Lining | , M=Matrix. |
| | Indicators: | | | | | | Indi | cators for Pro | blematic Hydric Soils ³ : |
| Histoso | | | Dark Surface | | | | | | 0) (MLRA 147) |
| | pipedon (A2) listic (A3) | | Polyvalue Bel | | | | 148) | Coast Prairie F | |
| | en Sulfide (A4) | | Thin Dark Sur | | | 47, 148) | | (MLRA 147, | |
| | d Layers (A5) | | Depleted Mat | | -2) | | | (MLRA 136, | dplain Soils (F19) |
| | uck (A10) (LRR N) | | Redox Dark S | | 6) | | | | Dark Surface (TF12) |
| | d Below Dark Surface | e (A11) | Depleted Darl | | | | | Other (Explain | |
| | ark Surface (A12) | | Redox Depres | | | | | | |
| | Mucky Mineral (S1) (L | .RR N, | Iron-Mangane | se Masse | | LRR N, | | | |
| | A 147, 148) Gleyed Matrix (S4) | | MLRA 136 | • | | 6 409) | 31 | | |
| Sandy I | Redox (S5) | | Piedmont Flor | | | | 10) | noticators of nyc | lrophytic vegetation and gy must be present, |
| | d Matrix (S6) | | Red Parent M | | | | | | d or problematic. |
| | Layer (If observed): | | | | | | 1 | | |
| Type: | | | | | | | | | |
| Depth (ir | iches): | | | | | | Hydric So | oil Present? | Yes No 🗸 |
| Remarks: | | | | | | | | | |
| Soils | dishibed | | | | | | | | |
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| Landform (hillslope, terrace, etc.): Swale Local rel Subregion (LRR or MLRA): MLRA149 Lat: 38.982 Soil Map Unit Name: Codorus SIH Joann, 0 to 3.1. Stopes, occas Are climatic / hydrologic conditions on the site typical for this time of year? Y Are Vegetation N., Soil N. or Hydrology N significantly distur Are Vegetation N., Soil N. or Hydrology N anturally problems SUMMARY OF FINDINGS – Attach site map showing san Hydrophytic Vegetation Present? Yes No Wetland Hydrology Present? Yes No | Ly 6/28/18 Sounty: Month avery (a) State: MO State: MO State: MO Sampling Date: 11/24/14 State: MO State: MO State: MO State: MO State: MO State: 22-66-WBT ief (concave, convex, none): Concave Long: -77.15719 Long: -77.15719 Datum: NAD 83 idwrll: Aforded NVU classification: PEVALC 'es No (If no, explain in Remarks.) No bed? Are "Normal Circumstances" present? Yes Are "Normal Circumstances" in Remarks.) No atic? (If needed, explain any answers in Remarks.) npling point locations, transects, important features, etc. Is the Sampled Area Yes within a Wetland? Yes No |
|---|--|
| Remarks: | Sothern portion of wetland |
| -flows to short concrele flowne to other | venoued - drif curele - |
| | stind any survey |
| -Flows to short concrete flowne to ofto 222 -WSSE has accessed wonholes through this | hereno Photo 3111 |
| | |
| 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) |
| J Surface Water (A1) True Aquatic Plants (J High Water Table (A2) Hydrogen Sulfide Od | |
| | es on Living Roots (C3) Moss Trim Lines (B16) |
| Water Marks (B1) Presence of Reduced | |
| Sediment Deposits (B2) Recent Iron Reduction | on in Tilled Soils (C6) Crayfish Burrows (C8) |
| Drift Deposits (B3) Thin Muck Surface (0 | C7) Saturation Visible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) Other (Explain in Rer | |
| Iron Deposits (B5) | Geomorphic Position (D2) |
| Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) | Shallow Aquitard (D3) |
| Aquatic Fauna (B13) | Microtopographic Relief (D4) FAC-Neutral Test (D5) |
| Field Observations: | |
| Surface Water Present? Yes \int No Depth (inches): < | 1"* |
| Water Table Present? Yes _/_ No Depth (inches): | |
| Saturation Present? Yes / No Depth (inches): | Wetland Hydrology Present? Yes No |
| (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre | evious inspections), if available: |
| | |
| Remarks: | |
| * covering 103 of plot | |
| | |
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US Army Corps of Engineers

22-GG-WET Sampling Point: <u>OF O-W</u>E→

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

| 50% of total cover: | ⁻ | | | Vegetation Present? Yes No |
|--|--------------|--------------|-------------|--|
| h • | | | 100 | |
| | | | | Hydrophytic |
| | | | | / |
| | | | | |
| | | | | |
| /oody Vine Stratum (Plot size: <u>5 × 3 (</u>) | | | | |
| 50% of total cover: <u>47,5</u> | 20% of t | total cover: | 19 | |
| | | Total Cove | | |
| 1, | | | | Woody vine – All woody vines, regardless of height. |
|) | | | | ft (1 m) In height. |
| | | | | herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 |
| | | | | Herb - All herbaceous (non-woody) plants, including |
| · | | | | approximately 3 to 20 ft (1 to 6 m) in height. |
| Annaxon W produs | 5 | | | Shrub - Woody plants, excluding woody vines, |
| Tao cup uscas ma Donated | 40 | J | FACW | approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. |
| Echnologia mondosa | 5 | | FACH | Sapling - Woody plants, excluding woody vines, |
| Junces planus | 40 | <u> </u> | TAXIN | (7.6 cm) or larger in diameter at breast height (DBH). |
| lerb Stratum (Plot size: 5 × 30') | | , |) | Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. |
| 50% of total cover: | | | | |
| | | - Total Cove | | be present, unless disturbed or problematic. Definitions of Five Vegetation Strata: |
| · | | | | ¹ Indicators of hydric soil and wetland hydrology must |
| · | | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| · | | | | data in Remarks or on a separate sheet) |
| | | | | 4 - Morphological Adaptations ¹ (Provide supportin |
| | | | | 3 - Prevalence Index is $\leq 3.0^{1}$ |
| 50% of total cover: $2, \leq$ shrub Stratum (Plot size: $5 \ll 3b'$) | 20% of | total cover: | | 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% |
| 1 | | - Total Cov | | Hydrophytic Vegetation indicators: |
| ő | | | | Prevalence Index = B/A = |
| j | | | | Column Totals: (A) (B) |
| k: | | | | |
| 9 9 | | | | FACU species x 4 = |
| _ overus preturitin s | | | FACW | FAC species x 3 = |
| Sapiling Stratum (Plot size: 5 × 35') | 10 | 1 | | OBL species x 1 = FACW species x 2 = |
| 50% of total cover: 5 | 20% of | total cover: | 2 | |
| | 10 | = Total Cov | er | Prevalence index worksheet: |
| 6 | | | | That Are OBL, FACW, or FAC: 100 (A/E |
| 4 5 | | | | Percent of Dominant Species |
| 3 | | | | Species Across All Strata: 4 (B) |
| 2 | | | | |
| <u>ree Stratum</u> (Plot slze: <u>5 × 38)</u>) . <u>Acex wlonym</u> | 10 | Species | FAC | Number of Dominant Species L((A) |
| | % Cours | Specles? | Indicator | Dominance Test worksheet: |

US Army Corps of Engineers

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| | r | 1 | | | 77 | |
|-----|---|---|---|---|----|--|
| 22- | 5 | 5 | - | ~ | E | |

| ofile Desc | ription: (Describe | to the dep | th needed to docur | ment the li | ndicator | or confirm | n the absence | e of Indicators | s.) | |
|------------|--------------------|-------------|--------------------|-----------------|------------|------------------|------------------------|-----------------|------------------|---------------|
| epth | Matrix | | | x Features % | Type' | Loc ² | Texture | | Remarks | |
| ches) | Color (moist) | | Color (moist) | 70 | | | 1 | most lik | 1 1 2 | coustratio |
| -3_ | 7.5YR5/6 | 100 | 2-110.11 | 10 | | | 516 | | | |
| -12 | 10YR4/1 | 40 | 7.54R4/6 | _10_ | | M | SICI | | | |
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| | | - | | | | | | | | |
| | | | | | | | | - | present at | |
| | | | 3 | | | | | | | |
| | • | - | | | | | | | | |
| pe: C=C | oncentration, D=De | pletion, RM | =Reduced Matrix, M | S=Masked | d Sand Gr | ains. | ² Location: | PL=Pore Linin | g, M=Matrix. | |
| | Indicators: | | | | | | Indi | cators for Pro | oblematic Hyd | ric Solis*: |
| Histosol | | | Dark Surfac | | | | | | 10) (MLRA 14) | 7) |
| | pipedon (A2) | | Polyvalue B | | | | ', 148) | Coast Prairie | | |
| | istic (A3) | | Thin Dark S | | | 147, 148) | | (MLRA 147 | | and and a set |
| | en Sulfide (A4) | | Loamy Gley | ed Matrix | (F2) | | <u>17-10-00</u> | | odplain Soils (F | 19) |
| | d Layers (A5) | | X Depleted M | atrix (F3) | | | | (MLRA 130 | | |
| | uck (A10) (LRR N) | | Redox Dark | Surface (| F6) | | | | Dark Surface (| TF12) |
| | d Below Dark Surfa | ce (A11) | Depleted D | ark Surface | e (F7) | | | Other (Explai | n in Remarks) | |
| | ark Surface (A12) | | Redox Dep | ressions (F | -8) | | | | | |
| | Mucky Mineral (S1) | LRR N, | Iron-Manga | nese Mass | ses (F12) | (LRR N, | | | | |
| | A 147, 148) | | MLRA 1 | | | | | | | |
| | Gleyed Matrix (S4) | | Umbric Sur | face (F13) | (MLRA 1 | 36, 122) | | | /drophytic vege | |
| | Redox (S5) | | Piedmont F | loodplain \$ | Soils (F19 |) (MLRA 1 | (48) | wetland hydrol | logy must be pr | resent, |
| | d Matrix (S6) | | Red Parent | Material (| F21) (ML | RA 127, 14 | 47) | unless disturbe | ed or problema | tic. |
| | Layer (If observed |): | | | | | | | | |
| Туре: | | | | | | | | | 1 | / |
| 200 | - charaly | | | | | | Hydric S | oll Present? | Yes V | No |
| Depth (ir | nches): | | 2 | | | | | | | |
| marks: | | | | | | | | | | |
| | | | | | | | | | | |
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| | 3 | /etl | Wetland Function-Value Evaluation Form | | |
|---|--------------------|-------------|--|--|--------------------------------|
| D, OI ACVES Y | Is | wetla | Is wetland part of a wildlife corridor? N or a "habitat island"? | Wetland I.D. C | Wetland I.D. 22-75 G |
| Adjacent land use Roadway, Forest | | | Distance to nearest roadway or other development [4] | | Prepared by: K114 Date 6/28/18 |
| Dominant wetland systems present PEM | | | Contiguous undeveloped buffer zone present No | Wetland Impact: Type | Area |
| Is the wetland a separate hydraulic system? $N\sigma$ | | If nc | way | Swat Fvaluation based on: | |
| How many tributaries contribute to the wetland? | 0 | | 0 | Boold Office | Field X etland delineation |
| 5 Function/Value | Suitability Y N | oility N | ty Rationale Principal (Reference #)* Function(s)/Value(s) | completed? Y X N Comments | z |
| Groundwater Recharge/Discharge | | X | | | |
| Floodflow Alteration | | × | | | |
| Fish and Shellfish Habitat | | X | | | |
| Sediment/Toxicant Retention | × | | | | |
| Markey Nutrient Removal | × | | | | |
| Production Export | | × | | | |
| Sediment/Shoreline Stabilization | | X | | | |
| 🝆 Wildlife Habitat | X | | | | |
| A Recreation | | X | | | |
| Educational/Scientific Value | | × | | | |
| 🜟 Uniqueness/Heritage | | X | | | |
| Visual Quality/Aesthetics | | × | | | |
| ES Endangered Species Habitat | | × | | | |
| Other | | | | | |
| Notes: | | | * Rei | * Refer to backup list of numbered considerations. | bered considerations. |

| T495/IL 270 MANAMARIA | atr | MANAN | 0:00 LANK 5 | es sma | Z | Waters of | Waters of the U.S. Data Sheet | ata Shee | t | | VOV | ADM HED | 81-4 SAM | - 18 |
|---|-----------|------------------|---|----------------|-------------|---------------------------|--|------------------------|---------------------------------|----------------------|--|-------------------|---|---------------------|
| Project: 1495 IRVM Montgomery County | lentgomer | y County | | | • | | | Fea | Feature ID:-01-M 22 | 01-W 22 | ++ | Stre | Stream Order: 1st | |
| Date: 14/24/34 4 -1 8 | 8102-81- | 60 | | | State: MD | UD | | Pho | Photos: 33 | 2530-2532 | 2532 | | | |
| Crew: AFMN, AM MBS | | 445 | | | County | County: Montgomery | 1 | Las | t Flag Ni | umber: 0 | Last Flag Number: 01-M-02A, 01-M-02B. | M-02B. 3 | CONTRIN | (2) |
| Feature Hydrologic Class (check one): | rologic | : Class (c | heck one) | | | | | | | | | | |) |
| Tidal | | | Pe | Perennial | | | Intermittent | n t | | | | Ephemeral | ral | |
| TNW (Subject to ebb and | o ebb ai | С | TNW - Perennial | erennial | | RPV | RPW - Seasonal (must | al (must | 0 | Von-RPW | Non-RPW draining uplands | uplands | | |
| (flow) | |) | (Flowing year round) | year roui | (pu |) (Ilov | flow at least 3 months a | nonths a | 0 | Von-RPW | Non-RPW erosional | l feature | | |
| | | С | RPW – Perennial | erennial | £ | year) | (L | | | Von-RPW | Non-RPW with abutting wetland | tting wetl | and | |
| | 0-1 | | (FIOWING YEAR FOUND) | year roui | (DL | _ | | | | NON-KP W | Non-KPW with adjacent wetland | acent wet | and | |
| Describe rational for hydrologic class: | -4 | -of water | -4in-of water present in concrete I | in conc | | d channel | ned channel at time of field visit | field visi | 0 | Jon-RPM outside o | Non-RPW wetland adj (outside of study area) | adjacent (ea) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | .eam |
| Hydrologic Connectivity - | ivity – | Upstr | Upstream: outside of study area | te-of-study-i | area | Dov | Downstream: W111M | D MILL | July, | A | Adjacent/Abutting: 04-K-and-04-L | butting: 0- | Kand 01-L-22 | 28226 |
| Feature Description: (check all that apply) | cription | n: <i>(check</i> | all that a | (A)dd | | | | | | 1 | | | | |
| Sh | ape (w | ith respe | Shape (with respect to OHW) | N) | | | | Substrate | trate | | - | Vegetat | Vegetation Cover Tvn | Type (MBSS) |
| Natural Channel Shape | Shape | | Width: 8 | 1-21 | / | | Silts | | Sands | Ν | Miick R | B. | | for a second second |
| Artificial (man-made) | nade) | | Depth: 3 | 1-8" | | | Cobbles | | Gravel | | | torest | | |
| Manipulated (man-altered) | in-alter | | Bank Erosion/stability: | sion/stal | oility: | | Bedrock | > | Concrete |] | | | | |
| Other: | | | none | | | Side | Side slope: | | 2:1 3:1 | 1 54:1 | Γ | .B: emer | LB: emergent vegetation/mowed | n/mowed |
| Notes: | | | | | | | | | | | | lawn | 2 | |
| Weather/Precipitation Conditions: | cipitati | on Cond | itions: | | | | | | | | | | | |
| | Inc | Inches of | | | | | Z | onthly D | Monthly Drought Condition | ondition | | | | |
| | Rain | Rain Within | | | | | | NCDC | NCDC Regional PDSI | PDSI | _ | Mo | Month: | Year: |
| During Field Visit | Last | Last Week | http://v | vww.ncd | Ic.noaa.g | ov/temp-a | http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php | climatolo | gical-ran | kings/in | dex.php | Oct | | 2014 |
| No rain | 0 | 0-0.5 | 0 | 0 | 0 | 0 | 0 | C | С | С | C | С | C | С |
| O Light rain | 0 | 0.5-1 | 9- | -5 | -4 | ÷ | -2 | - | 0 |) | 5 |) (| 4 (5 (| 9 |
| O Heavy Rain | 0 | ~ | Ser | Severe Drought | ught | Modera | Moderate Drought | | Normal | | Moderately Wet | ely Wet | Severely Wet | v Wet |
| Non-tidal tributary has: (check all that apply; include photos for each & list photo #) | butary | has: (che | ck all tha | t apply; | include p | hotos for e | ach & list | ohoto #) | | | | | | |
| Bed and Banks | | | | | | | ()rdinary | High W | ater Mark | rk | | | | |
| V Yes | | Clear, na | Clear, natural line impressed on the bank | impresse | d on the b | bank | Sedime | Sediment deposition | ition | | Sedin | Sediment sorting | 5 | |
| No | | Changes | Changes in the character of soil | tracter of | soil | | V Water | Water staining | | | Scour | |) | |
| | | Shelving | | | | | Presen | ce of floc | Presence of flood litter/debris | ebris | Obser | rved/pred | Observed/predicted flow events | S |
| | | Vegetatic | Vegetation matted down, bent, or | down, b | ent, or abs | · absent | Destru | ction of t | Destruction of terrestrial veg. | veg. | Abrul | ot change | Abrupt change in plant community | inity |
| | > | Leaf litte | Leaf litter disturbed | q | | | Presen | Presence of wrack line | ck line | | Other: | | 4 | • |
| Tidal tributary has: (check all that apply; include ph | ry has: | (check a | ill that app | oly; inclu | ide photo | notos for each | & li | 0 #) | | | | | | |
| una sina sina sina | High Tide | e Line | | | Mean I | High Wate | er Mark in | indicated b | by: | | (Then | Themical Cha | Tharacteristics | |
| Oil or scum line along shore objects | along s. | hore obje | cts | | Surve | Survey to available datum | ole datum | | |] Water | Water is clear | | | |
| Fine shell or debris deposits (foreshore) | ris depo | osits (fore | shore) | | Physic | Physical markings | SS | | | Water | Water is discolored | red | | |
| Physical markings/characteristics | ss/chara | acteristics | 0.21 | | □ Veget | ation lines. | sgetation lines/changes in types | types | | Oily film | lm | | | |
| Tidal gauges | | | | | | | | | | Other: | | | | |
| Notes: | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

| Project: T-495/J | 1-7 | しもし | LUS | | | | | Featu | Feature ID: 2 | 4422 | | Stream Order: | - |
|---|---------|---------------|---|-------------------------|-------------|--|--------------------------|------------------------|---------------------------------|---|--------------------------------------|--|--------------|
| Date: 5/2/201 | 00 | | | | State: | 10 | | Photos: | 2 | 089-26 | 269 | | |
| Crew: MbS/AF | 4r | | | | County: | MONTRAVOV | DONN DONN | Last | Last Flag Number: | ber: 9 | | | |
| Feature Hydrologic Class (check one): | ologic | : Class (cl | heck one): | • | | | | | | | | | |
| lupil. | | | Per | Perennial | | 11 | Intermittent | | | | Eр | Ephemeral | |
| TNW (Subject to ebb and | ebb a | C | TNW - Perennial | rennial | | RPW | RPW - Seasonal (must | (must | O Nor | Non-RPW draining uplands | ining upl | ands | |
| (vilow) | |) | (Flowing year round) | ear round | | C flow a | flow at least 3 months a | onths a | Nor O | Non-RPW erosional feature | sional fe | ature | |
| | | C | RPW – Perennial | rennial | | year) | | | Nor Nor | Non-RPW with abutting wetland | n abuttin | g wetland | |
| | | | (Flowing year round) | /ear round | () | | | | ION O | Non-RPW with adjacent wetland | n adjacer | It wetland | |
| Describe rational for hydrologic class: | FLOW | NG | INNU - P | SINGAN | NOLAN | Plane I | ALALA | ۰۸. | | Non-RPW wetland ad (outside of study area) | land adja Iy area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | upstream |
| Hydrologic Connectivity - | vity - | 1-1 | 2 | | | | Downstream: 2 | -ZN | | Adjace | Adjacent/Abutting: | ing: N/A | |
| Feature Description: (check all that apply) | riptio | n: (check | all that a | (ylda | | | | | | | | | |
| Sha | w) adu | ith respec | Shape (with respect to OHW) | A) | | | - | Substrate | ate | | Ve | Vegetation Cover Type (MBSS) | Type (ABSS) |
| Natural Channel Shape | Shape | | Width: S | 11 | | | Silts | X Sa | Sands | Muck | RB: | (| |
| Artificial (man-made) | ade) | | Depth: 3-5 | -5" | | | Cobbles | X Gr | Gravel | Other: | 1 | Fore | |
| Manipulated (man-altered) | n-alter | (pə. | Bank Ero: | Bank Erosion/stability: | lity: | | Bedrock | Co X | Concrete | | _ | } | |
| Other: | | | B | STABLE | | Side slope: | ope: □ ≥181 | 11 🗌 🖾 | M311 | □⊴4:1 | | 10. | |
| Notes: | | | | | | | | | | | + | ovest | |
| Weather/Precipitation Conditions: | ipitat | ion Condi | itions: | | | | | | | | | | |
| | Inc | Tuches of | | | | | Mo | nthly Dr | Monthly Drought Condition | ndition | | | |
| | Rain | Rain Within | | | | | I | NCDC R | NCDC Regional PDSI | ISO | | Month: ARUL | Year: 20(8 |
| During Field Visit | Las | Last Week | 11 11 11 11 11 11 11 11 11 11 11 11 11 | was neede | Anta Anta-H | 11111 | l'attanti l | malopu | wale ranke | and procipy innatological rankings and varip | :1:1. | | |
| No rain | 0 | 0-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| O Light rain | 0 | 0.5-1 | 9 | -5 | 4 | ÷ | -2 | | 0 | 1 | - | 4 | 5 6 |
| O Heavy Rain | 0 | | Sev | Severe Drought | ght | Moderate Drought | Drought | | Normal | Mo | Moderately Wet | | Severely Wet |
| Non-tidal tributary has: (check all that apply; it | utary | has: (che | ck all that | t apply; in | d apulo | nclude photos for each & list photo #) | ch & list ph | toto #) | | | | | |
| Bed and Banks | | | | | | | Ordinary digh Water Mark | High Wa | ter Atark | | A second second second second second | | |
| X Yes | ÌX | Clear, nat | Clear, natural line impressed | mpressed | on the bank | nk X | Sedimen | Sediment deposition | on | | Sediment sorting | sorting | |
| No | | Changes | Changes in the character of soil | racter of s | oil | | Water staining | aining | | | Scour | | |
| | | Shelving | | | | X | Presence | of flood | Presence of flood litter/debris | X | Observed | Observed/predicted flow events | events |
| | X | Vegetatio | Vegetation matted down, bent, or absent | down, ben | it, or abse | nt | Destruct | ion of ter | Destruction of terrestrial veg. | | Abrupt cl | Abrupt change in plant community | mmunity |
| | X | Leaf litter | Leaf litter disturbed | F | | | Presence | Presence of wrack line | c line | | Other: | | |
| Tidal tributary has: (check all that apply; include photos for each & list photo #) | y has: | (check al | Il that app. | ly; includ. | e photos | for each & | list photo i | () | | | | | |
| 10111 | 14 1 1 | High The Line | | | Atean III | Atean Digh Water Mark Indicated by: | Mark Indi | cated by: | | | Chemica | Chemical Characteristics | S |
| Oil or scum line along shore objects | long s. | hore objec | ts | | Survey | Survey to available datum | e datum | | | Water is clear | ar | | |
| Fine shell or debris deposits (foreshore) | s depc | sits (fores | shore) | | Physical | Physical markings | | | | Water is discolored | scolored | | |
| Physical markings/characteristics | /chara | cteristics | | | Vegetati | Vegetation lines/changes in types | anges in ty | pes | | Oily film | | | |
| Tidal gauges | | | | | | | | | | Other: | | | |
| Notes: | | | | | | | | | | | | | |

Waters of the U.S. Data Sheet

| | VENGED 4/26/2018 MOBS/AGA |
|---|--|
| | State: HD Sampling Date: 1/26/2018 State: HD Sampling Point: 1/26/2018 State: HD Sampling Point: 2/27-WET Son. Township, Range: 2/27-WET 2/27-WET Long: -77.18056 Datum: NA () 83 State: No (If no, explain in Remarks.) No bed? Are "Normal Circumstances" present? Yes No atic? (If needed, explain any answers in Remarks.) |
| Hydrophytic Vegetation Present? Yes No Hydric Soll Present? Yes No Wetland Hydrology Present? Yes No Remarks: Attach site map showing san | is the Sampled Area within a Wetland? Yes No |
| HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) True Aquatic Plants (High Water Table (A2) Hydrogen Sulfide Od Saturation (A3) Oxidized Rhizosphere Water Marks (B1) Presence of Reduced Sediment Deposits (B2) Recent Iron Reduction Drift Deposits (B3) Thin Muck Surface (C Algal Mat or Crust (B4) Other (Explain in Rer Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) | or (C1) Drainage Patterns (B10) es on Living Roots (C3) Moss Trim Lines (B16) d Iron (C4) Dry-Season Water Table (C2) on in Tilled Soils (C6) Crayfish Burrows (C8) C7) Saturation Visible on Aerial Imagery (C9) |
| | |

Sampling Point: ALG-WET

| VEGETATION (Five Strata) - Use scientific na | mes of j | plants. | | Sampling Point: 01-1-104 |
|---|-------------------------|--------------|--------------------|---|
| | Absolute | Dominant | Indicator | Dominance Test worksheet: |
| Tree Stratum (Plot size: <u>36 radius</u>) | % Cover | Species? | Status / | Number of Dominant Species |
| 1. Querus bidor | 30 | -V;- | | That Are OBL, FACW, or FAC: (A) |
| 2. Acur nionm | 100 | | FAC, | Total Number of Dominant |
| 3. (11mus americance | | | | Species Across All Strata: (B) |
| 4 | | | | Percent of Dominant Species 57 |
| 5 | | | | That Are OBL, FACW, or FAC: (A/B) |
| б | 45 | = Total Cov | | Prevalence Index worksheet: |
| | - | | | Total % Cover of: Multiply by: |
| 50% of total cover: 47.5 | 20% of | total cover: | | OBL species x 1 = |
| Sapling Stratum (Plot size: <u>30 'rach vc</u>) | | | | FACW species x 2 = |
| 1 | | | | FAC species x 3 = |
| 2 | | | | FACU species x 4 = |
| 3 | | | | UPL species x 5 = |
| 4 | | | | Column Totals: (A) (B) |
| 5 | | | | |
| 6 | | | | Prevalence Index = B/A = |
| | | = Total Cov | - | Hydrophytic Vegetation indicators: |
| 50% of total cover: | _ 20% of | total cover: | | 1 - Rapid Test for Hydrophytic Vegetation |
| Shrub Stratum (Plot size: 30' (adius) | 0 | 1 | - | Dominance Test is >50% |
| 1. Liquistum sinense | <u></u> | ~/ | FATU | 3 - Prevalence Index is ≤3.0 ¹ |
| 2. Vibinin printalium | -20 | | FACU | 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) |
| 3. Rosa multifica | | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 4 | | | | |
| 5 | | | | ¹ indicators of hydric soll and wetland hydrology must |
| 6 | 33 | = Total Cov | | be present, unless disturbed or problematic. |
| | | | | Definitions of Five Vegetation Strata: |
| 50% of total cover: | 2 20% of | total cover: | 6.6 | Tree – Woody plants, excluding woody vines, |
| Herb Stratum (Plot size: <u>20 roduly</u>) 1. Cuppa anodina (e.a. | CA | ./ | En 1 | approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). |
| 2 Churcha Sh | 50 | | FACIN | |
| 2. <u>Glyana sp</u> | | | | Sapiling – Woody plants, excluding woody vines, |
| 3 | | | | approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. |
| 4 5 | | | | |
| 5 6 | | | | Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. |
| 7 | | | | |
| 8 | | | | Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody |
| 9 | | | | plants, except woody vines, less than approximately 3 |
| 10 | | | | ft (1 m) in height. |
| 11 | | | (i).) | Woody vine - All woody vines, regardless of height. |
| - | 60 | = Total Cov | er | |
| 50% of total cover: <u>3</u> 8 | | | | |
| Woody Vine Stratum (Piot size: 30 + adjus) | _ 2070 01 | total cover. | 100 | 9 |
| 1. Lonicera i aponica | 8 | | FACH | |
| 2. Smilax volunditalia | 5 | | FAL | |
| 3 | | | <u>Inc</u> | 4 |
| 4 | | | () | |
| 5 | | | | 1 |
| | 13 | - Total Cov | er | Hydrophytic Veretation |
| 50% of total cover: _6.5 | - | | 0. | Vegetation Present? Yes No |
| Remarks: (Include photo numbers here or on a separate sh | Margaret and the second | total cover: | | |
| tremanes. (menuce proto numbers here of on a separate shi | eei.) | | | |
| | | | | |

US Army Corps of Engineers

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22I-WET

| SUL | | | | | | | | Sampling Point: |
|------------------------|--|--------------|-------------------------------|-------------|-------------------|-------------------|--------------------------|---|
| Profile Desc | cription: (Describe t | o the dep | th needed to docum | nent the l | ndicator | or confirm | n the absence | of indicators.) |
| Depth | Matrix | | Redox | Features | 3 | | | |
| (inches) | Color (moist) | | Color (moist) | | Type ¹ | _Loc ² | Texture | Remarks |
| 0-5 | 104 RA/2 | 40 | 7.5Y/4/4- | 15 | _C_ | M | _510 | |
| - | 107K3/2 | 45 | | | | | | |
| 5-12 | Q.515/2 | 90 | 7.5485/8 | 10 | C | M | Sic | |
| | | | | | | | | |
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| | the second s | | | | 8 | | | |
| | | ************ | | | • | | | |
| | | | | | | | | |
| | | | | | | | | 3 |
| ¹ Type: C=C | oncentration, D=Deple | etion, RM= | Reduced Matrix, MS | =Masked | Sand Gra | ains. | ² Location: P | L=Pore Lining, M=Matrix. |
| Hydric Soil | | | | | | | Indica | ators for Problematic Hydric Soils ³ : |
| Histosol | | | Dark Surface | | | | 2 | cm Muck (A10) (MLRA 147) |
| | oipedon (A2) | | Polyvalue Bel | | | | | oast Prairie Redox (A16) |
| Black Hi | | | Thin Dark Sur | | | 47, 148) | | (MLRA 147, 148) |
| | n Sulfide (A4) Layers (A5) | | Loamy Gleyed | | -2) | | P | iedmont Floodplain Soils (F19) |
| | ick (A10) (LRR N) | | Depleted Matr Redox Dark S | 1X (F3) | 6) | | | (MLRA 136, 147) |
| | Below Dark Surface | (A11) | Depleted Dark | | | | | ery Shallow Dark Surface (TF12) hther (Explain in Remarks) |
| | ark Surface (A12) | (<u>)</u> | Redox Depres | | | | _ 0 | cher (Explain in Remarks) |
| | lucky Mineral (S1) (LI | RR N, | Iron-Mangane | | | LRR N. | | |
| | A 147, 148) | | MLRA 136 | | | | | |
| | eleyed Matrix (S4) | | Umbric Surfac | e (F13) (I | MLRA 13 | 6, 122) | ³ Ind | icators of hydrophytic vegetation and |
| Sandy R | edox (S5) | | Piedmont Floor | | | | 18) we | tland hydrology must be present, |
| | Matrix (S6) | | Red Parent M | aterial (F2 | 21) (MLR. | A 127, 14 | 7) un | less disturbed or problematic. |
| | .ayer (if observed): | | | | | | | 1 |
| Type: | | | | | | | | |
| Depth (inc | ches): | | | | | | Hydric Soll | Present? Yes No |
| Remarks: | | | | | | | | |
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| | Wetland Function-Value Evaluation Form | |
|---|---|---|
| Total area of wetland 0.47 and Human made? | Is wetland part of a wildlife corridor? <u>(5</u> or a "habitat island"? | Wetland I.D. 22 <u>T</u> Latinde38.97280 Lonoritide -77.140549 |
| Adjacent land use KOMO | Distance to nearest roadway or other development HO' | Prepared by: Mass Date 4-26-2018 |
| Dominant wetland systems present $\sqrt{65 - R6}$ | Contiguous undeveloped buffer zone present NO | Wetland Impact: Type 740 Area 0.47 ALA |
| Is the wetland a separate hydraulic system? \overline{No} | If not, where does the wetland lie in the drainage basin? $M(DDUE)$ | Evaluation based on: |
| How many tributaries contribute to the wetland? | Wildlife & vegetation diversity/abundance (see attached list) | Office Field For Corps manual wetland delineation |
| S Function/Value | Suitability Rationale Principal Y N (Reference #)* Function(s)/Value(s) Co | completed? Y N |
| Croundwater Recharge/Discharge | | |
| Floodflow Alteration | | |
| Fish and Shellfish Habitat | | |
| Sediment/Toxicant Retention | | |
| M Nutrient Removal | | |
| Production Export | | |
| Sediment/Shoreline Stabilization | | |
| 🖢 Wildlife Habitat | | |
| 🕂 Recreation | | |
| Educational/Scientific Value | | |
| \chi Uniqueness/Heritage | | |
| く業 Visual Quality/Aesthetics | | |
| ES Endangered Species Habitat | | |
| Other | | |
| Notes: | * Refer to but | * Refer to backup list of numbered considerations. |

81

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

| Project/Site: I-495 II-270 Managed Lance Study City/C | Martagement Ca |
|---|---|
| Applicant/Owner: STA | |
| it all a | on, Township, Range: State: MD Sampling Point: 22TI - WET |
| | lief (concave, convex, none): <u>Concarc</u> Slope (%): <u>3</u> |
| Subregion (LRR or MLRA): MLRA 148 Lat: 38,986 814 | Long: _77.158950 Datum: NAP83 |
| Soil Map Unit Name: Slock-town channery 391+ loam, 2 | |
| Are climatic / hydrologic conditions on the site typical for this time of year? | |
| Are Vegetation, Soil, or Hydrology significantly distur | |
| Are Vegetation, Soil, or Hydrology naturally problema | |
| | npling point locations, transects, important features, etc. |
| Hydrophytic Vegetation Present? Yes No | |
| Hydric Soil Present? Yes No No | Is the Sampled Area within a Wetland? Yes No |
| Wetland Hydrology Present? Yes Ves | |
| Remarks: | |
| Photos 0009-0011 Small flo: Near Cabin John Creek | odplain depression wetland. |
| HYDROLOGY | |
| Wetland Hydrology Indicators: | Coopedary Indiastars (minimum of two provided) |
| Primary Indicators (minimum of one is required; check all that apply) | Secondary Indicators (minimum of two required) |
| Surface Water (A1) True Aquatic Plants (| Surface Soil Cracks (B6) (B14) Sparsely Vegetated Concave Surface (B8) |
| High Water Table (A2) Hydrogen Sulfide Od | |
| | es on Living Roots (C3) Moss Trim Lines (B16) |
| Water Marks (B1) Presence of Reduced | |
| Sediment Deposits (B2) Recent Iron Reductio | the second |
| Drift Deposits (B3) Thin Muck Surface (C | C7) Saturation Visible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) Other (Explain in Rer | marks) Stunted or Stressed Plants (D1) |
| Iron Deposits (B5) | $\underline{\times}$ Geomorphic Position (D2) |
| Inundation Visible on Aerial Imagery (B7) | Shallow Aquitard (D3) |
| Water-Stained Leaves (B9) Aquatic Fauna (B13) | Microtopographic Relief (D4) |
| Field Observations: | K FAC-Neutral Test (D5) |
| Surface Water Present? Yes No _K_ Depth (inches): | |
| Water Table Present? Yes No _K_ Depth (inches): | — |
| Saturation Present? Yes No Copert (inches): | |
| (includes capillary fringe) | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre | vious inspections), if available: |
| Remarks: | |
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VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 22 II-WET

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| 1 | Absolute | | | Dominance Test worksheet: | | |
|--|--|---|--|--|---|---|
| <u>Tree Stratum</u> (Plot size: <u>10</u>) 1. <u>BCIUG NIGYA</u> | | Species? | <u>Status</u> <u>FACW</u> | Number of Dominant Species That Are OBL, FACW, or FAC: | 3 | (A) |
| 2J 3 | | | | Total Number of Dominant Species Across All Strata: | 3 | (B) |
| 4 5 | - | | | Percent of Dominant Species That Are OBL, FACW, or FAC: | 100 | (A/B) |
| 6 | | | | | | |
| | 100 | = Total Cov | er | Prevalence Index worksheet: | | |
| 50% of total cover: | 20% of | f total cover: | 20 | Total % Cover of: | | |
| Sapling Stratum (Plot size:) | | | | OBL species > | | |
| 1. N/A | | | | FACW species > | | |
| 2. | | | | FAC species > | | |
| 3. | | | | FACU species > | | |
| 4. | | | | UPL species > | | |
| 5. | | | | Column Totals: (/ | A) | _ (B) |
| 6 | | · | | Prevalence Index = B/A = | de la companya de la | — |
| | 0 | = Total Cov | er | Hydrophytic Vegetation Indic | | |
| 50% of total cover: | 20% of | f total cover: | | 1 - Rapid Test for Hydrophy | | |
| Shrub Stratum (Plot size:\0 ') | | N 1 | -AC. | 2 - Dominance Test is >50° | | |
| 1. FVAXINUS PENASylvanica | 5 | <u> </u> | TALW | 3 - Prevalence Index is ≤3. | | |
| 2 | 2 | | | 4 - Morphological Adaptation | ons ¹ (Provide sup separate sheet) | porting |
| 3 | | | · | Problematic Hydrophytic Ve | egetation ¹ (Explai | in) |
| 4 | | | | | | |
| 5 | 8 | | () 2 | ¹ Indicators of hydric soil and we | | nust |
| 6 | | 0 | | be present, unless disturbed or | problematic. | |
| | 5 | - Total Cau | or | | | |
| | and the second sec | = Total Cov | | Definitions of Five Vegetation | Strata: | |
| 50% of total cover: | and the second sec | | | Tree - Woody plants, excluding | woody vines, | |
| Herb Stratum (Plot size: 101) | and the second sec | f total cover: | | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo | woody vines, re in height and 3 | |
| Herb Stratum (Plot size: 10') 1. Microsten MM Vimineum | 20% of | | | Tree - Woody plants, excluding | woody vines, re in height and 3 | |
| Herb Stratum (Plot size: 10') 1. Micro Stegium Vimineum 2. Levisia Viva inita | 20% of 5 70 | f total cover N | | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud | y woody vines, re in height and 3 breast height (D ding woody vines | BH). , |
| Herb Stratum (Plot size: 10') 1. Microstegium Vimineum 2. Levsia Vivginina 3. Pevsicavia machiosa | 20% of 5 70 | f total cover N | | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo | y woody vines, re in height and 3 breast height (D ding woody vines | BH). , |
| Herb Stratum (Plot size: 10') 1. Micro Stagium Vimineum 2. Lersia Virginica 3. Persicaria maculosa 4. Fallopia japonica | 20% of 5 70 2 5 | f total cover N | | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le | BH). , |
| Herb Stratum (Plot size: 10') 1. Microstegium Vimineum 2. Leevsia Vivginia 3. Pevsicavia machiosa 4. Fallopia japonica 5. Ampélopsis brevipendunculata | 20% of 5 70 2 5 | f total cover N | | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, | BH). , |
| Herb Stratum (Plot size: 10') 1. Microstegium vimineum 2. Leersia Virginica 3. Persicaria maculosa 4. Fallopia japonica 5. Ampelopsis brevipendunculata 6. | 20% of 5 70 2 5 2 | N N N N | | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludin approximately 3 to 20 ft (1 to 6 m | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, m) in height. | BH). , ess |
| Herb Stratum (Plot size: 10') 1. Microstegium vimineum 2. Lersia Virginica 3. Persicaria machiosa 4. Fallopia japonica 5. Ampelopsis orevipendunculata 6 | 20% of 5 70 2 5 2 | f total cover: | | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludii approximately 3 to 20 ft (1 to 6 in Herb – All herbaceous (non-wo herbaceous vines, regardless o | y woody vines, re in height and 3 breast height (D ding woody vines, re in height and lo ng woody vines, m) in height. ody) plants, inclu f size, and woody | BH). , ess ding / |
| Herb Stratum (Plot size: 10') 1. Microstegium vimineum 2. Leersia Virginica 3. Persicaria maculosa 4. Fallopia japonica 5. Ampelopsis brevipendunculata 6. | 20% of 5 70 2 5 2 | f total cover: | | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludin approximately 3 to 20 ft (1 to 6 m) Herb – All herbaceous (non-wo herbaceous vines, regardless o plants, except woody vines, less | y woody vines, re in height and 3 breast height (D ding woody vines, re in height and lo ng woody vines, m) in height. ody) plants, inclu f size, and woody | BH). , ess ding / |
| Herb Stratum (Plot size: 10') 1. Microstegium Vimineum 2. Leevsia Virginia 3. Persicaria machiosa 4. Fallopia japonica 5. Ampelopsis brevipendunculata 6. 7. 8. 9. | 20% of 5 70 2 5 2 | f total cover: | | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludin approximately 3 to 20 ft (1 to 6 in Herb – All herbaceous (non-wo herbaceous vines, regardless o plants, except woody vines, less ft (1 m) in height. | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, m) in height. ody) plants, inclu f size, and woody s than approxima | BH). , ess ding / tely 3 |
| Herb Stratum (Plot size: 10') 1. Micro Stegium Vimineum 2. Leevsia Vivginica 3. Pevsicavia maculosa 4. Fallopia japonica 5. Ampelopsis brevipendunculata 6 8 | 20% of 5 70 2 5 2 | f total cover: | | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludin approximately 3 to 20 ft (1 to 6 m) Herb – All herbaceous (non-wo herbaceous vines, regardless o plants, except woody vines, less | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, m) in height. ody) plants, inclu f size, and woody s than approxima | BH). , ess ding / tely 3 |
| Herb Stratum (Plot size: 10') 1. <u>Microstegium Vimintum</u> 2. <u>Lersia Nirginita</u> 3. <u>Persitaria maculosa</u> 4. <u>Fallopsia japonica</u> 5. <u>Ampelopsis orevipendunculata</u> 6 8 9 10 | 20% of 5 70 2 5 2 2 | f total cover: | FAC FACW FACW VPL VPL | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludin approximately 3 to 20 ft (1 to 6 in Herb – All herbaceous (non-wo herbaceous vines, regardless o plants, except woody vines, less ft (1 m) in height. | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, m) in height. ody) plants, inclu f size, and woody s than approxima | BH). , ess ding / tely 3 |
| Herb Stratum (Plot size: 10') 1. Micro Stegium Vimineum 2. Levsia Vivginica 3. Pevsicavia maculosa 4. Fallopia japonica 5. Ampelopsis brevipendunculata 6 7 8 9 10 11 | 20% of 5 70 2 5 2 2 | f total cover: N N N N Total Cov | FAC FACW FACW VPL VPL | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludin approximately 3 to 20 ft (1 to 6 in Herb – All herbaceous (non-wo herbaceous vines, regardless o plants, except woody vines, less ft (1 m) in height. | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, m) in height. ody) plants, inclu f size, and woody s than approxima | BH). , ess ding / tely 3 |
| Herb Stratum (Plot size: 10') 1. Microstegium Vimintum 2. Levsia Virginita 3. Persicavia macubesa 4. Fallopia japonica 5. Ampelopsis brevipendunculata 6. 7. 8. 9. 10. 11. 50% of total cover: 42 | 20% of 5 70 2 5 2 2 | | FAC FACW FACW VPL VPL | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludin approximately 3 to 20 ft (1 to 6 in Herb – All herbaceous (non-wo herbaceous vines, regardless o plants, except woody vines, less ft (1 m) in height. | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, m) in height. ody) plants, inclu f size, and woody s than approxima | BH). , ess ding / tely 3 |
| Herb Stratum (Plot size:) 1. Micro Stephan Viminetum 2. Levsia Vivg inita 3. Persicavia maculosa 4. Fallopia japonica 5. Ampelopsis brevipendunculata 6. 7. 8. 9. 10. 11. 50% of total cover:) Woody Vine Stratum (Plot size:) | 20% of 5 70 2 5 7 2 5 7 2 8 4 20% of | f total cover: | FAC FACW FACW VPL VPL | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludin approximately 3 to 20 ft (1 to 6 in Herb – All herbaceous (non-wo herbaceous vines, regardless o plants, except woody vines, less ft (1 m) in height. | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, m) in height. ody) plants, inclu f size, and woody s than approxima | BH). , ess ding / tely 3 |
| Herb Stratum (Plot size:) 1. Micro Stepinm Vimineum 2. Levsia Nivginita 3. Pevsicavia machiesa 4. Fallopia japonica 5. Ampelopsis brevipendunculata 6 | 20% of 5 70 2 5 7 2 5 7 2 5 7 2 2 2 2 2 0% of | f total cover: | FAC FACW FACW VPL VPL | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludin approximately 3 to 20 ft (1 to 6 in Herb – All herbaceous (non-wo herbaceous vines, regardless o plants, except woody vines, less ft (1 m) in height. | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, m) in height. ody) plants, inclu f size, and woody s than approxima | BH). , ess ding / tely 3 |
| Herb Stratum (Plot size:) 1. Microstegium Vimintum 2. Levsia Nivginita 3. Pevsicavia macubesa 4. Fallopia japonica 5. Ampelopsis brevipendunculata 6. 7. 8. 9. 10. 11. 50% of total cover: Voody Vine Stratum (Plot size:) 1. 2. | 20% of 5 70 2 5 7 2 5 7 2 2 2 2 2 2 0% of | f total cover: | FAC FACW FACW VPL VPL | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludin approximately 3 to 20 ft (1 to 6 in Herb – All herbaceous (non-wo herbaceous vines, regardless o plants, except woody vines, less ft (1 m) in height. | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, m) in height. ody) plants, inclu f size, and woody s than approxima | BH). , ess ding / tely 3 |
| Herb Stratum (Plot size:) 1. Micro Stepinm Vimintum 2. Levsia Nivginita 3. Persicavia machiesa 4. Fallopia japonica 5. Ampelopsis ove vipendunculata 6. 7. 8. 9. 10. 11. 50% of total cover: | 20% of 5 70 2 5 7 2 5 7 2 2 2 2 0% of | f total cover: | FAC FACW FACW VPL VPL | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludin approximately 3 to 20 ft (1 to 6 in Herb – All herbaceous (non-wo herbaceous vines, regardless o plants, except woody vines, less ft (1 m) in height. | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, m) in height. ody) plants, inclu f size, and woody s than approxima | BH). , ess ding / tely 3 |
| Herb Stratum (Plot size:) 1. Microstegium Vimintum 2. Levsia Nivginita 3. Pevsicavia macubesa 4. Fallopia japonica 5. Ampelopsis brevipendunculata 6. 7. 8. 9. 10. 11. 50% of total cover: Voody Vine Stratum (Plot size:) 1. 2. | 20% of 5 70 2 5 7 2 5 7 2 2 2 2 0% of | f total cover: | FAC FACW FACW VPL VPL | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter all Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludina approximately 3 to 20 ft (1 to 6 m) herbaceous vines, regardless o plants, except woody vines, less ft (1 m) in height. Woody vine – All woody vines, excluding the statement of the state | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, m) in height. ody) plants, inclu f size, and woody s than approxima | BH). , ess ding / tely 3 |
| Herb Stratum (Plot size:) 1. Micro Stepinm Vimintum 2. Levsia Nivginita 3. Persicavia machiesa 4. Fallopia japonica 5. Ampelopsis ove vipendunculata 6. 7. 8. 9. 10. 11. 50% of total cover: | 20% of 5 70 2 5 7 2 5 7 2 9 4 20% of 9 1 2 0 0 | f total cover: | FAC FACW FACW VPL VPL VPL | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludii approximately 3 to 20 ft (1 to 6 in Herb – All herbaceous (non-wo herbaceous vines, regardless o plants, except woody vines, less ft (1 m) in height. Woody vine – All woody vines, | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, m) in height. ody) plants, inclu f size, and woody s than approxima | BH). , ess ding / tely 3 |
| Herb Stratum (Plot size:) 1. Microstegium Vimineum 2. Levsia Nivginita 3. Pevsicavia maculosa 4. Fallopia japonica 5. Ampelopsis brevipendunculata 6. 7. 8. 9. 10. 11. 50% of total cover: | 20% of 5 70 2 5 7 2 5 7 2 5 7 2 2 2 2 0 0 | f total cover: | FAC FACW FACW VPL VPL VPL | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter all Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludina approximately 3 to 20 ft (1 to 6 m) herbaceous vines, regardless o plants, except woody vines, less ft (1 m) in height. Woody vine – All woody vines, excluding the statement of the state | y woody vines, re in height and 3 breast height (D ding woody vines re in height and le ng woody vines, m) in height. ody) plants, inclu f size, and woody s than approxima | BH). , ess ding / tely 3 |
| Herb Stratum (Plot size:) 1. Micro Stepinm Vimintum 2. Levsia Nivginita 3. Persicavia machiesa 4. Fallopia japonica 5. Ampelopsis ove vipendunculata 6. 7. 8. 9. 10. 11. 50% of total cover: | 20% of 5 70 2 5 7 2 5 7 2 3 4 20% of 20% of 20% of 20% of | f total cover: | FAC FACW FACW VPL VPL VPL | Tree – Woody plants, excluding approximately 20 ft (6 m) or mo (7.6 cm) or larger in diameter at Sapling – Woody plants, exclud approximately 20 ft (6 m) or mo than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excludin approximately 3 to 20 ft (1 to 6 n) Herb – All herbaceous (non-wo herbaceous vines, regardless o plants, except woody vines, less ft (1 m) in height. Woody vine – All woody vines, | y woody vines, re in height and 3 breast height (D ding woody vines, re in height and le ng woody vines, m) in height. ody) plants, inclu f size, and woody s than approxima regardless of he | BH). , ess ding / tely 3 |

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Sampling Point: 22II-WET

| <u>nches)</u> | Color (moist) | % | Color (moist) | ox Features % | Type ¹ | Loc ² | Texture | Remarks |
|---------------|---|------------|--------------------|-----------------------|-------------------|------------------|--------------------------------|--|
| - 15 | 2.54312 | 70 | STRYIL | 30 | ć | m | SILA | |
| 5-23 | 1042414 | 40 | 2.54412 | 20 | D | m | clay | |
| - 4 | | | 1 () <u></u> | | | | | |
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| _ | | | | | | | | |
| | | | 1 2 | | | | | |
| | | | | | | · | | |
| pe: C=Co | ncentration, D=Depl | letion, RM | =Reduced Matrix, M | S=Masked | Sand Gr | ains. | ² Location: PL=Pore | e Lining, M=Matrix. |
| Iric Soil I | ndicators: | | | | | | | or Problematic Hydric Soils ³ |
| Histosol | and the second second second | | Dark Surface | | | | | uck (A10) (MLRA 147) |
| | pedon (A2) | | Polyvalue Be | | | | | rairie Redox (A16) |
| Black His | 1000 CONTRACTOR 1000 CONTRACTOR 1000 | | Thin Dark Su | | | 47, 148) | | RA 147, 148) |
| | n Sulfide (A4) | | Loamy Gleye | | =2) | | | nt Floodplain Soils (F19) |
| | Layers (A5) | | Depleted Ma | | 0) | | | RA 136, 147) |
| | ck (A10) (LRR N) | . (| Redox Dark | | | | | allow Dark Surface (TF12) |
| | Below Dark Surface | e (ATT) | Depleted Da | | | | Other (E | Explain in Remarks) |
| | rk Surface (A12) | | Redox Depre | | | | | |
| | ucky Mineral (S1) (L 147, 148) | .RR N, | Iron-Mangan | | es (F12) (| LRR N, | | |
| | eyed Matrix (S4) | | MLRA 13 | | | C 400) | 31 | af budaa buda |
| Sandy Re | | | Umbric Surfa | and the second second | | | | of hydrophytic vegetation and |
| | Matrix (S6) | | Piedmont Flo | | 01 53 | | | hydrology must be present, |
| | ayer (if observed): | | Red Parent I | viaterial (F2 | | A 127, 14 | () unless di | sturbed or problematic. |
| Туре: | - y (). | | | | | | | / |
| Depth (inc | hes): | | | | | | Hydric Soil Prese | nt? Yes <u> </u> |
| marks: | | | | | | | | |
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| | K | Vet] | Wetland | · · · · | V-uc | ∕alu€ | Eval | Function-Value Evaluation Form | Form | | |
|--|------------|--------------------|---------|--|-----------|-----------------------|-----------------------------------|--------------------------------------|-------------|--|-------|
| Total area of wetland O. O I Acres | | wetla | nd par | Is wetland part of a wildlife corridor? $\overline{\chi}$ | orridor? | > | or a " | or a "habitat island"? \mathcal{N} | N | Wetland I.D. CCLL Latitude 38.926 & Longitude - 77, 158,950 | 58950 |
| Adjacent land use For est | | | | Distance to nearest roadway or other development | carest ro | adway | or other de | velopment | 1201 | Prepared by: K3H Date 9/6/13 | 00 |
| Dominant wetland systems present PFO | | | | Contiguous undeveloped buffer zone present | Indevelo | pped but | Ter zone p | csent | 2 | Wetland Impact: TypeArea | |
| Is the wetland a separate hydraulic system? \overline{N} | | _ If ne | ot, who | If not, where does the wetland lie in the drainage $basin^2_{-}$ | land lie | in the d | rainage ba | | Floodplain | Evaluation based on: | |
| How many tributaries contribute to the wetland? | 0 | | Wildli | Wildlife & vegetation diversity/abundance (see attached list) | diversi | ty/abune | lance (see | attached list) | | Field al wetland d | |
| 5 Function/Value | Suita Y | Suitability Y N | | Rationale (Reference #)* | *(| Principal Function | Principal Function(s)/Value(s) | alue(s) | | completed? Y N | [|
| Groundwater Recharge/Discharge | | \times | | | | | - V | - | | | |
| Floodflow Alteration | × | | | | | | Small | | flood plain | in depression wethand | |
| Fish and Shellfish Habitat | | × | | | | | | | | | |
| Sediment/Toxicant Retention | × | | | | | | | | | | |
| Market Nutrient Removal | × | | | | | | | | | | |
| Production Export | × | | | | | | | | | | |
| Sediment/Shoreline Stabilization | | X | | | | | | | | | |
| 🍆 Wildlife Habitat | × | - | | | | | | | | | |
| A Recreation | | × | | | | | | | | | |
| Educational/Scientific Value | | × | | | | | | | | | |
| ★ Uniqueness/Heritage | | × | | | | | | | | | |
| Carbon Visual Quality/Aesthetics | | K | | | | | | | | | |
| ES Endangered Species Habitat | | × | - | | | | | | | | |
| Other | | | | | | | | | | | |
| Notes: | | | | | | | | | * Refer to | * Refer to backup list of numbered considerations. | ns. |

| I-1995/I- | -24 | JANAL | MANAHORD LANES S | V LORS | Vaters of t | Waters of the U.S. Data Sheet | a Sheet | | NEM | venther | NPN | 7 | -26.20 | 800 |
|---|----------------|--------------------------|--|-----------------|---------------------------|-----------------------------------|------------|---|--|-------------------------|-----------|---|-------------------------------|-----|
| Project: 1-495-IRVM Mentgemeny County | untgomeny. | County- | | | | | Featu | Feature ID: 87-F | 225 | | Stream | Stream Order: 1st | 1st | |
| Date: 1120144 4-26- | 6-2018 | 8 | | State: MD | 0 | | Phot | Photos: 44-260 | N | 2604 | | | | |
| Crew:-AF,MN.AM NSS | S/Rh | 4 | | County: | County: Montgomery | | Last | Last Flag Number: 01-F-03C, 01-F-04D | ::: 01-F-03 | C, 01-F-04E | 0 | | | |
| Feature Hydrologic Class (check one): | rologic (| Class (ch | neck one): | | | | | | | | | | | |
| Tidal | | | Perennial | | Ι | Intermittent | | | | Ep | Ephemeral | America | | |
| O TNW (Subject to ebb and | ebb and | 0 | TNW – Perennial | - | RPW | RPW – Seasonal (must | (must | -uon O | Non-RPW draining uplands | Ining upl | ands | | | |
| (tlow) | |) | (Flowing year round) | (pun | (tlow | flow at least 3 months a | onths a | O Non-F | Non-RPW erosional feature | sional fe | ature | | | |
| | | 0 | RPW – Perennial (Flowing year round) | լիս | year) | | | I-noN OC | Non-RPW with abutting wetland Non-RPW with adjacent wetland | n abuttin | g wetlan | p | | |
| Describe rational | 1.2.2 | if water | 2-3" of water during field visit | sit | | | | O Non-F | Non-RPW wetland adj | land adja | acent or | Non-RPW wetland adjacent or abutting upstream | ıpstream | |
| Hvdrolopic Connectivity – | vitv - | I Instre | Unstream: W495M and 04-G- | G 77.K | Dowr | Downstream - wean | C | 1 1 | Adiace | Adiacent/Abuttino: none | ino. none | | | Τ |
| Feature Dev | rintion | · (chock | Feature Description: (check all that annh.) | | | | 100 | Vea | 4 | | ò | | | 1 |
| L Calute Des | ane (wit | h reener | Shane (with resnect to OHW) | | ŀ | | Substrate | ate | | V. | antation. | " Cover | Variatation Covar Tyna (MBSS) | Γ |
| V Notinal Channel Shane | Shana | | Width: # 1 -111 | | | Cilto | | aiv nde | Munh | DB. | -Butanni | I CUTU | (commit add) | |
| Artificial (man-made) | onape nade) | | 1-1- | 11 | | Cobbles | T | Gravel | Other- | Ź | forest, | rub. forest, mowed lawn | lawn | |
| Manipulated (man-altered) | n-altered | | Bank Erosion/stability: | ability: | | Bedrock | | Concrete | | | | | | |
| Other: | | | minor erosion | • | Side slope: | ope: | | 3:1 | ≤4:1 | LB: | forest. | LB: forest, paved road | oad | |
| Notes: flows to pipe | | | | | | | | | | | | | | |
| Weather/Precipitation Conditions: | cipitatio | n Condi | itions: | | | | | | | | | | | 1 |
| | Inch | Inches of Rain Within | | | | Mo | NCDC R | Monthly Drought Condition NCDC Regional PDSI | ition | | Month: | 4 | Year: | |
| During Field Visit | Last | Last Week | http://www.ncdc.noaa.gov/temn-and-nrecin/climatological-rankinos/in/dex.nhn | dc.noaa.go | v/temn-an | d-nrecin/cli | matolog | ical-ranking | s/in/dex. | uhn | October | ler | 2014 | |
| No rain | • | 0-0.5 | C | C | C | C | С | | | | | C | C | |
| | | 0.5-1 | ہ (رہ (|)4 | <u>،</u> |) ⁷ |)- |)- | |) (1 |) (|)4 | 5 6 | |
| O Heavy Rain | 0 | >1 | Severe Drought | ought | Moderate | Moderate Drought | | Normal | Mc | Moderately Wet | Wet | Sev | Severely Wet | |
| Non-tidal tril | outary h | nas: (che | Non-tidal tributary has: (<i>check all that apply</i> ; <i>includ</i> | ; include ph | iotos for ea | e photos for each & list photo #) | toto #) | | | | | | | |
| Bed and Banks | | | | | | Ordinary High Water Mark | High Wa | tter Mark | | | | | | |
| V Yes | | Clear, na | Clear, natural line impressed on the bank | sed on the ba | ank 🗸 | Z Sediment deposition | it deposit | ion | | Sediment sorting | t sorting | | | |
| No | | Changes | Changes in the character of soil | of soil | > | | aining | | < | Scour | | | | |
| | | Shelving | | | > | | e of flood | Presence of flood litter/debris | | Observe | d/predict | Observed/predicted flow events | vents | |
| | <u>-</u> | Vegetatic | Vegetation matted down, bent, or | bent, or absent | ent | Destruct | ion of te | Destruction of terrestrial veg. | | Abrupt c | hange in | Abrupt change in plant community | mmunity | |
| | | Leaf litte | Leaf litter disturbed | | | Presence of wrack line | e of wrac | k line | | Other: | | | | ٦ |
| Tidal tributa | ry has: (| (check a | Tidal tributary has: (<i>check all that apply</i> ; <i>include photos for each & list photo #</i>) | lude photos | for each & | k list photo | (#) | | | | | | | I |
| | ligh Tide Line | Line | | Mean F | ligh Water | in High Water Mark indicated by: | cated by | | | Chemic | al Chara | Chemical Characteristics | S | |
| Oil or scum line along shore objects | along sh | ore obje | cts | Survey | Survey to available datum | e datum | | N N | Water is clear | ear | | | | |
| Fine shell or debris deposits (foreshore) | ris depos | sits (fore | shore) | Physic: | Physical markings | | | × | Water is discolored | scolored | | | | |
| Physical markings/characteristics | s/charac | cteristics | | Uegeta | tion lines/c | Vegetation lines/changes in types | 'pes | | Oily film | | | | | |
| Tidal gauges | | | | | | | | Ó | Other: | | | | | 1 |
| Notes: | | | | | | | | | | | | | | |

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

| Project/Site: <u>I-445/T270</u> <u>Managed</u> (ity/County: <u>Managed</u> (ity/County: Sampling Date: <u>9/20/18</u> (state: Applicant/Owner: <u>SHA</u> <u>State:</u> <u>MD</u> Sampling Point: <u>72.01.8</u> (state: Investigator(s): <u>KSH4</u> <u>L00</u> Section, Township, Range: |
|--|
| Hydrophytic Vegetation Present? Yes No Is the Sampled Area Hydric Soil Present? Yes No within a Wetland? Yes No |
| Wetland Hydrology Present? Yes Venne No |
| Remarks: Photos 65356 Small Seep wetland at top of trapezoidal channel (cubin Jo. HYDROLOGY |
| |
| |
| |
| Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) |
| \checkmark Saturation (A3) \checkmark Oxidized Rhizospheres on Living Roots (C3) $_$ Moss Trim Lines (B16) |
| Water Marks (B1) Presence of Reduced Iron (C4) $$ Dry-Season Water Table (C2) |
| Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) |
| Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) |
| ✓ Iron Deposits (B5) Geomorphic Position (D2) |
| Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) |
| ✓ Water-Stained Leaves (B9) Microtopographic Relief (D4) |
| Aquatic Fauna (B13) FAC-Neutral Test (D5) |
| Field Observations: |
| Surface Water Present? Yes No Depth (inches): |
| Water Table Present? Yes Ves Depth (inches): 1 C1 |
| Saturation Present? Yes V No Depth (inches): O Wetland Hydrology Present? Yes V No Wetland Hydrology Present? Yes V No Present? |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: |
| |
| Remarks: |
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VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 22))-WET

| EVIO | Absolute | Dominant | Indicator | Dominance Test worksheet: |
|--|---|---------------|---|---|
| Tree Stratum (Plot size: 5×10) 1. ACEV VUDYUVV | <u>% Cover</u> | Species? | <u>Status</u> FAC | Number of Dominant Species That Are OBL, FACW, or FAC: (A) |
| 2. Fraxinus pennsylvarica | 5 | Ń | FACW | Total Number of Dominant Species Across All Strata: 3 (B) |
| 4 5 | | | | Percent of Dominant Species (A/B) That Are OBL, FACW, or FAC: |
| 6 | | | | |
| | 95 | = Total Co | ver | Prevalence Index worksheet: |
| 50% of total cover: | 5 20% 0 | f total cover | . 19 | Total % Cover of: Multiply by: |
| Sapling Stratum (Plot size:X 10) | | | | OBL species x 1 = |
| 1. N/A | | | | FACW species x 2 = |
| 2. | | | | FAC species x 3 = |
| 3. | | | | FACU species x 4 = |
| 4. | | | | UPL species x 5 = |
| 5 | | | | Column Totals: (A) (B) |
| 6 | | | - | Prevalence Index = B/A = |
| | 0 | = Total Co | ver | Hydrophytic Vegetation Indicators: |
| 50% of total cover: | 20% o | f total cover | | 1 - Rapid Test for Hydrophytic Vegetation |
| Shrub Stratum (Plot size: 5×10) | - | N/ | TAR | 2 - Dominance Test is >50% |
| 1. Nyssa sylvatica | 5 | <u> </u> | .tAC | 3 - Prevalence Index is ≤3.0 ¹ |
| 2 | | | - | 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) |
| 3 | | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 4 | | | | |
| 5 | • | | | ¹ Indicators of hydric soil and wetland hydrology must |
| ð | 5 | = Total Cov | | be present, unless disturbed or problematic. |
| | | | | |
| | | | | Definitions of Five Vegetation Strata: |
| 50% of total cover: 2.5 | | | | Tree – Woody plants, excluding woody vines, |
| <u>Herb Stratum</u> (Plot size: $\sum \frac{10}{10}$) | 20% of | | | Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. |
| Herb Stratum (Plot size: 5 × 10) 1. Mic rosteg imm Vimineum | 20% or | | | 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). |
| Herb Stratum (Plot size: <u>5 × 10</u>) 1. <u>Mic rosteg inm Winnin Run</u> 2. Froxinus pennest vanica | 20% o 60 5 | | | 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, |
| Herb Stratum (Plot size: <u>S × 10</u>) 1. <u>Mic rostegium Vimineum</u> 2. <u>Fraximus pennsylvanica</u> 3. <u>Onocheg sensibilis</u> | 20% or | | FAC | 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). |
| Herb Stratum (Plot size: <u>SX10</u>) 1. <u>Microstegium Vimineum</u> 2. <u>Evexinus pennsylvanica</u> 3. <u>Onochea sensibilis</u> 4. Amoetopsis bypyipendunculata | 20% o 60 5 | | FAC FACW 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. |
| Herb Stratum (Plot size: <u>SX10</u>) 1. <u>Microstegium Vimineum</u> 2. <u>Frakinus penneylympica</u> 3. <u>Onoclea</u> <u>sensibilis</u> 4. <u>Amoclopsis</u> by pendunculata 5. Lonicera, japonica | 20% o 60 5 | | FAC FACW 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 |
| Herb Stratum (Plot size: <u>SX10</u>) 1. <u>Microstegium Vimineum</u> 2. <u>Fraximus pennsulvanica</u> 3. <u>Onoclea</u> <u>sensibilis</u> 4. <u>Ampelopsis</u> <u>brevipendunculata</u> 5. <u>Lonicera</u> <u>japonica</u> 6. <u>Dicconnelium</u> <u>clantestinum</u> | 2 20% or 60 5 2 5 2 2 | f total cover | FAC FACW FACW VPL FACH | 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 |
| Herb Stratum (Plot size: <u>SX10</u>) 1. <u>Microstegium Vimineum</u> 2. <u>Frakinus pennsylvanica</u> 3. <u>Onoclea sensibilis</u> 4. <u>Amoclopsis brevipendunculata</u> 5. <u>Lonicera japonica</u> 6. <u>Dicanthelium clantestinum</u> | 2 20% or 60 5 2 5 2 5 2 2 | f total cover | FAC FACW FACW VPL FACH | 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 |
| Herb Stratum (Plot size: <u>SX10</u>) 1. <u>Microstegium Vimineum</u> 2. <u>Fraxinus pennsylvanica</u> 3. <u>Onoclea sensibilis</u> 4. <u>Ampelopsis brevipendunculata</u> 5. <u>Lonicera japonica</u> 6. <u>Dicanthelium clantestinum</u> 7. | 2 20% or 60 5 2 5 2 5 2 2 | f total cover | FAC FACW FACW VPL FACH | 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 |
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| Herb Stratum (Plot size: <u>SX10</u>) 1. <u>Microstegium Vimineum</u> 2. <u>Evaximus pennsulvanica</u> 3. <u>Onoclea sensibilis</u> 4. <u>Amoclopsis previpendunculata</u> 5. <u>Lonicera japonica</u> 6. <u>Dicanthelium clantestinum</u> 7 8 9 | 2 20% or 60 5 2 5 2 8 2 | f total cover | FAC FACW FACW VPL FACH | 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 |
| Herb Stratum (Plot size: <u>SX10</u>) 1. <u>Microstegium Vumineum</u> 2. <u>Fraxinus pennsulvanica</u> 3. <u>Onoclea sensibilis</u> 4. <u>Ampelepsis bevipendunculata</u> 5. <u>Lonicera japonica</u> 6. <u>Dicantulum clantestinum</u> 7 8 9 10 | 2 20% 0 | f total cover | FAC. FACW FACW VPL FACU FACU | 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. |
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| Herb Stratum (Plot size: <u>SX10</u>) 1. <u>Microstegium Vimineum</u> 2. <u>Evaximus pennsulvanica</u> 3. <u>Onoclea sensibilis</u> 4. <u>Amoclopsis brevipendunculata</u> 5. <u>Lonicera, japonica</u> 6. <u>Dicanthelium clantestinum</u> 7 8 9 10 11 | 2 20% or 60 5 2 5 8 2 2 | f total cover | FAC EACW FACW FACW FACU FACU | 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. |
| Herb Stratum (Plot size: <u>SX10</u>) 1. <u>Microstegium Vimineum</u> 2. <u>Fraximus pennsulvanica</u> 3. <u>Onoclea sensibilis</u> 4. <u>Amoclopsis previpendunculata</u> 5. <u>Lonicera japonica</u> 6. <u>Dicanthelium clantestinum</u> 7 8 9 10 11 50% of total cover: <u>4</u> | 2 20% or 60 5 2 5 8 2 2 | f total cover | FAC EACW FACW FACW FACU FACU | 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. |
| Herb Stratum (Plot size: | 2 20% or 60 5 2 5 8 2 2 | f total cover | FAC EACW FACW FACW FACU FACU | 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. |
| Herb Stratum (Plot size: | 2 20% or 60 5 2 5 2 8 2 20% or 2 | f total cover | FAC EACW EACW VPL EACL FACL | 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. |
| Herb Stratum (Plot size:) 1. Microstegium Vanineum 2. Evexinus pennsulvanica 3. Onoclea sensibilis 4. Amoclopsis previpendunculata 5. Lonicera, japonica 6. Dicanthelium clantestinum 7 | 2 20% or 60 5 2 5 2 8 2 20% or 2 | f total cover | FAC EACW EACW VPL EACL FACL | 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. |
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| Herb Stratum (Plot size: $_$ \$ 10) 1. Microstegium Vimintum 2. Fraximus pennsylvanica 3. Onoclea sensibilis 4. Amoclopsis previpendunculata 5. Lonicera japonica 6. Dicanthelium clantestinum 7 | 2 20% or 60 5 2 3 2 20% or 2 20% or 2 20% or 2 20% or | f total cover | FAC EACW FACW FACW FACL FACL FACL FACL | 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. |

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Sampling Point: 2233-WET

| Profile Desc | cription: (D | Describe | to the dep | th needed | to docu | ment the i | ndicator | or confirm | n the absence | of indicato | ors.) | |
|--|-----------------------------|----------|---------------------------------------|-----------|------------|----------------------------------|--------------------|-------------------|---------------------------|--------------|------------------------------------|---------------------------|
| Depth | | Matrix | | | Redo | ox Feature | s | | | | | |
| (inches) | Color (| | | Color (| moist) | % | _Type ¹ | _Loc ² | <u>Texture</u> | | Remarks | 1.1.0 |
| 0~1 | 10.YK | 01 | 100 | NY0 | 11.7 | | | | 5 | orge | anic Matcial , | 4/8-00 10 |
| 1-9 | 2.5 4 | 4/2 | 70 | 5YR | 9/6 | 20 | <u> </u> | M, PL | silty clay | 2 | | |
| 9-22 | 54 | 4/2 | 90 | 5YR | 5/8 | 10 | С | M | clay | 2 | | |
| | | | | | | | | | 0 | | | |
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| | 3 | | · · · · · · · · · · · · · · · · · · · | 20 | | · <u></u> | · · <u> </u> | | | | | |
| | | | | | | | | | | | | |
| | | | | No | | | | | | | | |
| ¹ Type: C=Co | | | letion, RM= | Reduced | Matrix, M | S=Masked | Sand Gra | ins. | ² Location: Pl | L=Pore Lini | ng, M=Matrix. | |
| Hydric Soil | Indicators: | | | | | | | | Indica | ators for Pr | oblematic Hyd | lric Soils ³ : |
| Histosol | | | | | rk Surface | | | | | | A10) (MLRA 14 | 7) |
| Contract and a second second | oipedon (A2 | 2) | | | 24 | elow Surfa | | | 148) C | | Redox (A16) | |
| | istic (A3) en Sulfide (A | | | | | urface (S9) ed Matrix (| | 47, 148) | | (MLRA 14 | | -10) |
| the second s | d Layers (A | 5550.000 | | | pleted Ma | | F2) | | F | (MLRA 13 | odplain Soils (F | -19) |
| | uck (A10) (L | | | | | Surface (F | 6) | | V | | Dark Surface (| TF12) |
| | d Below Da | | e (A11) | | | rk Surface | | | | | in in Remarks) | |
| | ark Surface | | | | | essions (Fa | | | | | | |
| | lucky Miner | | .RR N, | | | ese Mass | es (F12) (I | .RR N, | | | | |
| | A 147, 148) | | | | MLRA 13 | | | | 31 | | | |
| | Bleyed Matri Redox (S5) | IX (54) | | | | ace (F13) (bodplain S | | | | | /drophytic vege logy must be pr | |
| | Matrix (S6) | 5 | | | | Material (F | | | | | ed or problema | |
| Restrictive L | | | | | | | | | 1 | | | |
| Type: | | | | | | | | | | | / | |
| Depth (ind | ches): | | 2 | | | | | | Hydric Soil | Present? | Yes 🗹 | No |
| Remarks: | | | | | | | | | 3% | | | |
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VERIFIED 4/26/2018 MBS/AGA

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

| | | (1901 COL Wettands Denneation Manual) |
|----------|-------|---------------------------------------|
| | T-770 | MANAGED LAMES SND |
| 1 41 1/2 | LUN | MUNHOED UNITED DIVEN |

| Project/Site: Capital-Beltway | Date: 8/17/2004 4-26-2018 |
|--------------------------------------|---------------------------|
| Project No: | County: Montgomery |
| Applicant/Owner: SHA | State: MD |
| Investigators: WMM/MRS/BCR- MIGS/AGA | Plot ID: W125-22-K |
| | |

| Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? | Yes Yes Yes | No No No | Transect ID: | (ET 3/18/15) |
|---|-------------------|----------------|-----------------|--------------|
| Is the area a potential Problem Area? | 103 | NO | Field Location: | |
| (If needed, explain on the reverse side) | | | | |

| VEGETATION | (US | FWS Reg | ion No.1) | | |
|--|-----------|-----------|---------------------------------------|---------|-----------|
| Dominant Plant Species (Latin/Common) | Stratum | Indicator | Dominant Plant Species (Latin/Common) | Stratum | Indicator |
| Polygonum punctatum | н | OBL | | | |
| Dotted smartweed | | | | | |
| Polygonum persicaria | н | FACW | | | |
| Lady's thumb | | | | | |
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| | | | | - | |
| Percent Dominant Species that are OBL, F. (excluding FAC-) 100% | ACW, or F | AC: | FAC Neutral: Numeric Index: | -J | |
| Remarks: PACT OF METHAND PLANTE PHOTOS 2605-2607 | D IN . | TWEB | LASS | | |
| PHOTOS 2605-2607 | | | | | |

HYDROLOGY

| Recorded Data (Describe in Remarks): | Wetland Hydrology Indicators |
|---|---|
| Stream, Lake or Tide Gauge | Primary Indicators |
| Aerial Photographs | Inundated |
| Other | Saturated in Upper 12 Inches |
| X No Recorded Data | Water marks |
| | X Drift Lines |
| Field Observations | X Sediment Deposits |
| | Drainage patterns in Wetlands |
| Depth of Surface Water: N/A inches | Secondary Indicators (2 or more required) |
| Setting Office | Oxidized Root Channels in Upper 12 Inches |
| Depth to Free Water in Pit: _>12 inches | Water-Stained Leaves |
| | Local Soil Survey Data |
| Depth to Saturated Soil: >12 inches | FAC-Neutral Test |
| | Other (Explain in Remarks) |
| | |
| Remarks: | |
| | |

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COF Wetlands Delineation Manual)

(1987 COE Wetlands Delineation Manual) J-495/J-270 MANAGED LAMES STUD

Project/Site: Capital-Beltway Project No: Applicant/Owner: Investigators: WMM/MRS/BCR MBS/AGA 4-26-2018

| Date: | 8/17/2004- |
|----------|------------|
| County: | Montgomery |
| State: | MD |
| Plot ID: | W125 ZZK |

SOILS

| Map Symbol: | | Class: Well | | Mapped Hydric Inc | clusion? No |
|---------------------|--|---|---------------------------------|---|--|
| faxonomy (Sub | group): Ultic Hap | ludulfs | Field Observations | s Confirm Mapped Type? | Yes No |
| Profile Description | 'n | | | | |
| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Color (Munsell Moist) | Mottle Abundance/Contrast | Texture, Co |
| 0-3 · | B1 | 2.5Y2.5/1 | N/A | N/A | Sandy loam |
| 3-6 | B2 | Gley 2 6/5B6 | 7.5YR 5/2 | Many/ distinct | Silty clay/ S |
| 6-12 | B3 | Gley 1 6/56Y | 7.5YR 5/6 | Many/distinct | Clay/ SAB |
| | Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Re | | | Concretions High Organic Content in Organic Streaking in Sa Listed on Local Hydric S | andy Soils Soils List |
| | Histic Epipedon Sulfidic Odor Aquic Moisture Re Reducing Conditi _ Gleyed or Low C | ions throma Colors | | High Organic Content in Organic Streaking in Sa | andy Soils Soils List ric Soils List |
| | Histic Epipedon Sulfidic Odor Aquic Moisture Re Reducing Conditi _ Gleyed or Low C | ions | om drainage swale | High Organic Content in Organic Streaking in Sa Listed on Local Hydric S Listed on National Hydri | andy Soils Soils List ric Soils List |
| | Histic Epipedon Sulfidic Odor Aquic Moisture Re Reducing Conditi _ Gleyed or Low C | ions throma Colors | om drainage swale | High Organic Content in Organic Streaking in Sa Listed on Local Hydric S Listed on National Hydri | andy Soils Soils List ric Soils List |
| | Histic Epipedon Sulfidic Odor Aquic Moisture Re Reducing Conditi <u>Gleyed or Low C</u> tated wetland resu | ions throma Colors | om drainage swale | High Organic Content in Organic Streaking in Sa Listed on Local Hydric S Listed on National Hydri | andy Soils Soils List ric Soils List |
| | Histic Epipedon Sulfidic Odor Aquic Moisture Re Reducing Conditi Gleyed or Low C tated wetland resu | ions hroma Colors ulting from outflow fro | | High Organic Content in Organic Streaking in Sa Listed on Local Hydric S Listed on National Hydri | andy Soils Soils List ric Soils List rks) |
| Remarks: Veget | Histic Epipedon Sulfidic Odor Aquic Moisture Re Reducing Condition Gleyed or Low C tated wetland resu RMINATION etation present? gy Present? | ions hroma Colors ulting from outflow fro | | High Organic Content in Organic Streaking in Sa Listed on Local Hydric S Listed on National Hydri Other (Explain in Remar | andy Soils Soils List ric Soils List rks) |

| | Wetland Function-Value Evaluation Form | |
|--|---|---|
| Total area of wetland \underline{O} . \underline{OS} $\underline{\Delta e}^{\mathcal{A}}$ Human made? $\underline{\mathcal{NO}}$ |) Is wetland part of a wildlife corridor? VES or a "habitat island"? | Wetland I.D. ZZK Latitude 38.4712457 Longitude 77.174017 |
| Adjacent land use ROAD | Distance to nearest roadway or other development $1 \odot O^{-1}$ | Prepared by: MUSS Date 4-26-2018 |
| Dominant wetland systems present PCM | Contiguous undeveloped buffer zone present | Wetland Impact: Type_PISM Area 0.05 ALX |
| Is the wetland a separate hydraulic system? $\overline{\sqrt{O}}$ | If not, where does the wetland lie in the drainage basin? MUDUC | Evaluation based on: |
| How many tributaries contribute to the wetland? | \bigcirc Wildlife & vegetation diversity/abundance (see attached list) | Office Field Corps manual wetland-delineation |
| 5 Function/Value | Suitability Rationale Principal Y N (Reference #)* Function(s)/Value(s) Co | completed? Y 🖉 N |
| Groundwater Recharge/Discharge | | |
| Floodflow Alteration | | |
| Fish and Shellfish Habitat | | |
| X Sediment/Toxicant Retention | | |
| Mutrient Removal | | |
| Production Export | | |
| Sediment/Shoreline Stabilization | | |
| 🐿 Wildlife Habitat | | |
| A Recreation | | |
| Educational/Scientific Value | | |
| \chi Uniqueness/Heritage | V, | |
| Visual Quality/Aesthetics | | |
| ES Endangered Species Habitat | | |
| Other | | |
| Notes: | * Refer to bac | * Refer to backup list of numbered considerations. |

| Pr | | m ct2. | Managed Lonics | W YEAR | CLS | .S. Data Sl | ure II | 22 Kk | | Stream | m Order: | | |
|------------|--|----------------|--|-----------------|---|--|---------------------------------|--|---------------------------------------|----------------------------------|------------|------------------------------|---|
| Ď | Date: 9/20/18 | | and the second | State: WV | 10 | | Photos: F | 57-50 | | | | | T |
| Ū | Crew: KJH, LO | | and the second | County: Mo. | Mo. | 4 | Last Flag Number: N | Jumber: | VA | | | | |
| | Feature Hydrologic Class (check one): | ologic Class | (check one): | | | | | | | | | | Γ |
| | Tidal | | Perennial | | Inter | Intermittent | | | | Ephemeral | le | | 1 |
| \bigcirc |) TNW (Subject to ebb and | ebb and |) TNW – Perennial (Flowing year round) | (pui | \bigcirc RPW – Se | RPW – Seasonal (must flow at least 3 months a | st O | Non-RPW draining uplands Non-RPW crosional feature | draining | uplands feature | | | 1 |
| | | | RPW - Perennial | (m.) | year) | | | Non-RPW | with abu | Non-RPW with abutting wetland | nd | | |
| | |) | (Flowing year round) | (pur | | | 0 | Non-RPW with adjacent wetland | with adja | cent wetla | nd | | 1 |
| De | Describe rational for hydrologic class: | Pouched at | at cultert | z visit. | | | 0 | Non-RPW wetland adjacent or abutting upstream (outside of study area) | wetland a | idjacent or a) | abutting | upstream | |
| Hy | Hydrologic Connectivity – | | Upstream: 22H | | Downstree | Downstream: cabin John | | Cueck A | Adjacent/Abutting: | | None | | |
| | Feature Descr | iption: (che | Feature Description: (check all that apply) | | | (23 | (HAZE | | | | | | I |
| | Shar | c (with resp | Shape (with respect to OHW) | | | Su | Substrate | | | Vegetatio | m Cover | Vegetation Cover Type (MBSS) | - |
| | Natural Channel Shape | hape | Width: 8-15/ | | Silts | × × | Sands | Σ | Muck R | RB: Faves | ++ | | |
| | Artificial (man-made) | ide) | Depth: 3 - 15" | 11 | C K | Cobbies | Gravel | | Other: | | | | |
| X | Manipulated (man-altered) | -altered) | Bank Erosion/stability: | ability: | Bc | Bedrock | lcret | | | | • | | |
| | Other: | | severe e | C125:21 | Side slope: Side Side Side Side Side Side Side Side | | 2:10 | 3:11 □ ≤4:1 | | LB: Faves + | 54 | | |
| No | Notes: | | | | | | | | | | | | |
| | Weather/Precipitation Conditions: | pitation Cor | nditions: | | | | | | | | | | |
| | | Inches of | | | | Monthl | Monthly Drought Condition | Condition | a a a a a a a a a a a a a a a a a a a | Mon | th: Arres | Month: A of Year: 2210 | |
| Du | During Field Visit | Last Week | httm://www.ncdc.noaa.gov/femn-and-nrecin/elimatological-rankings/index.nhn | קור חספי מסע | /temn-and-nre | uovi temila/ria | ological-ra | nkings/in | lov nhn | | 2621 | | |
| | No rain | O 0-0.5 | - | C | - C | | C | | C | C | | С С | 1 |
| þ | Light rain | O 0.5-1 | -6 -5 |)4 | ن ب | | 0 |) |) (1 |) က |) + |) s | 1 |
| 0 | Е | >1 | Severe Drought | ought | Moderate Drought | ught | Normal | - | Moderately Wet | dy Wet | Ser | Severely Wet - | |
| | Non-tidal tribu | itary has: (c | Non-tidal tributary has: (check all that apply; incl | : include pho | inde photos for each & list photo #) | list photo | (# | | | | | | |
| | Bed and Banks | | | | Ord | inary High | Ordinary High Water Mark | nrk | | | | | |
| X | Yes | Clear, | Clear, natural line impressed on the bank | ed on the bar | X | Sediment deposition | position | | X Sedin | Sediment sorting | 51 | | - |
| | No | Chang | Changes in the character of soil | of soil | M | Water staining | ស | | × Scour | | | | |
| | | X Shelving | រថ | | | esence of I | Presence of flood litter/debris | debris | Obser | Observed/predicted flow events | sted flow | events | - |
| | | X Vegeta | Vegetation matted down, bent, | bent, or absent | | estruction o | Destruction of terrestrial veg. | l veg. | Abrul | Abrupt change in plant community | n plant cc | vinnunty | - |
| | | Leaf li | Leaf litter disturbed | | | Presence of wrack line | wrack line | | Other: | | | | |
| | Tidal tributary | r has: (chech | Tidal tributary has: (check all that apply; include | | photos for each & list photo #) | (# ototld | | | | | | | 1 |
| | Hig | High Tide Line | | Mcan Hi | Mean High Water Mark indicated by: | rk indicate | d by: | | Chen | Chemical Characteristics | acteristic | 2 | |
| | Oil or scum line along shore objects | ong shore of | jects | Survey 1 | Survey to available datum | um | | U Water | Water is clear | | | | - |
| | Fine shell or debris deposits (foreshore) | s deposits (fe | oreshore) | Physica | Physical markings | | | Water | Water is discolored | cd | | | |
| | Physical markings/characteristics | /characteristi | cs | Uegetat | Vegetation lines/changes in types | es in types | | Oily film | ш | | | | 1 |
| | Tidal gauges | | | | | | _ | Other: | | | | | |
| No | Notes: | | | | | | | | | | | | |

VENALD MUBS 4-26-18

| Subregion (LRR or MLRA): MLRA-148 Lat: 38.97307 L Soil Map Unit Name: Travitab Sil+loam, 358 / Stopes Are climatic / hydrologic conditions on the site typical for this time of year? Yes Λ Are Vegetation Λ , Soil Λ , or Hydrology Λ significantly disturbed? An | Hypervices Sampling Date: 11/21/14 State: MD Sampling Point: 04-Jf6-CML Range: Slope (%): onvex, none): NON |
|---|---|
| HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required: check all that apply) | Dry-Season Water Table (C2) |
| Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection Remarks: | Wetland Hydrology Present? Yes <u>No</u> ons), if available: |

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Eastern Mountains and Piedmont - Version 2.0

| | | | 222-01 |
|---|--|--|--|
| EGETATION (Five Strata) – Use scientific n | ames of | plants. | Sampling Point: GI-J/G-U |
| ree Stratum (Plot size: 30 rad 05) | | Dominant Indicator | Dominance Test worksheet: |
| | 3D | Species? Status | Number of Dominant Species |
| Acernegundo | | | That Are OBL, FACW, or FAC: (A) |
| Fraxinis promilivanica | and the second data was not as a se | V FACH | 7/ Lotal Number of Dominant |
| Ulmis americana | | - TACIN | |
| AarNonm | 20 | FAC | Percent of Dominant Species |
| | - | | - That Are OBL, FACW, or FAC: (A/B) |
| | - | | |
| | 120 | = Total Cover | Prevalence Index worksheet: |
| 50% of total cover:6 |) 20% of | total cover: 24 | Total % Cover of: Multiply by: |
| pling Stratum (Plot size: 30 radius) | 2070 01 | | - OBL species X 1 = Ó |
| Acer neando | 12 | 1 EAG | FACW species 70 x 2 = 140 |
| Alex Manao | | V PAL | FAC species X3 =_ 196 |
| | | | FACU species 116 x4 = 464 |
| 19 | - | | UPL species $5 \times 5 = 25$ |
| | | | 262 015 |
| | | | |
| | | | Prevalence index = $B/A = 3.22$ |
| | 12 | = Total Cover | Hydrophytic Vegetation Indicators: |
| 50% of total cover: | | total cover; 2.4 | |
| rub Stratum (Plot size: <u>38 r actus</u>) | 2070 01 | | - 2 - Dominance Test is >50% |
| Ligustium schense | 20 | 1 500 | |
| | - | FAC | |
| Rosa multiflora | 10 | FACU | data in Domeska or an a concerte should |
| Kubus phoenicolasius | | - FACU | Problematic Hydrophytic Vegetation ¹ (Explain) |
| | | | - / / / / / / / / / / / / / / / / / / / |
| | - | | - Indicators of builds with a doubter of builds to |
| | | | ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| | 35 | = Total Cover | Definitions of Five Vegetation Strata: |
| 50% of total cover: 17. | | total cover: 7 | Deminions of Five vegetation Strata: |
| erb Stratum (Plot size: 20 radius) | 20% 0 | | Tree – Woody plants, excluding woody vines, |
| | 1 | 1 54 | approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). |
| alliaria petistata | | FACI | (7.6 cm) of larger in diameter at breast height (DBH). |
| l | | | Sapling – Woody plants, excluding woody vines, |
| | | | approximately 20 ft (6 m) or more in height and less |
| | | | than 3 ln. (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. |
| N | | | |
| | | = Total Cover | |
| 50% of total cover: | 20% of | total cover: 1. 2 | _ |
| Dody Vine Stratum (Plot size: 30 vara us) | | 1 | |
| Lonicera japonica | 60 | FACU | |
| Hedgenhelix | 10 | FAUL | |
| Colastry official astis | 5 | FACU | - |
| Evenumus fortune, | 5 | UPI | - |
| | | | - |
| | | | - Hydrophytic |
| | - 80 | = Total Cover | Vegetation |
| 50% of total cover: 40 | 20% of | total cover: 16 | Present? Yes No |
| emarks: (Include photo numbers here or on a separate : | | | |
| A second s | | | |
| | | | |

US Army Corps of Engineers

| | 22L-UPL |
|-----------------|------------|
| Sampling Point: | OF THE OPE |
| ators.) | |

.

| Depth inches) | Matrix Color (moist) | % | Color (moist) | k Features | Type ¹ | Loc ² | Texture | e Remarks |
|--|------------------------------|--------------|---|---|--|-------------------------------|--------------|---|
| 2-4- | 104R4/3 | 100 | | | | | Sil | |
| 1- i) | 10VR 5/4 | | | | | | 5/ | WICOars tragments |
| | | · · | | | · · · · · · · · · · · · · · · · · · · | | | |
| | ncentration, D=Dep | letion, RM=R | Reduced Matrix, MS | S=Masked S | Sand Gra | ins. | | : PL=Pore Lining, M=Matrix. |
| Black His Hydroge: Stratified 2 cm Mu Depleted Thick Da Sandy M MLRA Sandy G | (A1) ipedon (A2) | | Dark Surface Polyvalue Be Thin Dark Su Loamy Gleye Depleted Mat Redox Dark S Depleted Dar Redox Depre Iron-Mangana MLRA 138 Umbric Surfa Piedmont Flo | low Surface rface (S9) (d Matrix (F3) Surface (F6) k Surface (F6) k Surface (F8) ese Masses b) ce (F13) (M | MLRA 14 2) F7) 5 (F12) (L ILRA 136 | 47, 148) .RR N, 5, 122) | 148) | dlcators for Problematic Hydric Solls ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) alndicators of hydrophytic vegetation and wetland hydrology must be present, |
| Stripped | Matrix (S6) | | Red Parent N | | | | | unless disturbed or problematic. |
| Type: Depth (inc | ayer (if observed): hes): | | | | | | Hydric (| Soli Present? Yes No |
| emarks: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

VENIFIED MIDS/ABA 4-26-2018

| WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region 1495/2-270 With Misson LANKS Show Project/Site: <u>1495 FRM Montegarcase Camber</u> City/County: <u>Montgoman Co.</u> Sampling Date: <u>Hearthan</u> Applicant/Owner: <u>SHA</u> Applicant/Owner: <u>SHA</u> Investigator(s): <u>AT, MM-MOS/REA</u> Section, Township, Range: Landform (hillslope, terrace, etc.): <u>depression</u> Local relief (concave, convex, none): <u>Concave</u> Slope (%): /- 2 Subregion (LRR or MLRA): <u>MLRA H4B</u> Lat: <u>38. 97321</u> Local relief (concave, convex, none): <u>Concave</u> Slope (%): /- 2 Subregion (LRR or MLRA): <u>MLRA H4B</u> Lat: <u>38. 97321</u> Long: <u>-77. 18064</u> Datum: NAD83 Soil Map Unit Name: <u>TravIlah sill Iaam, 3+0 8/1.5 lapes</u> NVU classification: FEMIA Are vegetation <u>A</u> , soil _, or Hydrology <u>M</u> significantly disturbed? Are "Normal Circumstances" present? Yes No (If needed, explain any answers in Remarks.) Are Vegetation <u>M</u> , soil or Hydrology <u>M</u> naturally prob | ×8 522L |
|---|------------|
| Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No Hydric Soil Present? Yes No No Ves No Wetland Hydrology Present? Yes No No No No | * |
| Remarks: - Appears to have been previously executated Photo 10 tooking THE PHOTOS 2608-2609 Reviewed on 9/9/2020 | |
| HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) | |
| Field Observations: Surface Water Present? Yes No Depth (inches): // / / / / / / / / / / / / / / / / / / | |

| con Stratum (Dist also | Absolute Dominant Indicator | Sampling Point: A-J-t |
|-------------------------------|--------------------------------|--|
| ree Stratum (Plot size:) | <u>% Cover</u> Specles? Status | Number of Dominant Species That Are OBL, FACW, or FAC: |
| | | |
| | | Total Number of Dominant Species Across All Strata: \mathcal{A} (B) |
| | | |
| | | Percent of Dominant Species That Are OBL, FACW, or FAC:OO(A/B) |
| · | = Total Cover | Prevalence Index worksheet: |
| 50% of total cover: | 20% of total cover: | Total % Cover of: Multiply by: |
| apling Stratum (Plot size:) | 20% of total cover: | OBL species x 1 = |
| | | FACW species x 2 = |
| | | FAC species x 3 = |
| | | FACU species x 4 = |
| | | UPL species x 5 = |
| | | Column Totals: (A) (B) |
| | | Prevalence index = B/A = |
| | = Total Cover | Hydrophytic Vegetation Indicators: |
| 50% of total cover: | 20% of total cover: | 1 Rapid Test for Hydrophytic Vegetation |
| rub Stratum (Plot size:) | | ⊥ 2 - Dominance Test is >50% |
| | | 3 - Prevalence Index Is ≤3.0 ¹ |
| | | 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) |
| | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| | | |
| | | ¹ indicators of hydric soli and wetland hydrology must |
| | = Total Cover | be present, unless disturbed or problematic. |
| 50% of total cover- | 20% of total cover: | Definitions of Five Vegetation Strata: |
| Persicana punctatu | | 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). |
| Cinna annolinacea | 6 PACIN | |
| | | 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. |
| | | the say whe - An woody vines, regardless of height. |
| | 9 = Total Cover | |
| | 5 20% of total cover: 1.8 | |
| ody Vine Stratum (Plot size:) | | |
| | | |
| | | |
| | | ~ |
| | | |
| | | Hydrophytic |
| | = Total Cover | Vegetation |
| 50% of total cover: | 20% of total cover: | Present? Yes No No |

US Army Corps of Engineers

Eastern Mountains and Pledmont - Version 2.0

Sampling Point: DET WE

| $ \begin{array}{c} \text{Depth} & \underline{\text{Matrix}} \\ \hline \text{inches} & \underline{\text{Color (moist)}} \\ \hline \hline$ | <u>%</u> 85 | Color (moist) 7 5 VR 4/4 | Features % | $\frac{\text{pe}^{1} \text{Loc}^{2}}{C M}$ | <u> </u> | Remarks |
|---|-------------------------------|--|--|---|---------------------------------|---|
| A-8 104/24/2 B-12 2.545/4 | <u>80</u> 00 | 7.54/la | | <u>C_M</u> | sicl | w/graved |
| | | | | | - | |
| ype: C=Concentration, D=D | epletion, RM= | Reduced Matrix, MS= | Masked Sar | d Grains. | ² Location: | PL=Pore Lining, M=Matrix. |
| Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surfi Thick Dark Surface (A12) Sandy Mucky Mineral (S1) MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) | ace (A11) • (LRR N, | Dark Surface (i Polyvalue Belo Thin Dark Surface Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark Redox Depress Iron-Manganes MLRA 136) Umbric Surface Piedmont Floor Red Parent Matrix | w Surface (S ace (S9) (ML Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8) se Masses (F e (F13) (MLF dplain Soils (| RA 147, 148) 12) (LRR N, XA 136, 122) F19) (MLRA | 3 ₁₁ 148) | 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) ndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| estrictive Layer (if observed Type: Depth (inches): emarks: | d): | | | | Hydric Se | bil Present? Yes No |
| | | | | | | |

²²L

| | Wetland Function-Value Evaluation Form | |
|---|---|---|
| Total area of wetland <u>O.07</u> Human made? | Is wetland part of a wildlife corridor? VES_ or a "habitat island"? | Wetland I.D. 22L Latitude36.973455 Longitude-77.180525 |
| Adjacent land use Rorry | Distance to nearest roadway or other development / 00 / | Prepared by: M&S Date 4-26-2201 |
| Dominant wetland systems present for | Contiguous undeveloped buffer zone present | Wetland Impact: Type ASM Area 0.02 ALA |
| Is the wetland a separate hydraulic system? $\overline{N_{0}}$ | If not, where does the wetland lie in the drainage basin? MNDDUC | Evaluation based on: |
| How many tributaries contribute to the wetland? | \bigcirc Wildlife & vegetation diversity/abundance (see attached list) | Office Field Corps manual wetland-delineation |
| S Function/Value | Suitability Rationale Principal Y N (Reference #)* Function(s)/Value(s) Co | completed? Y N Comments |
| For the techarge of techarg | | |
| Floodflow Alteration | | |
| - Fish and Shellfish Habitat | | |
| V Sediment/Toxicant Retention | | |
| Nutrient Removal | | |
| Production Export | | |
| Sediment/Shoreline Stabilization | | |
| 🐿 Wildlife Habitat | | |
| 🕂 Recreation | | |
| Educational/Scientific Value | | |
| 🜟 Uniqueness/Heritage | | |
| Visual Quality/Aesthetics | | |
| ES Endangered Species Habitat | | |
| Other | | |
| Notes: | * Refer to bac | * Refer to backup list of numbered considerations. |

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

| | Project/Site: <u>495/270</u> Mangel Lence City/County: Mangel Lence Sampling Date: 1013/18 Applicant/Owner: State: <u>Hichway</u> Auministration State: Sampling Doint: 2242-444 Investigator(s): |
|---|---|
| | Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: wetland is a small for pochet on high floody kin/terrace near Bedrach => hydrology likely perched on hedroch Dedrach => hydrology likely perched on hedroch Dedrach => hydrology likely perched on hedroch |
| × | 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) Ø Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) Ø High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Ø Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Ø Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Ø Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Ø Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Invn Deposits (B5) Shallow Aquitard (D3) Microtopographic Position (D2) Injundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Microtopographic Relief (D4) Aquatic Fauna (B13) Tess No Depth (inches): O-C V Surface Water Present? Yes No Depth (inches): O-C No Saturation Present? Yes No Depth (inches): O'C |
| | Remarks: photos O414 - 0419 A portion of this wetland is considered a vernal pool. Reviewed on 9/9/2020 |

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1. 50 1. 1

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

Sampling Point: 2214 het

· · · · ·

| VEGETATION (TWO Official) - Ose selentino ne | | Deminant | Indiantor | Dominance Test worksheet: |
|--|-------------------|----------------------|--------------|---|
| Tree Stratum (Plot size: 15 radius) | | Dominant Species? | | |
| | 40 | V | FAL | Number of Dominant Species That Are OBL, FACW, or FAC: (A) |
| 1. Box elder (Acer negundo) | | | TACIAL | That Are OBL, FACW, or FAC: (A) |
| 2. American Ela (Ulmus americana | 120 | <u> </u> | FACM | Total Number of Dominant |
| 3 | | | | Species Across All Strata: (B) |
| 4. | | | | |
| 5 | | | | Percent of Dominant Species That Are OBL, FACW, or FAC: 108 (A/B) |
| | | | | |
| 6 | 0/0 | | | Prevalence index worksheet: |
| 30 | 060 | = Total Cov | er 15 | Total % Cover of: Multiply by: |
| 50% of total cover: 0.0 | 20% of | total cover: | 0.0-1 ~ | OBL species |
| Sapling Stratum (Plot size: 15' radius) | | | | |
| | | | | FACW species x 2 = 0 |
| | | | | FAC species x 3 = 0 |
| 2 | | | | FACU species x 4 = 0 |
| 3 | | | | UPL species x 5 = 0 |
| 4 | | | | Column Totals: (A) 0 (B) |
| 5 | | | | |
| | | | | Prevalence Index = B/A = |
| 6 | 0.1.0 | = Total Cov | | Hydrophytic Vegetation Indicators: |
| | | | | |
| 50% of total cover: 0.0 | 20% of | total cover: | 0.0 | 1 - Rapid Test for Hydrophytic Vegetation |
| Shrub Stratum (Plot size: 15 rodius) | | | 1004000 0040 | ☑ 2 - Dominance Test is >50% |
| 1. Lindera benzain | 10 | Y | FAC | 3 - Prevalence Index is ≤3.0 ¹ |
| | 1 63 | Ý | FAC | 4 - Morphological Adaptations ¹ (Provide supporting |
| 2 Acer negundo | B | 6.0 | NIT | data in Remarks or on a separate sheet) |
| 3. Lonicera sp. | 2 | | V aler | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 4 | | | _ | |
| 5. | | | | 1. It at a st hudde set and watered budgetony must |
| 6. | | | 8 | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| o | 25 : | = Total Cov | er | |
| | | | | Definitions of Five Vegetation Strata: |
| ,50% of total cover: <u>໑-</u> ៚ ໄລ | <u>.</u> ⊇ 20% of | total cover: | 0:0 9 | Tree – Woody plants, excluding woody vines, |
| Herb Stratum (Plot size: 10 てっという) | | N | 0.50 | approximately 20 ft (6 m) or more in height and 3 in. |
| 1. Persiverie pundata | 22 | 1 | UBL | (7.6 cm) or larger in diameter at breast height (DBH). |
| 2 Change Brook //USIMOCHIQ 1 | 22 | Y | FACW | Sapling – Woody plants, excluding woody vines, |
| NI MANALOUPING | 10 | N | ORI | approximately 20 ft (6 m) or more in height and less |
| | 6 | 14 | FACW | than 3 in. (7.6 cm) DBH. |
| 4. Persiveria lati think | > | N | TALM | |
| 5. Maculosa | | | | Shrub – Woody plants, excluding woody vines, |
| 6. | | | | approximately 3 to 20 ft (1 to 6 m) in height. |
| 7 | | | | Herb – All herbaceous (non-woody) plants, including |
| | | | | herbaceous vines, regardless of size, and woody |
| 8 | | | | plants, except woody vines, less than approximately 3 |
| 9 | | | | ft (1 m) in height. |
| 10 | | | | Woody vine – All woody vines, regardless of height. |
| 11 | | | | Woody vine - All woody vines, regardless of height. |
| 26 | 155 = | = Total Cove | er | |
| | 000/ -6 | tatal sama | 11 | |
| 50% of total cover: 9-0 | 20% of | total cover: | -0.0 | |
| Woody Vine Stratum (Plot size: 10' YGdius) | | | | |
| 1 | | | | |
| 2. | | | | |
| | | | | |
| 3None | | | | |
| 4 | | | | |
| 5 | | | | Hydrophytic / |
| | 0= | = Total Cove | ər | Vegetation |
| 50% of total cover: 0.0 | 20% of | total cover | 0.0 | Present? Yes <u>No</u> No |
| | | | | |
| Remarks: (Include photo numbers here or on a separate sl | ieet.) | | | |

| 0 | 0 | | |
|---|---|---|--|
| 5 | 0 | п | |
| - | - | | |

| Depth | otion: (Describe to the dep Matrix | oth needed to document the indicator or confirm Redox Features | n the absence of indicators.) |
|-----------------|--|--|--|
| _(inches) | Color (moist) % | <u>Color (moist)</u> % <u>Type¹</u> Loc ² | Texture Remarks |
| | | 10. G. L | |
| | | | |
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| | | | |
| | | | |
| | | Reduced Matrix, MS=Masked Sand Grains. | ² Location: PL=Pore Lining, M=Matrix. |
| Hydric Soil Ind | | | Indicators for Problematic Hydric Soils ³ : |
| Histosol (A | | Dark Surface (S7) | 2 cm Muck (A10) (MLRA 147) |
| Histic Epipe | | Polyvalue Below Surface (S8) (MLRA 147, | |
| | A REAL PROPERTY AND A REAL | ☐ Thin Dark Surface (S9) (MLRA 147, 148) ☐ Loamy Gleyed Matrix (F2) | (MLRA 147, 148) Piedmont Floodplain Soils (F19) |
| Stratified La | | Depleted Matrix (F3) | (MLRA 136, 147) |
| | (A10) (LRR N) | Redox Dark Surface (F6) | Very Shallow Dark Surface (TF12) |
| Depleted B | elow Dark Surface (A11) | Depleted Dark Surface (F7) | Other (Explain in Remarks) |
| | Surface (A12) | Redox Depressions (F8) | |
| | ky Mineral (S1) (LRR N, | Iron-Manganese Masses (F12) (LRR N, | |
| | 47, 148) /ed Matrix (S4) | MLRA 136) Umbric Surface (F13) (MLRA 136, 122) | ³ Indicators of hydrophytic vegetation and |
| Sandy Gley | | Piedmont Floodplain Soils (F19) (MLRA 14 | ³Indicators of hydrophytic vegetation and wetland hydrology must be present, |
| Stripped Ma | | Red Parent Material (F21) (MLRA 127, 14 | |
| | ver (if observed): | | |
| Туре: | | | |
| Depth (inche | es): | | Hydric Soil Present? Yes 🕖 No 🚫 |
| Remarks: | , 1 | | |
| | No 50:11 | t collected on 10/31, | hr |
| 1.2 | as unable t | a collect soil posite b | ecause the project |
| 00 | Lil I he e | | the time of the site |
| | Cic Not name | = invasive access at | the time of the site |
| | visit | | |
| D | issing soil pit | is considered invasive | work, |
| | 0 9 | | |
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| | | | |

| | Wetland Function-Value Evaluation Form | Evaluation Form | |
|---|---|---|---|
| Total area of wetland O. OS ACHuman made? | Is wetland part of a wildlife corridor? $\sqrt{4}$ or a "habitat island"? | or a "habitat island"? | Wetland I.D. <u>LL</u> Latitude 38.770-135 Longitude - 7 7.1 78429 |
| Adjacent land use Forest + Bedroch | Distance to nearest roadway or other development | r other development 140 FL | Prepared by: Mr. Date 1 a /3//18 |
| Dominant wetland systems present PFO | Contiguous undeveloped buffer zone present | er zone present | Wetland Impact: Type O.OSAC |
| Is the wetland a separate hydraulic system? \overline{NO} | If not, where does the wetland lie in the drainage basin? M. LLL | ainage basin? M.' LLL | Evaluation based on: |
| How many tributaries contribute to the wetland? | Wildlife & vegetation diversity/abundance (see attached list) | ance (see attached list) | Field |
| 5 Function/Value | Suitability Rationale Principal Y N (Reference #)* Function | (s)/Value(s) | completed? Y N |
| Groundwater Recharge/Discharge | > | when is small, perchall | L prost is lead 1 |
| - Floodflow Alteration | > | | |
| Fish and Shellfish Habitat | 7 | | |
| Sediment/Toxicant Retention | > | | |
| Nutrient Removal | | | |
| Production Export | 2 | | |
| Sediment/Shoreline Stabilization | > | | |
| 🖅 Wildlife Habitat | | trivertuction as open during portions of | weter pool og bedroch iglend |
| A. Recreation | > | | |
| Educational/Scientific Value | 2 | | |
| 🖈 Uniqueness/Heritage | 2 | | |
| くまた Visual Quality/Aesthetics | 2 | | |
| ES Endangered Species Habitat | > | | |
| Other | | | |
| Notes: | | * Refer to bac | * Refer to backup list of numbered considerations. |

| | | | | | | Waters of th | Waters of the U.S. Data Sheet | I Sheet | Ven | certina, | Hubs/Atra | F14 4-26-18 | |
|-----------|---|----------------|---------------------------|---|--|-----------------------------------|-------------------------------|------------|---------------------------------|---|--|---|---------|
| ٩ | Project: 7-495 IRVM - Montgomery County | ntgomery | County | | | | | Featu | Feature ID: 01-D | M2-1- | Stre | Stream Order: 3rd | |
| Q | Date: +1/18/14- 4-26-20 | 26- | 2018 | 6 | State: MD | AD | | Photos:47 | S:47 - 7 | -019- | 2611 | | 1 |
| U | Crew: A. Tatone, M. Niehaus | 5 | 05/46 | 5 A | County | County: Montgomery | | Last F | lag Numb | Last Flag Number: 01-D-02A, 01-D-03B | 01-D-03B | 1045 BOUNDAR | in and |
| | Feature Hydrologic Class (check one): | ologic | Class (cl | heck one): | | | | | | | | | |
| | Tidal | | | Perennial | - | I | Intermittent | | | | Ephemeral | 1.28 | |
| \cup | TNW (Subject to ebb and | ebb an | \bigcirc | TNW – Perennial | 1 | O RPW | RPW – Seasonal (must | must | O Non- | RPW drain | Non-RPW draining uplands | | |
| lj | tiow) | | (| (Flowing year round) | (pund) | tlow | flow at least 5 months a | nths a | | KPW erosi | Non-KPW erosional feature | | Т |
| | | | | KPW – Perennial KSUBH (Flowing year round) | und) | year) | | | | RPW with | Non-KPW with abutting wetland Non-RPW with adjacent wetland | land | |
| D & | Describe rational for hydrologic class: | FLOW | IN- KI | TA KLAYANNOT | 1- | UNNO | 8 30 1 | MB | O Non- (outs | Non-RPW wetland ad (outside of study area) | nd adjacent | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| H | Hydrologic Connectivity - | vity - | Upstr | Upstream: outside of study area | dy area | Dowr | Downstream: Potomac River | nac River | | Adjacen | Adjacent/Abutting: 01-C | 1-C | |
| | Feature Desci | ription | 1: (check | Feature Description: (check all that apply) | | | | | | | | | |
| | Sha | ipe (wit | th respec | Shape (with respect to OHW) | | | | Substrate | ite | | Vegetation | ion Cover Type (MBSS) | - |
| > | Natural Channel Shape | Shape | | Width: 30' | | > | Silts | ✓ Sands | l spr | Muck | RB: forget | | |
| | Artificial (man-made) | ade) | | Depth: 8 C" - | , , | > | Cobbles | ✓ Gra | Gravel | Other: | | 10 | |
| > | Manipulated (man-altered) | n-altere | | Bank Erosion/stability: | tability: | | Bedrock | Co | Concrete | | | | - |
| | Other: | | | minor erosion | | Side slope: | lope: $\Box \ge 1:1$ | 1 7 2:1 | 3:1 |]≤4:1 | LB: forest | st | |
| N. | Notes: Rock Run, flows through culvert | through | h culvert | | | | | | | | | | |
| | Weather/Precipitation Conditions: | ipitatio | on Cond. | litions: | | | | | | | | | |
| | | Inch | Inches of | | | | Mor | thly Dro | Monthly Drought Condition | dition | - IN | | |
| 6 | During Field Visit | Kain I act | Kain Within Lost Woold | httm://www.node.noos.cov/tomn.and.nooin/olimate/oriosl.con/ringe/index.nhn | o ocou opo | ne numpline | lanoora b | ULUC K | imploticed rankings | ac/inday n | | October 2014 | |
| | No rain | 0 | 0-0.5 | C | | | C | C | | | C | | T |
| 90 | | | 0.5-1 | |)4 | <u>،</u> |) ? |)- |)0 | 1 |) m | 4 5 6 | |
| \circ | Heavy Rain | 0 | >1 | Severe Drought | rought | Moderate | Moderate Drought | | Normal | Mod | Moderately Wet | Severely Wet | |
| | Non-tidal trib | utary l | has: (che | Non-tidal tributary has: (check all that apply; include photos for each & list photo #) | v; include f | photos for ea | ich & list ph | oto #) | | | | | 1 |
| | Bed and Banks | | | | | | Ordinary I | High Water | ter Mark | | | | 1 |
| > | Yes | | Clear, na | Clear, natural line impressed on the bank | ssed on the | bank 🗸 | Z Sediment deposition | t depositi | on | V S | Sediment sorting | ing | |
| Ш | No | | Changes | Changes in the character of soil | of soil | | Water staining | iining | | Š | Scour | | Т |
| | | | Shelving | - | | | Presence | of flood | Presence of flood litter/debris | | bserved/pred | Observed/predicted flow events | |
| | | > | Vegetatic | Vegetation matted down, bent, or absent | , bent, or ab | sent | Destructi | on of ten | Destruction of terrestrial veg. | | brupt change | Abrupt change in plant community | Т |
| | | | Leaf litte | Leaf litter disturbed | | | Presence of wrack line | of wrack | t line | 0 | Other: | | |
| | Tidal tributar | y has: | (check a | Tidal tributary has: (<i>check all that apply; include ph</i> | clude photo | otos for each & list photo #) | k list photo # | () | | | | | ſ |
| | \$1 1 | High Tide Line | cline | | Mean High | High Water | · Mark indicated by: | cated by: | | | Chemical Ch | haracteristics | T |
| \square | Oil or scum line along shore objects | long sh | nore obje | ects | Surve | Survey to available datum | le datum | | | Water is clear | ar | | Т |
| | Fine shell or debris deposits (foreshore) | is depo | isits (fore | eshore) | Physi | Physical markings | 10 | | | Water is discolored | colored | | |
| | Physical markings/characteristics | s/chara | cteristics | | L Vege | Vegetation lines/changes in types | changes in ty | bes | | Oily film | | | Т |
| | Tidal gauges | | | | | | | | | Other: | | | Т |
| Ž, | Notes: | | | | | | | | | | | | |

| ct: 495/270 | menegel law Stul | 70 | | $C_{1,2,2}^{(1)} \times \mathcal{L}_{2,2,2}^{(2)}$ | En al Transfer Beature ID: | | MW ZZ | Stre | Stream Order: | | |
|---|--|-------------------------------------|--|--|---------------------------------|---------------------------|--|--|-------------------|------------------------------|------|
| Date: 10[31/18 | | State: My | Sector Sector Sector | 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1 | Photos: 0420 | 0450 | | 0 - | 126 | | |
| Crew: Mr | | County: Months and | Agoner | 1 | Last Flag | Last Flag Number: | Not 1 | Flegred - | Jarver (| Ritur | |
| Feature Hydrologic Class (check one): | Class (check one): | | | | | | | 3 | | | |
| Tidal | Percunial | | Inter | Intermittent | | | | Enhemeral | ral | | |
| TNW (Subject to ebb and | R | I L'INBHY () | RPW - Se | Seasonal (must | nust C | Non-RP | V drainin | Non-RPW draining uplands | | | |
| (flow) | (Flowing year round) |) (pund) | flow at lea | flow at least 3 months a | hs a | Non-RP | V crosion | Non-RPW crosional feature | Pruc | | |
| | (Flowing vear round) | (pund | ycarj | | 10 | Non-RP | V with ad | Non-RPW with adjacent wetland | and | | |
| Describe rational feeder | 5 | enè | lage side | le clenrel | rel O |) Non-RP | Non-RPW wetland adj (outside of study area) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | or abutting | upstream | |
| Hydrologic Connectivity – | Upstream: NM | | Downstream: | am: N | NA | , T | Adjacent/ | tting: | ZINN 2 | 22 00 22 | 2211 |
| Feature Description | Feature Description: (check all that apply) | | | | | | | | | V. | |
| Shape (wi | Shape (with respect to OHW) | | | S | Substrate | | | Veretati | ion Cover | Verelation Cover Type (MBSS) | 121 |
| L Natural Channel Shape | Width: $> \psi o o$ | 0 17 | L Silts | lts | w Sands | 7 | Muck | RB: fores | 54 | * | |
| Artificial (man-made) | | R. | 2 | Cobbles | Gravel | | Other: | | i. | | |
| Manipulated (man-altered) | d) Bank Erosion/stability: | | e P | Bedrock | 0 | ľ | | 6 | | | |
| Other: | stuble to he | heady entin S | Side slope: 🛃 ≥1:1 | 1:1~12 | N2:1 | <u>k</u> 3:1 <u></u> ≰4:1 | | LB: Ford | 6 | | |
| Notes: | | | | | | | | | | 1 | |
| Weather/Precipitation Conditions: | on Conditions: | | | | | | | | | | |
| Incl | Inches of | | | Month | uly Droug | Monthly Drought Condition | п | | | | |
| | Rain Within | NCDC Regional PDSI | an puo m | NC NC | DC Regionation | NCDC Regional PDSI | ada vobu | | Nonth: October | Year: | 8 |
| ILLING FICIULATION | - | | 11-11112-11 | | | | | _ | | | |
| O Lieht rain | 0.5-1 -6 -5 | 74 04 |) | | | | ⊳ C |) w | 4.13 | D v | 00 |
| 00 | Severe | | Moderate Drought | ought | Normal | mal | Moder | Moderately Wet | Ser | Severely Wet | |
| Non-tidal tributary l | Non-tidal tributary has: (<i>check all that apply; include photos for each & list photo #</i>) | v; include photos | for each S | E list photo | o #) | | | | | ** | |
| Red and Ranks | | | Ord | linary Hig | Ordinary High Water Mark | Mark | | | | | |
| 8 | Clear, natural line impressed on t | ssed on the bank | N S | Sediment deposition | eposition | | Da Sed | Sediment sorting | ដ្ឋ | <i>k</i> | |
| | Changes in the character of soil | of soil | N N | Water staining | ing | | Scour | ur | | | - |
| | Shelving | | N.P | resence of | Presence of flood litter/debris | cr/debris | N Obs | Observed/predicted flow events | icted flow | events | |
| X | Vegetation matted down, bent, or | , bent, or absent | N | Destruction | Destruction of terrestrial veg. | rial veg. | Abr | Abrupt change in plant community | in plant co | ommunity | |
| X | Leaf litter disturbed | | R P | resence of | Presence of wrack line | e | Other: | er: | | | |
| Tidal tributary has: | Tidal tributary has: (check all that apply; include photos for each & list photo #) | clude photos for e | ach & list | plioto #) | | | | | | | |
| High Tide Line | . 1.Inc | Alean High Water Mark indicated by: | Water Ma | rk indica | ted by: | | ų.) | Chemical Characteristics | tractoristic | E | |
| Oil or scum line along shore objects | nore objects | Survey to available datum | 'ailable da | tum | | Wate | Water is clear | | | | |
| Fine shell or debris deposits (foreshore) | sits (foreshore) | Physical markings | rkings | | | Wate | Water is discolored | lored | | | |
| Physical markings/characteristics | cteristics | Vegetation I | spetation lines/changes in types | ges in type | S | Oily film | film | | | | |
| Tidal gauges | | | | | | Other: | | | | | |
| Notes: | | | | | | | | | | | |

waters of the U.S. Data Sheet

| 7-495/2-27 With | 42-21 | D NIN | NHARTED LANES | K-25 | Waters of the U.S. Data Sheet | he U.S. Da | ta Sheet | heet VO | VENTARY | NB5/ | S/ABR 4 | 4-26-201 |
|---|-----------------|-----------------------------------|---|--|--|--------------------------|------------------------|----------------------------------|--|----------------------------------|-----------------|------------------------------|
| | NOTIGOTI | tery county | | ż | - Participante - Part | | reatu | LIN: MI AI | V V V | 1 | Call Of uci | 1 |
| Date: 11/48/14- 1 | 4~260 | 'al | | State: M | MD | | Photos: 48- | S: 18 2 | 7-7107 | 1 | 12-120 | 1012-2-501 0 1 m |
| Crew: A. Tatone, M. Niehaus | Niehaus (| MBS/AC | 54 | County | County: Montgomery | | Last 1 | Flag Num | Last Flag Number: 01-C-20A, 01-C-22B | 01-C-22B | | , intrucial |
| Feature | Hydrolog | ic Class (c | Feature Hydrologic Cláss (check one): | | | | | | | | | top pa |
| Tidal | u | * | Perennial | lal | | Intermittent | t | | | Ephemeral | eral | |
| TNW (Subject to ebb and | ict to ebb | С | TNW - Perennial | nial | C RPW | RPW - Seasonal (must | (must | O Non | Non-RPW draining uplands | ng uplands | | |
| (flow) | |) | (Flowing year round) | round) |) flow : | flow at least 3 months a | onths a | O Non | Non-RPW erosional | nal feature | | |
| | | | RPW - Perennial | nial | year) | | | O Non | Non-RPW with abutting wetland | butting wet | land | |
| | | | (Flowing year round) | round) | | | | O Non | Non-RPW with adjacent wetland | djacent wet | land | |
| Describe rational for hydrologic class: | | D ephemic | also ephemoral at top with concrete | with concrete | New 19 | Atrop | HH | O Non (out | Non-RPW wetland adjacent or abutting upstream (outside of study area) | nd adjacent area) | or abutting | upstream |
| Hydrologic Connectivity | rectivity - | - Upsti | Upstream: w122M | 44722 | | Downstream: @4=D | 0 22 | Y | Adjacent | Adjacent/Abutting: 01-E | 11E 22 | 0 |
| Feature | Descripti | on: (check | Feature Description: (check all that apply) | (| | | | | | | | |
| | Shape (| with respe | Shape (with respect to OHW) | | | | Substrate | nte | | Vegetat | tion Cover | Vegetation Cover Type (MBSS) |
| V Natural Channel Shape | nnel Shap | e | Width: 5' | | > | Silts | Sai | Sands | Muck | RB: fornet | + | |
| Artificial (man-made) | an-made) | | Depth: 3' 3" | 1. | | Cobbles | < Gr | Gravel | Other: | | 01 | |
| Manipulated (man-altered) | (man-alte | ered) | Bank Erosion/stability: | v/stability: | | Bedrock | Co V | Concrete |] | | | |
| Other: | | | minor erosion | | Side slope: | lope: □ ≥1:1 | | 3:1 |]≤4:1 | LB: forest | st | |
| Notes: pipes, rip-rap and concrete present | ap and cor | ncrete prese | int | | | | | | | | | |
| Weather | Precipita | Weather/Precipitation Conditions: | litions: | | | | | | | | | |
| | II | Inches of | | | | Mo | nthly Dre | Monthly Drought Condition | dition | | | |
| | | Rain Within | | | | | NCDC R | NCDC Regional PDSI | ISC | Mo | Month: | Year: |
| During Field Visit | _ | Last Week | http://www | http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php | v/temp-and | d-precip/cl | imatologi | cal-rankii | ngs/index.ph | | October | 2014 |
| O No rain | 0 | 0-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 | 0 | 0 | 0 |
| O Light rain | 0 | 0.5-1 | 9 | -5 -4 | -3 2 | -2 | | 0 | 1 2 | 3 | 4 | 5 6 |
| O Heavy Rain | 0 | ~ | Severe | Severe Drought | Moderate | Moderate Drought | | Normal | Mode | Moderately Wet | Se | Severely Wet |
| Non-tida | tributar | y has: (ch | Non-tidal tributary has: (check all that apply; include | - | photos for each | ich & list photo #) | (# otor | | | | | |
| Bed and Banks | SN | | | | | Ordinary | High Wa | Vater Mark | | | | |
| V Yes | > |] Clear, ní | Clear, natural line impressed on the | | bank 🔽 | Z Sedimer | Sediment deposition | on | V Se | Sediment sorting | ing | |
| No | | Changes | Changes in the character of soil | er of soil | | Water staining | taining | | Sc Sc | Scour | | |
| | | Shelving | 50 | | | Presenc | e of flood | Presence of flood litter/debris | | Observed/predicted flow events | dicted flow | events |
| | > | Vegetati | Vegetation matted down, bent, or absent | /n, bent, or abs | tent | Destruc | tion of ter | Destruction of terrestrial veg. | | Abrupt change in plant community | e in plant c | ommunity |
| | > | Leaf litte | Leaf litter disturbed | | | D Presenc | Presence of wrack line | c line | Dt Ot | Other: | | |
| Tidal tril | utary ha | IS: (check t | Tidal tributary has: (check all that apply; include photos for each & list photo #) | include photo: | s for each & | & list photo | (# | | | | | |
| | High Ti | ide Line | | Nean I | High Water | - Mark ind | indicated by: | | CI | Chemical Ch | Tharacteristics | CS CS |
| Oil or scum line along shore objects | line along | shore obje | ects | Survey | Survey to available datum | le datum | | | Water is clear | - | | |
| Fine shell or debris deposits (foreshore) | debris de | posits (for | eshore) | Physic | Physical markings | | | | Water is discolored | olored | | |
| Physical markings/characteristics | kings/cha | aracteristic | S | Vegeta | Vegetation lines/changes in types | changes in t | ypes | | Oily film | | | |
| Tidal gauges | | | | | | | | | Other: | | | |
| Notes: | | | | | | | | | | | | |

| Project: 485/270 | | Menafed | (ere | Ster | | $T_{1}^{(2)}(x_{1}^{(2)},x_{2}^{(2)},x_{2}^{(2)},x_{1$ | Featu | Feature ID: 22 NN | 2 NN | | Stream Order: | rder: | | - |
|---|-----------------------------|-----------------------|---|---------------|-------------------------------------|--|------------------------|---------------------------------|---------------------|---|---|--------------|----------------|---|
| Date: 10/31/1 | 6 | | | State: | CM M | A AN AN ANY THINK | Photos: | | 7540-F240 | 35 | | | | |
| Crew: MARS | | | | County: | County: Prostoner | erv . | Last | Last Flag Number: | | - NN 22 | 2 | | | |
| Feature Hydrologic Class (check one): | gic Class (c | heck one | :(| |) | | 8 | | | | | | | r |
| Tidal | | Pc | Percnnial | | 1 | Intermittent | t | | | Eı | Enhemeral | | | |
| TNW (Subject to ebb and | ond Due | TNW – Perennial | TNW – Perennial (Flowing year round) | ¢ | W RPW | RPW – Seasonal (must flow at least 3 months a | (must | | -RPW dr | Non-RPW draining uplands Non-RPW crosional feature | lands | | | |
| (2011 | C | RPW – Perennial | erennial | | vear) | 20110 | | | I-RPW w | ith abuttir | Non-RPW with abutting wetland | | | T |
| |) | (Flowing | (Flowing ycar round) | | | ACLA . | | O Nor | I-RPW w | ith adjace | Non-RPW with adjacent wetland | | | 1 |
| Describe rational sterling | 500 | 409 7 | 0 | PineH | - | tetuc da | Jr 132 | | Non-RPW wetland adj | etland adj | Non-RPW wetland adjacent or abutting upstream | tting ups | tream | |
| 2. | S A | Upstream: weren | 00 22 m | 00 | | Downstream: Potore R: w | orce R:1 | 3 | | Adjacent/Abutting: | | Nor | | |
| Feature Description: (clieck all that apply) | ion: (check | all that a | (Ajddi | | | | | | | | | | | Г |
| Shape | Shape (with respect to OHW) | ct to OH' | (\) | | | | Substrate | ate | | .1 | Verelation Cover Type (MBSS) | over Tvj | ie (AHSSS) | |
| Natural Channel Shape | c | Width: | 8-10 8 | ł | | Silts | L Sa | Sands | L Muck | | RB: Frest | | • | |
| Artificial (man-made) | | Depth: | 0-0.5 | FF | | Cobbles | 5 | Gravel | Other: | | | | | |
| Manipulated (man-altered) | ered) | Bank Er | 101 | lity: | | Bedrock | | Incret | | I B. | I B. O.Veo. | 040 0 | 1. ada e bac 1 | |
| Other: | | modenede | LONON 3 | 505 | Side sl | Side slope: [1] ≥1:1 | 1.221 | 3:1 | 4:1 | | | 3 | A man lin | |
| Notes: | | | | | | | | | | _ | Viete | | x | |
| Weather/Precipitation Conditions: | ation Cond | itions: | | | | | | | | | N. | | | |
| | Inches of | | | | | Mo | nthly Dr | Monthly Drought Condition | ndition | | | | | |
| | Rain Within | | - | | | | NCDC R | NCDC Regional PDSI | DSI | 1 | Month: | 1 | Ycar: | |
| uring Field VISIT | Last week | | WWW.Incuc | | | I-Drecip/cii | dolonation (| (cal-ramki | () | | | | | |
| C No rain | 0-0.5 | 2 v C | D Y | C | ٦C | C | | |)- | | ₽ (| | | - |
| O Heavy Rain | I< | | Severe Drought | | Moderate Drought | Drought | | Normal | Σ. | Moderately Wet | | Severely Wet | | |
| Non-tidal tributary has: (check all that apply: include photos for each & list photo #) | v has (chi | ck all the | it annly: ii | nclude nh | otos for ca | ch & list nh | | | | | | | | 1 |
| Red and Banks | | | | | | Ordinary High Water Mark | High Wa | ter Mark | | | | | | |
| V Yes | Clear, no | tural line | Clear, natural line impressed on the bank | on the ba | ank | Z Sedimen | Sediment deposition | ion | X | Sedimer | Sediment sorting | | | - |
| No | Changes | in the cha | Changes in the character of soil | soil | | Water staining | aining | | X | Scour | | | | |
| | Shelving | | | | | Presence | c of flood | Presence of flood litter/debris | is Z | Observe | Observed/predicted flow events | llow ever | ıts | |
| | Vegetati | on matted | Vegetation matted down, bent, or | nt, or absent | ent | Destruct | ion of ter | Destruction of terrestrial veg. | | Abrupt o | Abrupt change in plant community | int comm | nunity | |
| |] Leaf litte | Leaf litter disturbed | p | | | Presence | Presence of wrack line | k line | | Other: | | | | |
| Tidal tributary has: (check all that apply; include photos for each & list photo #) | is: (check a | ill that ap | ply; inclu | de photos | for each & | list photo | (# | | | | | | | Г |
| Hirth 1 | High Tide Line | | | Alcan | Alean High Water Mark indicated by: | Mark indi | cated by | | | ("henie | Chemical Characteristics | mindien | | |
| Oil or scum line along shore objects | shore obje | cts | | Survey | Survey to available datum | e datum | | | Water is clear | clear | | | | |
| Fine shell or debris deposits (foreshore) | posits (fore | shore) | | Physic | Physical markings | | | | Water is a | Water is discolored | | | | |
| Physical markings/characteristics | aracteristics | | _ | J Vegeta | Vegetation lines/changes in types | hanges in ty | 'pes | | Oily film | | | | | |
| Tidal gauges | | | | | | | | | Other: | | | | | |
| Notes: | | | | 1 | | | | | | | | | | |

waters of the U.S. Data Sheet

VALLAD MUS/ALA 5-2-18

| Soil Map Unit Name: Travitab Sitt Inom, 3 108 1- Stopes Are climatic / hydrologic conditions on the site typical for this time of year? Yes No Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Nor | Sampling Date: 11/18/14 State: MD Sampling Point: 01-E-UPE None): |
|--|---|
| area is becoming increasingly wed | |
| HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) | Secondary Indicators (minimum of two required) |
| Field Observations: Surface Water Present? YesNoDepth (inches): Water Table Present? YesNoDepth (inches): Saturation Present? YesNoDepth (inches): (includes capillary fringe) Wetlan Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if Remarks: | nd Hydrology Present? Yes No |

US Army Corps of Engineers

| | | 220- |
|---|--|---|
| EGETATION (Five Strata) – Use scientific r | | Sampling Point: <u>OL-E-UP</u> |
| Tree Stratum (Plot size: <u>38 (adus)</u>) 1. PINUS Stradus | Absolute Dominant Indicator <u>% Cover</u> <u>Species?</u> <u>Status</u> <u>70</u> <u>FACU</u> | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:(A) |
| . Accombnum | 20 FAT | Total Number of Dominant O |
| B | | Species Across All Strata: (B) |
| h | | Percent of Dominant Species |
| ۲ <u>ــــــــــــــــــــــــــــــــــــ</u> | | That Are OBL, FACW, or FAC: (A/B) |
| | 9D = Total Cover | Prevalence Index worksheet: |
| 50% of total cover: | 5 20% of total cover: 18 | Total % Cover of: Multiply by: |
| Sapling Stratum (Plot size: 30' vadius) | 1 | OBL species \bigcirc $x 1 = \bigcirc$ FACW species \bigcirc $x 2 = [\bigcirc$ |
| Liquidambar Styracitua | 10 / FAC | FAC species $88 \times 3 = 264$ |
| Acernagundo | 5 V/ FAC | FACU species 135 x4= 500 |
| . Averas Nora | ·5 V FACU | UPL species O x 5 = 0 |
| · | | Column Totals: 218 (A) 774 (B) |
| · | | |
| · | | Prevalence Index = B/A = 3.55 |
| | = Total Cover | Hydrophytic Vegetation Indicators: |
| 50% of total cover:C | 2 20% of total cover:4 | 1 - Rapid Test for Hydrophytic Vegetation |
| hrub Stratum (Plot size: 30' radius) | 1 | 2 - Dominance Test is >50% |
| Rosa multifiora | -5 V FARL | 3 - Prevalence index is ≤3.0 ¹ |
| | | 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) |
| | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| • | | |
| · | | ¹ Indicators of hydric soll and wetland hydrology must be present, unless disturbed or problematic. |
| | = Total Cover | Definitions of Five Vegetation Strata: |
| 50% of total cover: _2. | 5 20% of total cover: 1 | Tree Mendu starte such dies westerte e |
| lerb Stratum (Plot size: 30 radius) | 1 | Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. |
| Microshegium viningum | | (7.6 cm) or larger in diameter at breast height (DBH). |
| . Duchestica indica | 5 FARU | Sapilng – Woody plants, excluding woody vines, |
| . Cinna annd maga | 5 FATIA | approximately 20 ft (6 m) or more in height and less |
| Toxicodendinon radicans | FAC | 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. |
| 0 | | |
| 1 | | Woody vine – All woody vines, regardless of height. |
| | 55 = Total Cover | |
| 50% of total cover: 27 | 5 20% of total cover: 1 | |
| Voody Vine Stratum (Plot size: 30' rachivs) | | |
| Lonicenta japonica | 40 V FACU | |
| Vitis sp. J | | |
| Toxicalendron radicans | 8 PAC | |
| · | | |
| · | | 1 |
| · | | |
| i | | Hydrophytic |
| i | (0.3) = Total Cover .5 20% of total cover: 12, 6 | Hydrophytic Vegetation Present? Yes No |

| | 220-11 |
|-----------------|----------|
| Sampling Point: | 81-E-UPL |

| Profile Desc | ription: (Describe t | to the dep | th needed to docum | ent the | Indicator | or confirm | the absence | e of indicators.) |
|-------------------------|--|----------------------|--------------------------|---------|-------------|------------------|--------------------------|--|
| Depth | Matrix | | | Feature | \$ | | | |
| (inches) | Color (moist) | | Color (moist) | % | Type1 | Loc ² | Texture | Remarks |
| 0-1 | 104R4/2 | 95 | 7.51RA/6 | 2 | C | PL | Sel | |
| 1-12 | 2515/3 | 95 | 104K4/6 | 5 | C | M | fscl | |
| | 7 | | / | | | | | |
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| | | | | | | | | - |
| | | | | | | | | |
| | 2 | | | | | • | | |
| ¹ Type: C=Co | oncentration, D=Depl | letion, RM= | Reduced Matrix, MS | =Masked | d Sand Gra | ains. | ² Location: F | PL=Pore Lining, M=Matrix. |
| Hydric Soli I | | | | | | | | cators for Problematic Hydric Soils ³ : |
| Histosol | (A1) | | Dark Surface | (S7) | | | | 2 cm Muck (A10) (MLRA 147) |
| Histic Ep | pipedon (A2) | | Polyvalue Bel | | ice (S8) (N | ILRA 147, | | Coast Prairie Redox (A16) |
| Black Hi | stic (A3) | | Thin Dark Sur | | | | | (MLRA 147, 148) |
| | n Sulfide (A4) | | Loamy Gleyed | Matrix | (F2) | | | Pledmont Floodplain Soils (F19) |
| | I Layers (A5) | | Depleted Matri | | | | | (MLRA 136, 147) |
| | ck (A10) (LRR N) | | Redox Dark S | | | | | Very Shallow Dark Surface (TF12) |
| | Below Dark Surface | e (A11) | Depleted Dark | | | | | Other (Explain in Remarks) |
| | ark Surface (A12) lucky Mineral (S1) (L | DDM | Redox Depres | | | DDN | | |
| | 147, 148) | PCPC IN, | Iron-Mangane MLRA 136 | | ses (F12) (| LKR N, | | |
| | leyed Matrix (S4) | | Umbric Surfac | | MIRA 13 | 6 122) | 3 _{In} | dicators of hydrophytic vegetation and |
| | edox (S5) | | Piedmont Floo | | | | | vetland hydrology must be present, |
| | Matrix (S6) | | Red Parent M | | | | | inless disturbed or problematic. |
| | ayer (if observed): | | | | | | 1 | |
| Type: | | | | | | | | |
| Depth (ind | ches): | | | | | | Hydric So | Il Present? Yes No |
| Remarks: | | | | | | | | |
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| VENERED MBS/AGA |
|---|
| WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region 5-2-2018 I-495/I-270 WANAGOD LAMS SNOT |
| Project/Site: 7-495/RVM - Montannen Gunty City/County: Mintanneng-Col. Sampling Date: 11/18/14 |
| Applicant/Owner: <u>SHA</u> <u>O</u> <u>State</u> <u>MD</u> Sampling Point: <u>OI-E-WE-T</u> |
| |
| Landform (hillslope, terrace, etc.): <u>Flort plain</u> Local relief (concave, convex, none): <u>Nonc</u> Slope (%): / Subregion (LRR or MLRA): <u>MLR148</u> Lat: <u>38,97474</u> Long: <u>-77.18019</u> Datum: NAD 83 |
| Soil Map Unit Name: Traviah si H ham, 308-1-510pes NWI classification: PFOIE |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) |
| Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No |
| Are Vegetation $N_{\rm N}$, Soil $N_{\rm N}$, or Hydrology $N_{\rm N}$ naturally 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 No Is the Sampled Area |
| Hydric Soil Present? Yes No within a Wetland? Yes No |
| Wetland Hydrology Present? Yes V No |
| Remarks: PHOTOS 2686-2688 |
| FINIOS 2000 CON |
| |
| |
| 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) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) |
| High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) |
| ✓ Saturation (A3) ✓ Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) ✓ Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) |
| Valer Marks (C1) // Presence of Reduced indir(C4) // Dry-Season Valer Pable (C2) // Sediment Deposits (B2) // Recent Iron Reduction in Tilled Soils (C6) // Crayfish Burrows (C8) |
| Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) Other (Explain in Remarks) Stanted or Stressed Plants (D1) |
| Iron Deposits (B5) Geomorphic Position (D2) |
| Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Microtopographic Relief (D4) |
| Aquatic Fauna (B13) FAC-Neutral Test (D5) |
| Field Observations: |
| Surface Water Present? * Yes No Depth (inches): |
| Water Table Present? Yes V Depth (inches): O |
| Saturation Present? Yes Vo Depth (inches): O [#] Wetland Hydrology Present? Yes No |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: |
| |
| Remarks: |
| * 21" of standing water in approximately 20.1. ifplot |
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Eastern Mountains and Piedmont - Version 2.0

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

Sampling Point: OF E-WET

| 25/21/11 | Absolute | | | Dominance Test worksheet: | |
|---|----------------------|--------------|-------------|--|----------------|
| Tree Stratum (Plot size. 30 radius) | <u>% Cover</u> 20 | Species? | - | Number of Dominant Species | |
| 1. Platanus occidentalis | | | FACIN | That Are OBL, FACW, or FAC: | . (A) |
| 2. Accornigundo 3. | 30 | | FAC | Total Number of Dominant Species Across Ali Strata: | (B) |
| 4 5 | | | | Percent of Dominant Species That Are OBL, FACW, or FAC: | (A/B) |
| 6. <u></u> | 50 | | | Prevalence index worksheet: | |
| | | = Total Cov | | Total % Cover of:Multiply by: | |
| 50% of total cover: | 20% of | total cover: | 10 | OBL species x 1 = | |
| Sapilng Stratum (Plot size: 30'radius) | - | / | | FACW species X 2 = | |
| 1. Acernegindo | _5 | \checkmark | FAC | | |
| 2J | | | | FAC species x 3 = | |
| 3 | | | | FACU species x 4 = | |
| 4 | | | | UPL species x 5 = | |
| 5 | | | | Column Totals: (A) | (B) |
| 6 | - | | | Prevalence Index = B/A = | |
| | | = Total Cov | | Hydrophytic Vegetation Indicators: | |
| 50% of total cover: 2.5 | 20% of | total cover: | _(| 1 - Rapid Test for Hydrophytic Vegetation | |
| Shrub Stratum (Plot size: 30'radius) | | 1 | | Z - Dominance Test is >50% | |
| 1. Linder a ben com | 15 | | FAT | 3 - Prevalence index is ≤3.0 ¹ | |
| 2 | | | | 4 - Morphological Adaptations ¹ (Provide sup | pporting |
| 3 | | | | data In Remarks or on a separate sheet | |
| 4 | | | | Problematic Hydrophytic Vegetation ¹ (Expla | ain) |
| 5 | | | | | |
| 6 | | | | ¹ Indicators of hydric soll and wetland hydrology be present, unless disturbed or problematic. | must |
| | +5 | = Total Cov | er | | |
| 50% of total cover: _ 7_ | 13 28 16 | | (250) (Sec. | DefInitions of Five Vegetation Strata: | |
| Herb Stratum (Plot size: 10/06/05)) | <u></u> 20% 0i | total cover: | | Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and | 21- |
| 1. Conna connainarria | 40 | 1. | FACH | (7.6 cm) or larger in diameter at breast height (I | 3 In. DBH). |
| 2. Sympayothichum pilasum | 5 | | FAC | | |
| 3. Persiana manilosa | 5 | | PACIN | Sapling – Woody plants, excluding woody vines approximately 20 ft (6 m) or more in height and | S, |
| 4. Demonthelium clandestinum | 33 | nV | FAC | than 3 In. (7.6 cm) DBH. | 1033 |
| 5. Equisetras fluviatile | 20 | 0 | OBL | Charles Minado alante available available | |
| 6. Lancera aponica | 5 | | FACU | Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. | 8 |
| | | | | Herb – All herbaceous (non-woody) plants, inclu | uding |
| 8 | | | | herbaceous vines, regardless of size, and wood | Iv |
| 9 | | | | plants, except woody vines, less than approximate ft (1 m) in height. | ately 3 |
| 10 | | | | n (i n) ii neigin. | |
| 11. | | | | Woody vine - All woody vines, regardless of he | elght. |
| - 11 | 055 | = Total Cov | | | |
| 5010 | 1 | | 40 | | |
| 50% of total cover: | 20% of | total cover | -H_ | | |
| Woody Vine Stratum (Plot size: 30 radius) | F | | the s | | |
| 1. Smitax mitunditolia | | | TAC | | |
| 2. Toxicodentrovi radicans | 5 | -17 | TAG | | |
| 3. Lontrara inpontra | F | | FACU | | |
| 4 | | | · | | |
| 5 | | | | Hydrophytic | |
| | 27 | = Total Cov | er | Vegetation | |
| 50% of total cover: 13 | · 5 20% of | total cover | 5.4 | Present? Yes No | |
| Remarks: (include photo numbers here or on a separate | | | | | |
| | | | | | |
| A CONTRACTOR OF | | | | | |

US Army Corps of Engineers

8

Eastern Mountains and Piedmont - Version 2.0

| | 120 |
|-----------------|----------|
| Sampling Point: | OF E WET |

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features (inches): Color (moist) % Type: Loc" Texture Remarks 0 - 4 IOYK3/L3 I 95 7.5 YK3/44 O C P.L Si1 Marganics 4 - J 2 IOYK4/J 90 7.5 YK3/44 O C P.L Si1 Marganics 4 - J 2 IOYK4/J 80 7.5 YK3/44 O C P.L Si1 Marganics | |
|--|-------------------------|
| (Inches) Color (moist) % Type' Loc' Texture Remarks 0 - 4 10 V/k 3/1 95 7. SY k 3/4 0 C PL Sif Aragenics 4 - J 2 10 V/k 3/1 90 7. SY k 3/4 0 C PL Sif Aragenics 4 - J 2 10 V/k 3/1 90 7. SY k 4/6 20 C PL Sif Aragenics 4 - J 2 10 V/k 4/1 90 7. SY k 4/6 20 C PL Sif Aragenics 4 - J 2 10 V/k 4/1 90 7. SY k 4/6 20 C PL Fscl | |
| 0-4 10YR3/1 95 7.5YR4/6 0 C PL Sil Maggnics 4-12 10YR4/1 90 7.5YR4/6 20 C PL 45cl 10 10YR4/1 90 7.5YR4/6 20 C PL 5cl 11 10YR4/1 90 7.5YR4/6 20 C PL 5cl 11 10 <t< td=""><td></td></t<> | |
| 4 - 1 2 IONEAL 90 7. SYRALG 20 C PL Ascil Ascil Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pore Lining, M=Matrix. Hydric Soll Indicators: Indicators for Problematic Hydr Histics Epipedon (A2) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147, 148) Black Histic (A3) Thin Dark Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) Hydrogen Sulfide (A4) Learny Gleyed Matrix (F2) Piedmont Floodplain Soils (F 2 cm Muck (A10) (LRR N) -Redox Dark Surface (F7) Other (Explain in Remarks) 2 sandy Mucky Mineral (S1) (LRR N, Indicators (F12) (LRR N, MLRA 146) Sandy Mucky Mineral (S1) (LRR N, MLRA 166) Sandy Redox (S5) Piedmont Floodplain Soils (F12) (MLRA 147, 148) Sandy Redox (S5) Piedmont Floodplain Soils (F12) (MLRA 148, 148) Sindicators of hydrophytic veget wetland hydrology must be prestrictive Layer (If observed): Type: Type: Depthetic floodplain Soils (F21) (MLRA 147, 147) HLRA 148, 147, 147 | |
| Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ³ Location: PL=Pore Lining, M=Matrix. lydric Soil Indicators: Indicators for Problematic Hydr Histosol (A1) | |
| Fype: C=Concentration, D=Depietion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location; PL=Pore Lining, M=Matrix. ydric Soli Indicators: Indicators for Problematic Hydr Hilsic Bipedon (A2) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147, 148) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Coast Prairie Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Coast Prairie Redox (A16) Histic Epipedon (A2) | |
| ydric Soll Indicators: Indicators: Indicators for Problematic Hydr | |
| ydric Soll Indicators: Indicators: Indicators for Problematic Hydr | |
| ydric Soll Indicators: Indicators: Indicators for Problematic Hydr | |
| ydric Soll Indicators: Indicators: Indicators for Problematic Hydr Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147, 148) Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) Hydrogen Sulfide (A4) Leamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (T) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, Indicators of hydrophytic veget Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be pre Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic Type: Depth (inches): Hydric Soil Present? Yes Indicators ? Yes | |
| ydric Soll Indicators: Indicators: Indicators for Problematic Hydr | |
| ydric Soll Indicators: Indicators: Indicators for Problematic Hydr | |
| ydric Soll Indicators: Indicators: Indicators for Problematic Hydr | |
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| ydric Soll Indicators: Indicators: Indicators for Problematic Hydr | |
| Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147, 148) | |
| Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) Hydrogen Sulfide (A4) Learny Gleyed Matrix (F2) Piedmont Floodplain Soils (F Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (T Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, Indicators of hydrophytic veget Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Indicators of hydrophytic veget Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present? Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problemati Type: Depth (inches): Hydric Soil Present? Yes | ic Solls ³ : |
| Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) Hydrogen Sulfide (A4) Learny Gleyed Matrix (F2) Piedmont Floodplain Soils (F Stratified Layers (A5) Depleted Matrix (F3) (MLRA 147, 148) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (T) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, |) |
| Hydrogen Sulfide (A4) Learny Gleyed Matrix (F2) Piedmont Floodplain Soils (F Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (T Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) ³ Indicators of hydrophytic veget Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic veget Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problemation estrictive Layer (if observed): Type: Hydric Soil Present? Yes Depth (inches): Hydric Soil Present? Yes Indicators of Present? Yes | |
| Stratified Layers (A5) | |
| 2 cm Muck (A10) (LRR N) | 19) |
| Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic veget Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present? Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problemation Type: Depth (inches): Hydric Soil Present? Yes | (F12) |
| Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Itestrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes | 11 12) |
| MLRA 147, 148) MLRA 136) | |
| Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic veget Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present? Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problemation estrictive Layer (if observed): Type: Hydric Soil Present? Yes | |
| Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be pre Stripped Matrix (S6)Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problemati estrictive Layer (if observed): Type: Depth (inches):Hydric Soil Present? Yes | |
| Stripped Matrix (S6)Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problemati estrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes | |
| Type: Depth (inches): | |
| Type: Depth (inches): Hydric Soil Present? Yes | ic. |
| Depth (inches): Hydric Soil Present? Yes | |
| | |
| lemarks: | No |
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WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

| | Project/Site: <u>495/270 mand Lans</u> City/County: <u>Montgond V</u> Sampling Date: <u>D131117</u> Applicant/Owner: State: <u>MD</u> Sampling Point: <u>2200 mand</u> Investigator(s): <u>MA</u> Section, Township, Range: |
|-------|---|
| | Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Photos 0436 7441 * soils not samplet because did not have invasive access to property |
| | HYDROLOGY |
| 241 S | Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required: check all that apply) Surface Water (A1) Surface Vater (A1) Within Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Image: Innudation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Water Table Present? Yes No Teild Observations: Depth (inches): <u>O''</u> Surface Water Present? Yes No Depth (inches): <u>O'r</u> Water Table Present? Yes No Depth (inches): <u>O'r</u> Water Table Present? Yes No Depth (inches): <u>O'r</u> Water Table Present? Yes < |
| | Remarks: Natural dranges very in miller of vet land full of water and icon opice the dranges |
| | feature is primenly herbaceous vegetation with from 0-50% tree (enopy cover -> higher along elges |

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| VEGETATION (Five Strata) – Use scientific na | ames of | plants. | | Sampling Point: 2200 |
|---|----------------|--------------|--------------------|---|
| 2 / // | Absolute | Dominant | | Dominance Test worksheet: |
| Tree Stratum (Plot size: 30' rel: 5) 1. Sycamore Platanus orcidentalis | 20 | Species? | FACM | Number of Dominant Species (A) |
| | 2,0 | | FAC | Total Number of Dominant Species Across All Strata: (B) |
| 4 5 | | | | Percent of Dominant Species |
| 6 | ~ HA | | | Prevalence Index worksheet: |
| | | = Total Cov | allow of | Total % Cover of: Multiply by: |
| 50% of total cover: | 0 20% of | total cover: | 0.0 0 | OBL species x 1 = 0 |
| Sapling Stratum (Plot size: 30 c. 2.) | | | | FACW species x 2 = 0 |
| 1. Note | | | | FAC species x 3 = 0 |
| 2 | | | | FACU species x 4 = 0 |
| 3 | | | _ | UPL species x 5 = 0 |
| 4 | | | | Column Totals: (A) 0 (B) |
| 5 | | | | |
| 6 | | | | Prevalence Index = B/A = |
| | 0 | = Total Cov | er | Hydrophytic Vegetation Indicators: |
| 50% of total cover: 0.0 | 20% of | total cover: | 0.0 | 1 - Rapid Test for Hydrophytic Vegetation |
| Shrub Stratum (Plot size: 30 .ce >) | | | | 🗹 2 - Dominance Test is >50% |
| 1. Nore | | | | ☐ 3 - Prevalence Index is ≤3.0 ¹ |
| 2 | | | 3 | 4 - Morphological Adaptations ¹ (Provide supporting |
| 3 | | | | data in Remarks or on a separate sheet) |
| 4. | | | Martin Constanting | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 5 | | | | 1. B. C. Studies and a strend hadrate success |
| 6 | | | | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 65 6 | B | = Total Cov | er | Definitions of Five Vegetation Strata: |
| 50% of total cover: 0.0 | 20% of | total cover: | 0.0 | |
| Herb Stratum (Plot size: 23 pc/24) | | | | Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. |
| 1. Red com y gress Phalanis ayundinan | ea 80 | <u>Y</u> | FACW | (7.6 cm) or larger in diameter at breast height (DBH). |
| 2. Mile a music Persicaria perfoliat | | <u>N</u> | TAL | Sapling - Woody plants, excluding woody vines, |
| 3. Lizants tail Seruriarus Cermuns | | <u>N</u> | OBL | approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. |
| 4. Persicaria ponsilianica | 10 | <u>M</u> | FACM | |
| 5. Bochmente cylindrice | 10 | <u> </u> | FACIN | Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. |
| 6 | | | | Here All between (and words) plants including |
| 7 | | | | Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody |
| 8 | | | | plants, except woody vines, less than approximately 3 |
| 9 | | | | ft (1 m) in height. |
| 10 | | | | Woody vine - All woody vines, regardless of height. |
| 11 | KIZA. | = Total Cov | | |
| | | | 12 | |
| 50% of total cover: 0.0 6 | <u></u> 20% of | total cover: | 100000 | |
| Woody Vine Stratum (Plot size: 30 rodius) | | | | 29 |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | Hydrophytic |
| | <u> </u> | = Total Cove | ər | Vegetation |
| 50% of total cover: 0.0 | 20% of | total cover: | 0.0 | Present? Yes <u>V</u> No <u>V</u> |
| Remarks: (Include photo numbers here or on a separate s | heet.) | | | |

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5 Sa

15 × 4

Sampling Point: 2200 - uct

| Profile Desc | ription: (Describe to | the depth needed to doc | ument the indicato | r or confirm | the absence of indic | cators.) |
|-----------------|-----------------------|---------------------------|---|---------------------------|--------------------------------|---|
| Depth | Matrix | | dox Features | | | |
| <u>(inches)</u> | Color (moist) | % Color (moist) | %Type ¹ | Loc ² | Texture | Remarks |
| | | | | | | |
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| 17 0.0 | | | | | 2 | |
| | | ion, RM=Reduced Matrix, N | MS=Masked Sand C | irains. | ² Location: PL=Pore | |
| Hydric Soil I | | | (07) | | | r Problematic Hydric Soils ³ : |
| Histosol | | Dark Surfa | | MI DA 44- | | ck (A10) (MLRA 147) |
| Black His | ipedon (A2) | | Below Surface (S8) Surface (S9) (MLRA | | | airie Redox (A16) |
| | n Sulfide (A4) | | yed Matrix (F2) | 147, 148) | | 147, 148) Electric Seile (E10) |
| | Layers (A5) | Depleted N | Division of the second s | | | t Floodplain Soils (F19) 136, 147) |
| | ck (A10) (LRR N) | | k Surface (F6) | | | llow Dark Surface (TF12) |
| | Below Dark Surface (| | ark Surface (F7) | | | plain in Remarks) |
| | rk Surface (A12) | | ressions (F8) | | - | · · · · · · · · · · · · · · · · · · · |
| Sandy M | ucky Mineral (S1) (LR | | nese Masses (F12) | (LRR N, | | |
| MLRA | 147, 148) | MLRA 1 | | | | |
| | leyed Matrix (S4) | | face (F13) (MLRA 1 | CALIFORNIA AND CONTRACTOR | | of hydrophytic vegetation and |
| | edox (S5) | | loodplain Soils (F19 | C . C | | drology must be present, |
| | Matrix (S6) | Red Parent | t Material (F21) (ML | RA 127, 147 | unless dist | urbed or problematic. |
| N | ayer (if observed): | | | | * | |
| Type: | | | | | 2 | \cap \cap |
| Depth (inc | | | | | Hydric Soil Presen | t? Yes <u>V</u> No <u>V</u> |
| Remarks: | soil not s | applied on the | 131/18 | | | |
| | because pr | sight did not | 10 10 | | | |
| | - Mate | | nave 10 | vasing | e access - | to the property |
| | | req is very | wet with | iron | flocklane | deposits in |
| | Suffice | - weter | | | | |
| | | | | | | |
| | | | | | | |
| | Soils were not co | ollected due to the as | ssumed wetlan | d's proxi | mity to an archa | eology site. |
| | | | | | | 87 |
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| | Wetland Function-V | Wetland Function-Value Evaluation Form | |
|---|---|--|--|
| | | | Wetland I.D. 22 00 |
| Total area of wetland 20.18- Human made? No | Is wetland part of a wildlife corridor? | or a "habitat island" | Latitude 36.9 Alongitude -74.1803 +- |
| Adjacent land use forest | Distance to nearest 1 | Distance to nearest roadway or other development 50 fb | Prepared by: MUS Date 22/1/8 |
| Dominant wetland systems present REM/ PE | Contiguous undeve | Contiguous undeveloped buffer zone present/ | Wetland Impact: Type_PF3Area_20.5 & C |
| Is the wetland a separate hydraulic system? $\frac{1}{N}$ | If not, where does the wetland li | If not, where does the wetland lie in the drainage basin? Mill | tion based |
| How many tributaries contribute to the wetland? | Wildlife & vegetation divers | Wildlife & vegetation diversity/abundance (see attached list) | Office Field Corps manual wetland defineation |
| S Function/Value | Suitability Rationale Y N (Reference #)* | Principal Function(s)/Value(s) Cc | completed? Y N |
| Groundwater Recharge/Discharge | EI / | | |
| Floodflow Alteration | 31'3'2'5 | | |
| Fish and Shellfish Habitat | - \ | | |
| V Sediment/Toxicant Retention | 13,2,4 | | |
| Martinet Removal | 11'01'3'3'2'5'2'1 | Dense unputablier but | -> low seliment lock |
| Production Export | 1 12355 × 1 1 | } | |
| Sediment/Shoreline Stabilization | 12,3, | | |
| रेज्र Wildlife Habitat | 12 3/12/2/2/2 | > | |
| 77. Recreation | ~151 | | |
| Educational/Scientific Value | 12'6' | | |
| 🖈 Uniqueness/Heritage | 7 | | |
| Visual Quality/Aesthetics | -4,5, E | | |
| ES Endangered Species Habitat | } | | |
| Other | | | |
| | | * Refer to had | * Refer to backup list of numbered considerations. |

- Calibration

Notes:

| | ID: 22P | Photos: 2614-2615 | Last Flag Number: 2 (center (me) | | Ephemeral | nust O Non-RPW draining uplands ths a O Non-RPW erosional feature | 0 | O Non-RPW with adjacent wetland | O Non-RPW wetland adjacent or abutting upstream | 2-N Adjacent/Abutting: 220 | | Substrate Vegetation Cover Type (MIBSS) | Sands Muck RB: A | Gravel Other: tolest | ncrete | UP 131 131 131 141 LB. C.C.L | | | ion | NCDC Regional PDSI Month: PUNCH Year: ALD | | 45 0 1 2 3 4 5 | Normal Moderately Wet Severely Wet | (# 0 | gh Water Mark | eposition Cediment sorting | ing Scour | Presence of flood litter/debris | al veg. | f wrack line Other: | | ted by: Chemical Characteristics | Water is clear | | | Other: | |
|-------------------------------|-------------------|-------------------|----------------------------------|---------------------------------------|--------------|--|-----------------|---------------------------------|---|----------------------------|---|---|-------------------------|-----------------------|---------------------------|------------------------------|-----------------|-----------------------------------|-----------|---|---------|----------------|------------------------------------|--|---------------------|---|----------------------------------|---------------------------------|---|------------------------|---|-------------------------------------|--------------------------------------|---|-----------------------------------|--------------|--------|
| Waters of the U.S. Data Sheet | 76 | A | NENERCEN | | Intermittent | RPW – Seasonal (must flow at least 3 months a | year) | | " KAN PREVIOUS | Downstream: 27 | | 5. | Silts | Cobbles | | Side slope: X ≥1:1 | | | Month | NC to and means the | C | -2 | Moderate Drought | s for each & list photo | Ordinary High Water | Sediment deposition | Water staining | Presence of | Destruction | Presence of wrack line | photos for each & list photo #) | Atean Migh Water Mark indicated by: | Survey to available datum | arkings | Vegetation lines/changes in types | | |
| | RED LANES SH | State: M | County: N | | Perennial | TNW – Perennial (Flowing year round) | RPW – Perennial | (Flowing year round) | Strat 20.25 | 3' PIPE | at apply) | (MHI) | 1:3/ | :: 3" | on/stabil | E C | YOUND WHIN | | | And the day from the second | |)، ک | Severe Drought N | Non-tidal tributary has: (<i>check all that apply; include photos for each & list photo #</i>) | | Clear, natural line impressed on the bank | Changes in the character of soil | | Vegetation matted down, bent, or absent | rbed | | Atean Migh | Survey to 8 | Physical markings | Vegetation | | |
| | DATAMAN OF 2- I/1 | 2)2(8 | 武下史 | Feature Hydrologic Class (check one): | | Q | C RPW - | (Flowi | found subbill | Upstream: | Feature Description: (check all that apply) | Shape (with respect to OHW) | Shape Width: 3 | | | | NON PY | Weather/Precipitation Conditions: | Inches of | Kain Within Last Week | - | 0.5-1 | 0 >1 | butary has: (check all | | Clear, natural li | Changes in the | Shelving | Vegetation mat | Leaf litter disturbed | Tidal tributary has: (check all that apply; include | Hieh Fide Line | Oil or scum line along shore objects | Fine shell or debris deposits (foreshore) | ss/characteristics | | |
| | Project: I-495 | Date: 4-20-7 | Crew: MBS/ | Feature Hyd | lubil. | O TNW (Subject to ebb and flow) | | | Describe rational for hydrologic class: | Hydrologic Connectivity – | Feature Des | Sh | X Natural Channel Shape | Artificial (man-made) | Manipulated (man-altered) | her: | Notes: Moccular | Weather/Pre | | During Field Visit | No rain | - | O Heavy Rain | Non-tidal tri | Bed and Banks | X Yes | No | | | | Tidal tributa | 11 | Oil or scum line | Fine shell or deb | Physical markings/characteristics | Tidal gauges | Notes: |

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| Verifiel 10/31/18 feature 22.PP | |
|---|---|
| WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region 10/31/17 49.572.75 Marage Lanc Study Project/Site: <u>1495 1R/MMontage Lanc</u> Study Applicant/Owner: SHA State: MD Sampling Date: 10/31/17 Applicant/Owner: SHA Investigator(s): <u>HALFEF_MMS</u> Section, Township, Range: Landform (hillslope, terrace, etc.): SWALE Local relief (concave, convex, none): <u>Concark</u> Slope (%): <u>3</u> Subregion (LRR or MLRA): <u>MLKA-148</u> Aut: <u>38.97(908</u> Soil Map Unit Name: ElKsitt loam, 0-3.1. Slopes NWI classification: PFÖ 1 A Are vegetation N, soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No Are Normal Circumstances" present? Yes No Are Vegetation N, soil N, or Hydrology N anturally problematic? Attach site map showing sampling point locations, transects, important features, etc. |) |
| Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No Hydric Soil Present? Yes Yes No No No No Wetland Hydrology Present? Yes No No No No No Remarks: Phubo-#+1 facing Sanith Is the Sampled Area within a Wetland? Yes No No Phubo-#+1 facing Sanith Is the Sampled Area No Is the Sampled Area Wetland? No Is the Sampled Area Wetland? | |
| HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) | |
| Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): <u>2</u> " Wetland Hydrology Present? Yes No Depth (inches): <u>2</u> " No Depth (inches): <u>2</u> " Wetland Hydrology Present? Yes No Depth (inches): <u>2</u> " No Depth (inches): <u>2</u> " Wetland Hydrology Present? Yes No Depth (inches): <u>2</u> " No Depth (inches): <u>2</u> " Wetland Hydrology Present? Yes No Depth (inches): <u>2</u> " No Depth (inches): <u>2</u> " No Depth (inches): <u>2</u> " Wetland Hydrology Present? Yes No Depth (inches): <u>2</u> " No Depth (inches): <u>2</u> " No Depth (inches): <u>2</u> " No Depth (inches): <u>2</u> " No Depth (inches): <u>2</u> " Wetland Hydrology Present? Yes No Depth (inches): <u>1</u> <i>No Depth (inches)</i> : <u>1</u> | |
| | |

| Tree Stratum (Plot size: Irregular *) | Absolute <u>% Cover</u> | Dominant Species? | Indicator Status | Dominance Test worksheet: Number of Dominant Species |
|---|---|----------------------|---------------------|---|
| None | | | | That Are OBL, FACW, or FAC: (A) |
| | | | | Total Number of Dominant Species Across All Strata:(B) |
| | | | | Percent of Dominant Species |
| | | | | That Are OBL, FACW, or FAC: 6+1. (A/B) |
| | | | | Prevalence Index worksheet: |
| | ¹ | | | Total % Cover of: Multiply by: |
| 50% of total cover: | 20% of | total cover; | | OBL species x 1 = |
| apling Stratum (Plot size: Invegular *) | ç | 1 | FAEW | FACW species x 2 = |
| | | | | FAC species x 3 = |
| | | | | FACU species X 4 = |
| | | | | UPL species x 5 = Column Totals: (A) |
| | | | | |
| | | | | Prevalence Index = B/A = |
| | - | = Total Cov | | Hydrophytic Vegetation Indicators: |
| 50% of total cover: | | | 1 | Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% |
| hrub Stratum (Plot size: <u>Meanlar *</u>) | 5 | | UPL | 3 - Prevalence Index is ≤3.01 |
| Lonura Madren | | | | 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) |
| | | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| · | | | | |
| | | | | ¹ Indicators of hydric soil and wetland hydrology must |
| | 5 | = Total Cov | er | be present, unless disturbed or problematic. Definitions of Five Vegetation Strata: |
| 50% of total cover: | | total cover: | | |
| Herb Stratum (Plot size: incarlark) | <u> </u> | / | | Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. |
| Persicania hydropipersides | | | OBL | (7.6 cm) or larger in diameter at breast height (DBH). |
| Fraxinus pennall Vanica | 5 | | FACW | Sapling - Woody plants, excluding woody vines, |
| Lonicera j'apanira | | | FACU | approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. |
| Lonicero Umancki | 8 | | UPL FAC | |
| Symphystrichum pilasum | | | TH | 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 |
| · | and the second se | | | plants, except woody vines, less than approximately 3 ft (1 m) in height. |
| 0 | | | | Woody vine – All woody vines, regardless of height. |
| 1 | | = Total Cov | er. | |
| 50% of total cover: | | | | |
| Voody Vine Stratum (Plot size: INCALLAC | 2070 01 | | | |
| None | | | | |
| | | | | |
| ************************************** | | | | |
| · | | | | Hydrophytic |
| | | = Total Cov | er | Hydrophytic Vegetation |
| 50% of total cover: | 20% of | total cover: | | Present? Yes Vo |
| Remarks: (Include photo numbers here or on a sepa | rate sheet.) | | | ſ. |
| Pl&follows limits of swale, R | A | | 00:11 | verage homsurrounding tree canoph, |

Verifie 12/31/18

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Sampling Point:

| SOIL | | | | | | | | Sampling Point: |
|---------------|---|------------|------------------------------------|------------|-------------------|-------------------------|---------------|---|
| Profile Desc | ription: (Describe) | to the dep | | | | or confirm | n the absence | e of indicators.) |
| Depth | Matrix | | | k Features | | | | |
| (inches) | $\frac{\text{Color (moist)}}{25\sqrt{3/2}}$ | 95 | <u>Color (moist)</u> 7. SYR 4/4 | 5 | Type ¹ | <u>Loc</u> ² | <u> </u> | Remarks |
| <u>()- 10</u> | 10v8 4/2 | 45 | mainimitariation | 177 | 7 | M | | |
| (2- (() | 10/12 4/3 | 45 | 7.54R 4/4 | 10 | | 1 | Sila | w/ roome fragmatic |
| 10-12 | 254 5/4 | 50 | | | | | silo | fill moterial |
| | 7.54R546 | 50 | | | | | Sila | fill material |
| | | | | 2 | | | | |
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| | | | | | | <u></u> | - | |
| | | | | | | | | |
| | oncentration, D×Depl | etion, RM= | Reduced Matrix, MS | -Masked | Sand Gra | ins. | Location: F | PL=Pore Lining, M=Matrix. |
| Hydric Soil | | | | | | | | ators for Problematic Hydric Soils ³ : |
| Histosol | | | Dark Surface Polyvalue Be | | 0 (50) (M | DA 147 | | 2 cm Muck (A10) (MLRA 147) |
| Black Hi | oipedon (A2) stic (A3) | | Thin Dark Su | | | | . 140) | Coast Prairie Redox (A16) (MLRA 147, 148) |
| | n Sulfide (A4) | | Loamy Gleye | | | 11, 140, | | Piedmont Floodplain Soils (F19) |
| | Layers (A5) | | Gepleted Mat | | -/ | | | (MLRA 136, 147) |
| | ick (A10) (LRR N) | | Redox Dark S | | 5) | | | Very Shallow Dark Surface (TF12) |
| | t Below Dark Surface | e (A11) | Depleted Dar | | | | (| Other (Explain in Remarks) |
| | ark Surface (A12) | | Redox Depre | | | | | |
| | lucky Mineral (S1) (L | .RR N, | Iron-Mangane | | s (F12) (I | .RR N, | | |
| | A 147, 148) Sleyed Matrix (S4) | | MLRA 13 Umbric Surfa | | AL DA 17 | 5 122) | 3100 | dicators of hydrophytic vegetation and |
| | edox (S5) | | Piedmont Flo | | | | | etland hydrology must be present, |
| | Matrix (S6) | | Red Parent M | | | | | nless disturbed or problematic. |
| | ayer (if observed): | | | | | | Í | |
| Туре: | | | | | | | 1 | |
| Depth (inc | ches): | | | | | | Hydric Soi | il Present? Yes 📈 No |
| Remarks: | | | | | | | | b. |
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US Army Corps of Engineers

| | Wetland Function-Value Evaluation Form | |
|--|--|--|
| Total area of wetland ^{O,OI} <u>A</u> -Human made? <u>N</u> | Is wetland part of a wildlife corridor? <u>/</u> or a "habitat island"? | Wetland I.D. 2 . P.P. Latitude 3, 53 15 Longitude - 77, 17550 |
| Adjacent land use Port , rondowny | r other development 50 CF | n |
| | Contiguous undeveloped buffer zone present Y | Wetland Impact: Type PF3 Area 0.01 M-C |
| Is the wetland a separate hydraulic system? | | Evaluation based on: |
| How many tributaries contribute to the wetland? | Off Off Off Wildlife & vegetation diversity/abundance (see attached list) Co | 13 |
| Function/Value | Suitability Rationale Principal Y N (Reference #)* Function(s)/Value(s) Comments | completed? Y _ N Iments |
| T Groundwater Recharge/Discharge | MAN recue GU scopan | i From bighney entrulot |
| Floodflow Alteration | very wated beneer as | 3778 |
| Fish and Shellfish Habitat | 2 | |
| V Sediment/Toxicant Retention | > | |
| Nutrient Removal | | |
| Production Export | 2 | |
| Sediment/Shoreline Stabilization | > | |
| 🐲 Wildlife Habitat | 7 | |
| A. Recreation | 2 | |
| Educational/Scientific Value | > | |
| 救 Uniqueness/Heritage | 2 | |
| Visual Quality/Aesthetics | ~ | |
| ES Endangered Species Habitat | > | |
| Other | | |
| Notes: | * Refer to backup | * Refer to backup list of numbered considerations. |

| Crear.search Dimeters | Project: 1-495 IRVM - Montgomeny County | Iontgome | ry County | | 7 | | | | Feat | Feature ID:204- | 27-1-22 | g | Stre | Stream Order: 1st | st |
|---|--|----------|---------------------|--------------|-------------|---------------|-------------|--|---------------|-----------------|-----------------------|----------------------|-------------------|--------------------|---------------|
| Construction Last Flag Number: ot-long-200 Last Flag Number: ot-long-200 Construction Epithemetric Epithemet | Date: 11/20/14- 4-21 | 6-20 | 10 | | | State: MI | 0 | | Phot | | 5 | -2626 | 0 | | |
| Feature Hydrologic Class (check ane): Intermittent Intermittent Intermittent Enthemeter 1NW (subject to ebb and flowning year round) 7NW - Peremial (Flowning year round) RPW - Sessonal (must RPW - Sessonal (must RPW - Sessonal factor (Flowning year round) RPW - Sessonal (must RPW vieweinal setter (Flowning year round) RPW - Sessonal (must RPW vieweinal setter (Flowning year round) Non-RPW with abuting wetland (Flowning year round) Series of a change (Flowning year round) Non-RPW with abuting wetland (Flowning year round) Non-RPW with abuting wetland (Flowning year round) Series of change (Flowning year round) Non-RPW with abuting wetland (Flowning year round) Non-RPW with abuting wetland (Flowning year round) Antificial (mm-muslo) Upstream (state (flowning round) Non-RPW with abuting wetland (flowning pictor) Non-RPW with abuting wetland (flowning pictor) Antificial (mm-muslo) Series (plowning year round) Non-RPW with abuting year (flowning pictor) Non-RPW with abuting year (flowning pictor) Non-RPW with abuting year (flowning pictor) Antificial (mm-muslo) Non-RPW with set (flowning pictor) Non-RPW with set (flowning pictor) Non-RPW with set (flowning pictor) Antificial (mm-muslo) Non-RPW with set (flowning pictor) Non-RPW with set (flowning pictor) Non-RPW with set (flowning pictor) | Crew: AT,MN,AM_ WU | - | FIT | | | County: | Montgomery | | Last | Flag Nu | umber: 01 | -1-09A, 01-1-(| 0 | ASB | |
| Tidal Prevential International Enternational Enternational <thenternational< th=""> Enternational</thenternational<> | Feature Hyd | rologi | c Class (cl | heck one): | | | | | | | | | | | |
| TNW (Subject to ebb and RWW (Subject to ebb and (Flowing year round) TNW - Peremial (Rowing year round) RPW - Seasonal (must (Flowing year round) Non-RPW with abiliting welland (Flowing year round) Script rational (Flowing year round) (Flowing year round) Non-RPW with ability welland (Flowing year round) Non-RPW with ability welland (Rowing year round) Script rational (Flowing year round) (Flowing year round) Non-RPW with ability welland (Rowing round) Non-RPW with ability welland (Rowing round) Arriticial (man-made) Upstream: 9:4 2.2 R Downstream: unaise of study area) Adjacent/Abutting velland (Rowing round) Natural Channel Shape (ability) Natural Channel Shape (Rowing round) Natural Chanel Shape (Rowing round) <t< td=""><td>Tidal</td><td></td><td></td><td>Per</td><td>ennial</td><td></td><td></td><td>Intermitte</td><td>nt</td><td></td><td></td><td></td><td>Epheme</td><td>le:</td><td></td></t<> | Tidal | | | Per | ennial | | | Intermitte | nt | | | | Epheme | le: | |
| now) CHOWING Prevention Year) Now FRW with adjusting wethom a serie are standing and adjacent wethom a serie around the serie are are around the serie are are aroon th | O TNW (Subject to | o ebb a | С | TNW – Pe | rennial | | C RPV | V – Seasona | ıl (must | 0 | Jon-RPW | draining | uplands | | |
| ● RPW - Peremial year) O Non-RPW with abutting werehound sextibe rational Flaure Decare C Non-RPW with adjacent welland adjacent welland Phythologic class: greater than 1 ft of water in channel O Non-RPW with adjacent welland Protologic class: greater than 1 ft of water O Non-RPW with adjacent welland Effetter Description: (outside of study area) Concertivity - Vegetation Antimel Channel Shape Width: 4 Sile Sile Non-RPW with adjacent welland Natural Channel Shape Width: 4 Sile Sile Sile Non-RPW with adjacent welland Natural Channel Shape Width: 4 Sile Sile Sile Sile Non-RPW with adjacent welland Natural Channel Shape Width: 4 Sile Sile <td>(flow)</td> <td></td> <td>)</td> <td>(Flowing y</td> <td>ear round</td> <td>(p</td> <td>) (flow</td> <td>/ at least 3 n</td> <td>nonths a</td> <td>0</td> <td>Jon-RPW</td> <td>erosiona</td> <td>l feature</td> <td></td> <td></td> | (flow) | |) | (Flowing y | ear round | (p |) (flow | / at least 3 n | nonths a | 0 | Jon-RPW | erosiona | l feature | | |
| Scripte rational C (Flowing year round) O Non-RPW welland adjacent or all hydrologic class: Garologic class: greater than 1 ft of water in channel O Non-RPW welland adjacent or all hydrologic class: drologic Connectivity - Upstream: 9:4 22 R Downstream: auside of study area) Attrictial (name-made) Upstream: 9:4 22 R Non-traspect to OHW) Non-traspect to OHW) Natural Channel Shape With respect to OHW) Substrate Adjacent/Abutting: 9:4 Natural Channel Shape Non-traspect to OHW) State slope Non-traspect to OHW) Non-traspect to OHW) Natural Channel Shape Manipulated (man-altered) Bank Erosion/stability: Elseknock Concrete OHHer: Noest Manipulated (man-altered) Bank Erosion/stability: State slope Noest Noest Noest Manipulated (man-altered) Bank Erosion/stability: State slope Noest Noest Manipulated (man-altered) Bank Erosion/stability: State slope Noest No Manipulated (man-altered) Bank Erosion/stability: Non-trant Northy Drought Condition North Manipulated (man-altered) Bank Erosion/stability: No No <td></td> <td></td> <td>~</td> <td>RPW – Pei</td> <td>rennial</td> <td></td> <td>year</td> <td>(</td> <td></td> <td>0</td> <td>Jon-RPW</td> <td>with abu</td> <td>tting wetl</td> <td>nd</td> <td></td> | | | ~ | RPW – Pei | rennial | | year | (| | 0 | Jon-RPW | with abu | tting wetl | nd | |
| secrificational Non-RPW wetland adjacent or all hydrologic clonectivity - Upstream: 944 Z2 R | | |) | (Flowing y | ear round | (p | | | | 0 | Jon-RPW | with adja | icent wetl | and | |
| ordeologic Connectivity- Upstream: 9:4 ZZR Downstream: ouside of study see Adjacent/Abutting: 9:44 Feature Description: (check all that apply) Sinther and the apply Sinther and the apply Sinther and the apply Adjacent/Abutting: 9:44 Renter Description: (check all that apply) Nature Channel Shape With: 4 Nature Channel Shape Musc Negetation Antipolated (man-altered) Bank Erosion/stability: Eednock Colobies Colobies Adjacent/Abutting: Procest Antipolated (man-altered) Bank Erosion/stability: Bedrock Concrete Other: Neether/Precipitation Neether/Precipitation Neether/Precipitation Note: | Describe rational for hydrologic class: | | iter than | 1 ft of wa | ater in c | hannel | | | | 0 | lon-RPW outside of | wetland study are | adjacent c ea) | r abutting u | pstream |
| Feature Description: (check all that apply) Shape (with respect to OHW) Substrate Vegetation Shape (with respect to OHW) Substrate Vegetation Natural Channent Shape Within Anticipal (man-matced) Bank Erosion/stability: Site slope: Cobbles Concrete Other: Participal (man-matced) Bank Erosion/stability: Note that and that apply included (man-altered) Bank Erosion/stability: Site slope:: Zit and Site and Concrete Note that and that and that apply included (man-altered) Bank Erosion/stability: Note that and t | Hydrologic Connecti | ivity- | Upstr | eam: 01-ff | 22R | | Dow | /nstream: ou | tside of stud | y area | Ac | ljacent/A | butting: 01 | 22 | No. |
| Shape (with respect to OHW) Substrate Vegetation Natural Channel Shape Widh: 4 Circavel Muck RB: forest Manipulated (man-altered) Berthi: 2 Sitis Circavel Other: Berthi: 2 Nuck RB: forest Manipulated (man-altered) Berthi: 2 Sitie slope: [2] ≥ H 2.41 Distrest Berthi: 2 Manipulated (man-altered) moderate erosion Side slope: [2] > H 2.41 Distrest Berthick Other: moderate erosion Side slope: [2] > H 2.41 Distrest Distrest Month Last Writin NCC Regional PDSI Month Month Distrest More rate Last Writin NCC Regional PDSI Month Distrest Distrest More rate Last Writin NCC Regional PDSI Month Distrest Distrest More rate Last Writin NCC Regional PDSI Month Distrest Distrest More rate Last Writin More rate More rate Side slope: [2] Site rate Distrest <td>Feature Des</td> <td>criptio</td> <td>m: (check</td> <td>all that ap</td> <td>(A)de</td> <td></td> | Feature Des | criptio | m: (check | all that ap | (A)de | | | | | | | | | | |
| Natural Channel Shape Width: 4* Image: Complete Channel Shape Width: 4* Cobbles Canvel Muck RB: forest Artificial (man-andeb) Depth: 2 Depth: 2 Cobbles Canvel Other: Cobbles Combles Conset Depth: 7 Image: Complete Channel Shape Image: Channel S | Sh | ape (w | ith respec | ct to OHW | 0 | | | | Subst | rate | | | Vegetati | on Cover 7 | ype (MBSS |
| Artificial (man-made) Depth: 2 Cobbles Gravel Other: Manipulated (man-altered) Bank Erosion/stability: Electrock Concrete Other: Month Deschock Concrete Deschock Concrete Deschock Concrete Deschock Concrete Deschock Concrete Deschock Deschock Concrete Deschock Deschock <td>✓ Natural Channel</td> <td>Shape</td> <td></td> <td>Width: 4'</td> <td></td> <td></td> <td></td> <td>Silts</td> <td></td> <td>ands</td> <td>Ŵ</td> <td></td> <td>B: fores</td> <td></td> <td></td> | ✓ Natural Channel | Shape | | Width: 4' | | | | Silts | | ands | Ŵ | | B: fores | | |
| Manipulated (man-altered) Bank Erosion/stability: Indexemplated (man-altered) Bank Erosion/stability: Didex: Didex: Didex: Didex Directed | Artificial (man-n | nade) | | Depth: 2' | | | | Cobbles | | ravel | Ō | | CD IOI | | |
| Other: Imoderate erosion Side slope: ∐ ≥1: [] ≥1: [] ≥1: [] ≤1: [] ≤1: Le1: forest Meather/Precipitation Condition: Weather/Precipitation Condition: Monthy Drought Condition Monthy Drought Condition Monthy Prought Condition Monthy Prought Condition 2014 Weather/Precipitation Condition: Incless of Incless of Light rain Monthy Drought Condition Monthy Prought Condition Month; Year No rain © 0:5:1 6 -5 -1 0 1 2 3 4 5 No rain © 0:5:1 6 -5 -1 0 1 2 3 4 5 No rain © 0:5:1 6 -5 -1 0 1 2 3 4 5 No rain © 0:5:1 6 -5 -1 0 0 0 0 0 No rain © 0:5:1 6 -5 -1 0 0 0 0 0 No rain © 0:5:1 6 -5 -1 0 0 0 0 No rain © 0:5:1 6 -5 -5 -1 0 | ✓ Manipulated (ma | an-alte | | Bank Eros | sion/stabi | ility: | | Bedrock | | oncrete | | | ſ | | |
| Offer: flows to and from concrete pipes Weather/Precipitation Condition: Weather/Precipitation Condition: Weather/Precipitation Condition: No rain Month; Yean: Non-ridat trian Month; Yean: Non-ridat trian Month; Yean: Non-ridat trian Month; Yean: Non-ridat trian Month; Yean: | Other: | | | moderate e | erosion | | Side : | > | I: | | | | B: fores | | |
| Weather/Precipitation Condition: Weather/Precipitation Condition: Inches of aning Field Visit Inches of Last Week Month: Weather/NCC Inches of Albertain 0.0.5 6 -5 4 -3 -2 0 </td <td>Notes: flows to and fro</td> <td>m conc</td> <td>rrete pipes</td> <td></td> | Notes: flows to and fro | m conc | rrete pipes | | | | | | | | | | | | |
| $\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$ | Weather/Pre- | cipitat | ion Cond | itions: | | | | | | | | | | | |
| NCDC Regional PDSI Month: Year: uring Field Visit Last Week http://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php 0ctober 2014 No rain O 0.51 0 0 0 0 0 0 0 No rain O 0.51 0 | | Ĩ | ches of | | | | | W | onthly D | rought (| ondition | | 95° 10011 | 8 | A Second |
| Non-tidal tributary has: Concerts Concer | During Field Visit | Rair | n Within et Week | httm-//w | opou man | 00 6600 | ie-umot/w | o/uivoau-pr | NCDC | Regional | PDSI | Idv nhn | Mo | ith: ber | Year: 2014 |
| Instrum 0 0.5-1 6 -5 -4 -3 -2 -1 0 1 2 3 4 5 Hordradiat Non-tidal tributary has: (check all that apply; include photos for each & list photo #) Non-tidal tributary has: (check all that apply; include photos for each & list photo #) Non-tidal tributary has: Check all that apply; include photos for each & list photo #) Non-tidal tributary has: Check all that apply; include photos for each & list photo #) Non-tidal tributary has: Chear, natural line impressed on the bank Non-tidal tributary Non-tidal tribut | No rain | G | 0.05 | 0 | 0 | | | | | | | | C | | |
| avy Rain O >1 Severe Drought Moderate Drought Moderately Wet Severely Wet Severe Severe Sever | - | 0 | 0.5-1 | φ | ې ا |)4 | ٥ | -7 -7 | 7 |)0 | >- | 0 |) m |)4 | |
| Non-tidal tributary has: (check all that apply; include photos for each & list photo #) and Banks Ordinary High Water Mark s I Clear, natural line impressed on the bank I Sediment deposition I s I Changes in the character of soil I Water staining I Shelving I Presence of flood litter/debris I Vegetation matted down, bent, or absent I Destruction of terrestrial veg. I Vegetation matted down, bent, or absent I Destruction of terrestrial veg. I Vegetation matted down, bent, or absent I Destruction of terrestrial veg. I Itidal tributary has: (check all that apply; include photos for each & list photo #) I Presence of wrack line I Idal tributary has: (check all that apply; include photos for each & list photo #) I I I I Idal tributary has: (check all that apply; include photos for each & list photo #) I I I I Idal tributary has: (check all that apply; include photos for each & list photo #) I I I I Idal tributary has: (check all that apply; include photos for each & list photo #) I I </td <td>O Heavy Rain</td> <td>0</td> <td>>1</td> <td>Sev</td> <td>ere Drou</td> <td>ght</td> <td>Modera</td> <td>te Drought</td> <td></td> <td>Normal</td> <td></td> <td>Moderat</td> <td>ely Wet</td> <td>Seve</td> <td>3</td> | O Heavy Rain | 0 | >1 | Sev | ere Drou | ght | Modera | te Drought | | Normal | | Moderat | ely Wet | Seve | 3 |
| and Banks Ordinary High Water Mark s Clear, natural line impressed on the bank Sediment deposition s Changes in the character of soil Water staining Shelving Presence of flood litter/debris Shelving Presence of flood litter/debris Negetation matted down, bent, or absent Destruction of terrestrial veg. Presence of wrack line Presence of wrack line Presence of wrack line Nean High Water Mark indicated by: | Non-tidal tril | butary | has: (che | sck all that | t apply; in | | otos for e | ach & list p | hoto #) | | | | | | |
| Image: Clear, natural line impressed on the bank Image: Sediment deposition Image: Sediment deposition Image: Changes in the character of soil Image: Sediment deposition Image: Sediment deposition Image: Sediment deposition Image: Changes in the character of soil Image: Sediment deposition < | Bed and Banks | | | | | | | Ordinary | pt. | | rk | | | | |
| Changes in the character of soil Vater staining Vegetation matted down, bent, or absent Presence of flood litter/debris Vegetation matted down, bent, or absent Destruction of terrestrial veg. Vegetation matted down, bent, or absent Presence of wrack line Vegetation matted down, bent, or absent Presence of wrack line Vater All that apply; include photos for each & list photo #) Presence of wrack line High Tide Line Nean High Water Mark indicated hy: ine along shore objects Survey to available datum debris deposits (foreshore) Physical markings kings/characteristics Oily film | | > | Clear, na | tural line i | mpressed | I on the ba | ank | | ent deposi | | | / Sedin | nent sortin | 5 | |
| ✓ Shelving Presence of flood litter/debris □ ✓ Vegetation matted down, bent, or absent ✓ Destruction of terrestrial veg. □ ✓ Leaf litter disturbed Presence of wrack line □ ✓ Leaf litter disturbed Presence of wrack line □ Utary has: (check all that apply; include photos for each & list photo #) High Tide Line Mean High Water Mark indicated hy: ine along shore objects Survey to available datum Water is classic debosits (foreshore) Idebris deposits (foreshore) Physical markings Oily film kings/characteristics Vegetation lines/changes in types Oily film | No | | Changes | in the chai | racter of a | soil | | | staining | | | Z Scoul | • | | |
| Image: Construction of the construc | | > | Shelving | | | | | Presend | ce of floo | d litter/de | ebris | Obse | rved/predi | cted flow e | vents |
| Image: Check all that apply; include photos for each & list photo #) Presence of wrack line Utary has: (check all that apply; include photos for each & list photo #) Mater is the line High Tide Line Nean High Water Mark indicated hy: Mater is cl ine along shore objects Survey to available datum Water is cl debris deposits (foreshore) Physical markings Oily film kings/characteristics Oily film Mater is cl | | > | Vegetatic | on matted | down, be | nt, or abse | ent | V Destruc | ction of te | errestrial | veg. | Abru | pt change | in plant cor | nmunity |
| utary has: (check all that apply; include photos for each & list photo #) High Tide Line Mean High Water Mark indicated by: Chemical ine along shore objects Survey to available datum Water is clear debris deposits (foreshore) Physical markings Water is discolored kings/characteristics Oily film % Other: | | > | Leaf litte | er disturbed | 1 | | | Presend | ce of wra | ck line | | Other | | | |
| High Tide LineMean High Water Mark indicated by:Chemicaline along shore objectsSurvey to available datumWater is cleardebris deposits (foreshore)Physical markingsWater is discoloredkings/characteristicsVegetation lines/changes in typesOily filmbAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressingAddressingAddressingcharacteristicsAddressing </td <td>Tidal tributa</td> <td>ry has</td> <td>: (check a</td> <td>ill that app</td> <td>ly; inclu</td> <td>de photos</td> <td>for each</td> <td>li.</td> <td>(#)</td> <td></td> <td></td> <td>•</td> <td></td> <td></td> <td></td> | Tidal tributa | ry has | : (check a | ill that app | ly; inclu | de photos | for each | li. | (#) | | | • | | | |
| ine along shore objects Survey to available datum debris deposits (foreshore) Physical markings kings/characteristics Vegetation lines/changes in types | Hi | igh Tic | le Line | | | Alcan I | ligh Wate | revenue in the second s | licated b | : (| | Cher | | racteristic | * |
| debris deposits (foreshore) Physical markings kings/characteristics Vegetation lines/changes in types | Oil or scum line | along | shore obje | cts | | Survey | to availab | ole datum | | |] Water | is clear | | | |
| kings/characteristics Vegetation lines/changes in types | Fine shell or deb | ris dep | osits (fore | shore) | | Physic | al marking | SS | | | Water | is discolo | red | | |
| | Physical marking | gs/char | acteristics | | | Vegeta | tion lines/ | changes in ' | types | | Oily fi | m | | | |
| | Tidal gauges | | | | | | | A. | | | Other: | | | | |

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| Project: 495/2 | 270 Manapel | | Leves | | | | Featu | Feature ID: 22 QCO | 2007 | | Strea | Stream Order: | Γ |
|---|-----------------------------|---|-------------------------|----------------|---------------------------|--|--|---|--|----------------|------------------|---|------|
| 10/31/1 | | | | State: | 02 | | Photos: | S: | - 5440 | 1-240 | | | |
| | FURN | | C | County: | montes | o hear of | Last I | ng Nu | | 1290 | 5 | | |
| Feature Hydrologic Class (check one): | ologic Class (| (check one): | | | 1 | | | | | | | | |
| Indal T | | Perc | Perennial | | In | Intermittent | | | | 1 | Ephemeral | I | |
| TNW (Subject to ebb and | ebb and | TNW - Perennial | rennial | | RPW- | RPW - Seasonal (must | (must | ION | Non-RPW draining uplands | aining u | plands | | |
| flow) | | (Flowing year round) | ear round) | | | flow at least 3 months a | onths a | ION | Non-RPW erosional feature | osional | feature | | |
| | | RPW - Perennial | ennial | | year) | | | ION | Non-RPW with abutting wetland | ith abutt | ing wetla | pu | |
| | _ | (Flowing year round) | ear round) | | | | | ION | Non-RPW with adjacent wetland | ith adjac | ent wetla | pu | |
| Describe rational G | pherved s | surface woker | 100 | X | not Flower | to the | 1 6 | ioN N | Non-RPW wetland adj (outside of study area) | etland ac | djacent oi | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hvdrologic Connectivity – | - | | | | Down | tream: 2 | = ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | 2 Mr Potorac R. Adjacent/Abutting: | Adia | cent/Ab | utting: | | |
| Feature Description: (check all that apply) | ription: <i>(che</i> d | ck all that apply | (v)du | | ۱۱ - | side ch | arrel | | - | 2 | Nore | | |
| Shi | Shape (with respect to OHW) | Deet to OIIM | () | | | | Substrate | ate | | - | Vegetati | Vegetation Cover Type (MBSS) | (SS) |
| ✓ Natural Channel Shape | Shape | Width: 2 | . 9 - | - | Silts | S | × Sa | Sands | × Muck | 2 | RB: ~ - | | |
| Artificial (man-made) | ade) | Depth: C | 0.0-0.0 | | Col | Cobbles | | Ġravel | | 1 | Lot | 15 | |
| Manipulated (man-altered) | n-altered) | Bank Eros | Bank Erosion/stability: | iy: | Bec | Bedrock | Co | Concrete |] | | | | |
| Other: | | madent | - erobar | ~o | Side slo | Side slope: ⊠≥1:1 | 1 🛛 2:1 | 3:1 | []≤4:1 | | LB: C C. L | L | |
| Notes: Feet w 35 | naturally | eriel ch | way you | 212 0 | Wetter 1 | 14 | | | | | 207 | | |
| W/ | | dittone. | | | | | | | • | | | | |
| Weather/Frecipitation Conditions: | ipitation Cor | I I I I I I I I I I I I I I I I I I I | | | | | C TT | | | | | | |
| | Rain Within | | | | | IOM | NCDC R | Monthly Drought Condition NCDC Regional PDSI | DSI | | | Ontek.a. | 200 |
| During Field Visit | Last Week | | ww.nede.n | 10aa.gov. | /temp-and | http://www.nede.noaa.gov/temp-and-precip/climatological-rankings/index.php | matologi | cal-ranki | ngs/inde: | x.php | Month: | th: Year: | 2010 |
| A No rain | 0-0.5 | | | | | | | | | | | X | |
| Light rain | X 0.5-1 | -9 | -5 | 4 | -3 | -2 | - | 0 | 1 | 2 | 3 | 4.15 5 | 6 |
| Heavy Rain | >1 | Seve | Severe Drought | ut | Moderate Drought | Drought | [| Normal | N | Moderately Wet | ly Wet | Severely Wet | |
| Non-tidal tributary has: (check all that apply; include photos for each & list photo #) | utary has: (c | heck all that | t apply; inc | lude pho | tos for eac | ch & list ph | oto #) | | | | | | |
| Bed and Banks | | | | | | Ordinary High Water Mark | ligh Wa | ter Mark | | | | | |
| X Yes | K Clear, | Clear, natural line impressed on the bank | mpressed o | in the bai | nk 🛛 | Sedimen | Sediment deposition | ion | | Sedim | Sediment sorting | 50 | |
| No | - | Changes in the character of soil | racter of so | ii | X | Water staining | aining | | X | Scour | | | |
| - | Shelving | ជ្រ | | | - 14 - 24 - | Presence | of flood | Presence of flood litter/debris | ris 🛛 | | /ed/predi | Observed/predicted flow events | |
| | Vegeta | Vegetation matted down, bent, or | down, bent | , or absent | nt | Destruct | ion of ter | Destruction of terrestrial veg. | ы. С | Abrup | t change | Abrupt change in plant community | |
| | Leafli | Leaf litter disturbed | - | | | Presence | Presence of wrack line | ς line | 1 | Other: | | | |
| Tidal tributary has: (check all that apply; include photos for each & list photo #) | y has: (check | c all that app | ly; include | photos] | for each & | list photo 3 | #) | | | | | |] |
| 11 | High Tide Line | | | Mean IIi | gh Water | Mean High Water Mark indicated by: | cated by | | | Chem | ical Cha | Chemical Characteristics | |
| Oil or scum line along shore objects | long shore ob | jects | | Survey t | Survey to available datum | e datum | | | Water is clear | clear | | | |
| Fine shell or debris deposits (foreshore) | is deposits (fc | reshore) | | Physica | Physical markings | | | | Water is discolored | discolor | ed | | |
| Physical markings/characteristics | s/characteristi | cs | 100 | Vegetati | ion lines/cl | Vegetation lines/changes in types | pes | | Oily film | 30 | | | |
| Tidal gauges | | | _ | | | | | が変 | Other: | | | | |
| Notes: | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |

Waters of the U.S. Data Sheet

| | VENIFIED MBS |
|--|--|
| WETLAND DETERMINATION DATA FORM | • |
| I-495/I-270 MANAGOD LANES ST | 4-26-18 |
| Project/Site: I 495 FRVM Montgoment Country City/C | ounty: Mantermente (.) . Sampling Date: Hospitat |
| Applicant/Owner: <u>SMA</u> | State: MD Sampling Point: State: |
| | on, Township, Range: 22R-UPL |
| | ef (concave, convex, none): <u>Canvex</u> Slope (%): 3-4 |
| Subregion (LRR or MLRA): MLRA 148 Lat: 38.97392 | Long: -77.17596 Datum: NAD 93 |
| Soil Map Unit Name: Watchung silty clay, Oto3 1. slopes | |
| Are climatic / hydrologic conditions on the site typical for this time of year? Y | |
| Are Vegetation, Soil, or Hydrology significantly distur | |
| Are Vegetation \underline{N} , Soil \underline{N} , or Hydrology \underline{N} naturally problema | tic? (If needed, explain any answers in Remarks.) |
| SUMMARY OF FINDINGS – Attach site map showing sam | pling point locations, transects, important features, etc. |
| Hydrophytic Vegetation Present? Yes No | Is the Sampled Area |
| Hydric Soil Present? Yes No | within a Wetland? Yes No |
| Wetland Hydrology Present? Yes No | |
| Remarks: | |
| | |
| 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) True Aquatic Plants (| B14) Sparsely Vegetated Concave Surface (B8) |
| High Water Table (A2) Hydrogen Sulfide Ode | |
| A STATE OF THE REPORT OF THE R | es on Living Roots (C3) Moss Trim Lines (B16) |
| Water Marks (B1) Presence of Reduced | |
| Sediment Deposits (B2) Recent Iron Reductio Drift Deposits (B3) Thin Muck Surface (C | |
| Algal Mat or Crust (B4) Other (Explain in Ren | |
| Iron Deposits (B5) | Geomorphic Position (D2) |
| Inundation Visible on Aerial Imagery (B7) | Shallow Aquitard (D3) |
| Water-Stained Leaves (B9) | Microtopographic Relief (D4) |
| Aquatic Fauna (B13) | FAC-Neutral Test (D5) |
| Field Observations: | |
| Surface Water Present? Yes No/_/ Depth (inches): | |
| Water Table Present? Yes No/ Depth (inches): | |
| Saturation Present? Yes No/ Depth (inches): | Wetland Hydrology Present? Yes No |
| (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre | vious inspections), if available: |
| | |
| Remarks: | |
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Sampling Point: At-H-UPL

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

| Tree Stratum (Plot size: 30 radius) | Absolute | Dominant | Indicator | Dominance Test worksheet: |
|---|----------|---------------|-------------------------------------|--|
| 1. [induction this form | | Species? | | Number of Dominant Species |
| | 70 | | FACIL | That Are OBL, FACW, or FAC: (A) |
| 2. Arer Nonm | -2- | | FAC | Total Number of Dominant |
| 3. Querrus tral cata | 10 | | FACU | Species Across All Strata:(B) |
| 4 | | | | Percent of Dominant Species 12 |
| 5 | - | - | | That Are OBL, FACW, or FAC: (A/B) |
| 6 | | | | |
| | 85 | = Total Cove | er | Prevalence Index worksheet: |
| 50% of total cover: 42, | 5 20% of | total cover: | 17 | Total % Cover of: Multiply by: |
| Sapling Stratum (Plot size: 30'radius) | | 1 | | OBL species x 1 = |
| 1. Caminis caroliniana | 5 | 1 | FAC | FACW species \bigcirc x 2 = \bigcirc FAC species \bigcirc x 3 = \bigcirc |
| 2. Asimina triloba | 5 | V | PAC. | |
| 3 | | | | FACU species x 4 = |
| 4 | | | | UPL species x 5 = |
| 5 | | | | Column Totals: 178 (A) 692 (B) |
| 6. | | | | Prevalence index = $B/A = 3 - 89$ |
| | 10 | = Total Cove | | Hydrophytic Vegetation Indicators: |
| 50% of total cover: _ S | | | | |
| Shrub Stratum (Plot size: 30' radivs) | 20% of | total cover: | | 1 - Rapid Test for Hydrophytic Vegetation |
| and the second se | 1 - | 1 | EAL | 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ |
| | _10 | | FALL | |
| 2. Publis phoenical asily | -12 | | FRICU | 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) |
| 3. Rosa philtitiona | 12 | | TACU | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 4 | | | | |
| 5 | | | | ¹ indicators of hydric soil and wetland hydrology must |
| 6 | | | | be present, unless disturbed or problematic. |
| | 40 | = Total Cove | er | Definitions of Five Vegetation Strata: |
| 50% of total cover: | 20% of | total cover:_ | 8 | |
| Herb Stratum (Plot size: 20 rach (5) | | 1 | | Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. |
| 1. Duchesnea inclica | 10 | 1 | FACU | (7.6 cm) or larger in diameter at breast height (DBH). |
| 2. Polystich m acrostichnides | 8 | V | FAVIA | Sapling – Woody plants, excluding woody vines, |
| 3 | | | | approximately 20 ft (6 m) or more in height and less |
| 4 | | | | than 3 in. (7.6 cm) DBH. |
| 5 | | | | Shrub - Woody plants, excluding woody vines. |
| 6 | | | And the second second second second | approximately 3 to 20 ft (1 to 6 m) in height. |
| 7 | | | | Herb – All herbaceous (non-woody) plants, including |
| 8 | | | | herbaceous vines, regardless of size, and woody |
| 9. | | · | | plants, except woody vines, less than approximately 3 |
| 10. | - | | | ft (1 m) in height. |
| 11. | | | | Woody vine - All woody vines, regardless of height. |
| | 18 | Total Cove | | |
| CON STATES | | | 0 | |
| 50% of total cover: | 20% of | total cover:_ | 5.10 | |
| Woody Vine Stratum (Plot size: 30 realist) | | ./. | Ed. | |
| 1. spicora inponica | 12 | | FACL | |
| 2. Smilar rothiditalia | -2 | -4 | FAC | |
| 3. Hederahelix | | | FACI | |
| 4 | - | | | 2 |
| 5 | | | | Hydrophytic |
| | _25. | - Total Cove | r | Vegetation |
| 50% of total cover: 12. | 20% of | total cover:_ | 5 | Present? Yes No |
| Remarks: (Include photo numbers here or on a separate si | | | | |
| · · | 197 U | | | |
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SOIL

| | 22R-UPI |
|----------------|------------|
| Sampling Point | At for the |

| rofile Description: (Description: Matr | | Redo | k Features | | no aboence or | indicators.) |
|---|--|--------------------|---------------------|--------------------|-----------------------|---|
| nches) Color (moist | and the party of the second se | Color (moist) | %Type1 | Loc ² | Texture | Remarks |
| 0-6 104R4/3 | 98 | IDYK4/10 | 2 1. | M | Sicl | |
| 6-12 104R4/K | 1 60 | 7. SYR 4/4 | 5 C | N | FSC | |
| 104/24/1 | 0 45 | | | | | |
| | free here here here here here here here | - | | | | |
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| upe: C=Concontration D=I | Doplation DM | | | | · | |
| ype: C=Concentration, D=[dric Soll Indicators: | Depletion, RM= | Reduced Matrix, MS | =Masked Sand Gra | iins. ² | Location: PL=P | ore Lining, M=Matrix. |
| Histosol (A1) | | Dark Surface | (\$7) | | | s for Problematic Hydric Soils ³ : |
| Histic Epipedon (A2) | | | ow Surface (S8) (M | I RA 147 1 | 2 cm | Muck (A10) (MLRA 147) t Prairie Redox (A16) |
| Black Histic (A3) | | Thin Dark Sur | face (S9) (MLRA 1 | 47, 148) | | LRA 147, 148) |
| Hydrogen Sulfide (A4) | | Loamy Gleye | | | | nont Floodplain Soils (F19) |
| Stratified Layers (A5) | 2 | Depleted Mate | | | (MI | LRA 136, 147) |
| 2 cm Muck (A10) (LRR N Depleted Below Dark Sur | | Redox Dark S | urface (F6) | | | Shallow Dark Surface (TF12) |
| Thick Dark Surface (A12) | | Depleted Dark | Surface (F7) | | Other | (Explain in Remarks) |
| Sandy Mucky Mineral (S1 | | | se Masses (F12) (L | PP N | | |
| MLRA 147, 148) | | MLRA 136 | | arr n, | | |
| Sandy Gleyed Matrix (S4) |) | Umbric Surfac | e (F13) (MLRA 13) | 5, 122) | ³ Indicato | ors of hydrophytic vegetation and |
| Sandy Redox (S5) | | Piedmont Floor | dplain Soils (F19) | (MLRA 148) | | d hydrology must be present, |
| Stripped Matrix (S6) strictive Layer (if observe | - Ali | Red Parent M | aterial (F21) (MLRA | 127, 147) | unless | disturbed or problematic. |
| 5 D | 30): | | | | | |
| Type: Depth (inches): | | | | | | / |
| marks: | | | | | Hydric Soil Pre | sent? Yes No / |
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Eastern Mountains and Piedmont - Version 2.0

| | WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region IF-495/IF-270 MANABOD LAMES STUDD Project/Site: <u>F495/FLVM-Hondowetta Convetta</u> City/County: <u>Mondowetta Convetta</u> City/County: <u>Mondowetta Convetta</u> Sampling Date: #/20/1# Applicant/Owner: SHA SHA Output Investigator(s): <u>AT_MALAM_MBS/AGA</u> Section, Township, Range: Landform (hillslope, terrace, etc.): <u>Alon plain</u> Local relief (concave, convex, none): <u>panet</u> Slope (%): O-1 Subregion (LRR or MLRA): <u>MLFA148</u> Lat: <u>38-97356</u> Local relief (concave, convex, none): <u>panet</u> Slope (%): O-1 Subregion (LRR or MLRA): <u>MLFA148</u> Lat: <u>38-97356</u> Long: <u>-77, 17452</u> Datum: MAD 83 Soil Map Unit Name: <u>Wathungs 1Hy Clow Ioorn</u> , <u>Oto 31/. Slopes</u> NVI classification: PD 1E Are vegetation |
|---|--|
| | SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. |
| | Hydrophytic Vegetation Present? Yes No is the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes Ves No No No |
| | Remarks: Atoros 2621-2624 · Separated feature into PEM/PFO (PEMis 224). |
| | HYDROLOGY |
| / | Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) |
| | Surface Water Present? Yes No Depth (inches): Depth Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No |
| | Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: |
| | Remarks: * 2-9 in diwenter present in approx. 25% of plot |

22.R. Sampling Point: <u>OLH-WET</u>

| VEGETATION (Five Strata) – Use scientific names of p | OLIMI | ATION (FIVE Strata) - | De Prientinc | names or | plants. |
|--|-------|-----------------------|--------------|----------|---------|
|--|-------|-----------------------|--------------|----------|---------|

| Sabino Stratum (Plot size: 30'radiuS) 00% of total cover: 10 20% of total cover: 10 20% of total cover: 10 00L species x 1 = | Tree Stratum (Plot size: <u>30'radius</u>) 1. <u>Acer alon m</u> 2. <u>Platanus occidentalis</u> 3 4 5 6 | 50 40 90 | Species? | Status TAC PACW | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Z Total Number of Dominant Species Across All Strata: B Percent of Dominant Species That Are OBL, FACW, or FAC: GF Percent of Dominant Species That Are OBL, FACW, or FAC: GF Species Cover of: Multiply by: |
|--|---|----------------|--------------|-----------------------|---|
| 4 | <u>Sapling Stratum</u> (Piol size: <u>Po'radius</u>) 1. <u>Asimina thlaba</u> 2. Nyssa si 1. jadica | 5 | 4 | FAT. FAC | OBL species x 1 = FACW species x 2 = FAC species x 3 = |
| 50% of total cover: 20% of total cover: 2 (2) 1. Asi min a shillop 15 4 2. 3. 3. 4 3. 4 4 4 5. 50% of total cover: 3. 7 6. 15 4 4 5. 50% of total cover: 3. 4 6. 15 16 17 10. 15 16 16 17 11. 16 16 17 17 12. 16 16 16 17 17 14. 15 16 16 17 17 17 15. 15 16 17 17 17 16 16 16 17 17 16 16 17 17 16 17 17 16 17 17 17 17 16 17 17 16 17 17 17 16 17 17 17 16 17 17 17 16 17 16 17 | 4 · _ · · · · · · · · · · · _ · _ · · · _ · · · · · · · _ · · _ · · _ · _ · · _ · · _ · · _ | | | | UPL species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = |
| 5. | Shrup Stratum (Plot size: <u>20'radiv</u>) 1. <u>Asimina chilaba</u> 2 3 | 20% of | total cover: | P.G FAC | 1 Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) |
| 1. Dichanthalium clandestorum 12 FAC (7.6 cm) or larger in diameter at breast height (DBH). 2. Microstcalum um incrum 45 1/ FAC (7.6 cm) or larger in diameter at breast height (DBH). 3. Conna. annd incrum 20 1/ FAC Saping - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. 5. 5. 5. 5. 5. 6. 6. 5. 5. 5. 5. | 5 6 50% of total cover: _ 7. 5 | 15 | = Total Cov | er | be present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree – Woody plants, excluding woody vines, |
| 6 approximately 3 to 20 ft (1 to 6 m) in height. | 1. Dicharthelium clandestrum 2. Microstantin uminerum 3. Cunna anno ina ca 4. Symphystrichum pilosum | 45 20 5 | | PAC EACW FAC | (7.6 cm) or larger In diameter at breast height (DBH). Sapilng – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. |
| 8 herbaceous vines, regardless of size, and woody 9 ft (1 m) in helght. | 6 7 8 | | | | approximately 3 to 20 ft (1 to 6 m) in height. Herb – Ail herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 |
| 10 | 11 | | | 1 | |
| 50% of total cover: <u>4</u> 20% of total cover: <u>16.4</u> <u>Woody Vine Stratum</u> (Plot size: <u>30 Wardiss</u>) 1. <u>Lonicera japonica</u> <u>15</u> <u>FACU</u> 2. <u>Smilax Wendelita</u> <u>3</u> <u>FAC</u> 3 | Woody Vine Stratum (Plot size: <u>3) Karlis</u>) 1. Lonicera japonica | _ 20% of | | | |
| 5. Image: Book of total cover: Image: Book of total cove | | _ 20% of | | 0 1 | Vegetation |

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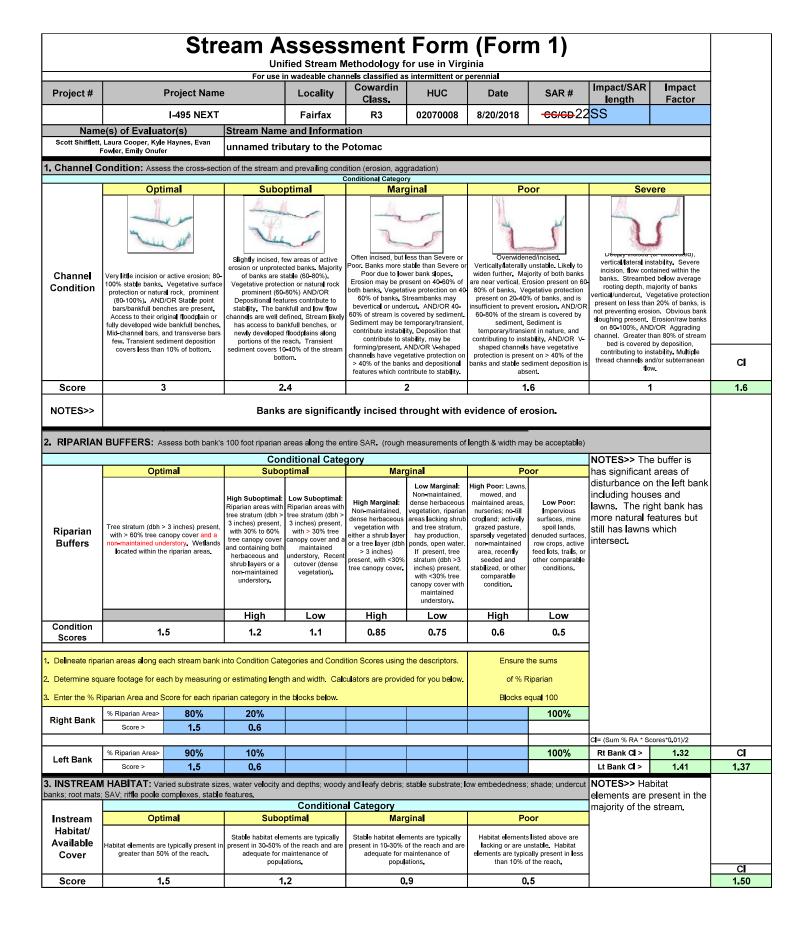
| rofile Description: (Describe to t | | | r or confirm | the absence of Indic | Sampling Point: <u>37-71- WE</u> ators.) |
|--|----------------------------------|-----------------------------------|------------------|---|---|
| Depth <u>Matrix</u> inches) Color (moist) | % Color (moist) | x Features % Type ¹ | Loc ² | Texture | Remarks |
| 0-2 2.543/2 | 60 7.54es/8 | <u> </u> | | | M WALLAS |
| 104R3/2 | 35 | <u> </u> | lerow | man | y worlds |
| | SE Tevali | 1 | | | 1 |
| - 0 2 DY 3/1 1 | PJ T.SVRA/G | 15 C | PL, M | _sic/ | |
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| ype: C=Concentration, D=Depletio | on, RM=Reduced Matrix, MS | S=Masked Sand G | Grains. | ² Location: PL=Pore I | |
| vdric Soil Indicators: Histosol (A1) | Dark Out | (07) | | | Problematic Hydric Soils ³ : |
| _ Histic Epipedon (A2) | Dark Surface | iow Surface (S8) | MIDA 447 | 2 cm Muc | k (A10) (MLRA 147) iirie Redox (A16) |
| Black Histic (A3) | Thin Dark Su | rface (S9) (MLRA | 147, 148) | | . 147, 148) |
| _ Hydrogen Sulfide (A4) | Loamy Gleye | d Matrix (F2) | ,, | VORCE: THE REAL PROPERTY AND ADDRESS OF ADDRES | Floodplain Soils (F19) |
| Stratified Layers (A5) | Depleted Mat | trix (F3) | | (MLRA | 136, 147) |
| 2 cm Muck (A10) (LRR N) | Redox Dark S | | | | low Dark Surface (TF12) |
| Depleted Below Dark Surface (A Thick Dark Surface (A12) | (11) Depleted Dar Redox Depre | k Surface (F7) | | Other (Ex | plain in Remarks) |
| Sandy Mucky Mineral (S1) (LRR | | ese Masses (F12) | (LRR N | | |
| MLRA 147, 148) | MLRA 130 | | (antit ruj | | |
| Sandy Gleyed Matrix (S4) | | ce (F13) (MLRA 1 | | ³ Indicators o | f hydrophytic vegetation and |
| _ Sandy Redox (S5) | Piedmont Flo | odplain Soils (F19 |) (MLRA 148 | B) wetland hy | drology must be present, |
| _ Stripped Matrix (S6) estrictive Layer (If observed): | Red Parent M | Aaterial (F21) (ML | RA 127, 147 |) unless dist | urbed or problematic. |
| Type: | | | | | / |
| Depth (inches): | | | | | |
| emarks: | | | | Hydric Soil Presen | t? Yes No |
| marka. | | | | | |
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| | Wetland Function-Value Evaluation Form | (|
|---|--|--|
| Total area of wetland 0.3 δL Human made? | Is wetland part of a wildlife corridor? or a "habitat island"? | Wetland I.D. 22 K Latitude 38.373539 Longitude - 77. 174689 |
| Adjacent land use ROADWAT | Distance to nearest roadway or other development $S_0 + 4$. | Prepared by: MS Date 4-26-2018 |
| Dominant wetland systems present Pfb | Contiguous undeveloped buffer zone present | Wetland Impact: TypeArea |
| Is the wetland a separate hydraulic system? \overline{NO} | If not, where | Evaluation based on: |
| How many tributaries contribute to the wetland? | Wildlife & vegetation diversity/abundance (see attached list) | Office Field Field Corps manual wetland delineation |
| S Function/Value | Suitability Rationale Principal Y, N (Reference #)* Function(s)/Value(s) Co | Comments |
| Groundwater Recharge/Discharge | | |
| Floodflow Alteration | | |
| Fish and Shellfish Habitat | | |
| Sediment/Toxicant Retention | | |
| Mutrient Removal | | |
| Production Export | | |
| 🔮 Sediment/Shoreline Stabilization | | |
| Wildlife Habitat | | |
| A Recreation | | |
| Educational/Scientific Value | | |
| <u> </u> | | |
| Wisual Quality/Aesthetics | | |
| ES Endangered Species Habitat | | |
| Other | | |
| Notes: | * Refer to bac | * Refer to backup list of numbered considerations. |

| ł | 1 5 | | 1-1- | 1 | Waters of the U.S. Data Sheet | ie U.S. Dat | a Sheet | Sheet Footure ID: 7 | 991 | Stre | Stream Order: | Γ |
|--|----------------|---------------------------|--|-----------------|-------------------------------------|--|------------------|---------------------------------|--|---------------------------|---|----|
| Project: 1-449/ | 121 | 0 | Mundaged Can | awe > State. | A D | | Photos: | 06 | 1000- | 2110 | | |
| K2H S | 25 | | | County: Mo, | Mo, | | Last | 13 | | | | |
| Feature Hydrologic Class (check one): | rologic (| Class (cl | heck one): | | | | | | | | | Γ |
| Tidal | | | Percnnial | | Ir | Intermittent | | | | Ephemeral | ral | |
| TNW (Subject to ebb and flow) | o ebb and | \bigcirc | TNW – Perennial (Flowing year round) | (pu | O RPW - flow at | RPW – Scasonal (must flow at least 3 months a | (must onths a | | Non-RPW draining uplands Non-RPW erosional feature | ig uplands nal feature | | |
| | | | RPW – Perennial | (pu | year) | | | | Non-RPW with abutting wetland Non-RPW with adjacent wetland | fiacent wetl | and | |
| Describe rational for hydrologic class: | Flouing | | during sit | to visi. | 4. Eish | | | O Non | Non-RPW wetland adj (outside of study area) | d adjacent e ırea) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | |
| Hydrologic Connectivity – | ivity - | Upstr | Upstream: outside | study A | A VT Downs | Downstream: Cerbin | | John Cres | Creek Adjacent/Abutting: | Abutting: | Nore | |
| Feature Dese | crintion: | : (check | Feature Description: (check all that apply) | | | R | ZAA | | | | | |
| Sh | ape (wit | h respec | Shape (with respect to OHW) | | | | Substrate | ite | | Vegetati | Vegetation Cover Type (MBSS) | 5 |
| V Natural Channel Shape | Shape | | Width: 6- 15 | 2 | | / Silts | Sal | Sands | Muck | RB: F> | 21054 | |
| Artificial (man-made) | nade) | | Depth: 2-10 | - | | Cobbics | 5 | Gravel | Other: | 1 | | |
| Manipulated (man-altered) | in-altered | (p | Bank Erosion/stability | ability: | Side clanes [1] | Bedrock | | Concrete | ý1.1 | LB: E | - | |
| Notes: | | | | 2 | | 1) | \geq | | | | 0,000 | |
| Weather/Precinitation Conditions: | cinitatio | n Cond | itions: | | | | | | | | |] |
| | Inch | Inches of | | | | Mor | thly Dr | Monthly Drought Condition | dition | | W | - |
| During Eald Micht | Rain J | Rain Within Lort Wool- | http://www.wo | | thomas and | I | VCDC R | NCDC Regional PDSI |)SI ar/index phy | | Month: August Year: 2018 | 00 |
| | | VICCIA | | () _ | | | | | | | | 0 |
| C Light rain | | 0.5-1 | ې C م | 54 C | ,, C | 77 | 5- | |) - C | C |) 4) v | |
| O Heavy Rain | 0 | - | Severe | | Moderate Drought | Drought | 1 | Normal | Mode | Moderately Wet | Sever | |
| Non-tidal tril | butary h | as: (che | Non-tidal tributary has: (<i>check all that apply; inch</i> | include ph | ude photos for each & list photo #) | ch & list ph | oto #) | | | | | |
| J Bed and Banks | | | | | | Ordinary High Water Mark | ligh Wa | (er Mark | 4 | | | |
| J Yes | | Clear, na | Clear, natural line impressed or | ed on the bank | | Sediment deposition | t depositi | on | Sec. | Sediment sorting | 50 | |
| No | | Changes | Changes in the character of soil | f soil | 7 | Water staining | aining | | Scour | ur | | |
| | 7 | Shelving | | | 1 | Presence | of flood | Presence of flood litter/debris | | served/pred | Observed/predicted flow events | |
| | 7 | Vegetatic | Vegetation matted down, bent, | pent, or absent | cnt J | Destruct | ion of ter | Destruction of terrestrial veg. | | rupt change | Abrupt change in plant community | |
| | | caf litte | Leaf litter disturbed | | _ | Presence of wrack line | of wrach | c line | | Other: | | |
| Tidal tributa | ry has: (| (check a | Tidal tributary has: (check all that apply; include | | nhotos for each & list photo #) | list photo # | (‡ | | | | | |
| H | High Tide Line | Line | | Mcan H | Ican High Water Mark indicated by: | Mark indi | cated by | | Ð | emical Chr | Chemical Characteristics | |
| Oil or scum line along shore objects | along sh | ore obje | cts | Survey | Survey to available datum | e datum | | | Water is clear | | | |
| Fine shell or debris deposits (foreshore) | ris depos | sits (fore | shore) | Physic | Physical markings | | | | Water is discolored | lored | | |
| Physical markings/characteristics | gs/charac | steristics | | Ucgeta | Vegetation lines/changes in types | nanges in ty | pcs | | Oily film | | | |
| Tidal gauges | | | | | | | | | Other: | | | |
| Notes: | | | | | | | | | | | | |



| Project # | Applicant | | Locality | Cowardin Class. | HUC | Date | Data Point | SAR length | Impact Factor |
|-----------------------|--|--|---|--|---|--|--|---------------------------------|---------------|
| | VDOT | | Fairfax | R3 | 0207008 | 8/20/18 | CC/CD | | |
| | ALTERATION: Stream crossin | gs, riprap, concre | | | ghtening of chann | el, channelization | , embankments, | | ightening has |
| | Negligible | Mi | nor | al Category Mode | orato | Sa | vere | occurred on a of this stream | |
| Channel Alteration | hardening absent. Stream has an unattered pattern or has naturalized. | Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines. | the channel alterations listed in the parameter guidelines | is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered. | of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered. | by any of the chan in the parameter 80% of banks sl riprap, c | of reach is disrupted nel alterations listed guidelines AND/OR ored with gabion, r cement. | | |
| SCORE | 1.5 | 1.3 | 1.1 | 0.9 | 0.7 | C | .5 | | |
| | REACH (| CONDITION | NDEX and S | TREAM CON | NDITION UNI | TS FOR TH | S REACH | | - |
| TE: The Clis and I | RCI should be rounded to 2 decimal places. Th | e CR should be round | ed to a whole number. | | | | THE REACH | CONDITION IN | IDEX (RCI) >> |
| | | | | | | | RC | = (Sum of all C | 's)/5 |
| | | | | | | | COMPENSAT | ON REQUIRE | |

INSERT PHOTOS:





CR = RCI X LF X IF

DESCRIBE PROPOSED IMPACT:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

| Project/Site: I-495 Northern Express Lanes City/Cou | unty: Fairfax County Sampling Date: 8/16/2018 |
|--|--|
| Applicant/Owner: Virginia Department of Transportation | unty: Fairfax County Sampling Date: 8/16/2018 State: VA Sampling Point: DP-DC 22TT |
| Investigator(s): Scott Shifflett, Laura Cooper, Kyle Haynes, Evan Fowler, Emily Onufer Section | |
| | f (concave, convex, none): CONCAVE Slope (%): 2 |
| | Long: -77.1741 Datum: NAD83 |
| Soil Map Unit Name: Codorus and Hatboro soils, 0 to 2 percent slopes. | , occasionally flooded NWI classification: PFO |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes | s_O No_O (If no, explain in Remarks.) |
| Are Vegetation, Soil, or Hydrology significantly disturbe | ed? Are "Normal Circumstances" present? Yes No |
| Are Vegetation, Soil, or Hydrology naturally problemati | c? (If needed, explain any answers in Remarks.) |
| SUMMARY OF FINDINGS – Attach site map showing samp | |
| Liudvie Ceil Dresent? Ves 📳 Ne V | Is the Sampled Area within a Wetland? Yes No |
| 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) | |
| High Water Table (A2) | |
| Saturation (A3) Oxidized Rhizospheres | on Living Roots (C3) 🔲 Moss Trim Lines (B16) |
| Water Marks (B1) | ron (C4) Dry-Season Water Table (C2) |
| Sediment Deposits (B2) | |
| Drift Deposits (B3) | |
| Algal Mat or Crust (B4) Other (Explain in Rema Inon Deposits (B5) | arks) Stunted or Stressed Plants (D1) |
| Inundation Visible on Aerial Imagery (B7) | Shallow Aquitard (D3) |
| Water-Stained Leaves (B9) | Microtopographic Relief (D4) |
| Aquatic Fauna (B13) | FAC-Neutral Test (D5) |
| Field Observations: | |
| Surface Water Present? Yes O No O Depth (inches): | |
| Water Table Present? Yes O No O Depth (inches): | |
| Saturation Present? Yes <u>No</u> No Depth (inches): <u>4"</u> (includes capillary fringe) | Wetland Hydrology Present? Yes X No |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previ | ous inspections), if available: |
| Demotion | |
| Remarks: | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

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

| | | DP_ | DC |
|----------|--------|-----------|----|
| Sampling | Point: | D_{I} - | DC |

| | Absolute | Dominant | ndicator | Dominance Test worksheet: |
|---|------------|--------------|----------|---|
| <u>Tree Stratum</u> (Plot size: <u>30</u>) | | Species? | | Number of Dominant Species |
| 1. <u>Acer rubrum</u> | 40 | _ √ _ | FAC | That Are OBL, FACW, or FAC: $\underline{4}$ (A) |
| 2. Fraxinus pennsylvanica | 10 | | FACW | |
| 3. Platanus occidentalis | 5 | | FACW | Total Number of Dominant Species Across All Strata: ⁴ (B) |
| Liriodendron tulipifera | 5 | | FACU | |
| ··· | | | | Percent of Dominant Species |
| | | | | That Are OBL, FACW, or FAC: <u>100</u> (A/B) |
| 6 | | | | Prevalence Index worksheet: |
| 7 | | | | Total % Cover of: Multiply by: |
| Cooling Stratum (Distaine) 30 | 60 | = Total Cov | ver | OBL species 0 $x 1 = 0$ |
| <u>Sapling Stratum</u> (Plot size: <u>30</u>) 1. Fraxinus pennsylvanica | 25 | \checkmark | FACW | FACW species 50 x 2 = 100 |
| •• | | | | |
| 2. Acer rubrum | 5 | | .FAC | FAC species 135 x 3 = 405 |
| 3 | | | - | FACU species 10 x 4 = 40 |
| 4 | | | _ | UPL species <u>10</u> x 5 = <u>50</u> |
| 5 | | | _ | Column Totals: <u>205</u> (A) <u>595</u> (B) |
| 6 | | | | 2.0 |
| 7 | | | | Prevalence Index = B/A = 2.9 |
| | 30 | = Total Cov | | Hydrophytic Vegetation Indicators: |
| <u>Shrub Stratum</u> (Plot size: ¹⁵) | | | | 1 - Rapid Test for Hydrophytic Vegetation |
| Lindera benzoin | 15 | \checkmark | FAC | ✓ 2 - Dominance Test is >50% |
| 2. Fraxinus pennsylvanica | 5 | | FACW | √ 3 - Prevalence Index is ≤3.0 ¹ |
| | | | | 4 - Morphological Adaptations ¹ (Provide supporting |
| 3 | | | - | data in Remarks or on a separate sheet) |
| 4 | | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 5 | | | - | |
| 6 | . <u> </u> | | - | ¹ Indicators of hydric soil and wetland hydrology must |
| 7 | | | | be present, unless disturbed or problematic. |
| | 5 | = Total Cov | ver | Definitions of Five Vegetation Strata: |
| <u>Herb Stratum</u> (Plot size: <u>5</u>) | 75 | | | |
| 1. Microstegium vimineum | | | FAC | Tree – Woody plants, excluding woody vines, |
| 2. Osmundastrum cinnamomeum | 5 | | FACW | approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). |
| 3. Ligustrum japonicum | | | UPL | |
| 4. Lonicera japonica | 5 | | FACU | Sapling – Woody plants, excluding woody vines, |
| 5 | | | | 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 |
| 11 | | | | 3 ft (1 m) in height. |
| 12 | | | | Woody vine – All woody vines, regardless of height. |
| | 90 | = Total Cov | ver | |
| <u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>) | | | | |
| 1 | | <u> </u> | - | |
| 2 | | | _ | |
| 3 | | | | |
| 4 | | | | Hydrophytic |
| 5 | | | - | Vegetation Present? Yes O No O |
| | | = Total Cov | | |
| | | | | |
| Remarks: (Include photo numbers here or on a separate s | neet.) | | | |
| | | | | |
| | | | | |

| | cription: (Descrip | e to the dep | oth needed to docu | ment the | indicator | or confir | m the absence | e of indicators.) |
|--|--|--------------|---|---|--|---------------------|----------------|--|
| Depth | Matrix | | Red | ox Featur | | | - | |
| (inches) | Color (moist) | | Color (moist) | % | Type ¹ | Loc ² | <u>Texture</u> | Remarks |
| 0-12 | <u>10YR3/2</u> | 80 | _10YR4/6 | | С | М | SL | silt loam |
| | | 0% | | 0% | | | | |
| | | 0% | | 0% | | | | |
| | | - 0% | | 0% | - | | | |
| | | <u> </u> | | | - | | | |
| | | | | 0% | - | - | | |
| | | 0% | | 0% | - | _ | | |
| | | 0% | | 0% | | | | |
| | | 0% | | 0% | | | | |
| | | 0% | | 0% | | | | |
| | | 0% | | 0% | - | | | |
| 1- | | | | | _ | | 2 | |
| | Concentration, D=De | epletion, RM | =Reduced Matrix, M | IS=Maske | d Sand G | ains. | | L=Pore Lining, M=Matrix. ators for Problematic Hydric Soils ³ : |
| Hydrog Stratifie Comment Stratifie Comment Stratifie Comment Stratifie Comment Stratifie Comment Stratifie Comment Strippe Strippe | Histic (A3) en Sulfide (A4) ed Layers (A5) luck (A10) (LRR N) ed Below Dark Surfa Dark Surface (A12) Mucky Mineral (S1) A 147, 148) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) Layer (if observed | (LRR N, | ☐ Thin Dark S ☐ Loamy Gley ☑ Depleted Ma ☐ Redox Dark ☐ Depleted Da ☐ Redox Depr ☐ Iron-Mangar MLRA 13 ☐ Umbric Surf ☐ Piedmont FI | ed Matrix atrix (F3) Surface (ark Surfac ressions (I nese Mas 36) face (F13) | (F2) F6) e (F7) F8) ses (F12) (MLRA 1 | (LRR N, 36, 122) | | (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Red Parent Material (TF2) /ery Shallow Dark Surface (TF12) Other (Explain in Remarks) dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| Туре: | nches): | , | _ | | | | Hydric Soi | Present? Yes <u> </u> |
| Remarks: | | | | | | | | |

VORIFIED MBS/AGA 5-2-2018

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

| Project No: Applicant/Owner: SHA Applicant/Owner: SHA Investigators: WMM/MRS/BCR. W/S/ACA Investigators: WMM/MRS/BCR. W/S/ACA Investigators: WMM/MRS/BCR. W/S/ACA Investigators: WMM/MRS/BCR. W/S/ACA Investigators: W/MM/MRS/BCR. W/S/ACA Investigators: W/ACA Investigators: W/MM/MRS/BCR. W/S/ACA Investigators: W/MM/MRS/BCR. W/S/ACA Investigators: W/ACA Investigators: W/ACA Investigators | I-495/I-270 MANAGOD LANES STUDY | | | | | | | | | | |
|--|--|-----------|----------------------|-----------|--|--|--|--|--|--|--|
| Applicant/Owner: SHA Investigators: WMMMRS/BCR. MSS/AGA State: MD Piot ID: W-12TUPE 22:00.04 Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area optential Problem Area? (If needed, explain on the reverse side) No Yes No Community ID: Opland Transect ID: Field Location: ET 3 (18/15) ZEGETATION (USFWS Region No.1) Dominant Plant Species (Latin/Common) Stratum Indicator Stratum Indicator Dominant Plant Species (Latin/Common) Stratum Indicator Dominant Plant Species (Latin/Common) Stratum Indicator Stratum Indicator Joint Species (Latin/Common) Stratum Indicator OS Application: Unperice: Stratum Indicator Jointon: Up the Colspan="2">Stratum Indicator Colspan= Colspan="2">Colspan= Colspan="2">Colspan="2">Colspan="2">Colspan= Colspan= Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2 | Project/Site: Capital Beltway | | | | Date: 8/17/2004 5-2-2018 | | | | | | |
| Investigators: WMMMRS/BCR. MSS/MCA Plot ID: W-t2TUFC 22WUFU Port ID: W-t2TUFC 22WUFU Plot ID: W-tag P | Applicant/Owner: SHA | | | | | | | | | | |
| Do Normal Circumstances exist on the site? Yes No Community D: Upland ET 3/rs/rs Is the site significantly disturbed (Atypical Situation)? Yes No Field Location: ET 3/rs/rs If needed, explain on the reverse side) (Ineeded, explain on the reverse side) Indicator ET 3/rs/rs Community D: Upland ET 3/rs/rs Field Location: Community D: Upland ET 3/rs/rs Field Location: Community D: Upland ET 3/rs/rs Community D: Upland ET 3/rs/rs Field Location: Community D: Upland ET 3/rs/rs Community D: Upland ET 3/rs/rs Community D: Upland ET 3/rs/rs Community Developed to a statemed t | Investigators: WMM/MRS/BCR. MBS/I | AGA | | | Plot ID: W-121 UPL | | | | | | |
| Is the area a potential Problem Area? Yes No Field Location: (If needed, explain on the reverse side) FIEGETATION UUSFWS Region No.1) Dominant Plant Species (Latin/Common) Stratum Indicator Dominant Plant Species (Latin/Common) Stratum Indicator Uniperus virginiana astern Red cedar VIII pree VIII pree VV FAC Autifiora S FACU Autifiora rose VVV FAC Apanese honeysuckle VV FAC Apanese honeysuckle S FACU VV FAC FACU VV FAC FACU FACU FACU FACU FACU FACU FACU | / | | | | 224086 | | | | | | |
| Is the area a potential Problem Area? Yes No Field Location: (If needed, explain on the reverse side) FIEGETATION UUSFWS Region No.1) Dominant Plant Species (Latin/Common) Stratum Indicator Dominant Plant Species (Latin/Common) Stratum Indicator Uniperus virginiana astern Red cedar VIII pree VIII pree VIII pree VIII pree VIII pree VIII pree VIII FAC Autifiora VVV FAC Autifiora VVV FAC Apanese honeysuckle VV FAC Apanese honeysuckle S FACU VV FAC FAC FACU VV FAC FACU FAC FACU FAC FACU FACU FACU FA | De Neural Circumstances suist on the site | .2 | Vac | No | | | | | | | |
| Is the area a potential Problem Area? Yes No Field Location: (If needed, explain on the reverse side) FIEGETATION UUSFWS Region No.1) Dominant Plant Species (Latin/Common) Stratum Indicator Dominant Plant Species (Latin/Common) Stratum Indicator Uniperus virginiana astern Red cedar VIII pree VIII pree VIII pree VIII pree VIII pree VIII pree VIII FAC Autifiora VVV FAC Autifiora VVV FAC Apanese honeysuckle VV FAC Apanese honeysuckle S FACU VV FAC FAC FACU VV FAC FACU FAC FACU FAC FACU FACU FACU FA | | | Approximation of the | | Transect ID: | | | | | | |
| TeGETATION (USFWS Region No.1) Dominant Plant Species (Latin/Common) Stratum Indicator Dominant Plant Species (Latin/Common) Stratum Indicator Lastern Red cedar S FACU S S FACU S S FACU S S FACU S S S S S S S S S S FACU S S S S S S | Is the area a potential Problem Area? | | Yes | No | | | | | | | |
| Dominant Plant Species (Latin/Common) Stratum Indicator Dominant Plant Species (Latin/Common) Stratum Indicator Participerus virginiana S FACU FACU <t< th=""><th>(If needed, explain on the reverse side)</th><th></th><th></th><th></th><th></th></t<> | (If needed, explain on the reverse side) | | | | | | | | | | |
| Imperus virginiana S FACU Eastern Red cedar OS FACU Inicodendron tulipifera OS FACU Tulip tree S FACU Rosa multiflora S FACU Aultiflora rose S FACU Toxicodendron radicans WV FAC Poison Ivy V FAC apanese honeysuckle VV Parthenocissus quinquefolia WV Iriginia creeper S Partenocissus quinquefolia VV FACU S Partenocissus quinquefolia VV FACU S FACU S Partenocissus quinquefolia VV Iriginia creeper S Partenocissus quinquefolia S FACU S Iriginia creeper S Percent Dominant Species that are OBL, FACW, or FAC: (excluding FAC-) 15% Remarks: Numeric Index: | VEGETATION | (US | FWS Reg | ion No.1) | | | | | | | |
| Composition of signature Composition of signature isastem Red cedar Composition Lulip tree Composition Rosa multiflora S Rosa multiflora S Aultiflora rose FACU Toxicodendron radicans WV Proceeding appointica WV apanese honeysuckle FACU Parthenocissus quinquefolia WV Iriginia creeper S Decris Canadensis S Eastern redbud S Percent Dominant Species that are OBL, FACW, or FAC: FAC Neutral: Numeric Index: Remarks: VYDROLOGY Recorded Data (Describe in Remarks): Wetland Hydrology Indicators | Dominant Plant Species (Latin/Common) | Stratum | Indicator | Dominant | Plant Species (Latin/Common) Stratum Indicator | | | | | | |
| Eastern Red cedar iriodendron tulipifera OS FACU Culjo tree Rosa multifiora Aultiflora rose Oxicodendron radicans VVV FACU Coxicodendron radicans VVV FAC Coxicodendron radicans VVV FAC Coxicodendron radicans VVV FAC Coxicodendron radicans VVV FACU Coxicodendrois S FACU- Castern redbud Percent Dominant Species that are OBL, FACW, or FAC: (excluding FAC-) 15% Remarks: VDROLOGY Recorded Data (Describe in Remarks): Wetland Hydrology Indicators | Juniperus virginiana | S | FACU | | | | | | | | |
| iniodendron tulipifera OS FACU FACU FACU Rosa multiflora S FACU Aultiflora rose FACU foxicodendron radicans WV FAC Poison Ivy FAC conicera japonica WV FAC- apanese honeysuckle WV FACU Parthenocissus quinquefolia WV FACU firginia creeper S FACU Deris Canadensis S FACU isastern redbud S FACU- Percent Dominant Species that are OBL, FACW, or FAC: FAC Neutral: (excluding FAC-) 15% Remarks: VURROLOGY Recorded Data (Describe in Remarks): Wetland Hydrology Indicators | Eastern Red cedar | | | | | | | | | | |
| ulip tree Rosa multiflora S FACU Inditiflora rose Inditiflora rose <t< td=""><td>Liriodendron tulipifera</td><td>OS</td><td>FACU</td><td></td><td></td></t<> | Liriodendron tulipifera | OS | FACU | | | | | | | | |
| Rosa multiflora S FACU Aultiflora rose WV FAC Toxicodendron radicans WV FAC Poison Ivy WV FAC Poison Ivy WV FAC Parthenocissus quinquefolia WV FACU Parthenocissus quinquefolia WV FACU Parthenocissus quinquefolia WV FACU Parthenocissus quinquefolia S FACU Percent Dominant Species that are OBL, FACW, or FAC: (excluding FAC-) 15% Remarks: YDROLOGY Recorded Data (Describe in Remarks): Wetland Hydrology Indicators | Tulip tree | | | | | | | | | | |
| Toxicodendron radicans WV FAC FAC Poison Ivy WV FAC FAC apanese honeysuckle WV FAC FAC apanese honeysuckle WV FACU FACU Parthenocissus quinquefolia WV FACU FACU Parthenocissus quinquefolia WV FACU FACU Parthenocissus quinquefolia WV FACU FACU Percent Cominant Species that are OBL, FACW, or FAC: FAC Neutral: Mumeric Index: Remarks: 15% Numeric Index: Mumeric Index: | Rosa multiflora | S | FACU | | | | | | | | |
| Concerta japonica WV FAC- iapanese honeysuckle WV FAC- inginia creeper WV FACU Cercis Canadensis S FACU- isastern redbud S FACU- Percent Dominant Species that are OBL, FACW, or FAC: FAC Neutral: (excluding FAC-) 15% Remarks: VUROLOGY Recorded Data (Describe in Remarks): Wetland Hydrology Indicators | Multiflora rose | | | | | | | | | | |
| onicera japonica WV FAC- apanese honeysuckle WV FACU Parthenocissus quinquefolia WV FACU iriginia creeper S FACU- Cercis Canadensis S FACU- Eastern redbud S FACU- Percent Dominant Species that are OBL, FACW, or FAC: FAC Neutral: (excluding FAC-) 15% Remarks: Numeric Index: | Toxicodendron radicans | WV | FAC | | | | | | | | |
| Image: Concert a japonica Image: Concert a japonica iapanese honeysuckle Image: Concert a japonica Parthenocissus quinquefolia Image: Concert a japonica Image: Concert a japonica Image: Concert a japonica | Poison Ivy | | | | | | | | | | |
| Parthenocissus quinquefolia WV FACU /iriginia creeper S FACU- Cercis Canadensis S FACU- castern redbud S FACU- castern redbud S FACU- Percent Dominant Species that are OBL, FACW, or FAC: FAC Neutral: (excluding FAC-) 15% Remarks: Numeric Index: | Lonicera japonica | WV | FAC- | | | | | | | | |
| Aimentorissus quinquorona /iriginia creeper Cercis Canadensis S FACU- castern redbud Percent Dominant Species that are OBL, FACW, or FAC: (excluding FAC-) 15% Remarks: | Japanese honeysuckle | | | | | | | | | | |
| Cercis Canadensis S FACU- Eastern redbud S FACU- Percent Dominant Species that are OBL, FACW, or FAC: FAC Neutral: (excluding FAC-) 15% Remarks: Numeric Index: IYDROLOGY Recorded Data (Describe in Remarks): | Parthenocissus quinquefolia | WV | FACU | | | | | | | | |
| Arrow Canadensis Eastern redbud Eastern redbud Percent Dominant Species that are OBL, FACW, or FAC: (excluding FAC-) 15% Remarks: PYDROLOGY Recorded Data (Describe in Remarks): Vetland Hydrology Indicators | Virginia creeper | | | | | | | | | | |
| Percent Dominant Species that are OBL, FACW, or FAC: (excluding FAC-) 15% Remarks: IYDROLOGY Recorded Data (Describe in Remarks): Wetland Hydrology Indicators | Cercis Canadensis | S | FACU- | | | | | | | | |
| (excluding FAC-) 15% Numeric Index: Remarks: IVDROLOGY Recorded Data (Describe in Remarks): Wetland Hydrology Indicators | Eastern redbud | | | | | | | | | | |
| (excluding FAC-) 15% Numeric Index: Remarks: IVDROLOGY Recorded Data (Describe in Remarks): Wetland Hydrology Indicators | | | | | | | | | | | |
| (excluding FAC-) 15% Numeric Index: Remarks: IVDROLOGY Recorded Data (Describe in Remarks): Wetland Hydrology Indicators | | | | | | | | | | | |
| Remarks: | | ACW, or F | AC: | | | | | | | | |
| IYDROLOGY Recorded Data (Describe in Remarks): Wetland Hydrology Indicators | | | 1010 MILL 101 111 | | ument index. | | | | | | |
| Recorded Data (Describe in Remarks): Wetland Hydrology Indicators | | | | | | | | | | | |
| Recorded Data (Describe in Remarks): Wetland Hydrology Indicators | | | | | | | | | | | |
| Recorded Data (Describe in Remarks): Wetland Hydrology Indicators | | | | | | | | | | | |
| | HYDROLOGY | | | | | | | | | | |
| Stream, Lake or Tide Gauge Primary Indicators | Recorded Data (Describe in Remarks): Stream, Lake or Tide Gauge | | | | | | | | | | |

| / forfait / fib to graphic | | |
|--|------------|---|
| Other | | Saturated in Upper 12 Inches |
| X No Recorded Data | | Water marks |
| | | Drift Lines |
| Field Observations | | Sediment Deposits |
| | | Drainage patterns in Wetlands |
| Depth of Surface Water: | N/A inches | Secondary Indicators (2 or more required) |
| energies and the second se | | Oxidized Root Channels in Upper 12 Inches |
| Depth to Free Water in Pit: | >10 inches | Water-Stained Leaves |
| er-franke som som som som som som som | | Local Soil Survey Data |
| Depth to Saturated Soil: | >10 inches | FAC-Neutral Test |
| Sopurio Sotunitos Som | | Other (Explain in Remarks) |
| | | |
| Remarks: | | |
| | | |

____ Inundated

____ Aerial Photographs

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual) I-495/I-270 MANAGED VANUS STUDY

| | 1 10 | INVITUTION OF | C1000 11012 | |
|----------------|-----------------|-------------------|-------------|--|
| Project/Site: | Capital Beltway | 10- 10- | | |
| Project No: | | | | |
| Applicant/Own | | | | |
| Investigators: | WMM/MRS/BCR | | | |

| Date: | 8/17/2004 | | |
|----------|-----------|-----|----------|
| County: | Montgom | ery | |
| State: | MD | ET | 3/18/15) |
| Plot ID: | 7711- | PL | |

SOILS

| | | s and Phase): Travil | | | | |
|-------------------|--------------------------|---------------------------------|-------|---------------------------|--|---------------------------------------|
| Map Symb | ol: 37B | Drainage Class: | Somew | | | Mapped Hydric Inclusion? No |
| Taxonomy | (Subgroup |): Aquic Hapludulfs | | Fie | eld Observations Confirm | n Mapped Type? Yes No |
| Profile Des | cription | | | | | |
| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | | ttle Color sell Moist) | Mottle Abundance/Contrast | Texture, Concretions, Structure, etc. |
| 0-2 | B1 | 10YR4/4 | | N/A | N/A | loam |
| 2-10 | B2 | 10YR5/6 | | N/A | N/A | Loamy sand |
| | | | | | | |
| | Sulfid Aquic Reduc | | olors | | Concretions High Organic Conte Organic Streaking i Listed on Local Hyc Listed on National H Other (Explain in Re | lric Soils List Iydric Soils List |
| Remarks: | | | | | | |
| WETLAND | DETERMINA | TION | | | | |
| | c Vegetation | | Yes | No | Is the Sampling Point within | the Wetland? Yes No |
| | drology Pres | sent? | Yes | No | | |
| Hydric Soils | s Present? | | Yes | No | | |
| Remarks: | | | | | | |

VERIFED MBS/ABA 5-2-2018

DATA FORM ROUTINE WETLAND DETERMINATION

I-495/I-270 MANAGED LAMES STUDY

| Project/Site: Capital Beltway Project No: 103-087 Applicant/Owner: SHA Investigators: WMM/MRS/BCR MUSS/AGA | | Date: 8/17/2004 S - 2 - 2018 County: Montgomery State: MD Plot ID: W-12T ZZK | | |
|---|-----|---|-------------------|---|
| Do Normal Circumstances exist on the site? | Yes | No | Community ID: PFO | - |
| Is the site significantly disturbed (Atypical Situation)? | Yes | No | Transect ID: | |
| Is the area a potential Problem Area? | Yes | No | Field Location: | |

Is the area a potential Problem Area? (If needed, explain on the reverse side)

| VEGETATION | (บร | FWS Reg | ion No.1) | | |
|--|-----------|-----------|---------------------------------------|---------|-----------|
| Dominant Plant Species (Latin/Common) | Stratum | Indicator | Dominant Plant Species (Latin/Common) | Stratum | Indicator |
| Acer rubrum | OS/S | FAC | | | |
| Red maple | | | | | |
| Salix nigra | OS | FACW+ | | | |
| Black willow | | | | | |
| Ulmus rubra | OS | FAC | | | |
| Slippery elm | | | | | |
| Acer negundo | OS | FAC+ | | | |
| Boxelder | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | - | | | | |
| | | | | | |
| | | | | _ | |
| | | | | | |
| Percent Dominant Species that are OBL, FA (excluding FAC-) 100% | ACW, or F | AC: | FAC Neutral: Numeric Index: | | |
| Remarks: | | | | | |
| PHOTOS 2697-26 | 99 | | | | |
| | | | | | |

HYDROLOGY

| Recorded Data (Describe in Remarks): | Wetland Hydrology Indicators |
|--------------------------------------|---|
| Stream, Lake or Tide Gauge | Primary Indicators |
| Aerial Photographs | X Inundated |
| Other | X Saturated in Upper 12 Inches |
| X No Recorded Data | Water marks |
| | Drift Lines |
| Field Observations | Sediment Deposits |
| | Drainage patterns in Wetlands |
| Depth of Surface Water: 0-6 inches | Secondary Indicators (2 or more required) |
| | Oxidized Root Channels in Upper 12 Inches |
| Depth to Free Water in Pit: 0 inches | X Water-Stained Leaves |
| | Local Soil Survey Data |
| Depth to Saturated Soil: inches | X FAC-Neutral Test |
| | Other (Explain in Remarks) |
| | |
| Remarks: | |
| | |

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

I-495/J-270 MANAGOD LANES STUDY

Project/Site: Capital-Beltway Project No: 103-087 Applicant/Owner: Investigators: WMM/MRS/BCR-MBS/AUA

| 5-2-4018 | 5 | | 2- | 2 | 0 | 8 | |
|----------|---|--|----|---|---|---|--|
|----------|---|--|----|---|---|---|--|

Date: -8/17/2004⁻ County: Montgomery State: MD Plot ID: ₩-121⁻ Z 2 U

SOILS

| Map Symb | ol: 37B (Subgroup | s and Phase): Travila Drainage Class:): Aquic hapludulfs | Somewhat poorly | 2 C | Mapped Hydric Inclusion? No n Mapped Type? Yes No |
|-------------------|-----------------------------|---|---------------------------------|--|--|
| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Color (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions, Structure, etc. |
| 0-12 | | · 5Y3/1 | 2.5Y5/3 | Faint | Silty clay loam |
| | | | | | |
| | | | | | |
| Hydric Soi | Sulfid Aquic _X_ Redu | | olors | Concretions High Organic Conte Organic Streaking i Listed on Local Hyc Listed on National H Other (Explain in Re | tric Soils List Hydric Soils List |
| Remarks: | | | | , , | |

WETLAND DETERMINATION

| Hydrophytic Vegetation present? | Yes | No | Is the Sampling Point within the Wetland? | Yes | No |
|------------------------------------|--------------|----------|---|-------------|----|
| Wetland Hydrology Present? | Yes | No | | 100.000.000 | |
| Hydric Soils Present? | Yes | No | | | |
| Remarks: Depressional area with st | anding water | up to 6" | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | Wetland Function-Value Evaluation Form | |
|---|--|--|
| Total area of wetland <u>0.00 area</u> Human made? No Is wetland part of a wildlife corridor? | Is wetland part of a wildlife corridor? or a "habitat island"? | Wetland I.D. 22U |
| Adjacent land use VOM / LESI DENMAN | Distance to nearest roadway or other development 50' | Prepared by: MOS Date 5-2-201 |
| Dominant wetland systems present | Contiguous undeveloped buffer zone present | Wetland Impact: Type PVO Area0.02 ALA |
| Is the wetland a separate hydraulic system? \square | N_{\odot} If not, where does the wetland lie in the drainage basin? To f | Evaluation based on: |
| How many tributaries contribute to the wetland? | Wildlife & vegetation diversity/abundance (see attached list) | Office Field Corps manual wetland delineation |
| Function/Value | Suitability Rationale Principal Y N (Reference #)* Function(s)/Value(s) O | completed? Y N Comments |
| Groundwater Recharge/Discharge | | |
| Floodflow Alteration | | |
| Fish and Shellfish Habitat | | |
| Sediment/Toxicant Retention | | |
| Mutrient Removal | | |
| Production Export | | |
| Sediment/Shoreline Stabilization | | |
| 🛫 Wildlife Habitat | | |
| 🕂 Recreation | | |
| Educational/Scientific Value | | |
| 🜟 Uniqueness/Heritage | | |
| KWY Visual Quality/Aesthetics | | |
| ES Endangered Species Habitat | | |
| Other | | |
| Notes: | * Refer to b: | * Refer to backup list of numbered considerations. |

| | | | | fied Stream M | lethodology f | or use in Vira | (Forr | | | | |
|---|---|--|--|--|--|---|---|---|---|---|------------|
| | | Fc | | | nels classified as | | | | | | |
| Project # | Project | Name | | Locality | Cowardin Class | HUC | Date | SAR # | Impact/SAR length | Impact Factor | |
| | I-495 I | IEXT | | Fairfax | R3 | 02070008 | 8/20/2018 | -⊅ F 22 | UU | | |
| | e(s) of Evaluator(s) | | Name | and Informa | tion | - | | | | | |
| | , Laura Cooper, Kyle Haynes, I Fowler, Emily Onufer | ^{van} unname | ed trib | outary to the F | Potomac | | | | | | |
| Channel C | ondition: Assess the cro | ss-section of the st | tream a | | | | | | | | |
| | Optimal | | Subo | ptimal | Conditional Categor Marg | | Po | or | Sev | vere | |
| | | | | ew areas of active ted banks. Majority | | but less than Severe or re stable than Severe or Users kend kere or Users kend kend kere or Users kend kend kend kend kend kend kend kend | | | | | |
| Channel Condition | Very little incision or active ero 100% stable banks, Vegetativ protection or natural rock, pr (80-100%), AND/CR Stable bars/bankfull benches are pr Access to their original flood fully developed wide bankfull Mid-channel bars, and transve few, Transient sediment dep covers less than 10% of bo | sion; 80- surface point point point point point point point stability. channels ar enches se bars basition portions point poin | iks are st re protect nent (60- onal feat The ban re well de ess to ban eveloped s of the r | able (60-80%). ion or natural rock 80%) AND/OR ures contribute to hkfull and low flow efined. Stream likely nkfull benches, or floodplains along each. Transient -40% of the stream | forming/present. A | esent on 40-60% of ive protection on 40 treambanks may rout. AND/OR 40- overed by sediment. emporary/transient, ty. Deposition that ability, may be ND/OR V-shaped etative protection on | widen further. Maj are near vertical. Er 80% of banks. Ve present on 20-40% insufficient to preve 60-80% of the stre sediment. S temporary/transie | ority of both banks osion present on 60 (s of banks, and is nt erosion, AND/OR earn is covered by Bediment is ent in nature, and ability, AND/OR V- have vegetative nt on > 40% of the | banks. Streambe rooting depth, nr vertical/undercut. V present on less tha not preventing eros sloughing present. on 80-100%. ANI channel. Greater t bed is covered contributing to in | ed below average najority of banks (egetative protection in 20% of banks, is sion. Obvious bank Erosion/raw banks D/OR Aggrading han 80% of stream by deposition, | CI |
| | | | | | features which cor | ntribute to stability. | abs | ent | flo | | |
| Score | 3 | | 2. | .4 | | 2 | 1. | .6 | | 1 | 1.6 |
| Riparian Buffers | Tree stratum (dbh > 3 inches) with > 60% tree canopy cove non-maintained understory. V located within the riparian a | Present, and a /etlands reas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60%, tree canopy cover and containing both herbaceous and shrub layers or a nor-maintained understory. | | a inches) present, with <30% tree canopy cover. b inches) tree canopy cover. canopy cover with | | High Poor: Lawns, mowed, and maintained areas, nurseries; no-till grazed pasture, sparsely vegetated area, recently seeded and stabilized, or other comparable condition. | | The right bank which runs thr the left bank h and yard. | ough it whi l e | |
| | | | | | | maintained understory. | | | | | |
| | | | | | | - | | - | | | |
| Condition Scores | 1.5 | Hig 1.2 | | Low 1.1 | High 0.85 | Low 0.75 | High 0.6 | Low 0.5 | | | |
| Scores Delineate ripar Determine squ | rian areas along each strear uare footage for each by me tiparian Area and Score for e % Riparian Area> 30 | 1.2 n bank into Conditi asuring or estimatin ach riparian catego % 70% | 2 ion Cate ng lengt ory in th | 1.1 egories and Condi th and width. Calc | 0.85 | 0.75 the descriptors. | 0.6 Ensure t | 0.5 he sums liparian | | | |
| Scores Delineate ripar Determine squ Enter the % Ri | I irian areas along each strear uare footage for each by me tiparian Area and Score for e | 1.2 n bank into Conditi asuring or estimatin ach riparian catego % 70% | 2 ion Cate ng lengt ory in th | 1.1 egories and Condi th and width. Calc | 0.85 | 0.75 the descriptors. | 0.6 Ensure t of % R | 0.5 he sums iparian qual 100 | CI= (Sum % RA * Si | cores*0.01)/2 | |
| Scores Delineate ripar Determine squ Enter the % Ri Right Bank | rian areas along each strean uare footage for each by me tiparian Area and Score for e % Riparian Area> 30 Score > 1. % Riparian Area> 90 | 1.2 n bank into Conditi asuring or estimatin ach riparian catego % 70% 5 0.5 % 10% | 2 ion Cate ng lengt ory in th % | 1.1 egories and Condi th and width. Calc | 0.85 | 0.75 the descriptors. | 0.6 Ensure t of % R | 0.5 he sums iparian qual 100 | CI= (Sum % RA * S: Rt Bank CI > | cores*0.01)/2 0.80 | CI |
| Scores Delineate ripar Determine squ Enter the % Ri Right Bank | rian areas along each strear uare footage for each by me tiparian Area and Score for e % Riparian Area> 30 Score > 1. | 1.2 n bank into Conditi asuring or estimatin ach riparian catego % 70% 5 0.5 % 10% | 2 ion Cate ng lengt ory in th % 5 | 1.1 egories and Condi th and width. Calc | 0.85 | 0.75 the descriptors. | 0.6 Ensure t of % R | 0.5 he sums iparian qual 100 100% | | | CI 1.11 |
| Scores Delineate ripar Determine squ Enter the % Ri Right Bank Left Bank INSTREAM | rian areas along each strean uare footage for each by me tiparian Area and Score for e % Riparian Area> 30 Score > 1. % Riparian Area> 90 | 1.2 n bank into Conditi asuring or estimatin ach riparian catego % 70% 5 0.5 % 10% 5 0.6 rate sizes, water vec | 2 ion Cate ng lengt ory in th % 5 % | 1.1 egories and Condi th and width. Calc he blocks below. | 0.85 | 0.75 the descriptors. ed for you below. | 0.6 Ensure t of % R Blocks e | 0.5 he sums iparian qual 100 100% | Rt Bank CI > Lt Bank CI > | 0.80 1.41 bitat | |
| Scores Delineate ripar Determine squ Enter the % R Right Bank Left Bank .INSTREAM anks; root mats; | rian areas along each stream uare footage for each by me tiparian Area and Score for each % Riparian Area> 30 Score > 1. % Riparian Area> 90 Score > 1. M HABITAT: Varied subst | 1.2 n bank into Conditi asuring or estimatin ach riparian catego % 70% 5 0.5 % 10% 5 0.6 rate sizes, water vec | 2 ion Cate ng lengt ory in th % 5 % 8 8 8 8 8 8 8 | 1.1 egories and Condi th and width. Calco the blocks below. | 0.85 tion Scores using sulators are provide sulators are provide sulator | 0.75 the descriptors. ed for you below. | 0.6 Ensure t of % R Blocks e | 0.5 he sums iparian qual 100 100% | Rt Bank Cl > Lt Bank Cl > NOTES>> Ha elements are the majority of | 0.80 1.41 bitat not present, f the channel | |
| Scores Delineate ripar Determine squ Enter the % Ri Right Bank Left Bank | rian areas along each strean uare footage for each by me tiparian Area and Score for e % Riparian Area> 30 Score > 1. % Riparian Area> 90 Score > 1. M HABITAT: Varied subst | 1.2 n bank into Conditi asuring or estimatin ach riparian catego % 70% 5 0.5 % 10% 5 0.6 % 10% 5 0.6 % 10% 5 0.6 % 10% 5 0.6 % 10% 5 0.6 % 10% 5 0.6 % 10% 5 0.6 % 10% 5 0.6 % 10% 5 0.6 % 10% 5 0.6 % 10% % 10% % 10% % 10% % 10% % 10% % 10% % 10% % 10% % 10% % 10% % 10% % 10% % 10% % 10% % 10% % 10% % 10%< | 2 ion Cate ng lengt oory in th % 5 % 6 8 elocity a elocity a subop | 1.1 egories and Condi th and width. Calcone blocks below. In the blocks below. Conditional ptimal ments are typically of the reach and are of the reach and are | 0.85 tion Scores using culators are provide | 0.75 the descriptors. ed for you below. stable substrate; I ginal ments are typically of the reach and are anintenance of | 0.6 Ensure t of % R Blocks e Sow embededness; Pc Habitat elements lacking or are u | 0.5 he sums iparian qual 100 100% 100% shade; undercut istable, Habitat ally present in less | Rt Bank Cl > Lt Bank Cl > NOTES>> Ha elements are i | 0.80 1.41 bitat not present, f the channel | |

| | S | tream Ir | праст А | ssessn | Ient For | m Page | e Z | | | | |
|-----------------------|---|---------------------|---------------------|----------------------|----------------------------|--------------------|------------|---------------------------------|---------------|------|--|
| Project # | Applicant | | Locality | Cowardin Class. | HUC | Date | Data Point | SAR length | Impact Factor | | |
| | VDOT | | Fairfax | R4 | 0207008 | 8/20/18 | DE | | | | |
| CHANNEL | L ALTERATION: Stream crossin | igs, riprap, concre | te, gabions, or cor | ncrete blocks, strai | ghtening of chann | el, channelizatior | | NOTES>> Th | | | |
| oil piles, const | trictions, livestock | | | al Category | | | | the channel h altered throug | | | |
| | Negligible | Mi | nor | Mod | erate 60 - 80% of reach | Se | | straightening | | | |
| Channel Alteration | Alteration Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized. disrupted by any of the channel disrupted by any of the channel alterations listed in the parameter guidelines. the parameter disrupted by any of the channel disrupted by any of the channel alterations listed in the parameter guidelines. the parameter disrupted by any of the channel alterations listed in the parameter guidelines. by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, onormal stable by any of the channel alterations listed in the parameter guidelines. by any of the channel alterations listed in the parameter guidelines. guidelines. formal stable stream meander stream meander pattern has not riprap, or cement. | | | | | | | | | | |
| SCORE | 1.5 | 1.3 | 1.1 | | | (|).5 | | | 0.50 | |
| | REACH | | NDEX and S | | | TS FOR TH | S REACH | | | | |
| E: The Clis and F | RCI should be rounded to 2 decimal places. Th | | | | | | | CONDITION IN | DEX (RCI) >> | 0.74 | |
| | | | | | | | RC | = (Sum of all C | 's)/5 | | |
| | | | | | | | | ION REQUIRE | MENT (CR) >> | 0 | |
| SERT PHC | | | | | | | CR = RC | X LF X IF | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | PROPOSED IMPACT: | | | | | | | | | | |
| SCRIBE F | PROPOSED IMPACT: | | | | | | | | | | |
| SCRIBE F | PROPOSED IMPACT: | | | | | | | | | | |

| | 21 | 733-2735 | mber: 12- | | Ephemeral | Non-RPW draining uplands Non-RPW erosional feature | | Non-IXP W With adutting Wetland | | Non-RPW wetland adjacent or abutting upstream (outside of study area) | AR Adjacent/Abutting: N/A | GIVEE | Vegetation Cover Type (§1858) | Muck RB: / | Cother: #20 Grand | 9 | □ <u>≤4:1</u> LB: | بر م | | Ondition Month. All I Vance | | 0 0 0 0 0 | 1 2 3 4 5 6 | Moderately Wet Severely Wet | | ł | Sediment sorting | X | bris Observed/predicted flow events | | Other: | | Chemical Characteristics | Water is clear | Water is discolored | Oily film | Other: | |
|-------------------------------|----------------|----------------|--|---------------------------------------|--------------|---|------|---------------------------------|--|--|--------------------------------|---|-------------------------------|-----------------------|-----------------------|-----------------------------|---|---------|-----------------------------------|-----------------------------|--------------------------------|-----------|----------------|-----------------------------|--|--------------------------|---|---|-------------------------------------|---|------------------------|---|-------------------------------------|--------------------------------------|---|-----------------------------------|--------------|--|
| Waters of the U.S. Data Sheet | Feature ID: | | County: Mon Mon County Last Flag Number: | | Intermittent | RPW – Seasonal (must O N | | | Contraction Contra | 0 | Downstream: Korester 18" | | Substrate | Silts 📈 Sands | Cobbles X Gravel | | Side slope: 🛛 $\geq 1:1$ \square \square \square $\exists :1$ | | | Monthly Drought Condition | NCDC Regional FDSI | | -3 -2 -1 0 | Moderate Drought Normal | clude photos for each & list photo #) | Ordinary High Water Mark | ank Sediment deposition | X | Presence of flood litter/debris | | Presence of wrack line | for each & list photo #) | Arean High Water Mark Indicated by: | Survey to available datum | Physical markings | Vegetation lines/changes in types | | |
| | Manager Careso | State: | | check one): | Percnnial | TNW – Perennial (Flowing year round) | | (Flowing year round) | | our indicate principic t | Upstream: 22J | k all that apply) | ect to OHW) | Width: 1-4/ | Depth: (5" | Bank Erosion/stability: | ENDLAD | | ditions: | | A TOTAL AND AN ALL OF THE ADDA | | -6 -5 -4 | Severe Drought | eck all that apply; include ph | | Clear, natural line impressed on the bank | | מ | Vegetation matted down, bent, or absent | Leaf litter disturbed | Tidal tributary has: (check all that apply; include photos for each & list photo #) | Atean II | | | | | |
| | 1: I-495/ -230 | Date: 5-7-2018 | Crew: M65/STF | Feature Hydrologic Class (check one): | Tidal | TNW (Subject to ebb and D | (mon | 2 | | for hydrologic class: AND SUDW | Hydrologic Connectivity – Upst | Feature Description: (check all that apply) | Shape (with respect to OHW | Natural Channel Shape | Artificial (man-made) | X Manipulated (man-altered) | Other: | Notes: | Weather/Precipitation Conditions: | Inches of | During Rield Visit Tast Week | Ľ | Light rain | 0 u | Non-tidal tributary has: (check all that apply; in | ged and Banks | X | | X | Vegetati | Leaf litte | Tidal tributary has: (check a | Hoh The Line | Oil or scum line along shore objects | Fine shell or debris deposits (foreshore) | Physical markings/characteristics | Tidal gauges | |

| | | • | | lethodology f | | , | | | |
|---|---|--|--|---|---|--|---|------------------------------|--|
| Project # | Project Nam | le | Locality | Cowardin Class | HUC | Date | SAR # | Impact/SAR length | Impact Factor |
| | I-495 NEX1 | | Fairfax | EPH - R6 | 02070008 | 8/20/2018 | চ্ ড 22 | VV | |
| Name | e(s) of Evaluator(s) | Stream Name | and Informa | tion | | | | | |
| | Laura Cooper, Kyle Haynes, Evan owler, Emily Onufer | unnamed trit | outary to the F | Potomac | | | | | |
| RIPARIAN | BUFFERS: Assess both bank | 's 100 foot riparian | areas a l ong the er | ntire SAR. (rough | measurements of | length & width ma | y be acceptable) | | |
| | | Cor | ditional Cate | qory | | | | NOTES>> Bo | th sides of th |
| | Optima | Subo | ptima | Mar | gina | Po | or | stream are | |
| Riparian Buffers Condition Scores | Tree stratum (dbh > 3 inches) presen with > 60% tree canopy cover and ar non-maintained understory. Wetland areas. | tree stratum (dbh > 3 inches) present, with 30% to 60% | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). Low 1.1 | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. High 0.85 | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory. Low 0.75 | High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated area, recently seeded and stabilized, or other comparable condition. High 0,6 | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, fow crops, active feed lots, trails, or other comparable conditions. | wetland/floodp | lain mosaic. |
| Scores Scores | | | | | | | | | |
| | | | | | | | 100% | | |
| Enter the % R | 8 Riparian Area> 100% | | | | | | 10070 | 1 | |
| | % Riparian Area> 100% | Score > 1.5 Cl= (Sum % RA * Scores*0.01)/2 | | | | | | | |
| | | | | | | | | | |
| Right Bank | | | | | | | 100% | Rt Bank CI > | 1.50 |
| | Score > 1.5 | | | | | | 100% | Rt Bank Cl > Lt Bank Cl > | 1.50 1.50 |
| Right Bank | Score > 1.5 % Riparian Area> 100% Score > 1.5 | CONDITION | NDEX and 9 | | | | | | |
| Right Bank | Score > 1.5 % Riparian Area> 100% Score > 1.5 REACH REACH | | | TREAM CON | IDITION UNI | TS FOR THIS | S REACH | Lt Bank Cl > | 1.50 |
| Right Bank | Score > 1.5 % Riparian Area> 100% Score > 1.5 | | | TREAM CON | IDITION UNI | TS FOR THIS | S REACH THE REACH | Lt Bank Cl > | 1 . 50 DEX (RC I) >> |
| Right Bank | Score > 1.5 % Riparian Area> 100% Score > 1.5 REACH REACH | | | TREAM COM | idition un | | S REACH THE REACH R | Lt Bank Cl > | 1.50 DEX (RCI) >> |

INSERT PHOTOS:





DESCRIBE PROPOSED IMPACT:

DATA FORM Verified ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

10/31/18 Mms

 Project/Site:
 Capital Beltway I-445/I-270 MANAGO LAMES

 Project No:
 103-087

 Applicant/Owner:
 ShA

 Investigators:
 WMM/DAL MAS
 Mass

| Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? | Yes Yes | No No | Community ID: PEM I YX Transect ID: | |
|---|------------|----------|--|--|
| Is the area a potential Problem Area? | Yes | No | Field Location: | |
| (If needed, explain on the reverse side) | | | | |

| VEGETATION | (US | SFWS Reg | ion No.1) | | |
|--|-----------|-----------|--|---------|-----------|
| Dominant Plant Species (Latin/Common) | Stratum | Indicator | Dominant Plant Species (Latin/Common) | Stratum | Indicator |
| Sagittaria latifolia | Herb | OBL | | | |
| Broad-leaf Arrowhead | | | | | |
| Cyperus strigosus | Herb | FACW | | | |
| Straw-color flatsedge | | | | | |
| Typha augustifolia | Herb | OBL | | | |
| Narrow-leaf cattail | | | | | |
| Potamogeton epihydrus | Herb | OBL | | | 9101 |
| Ribbonleaf pondweed | | | | | |
| | | | | | |
| | | | | | |
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| | _ | | - | _ | |
| | | | | | |
| Percent Dominant Species that are OBL, F (excluding FAC-) | ACW, or F | AC: 10 | 00% FAC Neutral: Yes Numeric Index: | | |
| Remarks: Emergent marsh in C&O Canal | otlos 02 | 104 - 04 | 13 | | |
| | | | | | |

| HYDROLOGY | | | | | | |
|---|-------------------|---|--|--|--|--|
| Recorded Data (Describe in R | emarks): | Wetland Hydrology Indicators | | | | |
| Stream, Lake or Tide | Gauge | Primary Indicators | | | | |
| Aerial Photographs | | Inundated | | | | |
| Other | | X Saturated in Upper 12 Inches | | | | |
| No Recorded Data | | X Water marks | | | | |
| | | Drift Lines | | | | |
| Field Observations | | X Sediment Deposits | | | | |
| | | Drainage patterns in Wetlands | | | | |
| Depth of Surface Water: | <u>N/A</u> inches | Secondary Indicators (2 or more required) | | | | |
| | | Oxidized Root Channels in Upper 12 Inches | | | | |
| Depth to Free Water in Pit: | <u>8</u> inches | X Water-Stained Leaves | | | | |
| | | Local Soil Survey Data | | | | |
| Depth to Saturated Soil: | _0 inches | X FAC-Neutral Test | | | | |
| | | Other (Explain in Remarks) | | | | |
| | | Construction of the construction of the construction | | | | |
| Remarks: | | | | | | |
| and the second se | | | | | | |

Wet Form™

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

| Project/Site: Capital Beltway Project No: 103-087 Applicant/Owner: SHA Investigators: WMM/DAL MC WMM/DAL MC WMM/DAL WMM/DAL MC WWM/DAL MC WMM/DAL MC WET MC | | | | | | | | | |
|--|--|---|----------------------------|--|---------------------------------------|--|--|--|--|
| SOILS | | | | | | | | | |
| Map Unit N | ame (Serie | s and Phase): | Elk silt loam, 0-3% | slopes, occasionally floo | ded | | | | |
| | ol: 43A | Drainage Class: | Well | Ν | Apped Hydric Inclusion? No | | | | |
| | |): Ultic Hapludulfs | | ld Observations Confirm | | | | | |
| | | An incompany provide a second s | | | | | | | |
| Profile Des | cription | | | | | | | | |
| Depth | Horizon | Matrix Color | Mottle Color | Mottle | Texture, Concretions, Structure, etc. | | | | |
| (inches) | | (Munsell Moist) | (Munsell Moist) | Abundance/Contrast | Ollhu alau | | | | |
| 0-8 | | 5Y4/1 | N/A | None | Silty clay | | | | |
| 8-12+ | | 5Y3/1 | N/A | None | Silty clay | | | | |
| Hydric Soi Remarks: | Sulfic Aquic Redu | | blors | Concretions High Organic Conte Organic Streaking in Listed on Local Hyd Listed on National H Other (Explain in Re | lric Soils List Iydric Soils List | | | | |
| WETLAND | | TION | | | | | | | |
| | c Vegetation /drology Pre s Present? | | Yes No Yes No Yes No | Is the Sampling Point within | the Wetland? Yes No | | | | |
| Remarks: | | | | | | | | | |

| 2 | Wetland Function-Value Evaluation Form | |
|--|---|--|
| Total area of wetland >1.66 <u>& Human made? Yes</u> Is wetland part of a wildlife corridor? <u>'/es</u> | Is wetland part of a wildlife corridor? <u>کرم</u> or a "habitat island"? | Wetland I.D. 22 W - C+O Conel Latitude 38.972411 Longitude - 77.173 |
| Adjacent land use Forest the rick | Distance to nearest roadway or other development $O - 150 \text{ Ch}$ | |
| esent P(| Contiguous undeveloped buffer zone present 7 | Type Type Area 70.604 c |
| Is the wetland a separate hydraulic system? $\frac{1}{N}$ | If not, where does the wetland lie in the drainage basin? If not | Evaluation based on: |
| How many tributaries contribute to the welland? | How many tributaries contribute to the wedland? $\frac{1}{2}$ Wildlife & vegetation diversity/abundance (see attached list) $*$ or $*$ or $*$ | Office Field Corps manual wetland defineation |
| Function/Value | Suitability Rationale Principal Y N (Reference #)* Function(s)/Value(s) | |
| Groundwater Recharge/Discharge | z 12' 12' 2' 12 | |
| - Floodflow Alteration | £1'c1'b'2't'9'5'HE | |
| Fish and Shellfish Habitat | tin | |
| V Sediment/Toxicant Retention | 1,2,3,4,5,0, | |
| Nutrient Removal | 1/21/2/2/2/2/10/11 | |
| Production Export | 11 21 3 2 5 2 4 424 | |
| Sediment/Shoreline Stabilization | 3' 18 | |
| रेन्ज Wildlife Habitat | 24,55 6,7,51, 9, 13, M, 19, 1 20, 21, | |
| F. Recreation | 1/1/1/1/ | |
| Educational/Scientific Value | 5 | |
| 🖈 Uniqueness/Heritage | 12,13,16,17,19, 23,223, 1 Ct O Conal | |
| と語る Visual Quality/Aesthetics | 71'6'2'2'3'1 | |
| ES Endangered Species Habitat | 2 | |
| Other | | |
| Notes: | * Refer | * Refer to backup list of numbered considerations. |

D. O. A.M. L.

1.2.

| Unified Stream Methodology for use in Virginia | | | | | | | | | | |
|--|---|-------------------|---|---|---|--|---|--|----------------------|------------------|
| | | | | For us | e in ephemeral s | treams | | | | |
| Project # | Pro | oject Name | | Locality | Cowardin Class. | HUC | Date | SAR # | Impact/SAR length | Impact Factor |
| | · · · | 195 NEXT | | Fairfax | INT R4SB/ EPH R6 | 02070008 | 8/20/2018 | DK/DL22 | WW/22XX | |
| | e(s) of Evaluator(| | Stream Name | and Informa | tion | | | | | |
| | , Laura Cooper, Kyle Hay Fowler, Emily Onufer | vnes, Evan | unnamed trib | utary to the F | Potomac | | | | | |
| RIPARIAN | IBUFFERS: Asses | s both bank's | 100 foot riparian a | areas along the er | ntire SAR. (rough | measurements of | length & width ma | ay be acceptable) | | |
| | | | Con | ditional Cate | gory | | | | NOTES>> Bo | th sides of the |
| | Optima | | Subo | otima | Mar | ginal | Po | por | stream are | |
| Riparian Buffers | Tree stratum (dbh > 3 in with > 60% tree canopy non-maintained understo areas, | cover and an | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a nor-maintained understory. High | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% free canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated nor-maintained area; recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious spoil ands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions, | wetland/floodp | lain mosaic. |
| Condition | | | | | | | | | 1 | |
| Scores | 1.5 | | 1.2 | 1.1 | 0.85 | 0.75 | 0.6 | 0.5 | - | |
| 1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors. Ensure the sums 2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below. of % Riparian 3. Enter the % Riparian Area and Score for each riparian category in the blocks below. Blocks equal 100 | | | | | | | | | | |
| Right Bank | % Riparian Area> | 100% | | | | | | 100% | | |
| Right Ballk | Score > | 1.5 | | | | | | | | |
| | | | | | | | | | CI= (Sum % RA * S | cores*0.01)/2 |
| Left Bank | % Riparian Area> | 100% | | | | | | 100% | Rt Bank C > | 1.50 |
| Leit Bank | Score > | 1.5 | | | | | | | Lt Bank Cl > | 1.50 |
| | | REACH | | NDEX and S | | | | SREACH | | |
| | | | | | | | | | | |
| OTE: The Clis and F | C should be rounded to 2 de | ecimal places. Th | e CR should be rounde | d to a whole number | | | | | | · / |
| | | | | | | | | | CI= (Riparian CI | |
| | | | | | | | | | | /IENT (CR) >> |
| | | | | | | | | CR = RC | X LF X IF | |

INSERT PHOTOS:





DESCRIBE PROPOSED IMPACT:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

| Project/Site: 1-495/1-27 | MANAGOD LANES STAT | ounty: MONTFOR | LON Samo | ling Date: _5-09-(|
|---|---|--|-------------------------|------------------------|
| Applicant/Owner: SHA | | | | npling Point: 228 - WE |
| Investigator(s): MUSS/SJF | Sectio | n, Township, Range: | STOMAC | |
| Landform (hillslope, terrace, etc.): | JL Local relie | ef (concave, convex, none | CONALD | Slope (%): 3 |
| Subregion (LRR or MLRA); MLRA | Lat: <u>38,97427</u> | 15 Long: -77. | 177721 | Datum: NAD 83 |
| Soil Map Unit Name: Watchung, Tr | avilah, EIK | | NWI classification: | 00 |
| Are climatic / hydrologic conditions on the s | | es 🗸 No 🛛 (If | no, explain in Remarks | |
| Are Vegetation, Soil, or Hyd | | | Circumstances" present | |
| Are Vegetation, Soil, or Hyd | | | plain any answers in Re | |
| SUMMARY OF FINDINGS – Atta | ch site map showing sam | pling point location | is, transects, impo | ortant features, etc. |
| | | | | |
| Hydric Soil Present? | Yes No | Is the Sampled Area within a Wetland? | Yes No | |
| Wetland Hydrology Present? | /es No | | | 1 |
| Remarks: | | | | |
| In floodplain of 22 | o Photos 2740 | -2742 | | |
| | 41.10000 | | | |
| | | | | |
| | | | | |
| IYDROLOGY | | | | |
| Wetland Hydrology Indicators: | | S | econdary Indicators (mi | nimum of hus and the |
| Primary Indicators (minimum of one is requ | ired; check all that apply) | <u>.</u> | _ Surface Soil Cracks (| |
| Surface Water (A1) | True Aquatic Plants (B1 | 14) | | Concave Surface (B8) |
| High Water Table (A2) | Hydrogen Sulfide Odor | And a second | Drainage Patterns (B | |
| Saturation (A3) | Oxidized Rhizospheres | | _ Moss Trim Lines (B1) | |
| Water Marks (B1) | Presence of Reduced Ir | | _ Dry-Season Water Ta | 18 |
| Sediment Deposits (B2) | Recent Iron Reduction i | | _ Crayfish Burrows (C8 | 1. 201 1. 201 |
| Drift Deposits (B3) | Thin Muck Surface (C7) | A CONTRACTOR ACCOUNTS AND A CONTRACT | Saturation Visible on | |
| Algal Mat or Crust (B4) | Other (Explain in Remai | rks) | Stunted or Stressed F | |
| Iron Deposits (B5) | | \vee | Geomorphic Position | |
| hundation Visible on Aerial Imagery (B | 7) | _ | Shallow Aquitard (D3 | |
| Water-Stained Leaves (B9) | | | Microtopographic Rel | ief (D4) |
| Aquatic Fauna (B13) | | \checkmark | FAC-Neutral Test (D5 | i) |
| ield Observations: urface Water Present? Yes | | | | |
| 1 | No V Depth (inches): No Depth (inches): | - | | |
| | | - | | |
| ncludes capillary fringe) | No Depth (inches): _2 | | rology Present? Yes | . <u>V</u> No |
| escribe Recorded Data (stream gauge, mo | nitoring well, aerial photos, previo | us inspections), if availab | le: | |
| | | | | |
| emarks: | | | | |
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| Trae Stratum (Plot size: 30) Absolue Dominant Inductor Status Jominant Species Jominant Species 1 ACCM (Species 2) Status Jominant Species Jominant | , | | Sampling Point: LEX - 0001 |
|--|--|--|---|
| 1 Accer (Dev DM 100 The accel (Dev DM) (A) 2 100 That Accel, FACW, or FAC (B) 3 100 Total Number of Dominant Species (A) 4 100 Total Number of Dominant Species (A) 5 100 = Total Cover (D) Prevaint of Dominant Species (A) 5 100 = Total Cover (D) Prevaint of Dominant Species (A) 1 NAME 100 = Total Cover (D) Prevaince Index workshoet 2 100 = Total Cover (D) Prevaince Index workshoet (D) 3 1 Prevaince Index workshoet (D) (P) (P) 6 - - Prevaince Index workshoet (P) (P) 1 NAME P) (P) (P) (P) (P) (P) 1 NAME P) (P) (P) (P) (P) (P) (P) (P) (P) 2 10 NAME P) (P) (P) (P) (P) (P) <t< td=""><td>Tree Stratum (Plot size: 30)</td><td>Absolute Dominant Indicator</td><td>r Dominance Test worksheet:</td></t<> | Tree Stratum (Plot size: 30) | Absolute Dominant Indicator | r Dominance Test worksheet: |
| 2 Total Number of Dominant Species Acress All Stratus (B) 5 Second Stratus (B) 6 IDD = Total Cover Fractional Species 1 MA Second Stratus (AB) 5 Soft of total cover 20% of total cover (AB) 2 Second Stratum (Plot size: 30 (AB) 3 Second Stratus (AB) Prevalence Index worksheat: (AB) 1 MA Second Stratus (AB) (AB) (AB) 2 Second Stratus (AB) Prevalence Index worksheat: (AB) 1 MA Second Stratus (AB) (AB) (AB) 2 Second Stratus (AB) (AB) (AB) (AB) (AB) 3 Second Stratus (AB) (AB) (AB) (AB) (AB) (AB) 3 Second Stratus (AB) | 1 Acer Work | | I Number of Dominant Species < |
| 3 Ioal Number of Dominant Species 4 Species Across Misris: 4 5 IOD: = Total Cover Total Acceller Schlor FAC: (AB) 9 IOD: = Total Cover Total Acceller Schlor FAC: (AB) 9 IOD: = Total Cover Total Acceller Schlor FAC: (AB) 9 IOD: = Total Cover Total Acceller Schlor FAC: IOD: Total Schlor FAC: 1 N/A IOD: = Total Cover Total Acceller Schlor FAC: IOD: Total Schlor FAC: 2 IOD: = Total Cover FAC species x 3 = IOD: = Total Cover 1 Shub Stratum (Plot size: SD) IOD: = Total Cover I Applict Ear for Hydropylic Vegetation Indicators: I Applict Ear for Hydropylic Vegetation (Plot Vegetation Indicators: 1 IOD: IOD: IOD: IOD: IOD: IOD: IOD: IOD: | | | That Are OBL, FACW, or FAC: (A) |
| Species Across All Stratu: T (B) Setting Stratum (Pot size: So for fortal cover So fortal cover <t< td=""><td>2</td><td></td><td>Total Number of Dominant</td></t<> | 2 | | Total Number of Dominant |
| * | 3 | | |
| 8 | 4 | | |
| 6 IDD = Total Cover 50% of total cover 20% of total cover 20 2 IDD = Total Cover 20 3 IDD = Total Cover 20 4 IDD = Total Cover 20 5 IDD = Total Cover 20 6 IDD = Total Cover 20% of total cover 5 IDD = Total Cover 20% of total cover 1 IDD = Total Cover 1 Revelace Index is 30 ^o 2 IDD = Total Cover 1 Revelace Index is 30 ^o 3 IDD = Total Cover IDM A Remarks or on a separate there is 50 ^o IDM A Cover Mode and thydrology must be present, unless disturations of thydric salians (Provide supporting darger in darater at breast height (Beth) 1 IDD A Cover MARCE A DO A MARC | 5 | | That A ODI FLOUIS FLO |
| IDD = Total Cover Solk of total cover: | 6. | | - That Are OBL, FACW, or FAC: (A/B) |
| statum (Plot size: 3D) 20% of total cover: 20 Saating Statum (Plot size: 3D) 20% of total cover: 20 Saating Statum (Plot size: 3D) 2 Saating Statum (Plot size: 3D) 2 Saating Statum (Plot size: 3D) 2 Saating Statum (Plot size: 3D) (Plot size: 3D) Shub Stratum 50% of total cover: 20% of total cover. 20% of total cover. Shub Stratum (Plot size: 3D) (Plot size: 3D) Shub Stratum (Plot size: 3D) (Plot size: 3D) Shub Stratum (Plot size: 10 / V 20) (Plot size: 10 / V 20) Shub Stratum (Plot size: 10 / V 20) (Plot size: 10 / V 20) Shub Stratum (Plot size: 10 / V 20) (Plot size: 10 / V 20) Shub Stratum (Plot size: 10 / V 20) (Plot size: 10 / V 20) Shub Stratum (Plot size: 10 / V 20) (Plot size: 10 / V 20) Shub Stratum (Plot size: 10 / V 20) (Plot size: 10 / V 20) Shub Stratum (Plot size: 10 / V 20) (Plot size: 10 / V 20) Shub Stratum (Slot sol for total cover: 10 / V 20) (Plot size: 10 / V 20) Shub Strato (Slot sol for total | | | Prevalence Index worksheet: |
| Station Stratum (Plot size: 30) Solution of the state st | | | |
| 1 A FACW species x 2 = 2 FACW species x 3 = 3 FACW species x 4 = 4 Column Totals: (A) (B) 6 | 50% of total cover: <u>71</u> | 20% of total cover: 10 | |
| 2 // Comparison 3 // Comparison 3 // Comparison 4 // Comparison 5 // Comparison 6 // Comparison 7 // Comparison 8 // Comparison 1 // Comparison 1 // Comparison 1 // Comparison 2 // Comparison 3 // Comparison 4 // Comparison 50% of total cover: 20% of total cover 1 // Comparison 1 // Comparison 2 // Comparison 2 // Comparison 3 // Comparison 4 // Comparison </td <td></td> <td></td> <td>OBL species x 1 =</td> | | | OBL species x 1 = |
| 2 | 1. N/A | | FACW species x 2 = |
| 3 FACU species x 4 = 4 | 2 | | FAC species x 3 = |
| 4. UPL species x 5 = 5. Column Totals: (A) (B) 8. | 3 | | FAOL |
| S. Column Totals: (A) (B) 6. | 0 | | |
| 8 | 4 | | |
| 6. | 5 | | (B) |
| | 6 | | Prevalence Index = B/A = |
| 50% of total cover: 20% of total cover: 1 - Rapid Test for Hydrophytic Vagetation Shrub Stratum (Plot size: 30 | | | Hydrophytic Vegetation Indian |
| Shrub Stratum (Plot size: | E00/ - (1-1-) | and the second sec | |
| 1 | Shark Shark and (Shark Shark S | 20% of total cover: | |
| 2 | | | |
| 2 | | | 3 - Prevalence Index is ≤3.0 ¹ |
| 3. | 2 | | 4 - Morphological Adaptations ¹ (Provide supporting |
| 4. | 3 | | data in Remarks or on a separate sheet) |
| 5. | 4 | | Problematic Hydrophytic Vegetation' (Explain) |
| 6. | 5. | | |
| | 6 | | ¹ Indicators of hydric soil and wetland hydrology must |
| 50% of total cover: 20% of total cover: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in, (7.6 m) or larger in diameter at breast height (DBH). 1. 10 N 10 N 10 N 10 Sapting - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 1 ess than 3 in. (7.6 m) or more in height and tess than 3 in. (7.6 m) plants, excluding woody vines, approximately 20 ft (6 m) or more in height and tess than 3 in. (7.6 m) DBH. 5. 6 Shrub - Woody plants, excluding woody vines, approximately 20 ft (1 to 6 m) in height. 8. 9. Shrub - Woody plants, excluding woody vines, approximately 30 to 20 ft (1 to 6 m) in height. 10. N NA 8. 9. Sapting - Woody vines, less than approximately 31 to 20 ft (1 to 6 m) in height. 10. N NA 11. Sol% of total cover: 10 50% of total cover: 10 11 50% of total cover: 10 10 11. Sol% of total cover: 10 12. 13 14 14. 14 14 15. 15. 16 16. 16. 16 17. 16 | | | be present, unless disturbed or problematic. |
| 50% of total cover: 20% of total cover: Tree - Woody plants, excluding woody vines. Herb Stratum (Plot size: 0 N 0BL 1. 10 N 0BL 3. Caller Supervisition N 0BL 3. Caller Supervisition N 0BL 4. Second Supervisition N N 5. Second Supervisition N N 6. N N N 7. N N N 8. Second Supervisition N N 9. N N N 10. N N N 7. N N N 8. Second N N N 9. Second N N N 10. N N N N 11. N N N N 10. N N N N 10. N N N N 11. N N N | | = Total Cover | |
| Herb Stratum (Plot size: 10/1/20) N N Image: Constraints and the second strategy of | 50% of total cover: | 20% of total cover: | |
| 1 Control of a drumenter at breast height (DBH). 2 Control of a drumenter at breast height (DBH). 3 Control of a drumenter at breast height (DBH). 3 Control of a drumenter at breast height (DBH). 3 Control of a drumenter at breast height (DBH). 3 Control of a drumenter at breast height (DBH). 3 Control of a drumenter at breast height (DBH). 3 Control of a drumenter at breast height (DBH). 4 Control of a drumenter at breast height (DBH). 5 Control of a drumenter at breast height (DBH). 6 Control of a drumenter at breast height (DBH). 7 Control of a drumenter at breast height (DBH). 8 Control of a drumenter at breast height. 9 Control of a drumenter at breast height. 10 Control of a drumenter at breast height. 11 Control of a drumenter at breast height. 11 Control of a drumenter at breast height. 11 Control of a drumenter at breast height. 12 Control of a drumenter at breast height. 13 Control of a drumenter at breast height. 14 Control of a drumenter at breast height. 15 </td <td>Herb Stratum (Plot size: 101×201)</td> <td></td> <td>Tree – Woody plants, excluding woody vines,</td> | Herb Stratum (Plot size: 101×201) | | Tree – Woody plants, excluding woody vines, |
| 2 CTMA & AV JAMACe A 20 The converting of target in balancer at breast height (DBH). 3. Caller SP- 10 N NAA 4. Discontrol SP- 10 N NAA 5. 6 7 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. 7. 8 Shrub – Woody plants, excluding woody vines, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. 10. 10 10 10 11. 20 = Total Cover 16 10. 11 20% of total cover: 16 11. 50% of total cover: 40 20% of total cover: 16 12. 50% of total cover: 50% of total cover: 16 17 13. 50% of total cover: 50% of total cover: 16 17 14. 50% of total cover: 50% of total cover: 16 17 14. 50% of total cover: 50% of total cover: 17 17 13. 50% of | ISLUNCUS REFUSUS | 10 N OBI | (7.6 cm) or larger in diameter at broast beight and 3 in. |
| 3. Aut x SP 10 NA Sapling - Woody plants, excluding woody vines, approximately 20 ft (1 to 6 m) in height and less than 3 in. (7.6 cm) DBH. 5. 6 | 2 CONDA AVINAMACON | DO V FATIN | |
| 3. ID N IVA approximately 20 ft (6 m) or more in height and less 4. ID IAA IAA approximately 20 ft (6 m) or more in height and less 5. IAA IAA IAA IAA IAA 6. IAA IAA IAA IAA IAA IAA 7. IAA IAA <td></td> <td></td> <td>Sapling – Woody plants, excluding woody vines,</td> | | | Sapling – Woody plants, excluding woody vines, |
| 5. ID IN Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 7. In In 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. 10. In In In Herb – All woody vines, less than approximately 3 ft (1 m) in height. 11. In In In Woody vine – All woody vines, regardless of height. 11. In In In In In In In In In In In In In In In In In In In In In In In In In In In In In In In In In In In In In In In In In In <td< td=""><td></td><td>IU N INA</td><td>approximately 20 ft (6 m) or more in height and less</td></td<> | | IU N INA | approximately 20 ft (6 m) or more in height and less |
| 6. Shrub - vvodoy plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 7. | 4. BUCDLENGION IDDICONS | 40 V TAC | I Inan 3 In. (7.6 cm) DBH. |
| 6. approximately 3 to 20 ft (1 to 6 m) in height. 7. | 5 | | Shrub - Woody plants, excluding woody vines |
| 7. | 6 | | approximately 3 to 20 ft (1 to 6 m) in height. |
| 8. | 7 | | |
| 9 | 8 | · · · · · · · · · · · · · · · · · · · | Herb – All herbaceous (non-woody) plants, including |
| 10 | 0 | | plants, except woody vines, less than approximately 2 |
| $\frac{80}{20\% \text{ of total cover:}} = \text{Total Cover}$ $\frac{40}{20\% \text{ of total cover:}} = \text{Total Cover}$ $\frac{40}{20\% \text{ of total cover:}} = \frac{16}{16}$ $\frac{16}{16}$ 1 | | | ft (1 m) in height. |
| $\frac{90}{20\% \text{ of total cover:}} = \text{Total Cover}$ | | | |
| 50% of total cover: 40 20% of total cover: 16 $Woody Vine Stratum (Plot size:) 5 FACU$ $1. Ce(astrus, contributed vs) 5 FACU$ 23 34 45 $50% of total cover: 2.5 20% of total cover: $ 45 $50% of total cover: 2.5 20% of total cover: $ 45 $50% of total cover: 2.5 20% of total cover: $ 45 $50% of total cover: 2.5 20% of total cover: $ 45 | 11 | ~~ | woody vine – All woody vines, regardless of height. |
| $\frac{Woody Vine Stratum}{1. Celestics of the collectus} 5 FACU 2 3 4 5 50% of total cover: 1.5 20% of total cover: 50% of total cover: 2.5 20% of total cover: FACU Hydrophytic Vegetation Present? Yes Yes$ | | 80 = Total Cover | |
| $\frac{Woody Vine Stratum}{100 \text{ size:}} + \frac{1}{100 \text{ size:}} + 1$ | 50% of total cover: 40 | 20% of lotal cover 1/o | |
| $\frac{1.Celastics miculats}{5} \frac{5}{5} \frac{4}{4}$ $\frac{5}{5} = Total Cover}{50\% of total cover: 1} \frac{5}{20\% of total cover: 1} \frac{5}{7} \frac{4}{7}$ | | | |
| $\frac{2}{3} = \frac{5}{50\% \text{ of total cover:}} = \frac{1}{5} = \frac{1}{20\% \text{ of total cover:}} = \frac{1}{1000}$ | | E V GALL | |
| 4 55_ = Total Cover 50% of total cover: 2.5_20% of total cover: For total cover: | China | 2 K THEN | |
| 4 55_ = Total Cover 50% of total cover: 2.5_20% of total cover: For total cover: | 2 | | |
| 4 55_ = Total Cover 50% of total cover: 2.5_20% of total cover: Hydrophytic Vegetation Present? Yes No | 3 | | |
| 5 | | | |
| 50% of total cover: 2.5 20% of total cover: Vegetation Vegetation Present? Yes No No | 5 | | |
| 50% of total cover: 2.5 20% of total cover: Present? Yes No No | - | 5 - T-1-10 | |
| | 7 6 | | |
| Remarks: (Include photo numbers here or on a separate sheet.) | | | Present? Yes No |
| | Remarks: (Include photo numbers here or on a separate she | et.) | |

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Sampling Point: 72x - WET

| SOIL | | | | | | Sampling Point: ZZX - W | |
|--|------------------------------|--------------|-----------|------------------|---------------|---|--|
| Profile Description: (Describe to the de | pth needed to docur | ment the in | ndicator | or confirm | n the absence | of indicators.) | |
| Depth Matrix | | x Features | | | | | |
| (inches) Color (moist) % | Color (moist) | % | Type' | Loc ² | Texture | Remarks | |
| 0-8 GICY25/5B 60 | 2.542316 | 40 | С | M | clay | | |
| 8-15 GL425 5B 20 | SYRUIC | 15 | C | PL | Sandy | | |
| 54511 45 | | | | | L | | |
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| | | · | | | | | |
| Type: C=Concentration, D=Depletion, RM | i=Reduced Matrix, MS | S=Masked | Sand Gra | ains. | | _=Pore Lining, M=Matrix. | |
| Hydric Soil Indicators: | | (07) | | | | ators for Problematic Hydric Soils ³ : | |
| Histosol (A1) | Dark Surface Polyvalue Be | | - (CO) /M | | | cm Muck (A10) (MLRA 147) oast Prairie Redox (A16) | |
| Histic Epipedon (A2) Black Histic (A3) | Thin Dark Su | | | | , 140) C | (MLRA 147, 148) | |
| Hydrogen Sulfide (A4) | X Loamy Gleye | | | 47, 140) | Pi | iedmont Floodplain Soils (F19) | |
| Stratified Layers (A5) | | | -/ | | | (MLRA 136, 147) | |
| Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) | | | | | | | |
| Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) | | | | | | | |
| Thick Dark Surface (A12) | Redox Depre | | | | | | |
| Sandy Mucky Mineral (S1) (LRR N, | Iron-Mangane | ese Masse | s (F12) (| _RR N, | | | |
| MLRA 147, 148) | MLRA 13 | S1.001 | | | | | |
| Sandy Gleyed Matrix (S4) | Umbric Surfa | | | | | cators of hydrophytic vegetation and | |
| Sandy Redox (S5) Stripped Matrix (S6) | Piedmont Flo Red Parent M | | | | | tland hydrology must be present, ess disturbed or problematic. | |
| Restrictive Layer (if observed): | | naterial (F2 | | A 127, 14 | | ess disturbed of problematic. | |
| | | | | | | | |
| Depth (inches): | | | | | Hydric Soil | Present? Yes 🗡 No | |
| | | | | | Hydric Soli | | |
| Remarks: | | | | | | | |
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| | M | Wetland | nd Function-Value Evaluation Form | .Valu | e Evalua | ation Fo | Inn | 2 | |
|---|---------------------|------------------|---|--------------|-----------------------------------|------------------------|--------------|--|---|
| Total area of wetland 0.01 Human made? NO Is wetland part | ls w | ctland | part of a wildlife corridor?. | or? | or a "hab | or a "habitat island"? | \backslash | Wetland I.D. <u>LLX</u> Latitude Longitude | |
| Adjacent land use Romowing | | | Distance to nearest roadway or other development 90 A. | t roadway | or other devel | opment 9C | .40 | by: MS | |
| Dominant wetland systems present | | | Contiguous undeveloped buffer zone present | veloped bı | ffer zone prese | ent Yes | -0 | Wetland Impact: TypeArea | 1 |
| Is the wetland a separate hydraulic system? NG | | If not, v | If not, where does the wetland lie in the drainage $basin?_{-}$ | lie in the | lrainage basin' | , UPPAR | , | Evaluation based on: | |
| How many tributaries contribute to the wetland? $($ | \bigcirc | IIW | Wildlife & vegetation diversity/abundance (see attached list) | srsity/abur | dance (see atta | iched list) | -1 | Office Field Corps manual wetland delineation | |
| Function/Value | Suitability Y, N | oility N | Rationale (Reference #)* | Prin Funo | Principal Function(s)/Value(s) | ue(s) | - Ŭ | ¹ completed? Y N Comments | 1 |
| Groundwater Recharge/Discharge | | | | | | | | | |
| Floodflow Alteration | > | / | | | | | | | |
| Fish and Shellfish Habitat | > | | | | | | | | |
| Sediment/Toxicant Retention | 1 | | | | | | | | |
| Mutrient Removal | | | | | | | | | 1 |
| Production Export | > | / | | | | | | | |
| Sediment/Shoreline Stabilization | 1 | | | | | | | | 1 |
| 🖢 Wildlife Habitat | | 1 | | | | | | | |
| 🕂 Recreation | 1 | / | | | | | | | |
| Educational/Scientific Value | | 1 | | | | | | | |
| 🔆 Uniquencss/Heritage | - | 1 | | | | | | | |
| と言語 Visual Quality/Aesthetics | | 5 | | | | | | | 1 |
| ES Endangered Species Habitat | | | | | | | | | 1 |
| Other | | | | | | | | | |
| Notes: | | | | | | * Re | fer to bac | * Refer to backup list of numbered considerations. | |

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

| Project/Site: I-495/I-270 MANADOD LANES SUDY City/Co | ounty: Montoonucled Sampling Date: 5-9-2018 | | | | | | |
|--|--|--|--|--|--|--|--|
| Applicant/Owner: | State: MD Sampling Point: ZZY-WET | | | | | | |
| | n, Township, Range:AAZ | | | | | | |
| | ef (concave, convex, none): None Slope (%): 3 | | | | | | |
| Subregion (LRR or MLRA): MLRA 148 Lat: 38,974208 | Long: -77, 177566 Datum: NAD 83 | | | | | | |
| Soil Map Unit Name: Watchung, Travilah, Elk | NWI classification: | | | | | | |
| Are climatic / hydrologic conditions on the site typical for this time of year? Ye | es No (If no, explain in Remarks.) | | | | | | |
| Are Vegetation, Soil, or Hydrology significantly disturb | bed? Are "Normal Circumstances" present? Yes No | | | | | | |
| Are Vegetation, Soil, or Hydrology naturally problema | tic? (If needed, explain any answers in Remarks.) | | | | | | |
| SUMMARY OF FINDINGS – Attach site map showing sam | pling point locations, transects, important features, etc. | | | | | | |
| Hydrophytic Vegetation Present? Yes Ves | | | | | | | |
| Hydric Soil Present? Yes / No | Is the Sampled Area within a Wetland? Yes V No | | | | | | |
| Wetland Hydrology Present? Yes / No | <u></u> | | | | | | |
| | 1 unlas Pelason | | | | | | |
| 110005 00110 | s to waters feature 22Q. | | | | | | |
| PFO portion is 22R. | | | | | | | |
| 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) True Aquatic Plants (E | 314) Sparsely Vegetated Concave Surface (B8) | | | | | | |
| ✓ High Water Table (A2) Hydrogen Sulfide Odd | | | | | | | |
| Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) | | | | | | | |
| Water Marks (B1) Presence of Reduced Iron (C4) Moss Thin Eines (D10) | | | | | | | |
| Sediment Deposits (B2) Recent Iron Reduction | n in Tilled Soils (C6) Crayfish Burrows (C8) | | | | | | |
| Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) | | | | | | | |
| | | | | | | | |
| Iron Deposits (B5) | Geomorphic Position (D2) | | | | | | |
| /nundation Visible on Aerial Imagery (B7) | Shallow Aquitard (D3) | | | | | | |
| Water-Stained Leaves (B9) | Microtopographic Relief (D4) | | | | | | |
| Aquatic Fauna (B13) | FAC-Neutral Test (D5) | | | | | | |
| Field Observations: | 1 | | | | | | |
| Surface Water Present? Yes V No Depth (inches): | <u>n</u> | | | | | | |
| Water Table Present? Yes $$ No Depth (inches): $\underline{ \mathcal{L} }$ | | | | | | | |
| Saturation Present? Yes √ No _ Depth (inches): _ O (includes capillary fringe) | Wetland Hydrology Present? Yes <u>V</u> No | | | | | | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, prev | rious inspections), if available: | | | | | | |
| | | | | | | | |
| Remarks: | | | | | | | |
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| | 6 | | | | | | |
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| Sampling | Point: | 4 |
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| EGETATION (Five Strata) – Use scientific r | Absolute | Dominant | Indicator | Dominance Test worksheet: |
|--|-------------|--------------|-----------|---|
| ree Stratum (Plot size:) | % Cover | Species? | Status | Number of Dominant Species That Are OBL, FACW, or FAC:(A) |
| D/H | | | | |
| | | | | Total Number of Dominant 6 Species Across All Strata: 6 |
| | | | | Descent of Demission (Creation) (Pr |
| | | | | Percent of Dominant Species That Are OBL, FACW, or FAC:OO 7/2 (A/B) |
| | | | | Prevalence Index worksheet: |
| | | = Total Cov | | Total % Cover of: Multiply by: |
| 50% of total cover: | 20% of | total cover: | | OBL species x 1 = |
| apling Stratum (Plot size: 10' × 30') | 15 | X | FACIN | FACW species x 2 = |
| Green ash Frencinus pennsylvanic | <u>n) _</u> | V | EAC IN | FAC species x 3 = |
| RNON birch (Betuld nigra) | | <u> </u> | TALW | FACU species x 4 = |
| | | | <u> </u> | UPL species x 5 = |
| | | | | Column Totals: (A) (B) |
| | | | | |
| | | | | Prevalence Index = B/A = |
| | - | = Total Cove | 0 | Hydrophytic Vegetation Indicators: |
| 50% of total cover: | 20% of | total cover: | d | 1 - Rapid Test for Hydrophytic Vegetation |
| nrub Stratum (Plot size:) | | | | ⊻ 2 - Dominance Test is >50% |
| N/A | | | | 3 - Prevalence Index is ≤3.0 ¹ |
| | | | | 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) |
| | | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| | 100 | | | |
| | | | | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| | | = Total Cove | er | Definitions of Five Vegetation Strata: |
| 50% of total cover: | 20% of | total cover: | | |
| erb Stratum (Plot size: 101 × 301) | | V/ | ABI | Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. |
| Smalls REFUSIS | 20 | | UBL | (7.6 cm) or larger in diameter at breast height (DBH). |
| Dicharthelium clandestinum | 12 | X | FACW | Sapling – Woody plants, excluding woody vines, |
| Conna avondmacoa | 10 | <u>Y</u> | FACW | approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. |
| MICHDSteg MM VIMENMM | 15 | <u>Y-</u> | FAC | |
| CALX Sp. | 10 | <u>N</u> | N/A | Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. |
| | | <u> </u> | | |
| | | | | 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. |
| 1 | 80 | = Total Cove | ər | |
| FOR CLASS H | 0 | total cover: | 1/ | |
| 50% of total cover: | 20% of | total cover: | | 9 |
| K / / A | | | | |
| NA | | | | |
| | - | | (| |
| | | | | |
| | | | | |
| | | | | Hydrophytic |
| | | = Total Cove | ər | Vegetation Present? Yes No |
| 50% of total cover: | 20% of | total cover: | | Present? Yes V No |

SOIL

, t

| Depth _ | Matrix | | | Redox Feature | S | | | | |
|---|---|---------------------------|---|--|---|---|---|---|-------|
| (inches) | Color (moist) | % | Color (moist |)% | Type ¹ | Loc ² | Texture | Remarks | |
| | 54R2.5/1 | 85 | 54R414 | 1 15 | C | MIPL | Silty loam | | |
| | | 0 <u> </u> | | | | · | | | |
| | | | | | | | · | | |
| VUE. C-CUII | centration, D=Depl | etion, RM | Reduced Matrix | c MS=Maske | d Sand Gr | ains | ² Location: PL: | =Pore Lining M=Matrix | |
| | | etion, RM | Reduced Matrix | k, MS=Maske | d Sand Gr | ains. | | =Pore Lining, M=Matrix. tors for Problematic Hydric Soi | ils³: |
| ydric Soil Ind | dicators: | etion, RM | Dark Su | face (S7) | | | Indicat 2 c | | ils³: |
| ydric Soil Ind _ Histosol (A _ Histic Epip | dicators: A1) bedon (A2) | etion, RM | Dark Su Polyvalu | face (S7) e Below Surfa | ace (S8) (1 | WLRA 147, | Indicat 2 c 148) Co | tors for Problematic Hydric Soi cm Muck (A10) (MLRA 147) past Prairie Redox (A16) | ils³: |
| ydric Soil Ine _ Histosol (A _ Histic Epip _ Black Histi | dicators: A1) bedon (A2) ic (A3) | etion, RM | Dark Su Polyvalu Thin Dar | face (S7) e Below Surfa k Surface (S9 | ace (S8) (I)) (MLRA ⁻ | WLRA 147, | Indicat 2 c 148) Co | tors for Problematic Hydric Soi om Muck (A10) (MLRA 147) past Prairie Redox (A16) (MLRA 147, 148) | ils³: |
| ydric Soil Ind _ Histosol (A _ Histic Epip _ Black Histi _ Hydrogen | dicators: A1) bedon (A2) ic (A3) Sulfide (A4) | <u>etion, RM</u> | Dark Sur Polyvalu Thin Dar Loamy G | face (S7) e Below Surfa k Surface (SS Bleyed Matrix | ace (S8) (I)) (MLRA ⁻ | WLRA 147, | Indicat 2 c 148) Co Pie | tors for Problematic Hydric Soi om Muck (A10) (MLRA 147) past Prairie Redox (A16) (MLRA 147, 148) edmont Floodplain Soils (F19) | ils³: |
| ydric Soil Ind _ Histosol (A _ Histic Epip _ Black Histi _ Hydrogen _ Stratified L | dicators: A1) bedon (A2) ic (A3) Sulfide (A4) ayers (A5) | <u>etion, RM</u> | Dark Sun Polyvalu Thin Dar Loamy G Depleted | face (S7) e Below Surfa k Surface (S9 Gleyed Matrix I Matrix (F3) | ace (S8) (I 9) (MLRA (F2) | WLRA 147, | Indicat 2 c 148) Co Pie | tors for Problematic Hydric Soi cm Muck (A10) (MLRA 147) past Prairie Redox (A16) (MLRA 147, 148) edmont Floodplain Soils (F19) (MLRA 136, 147) | |
| ydric Soil Ind Histosol (A Histic Epip Black Histi Hydrogen Stratified L 2 cm Muck | dicators: (A1) (A2) (A3) Sulfide (A4) (A4) (A5) (A10) (LRR N) | | Dark Sur Polyvalu Thin Dar Loamy G Depleted Redox D | face (S7) e Below Surfa k Surface (S9 Gleyed Matrix I Matrix (F3) vark Surface (| ace (S8) ()) (MLRA (F2) F6) | WLRA 147, | Indicat 2 c Co Pie Ve | tors for Problematic Hydric Sof om Muck (A10) (MLRA 147) past Prairie Redox (A16) (MLRA 147, 148) edmont Floodplain Soils (F19) (MLRA 136, 147) pry Shallow Dark Surface (TF12) | |
| ydric Soil Ind Histosol (A Histic Epip Black Histi Hydrogen Stratified L 2 cm Muck Depleted E | dicators: A1) bedon (A2) ic (A3) Sulfide (A4) ayers (A5) ((A10) (LRR N) Below Dark Surface | | Dark Sun Polyvalu Thin Dar Loamy G Depleted Redox D Depleted | face (S7) e Below Surfa k Surface (S9 Bleyed Matrix I Matrix (F3) ark Surface (I Dark Surface | ace (S8) (f) (MLRA (F2) F6) e (F7) | WLRA 147, | Indicat 2 c Co Pie Ve | tors for Problematic Hydric Soi cm Muck (A10) (MLRA 147) past Prairie Redox (A16) (MLRA 147, 148) edmont Floodplain Soils (F19) (MLRA 136, 147) | |
| ydric Soil Ind Histosol (A Histic Epip Black Histi Hydrogen Stratified L 2 cm Muck Depleted E Thick Dark | dicators: (A1) (A2) (A3) Sulfide (A4) | ə (A11) | Dark Sun Polyvalu Thin Dar Loamy G Depleted Redox D Depleted Redox D | face (S7) e Below Surfa k Surface (S9 Bleyed Matrix I Matrix (F3) ark Surface (I Dark Surface epressions (F | ace (S8) (f)) (MLRA (F2) F6) e (F7) F8) | MLRA 147, 147, 148) | Indicat 2 c Co Pie Ve | tors for Problematic Hydric Sof om Muck (A10) (MLRA 147) past Prairie Redox (A16) (MLRA 147, 148) edmont Floodplain Soils (F19) (MLRA 136, 147) pry Shallow Dark Surface (TF12) | |
| ydric Soil Ind Histosol (A Histic Epip Black Histi Hydrogen Stratified L 2 cm Muck Depleted E Thick Dark Sandy Muc | dicators: (1) (4) (42) (43) Sulfide (A4) (45) (45) | ə (A11) | Dark Sun Polyvalu Thin Dar Loamy G Depleted Redox D Redox D Redox D Redox D Iron-Mar | face (S7) e Below Surfa k Surface (S9 Gleyed Matrix I Matrix (F3) ark Surface (Dark Surface epressions (F nganese Mass | ace (S8) (f)) (MLRA (F2) F6) e (F7) F8) | MLRA 147, 147, 148) | Indicat 2 c Co Pie Ve | tors for Problematic Hydric Sof om Muck (A10) (MLRA 147) past Prairie Redox (A16) (MLRA 147, 148) edmont Floodplain Soils (F19) (MLRA 136, 147) pry Shallow Dark Surface (TF12) | |
| ydric Soil Ing Histosol (A Histic Epip Black Histi Hydrogen Stratified L 2 cm Muck Depleted E Thick Dark Sandy Muc MLRA 1 | dicators: (1) (1) (2) (3) (42) (43) Sulfide (A4) (44) (44) (44) (44) (47) (47) (47, 148) (47) | ə (A11) | Dark Sur Polyvalu Thin Dar Loamy G Depleted Redox D Redox D Redox D Iron-Mar MLR/ | face (S7) e Below Surfa k Surface (S9 Gleyed Matrix I Matrix (F3) ark Surface (I Dark Surface epressions (F nganese Mass A 136) | ace (S8) (1) (MLRA (F2) F6) e (F7) F8) ses (F12) (| MLRA 147, 147, 148) (LRR N, | Indicat 2 c 148) Co Pie Ve Oti | tors for Problematic Hydric Soi om Muck (A10) (MLRA 147) past Prairie Redox (A16) (MLRA 147, 148) edmont Floodplain Soils (F19) (MLRA 136, 147) rry Shallow Dark Surface (TF12) her (Explain in Remarks) | |
| ydric Soil Ind Histosol (A Histic Epip Black Histi Hydrogen Stratified L 2 cm Muck Depleted E Thick Dark Sandy Muc MLRA 1 | dicators: (1) (1) (2) (43) Sulfide (A4) (44) (44) (A10) (LRR N) Selow Dark Surface (50) (LRR N) Selow Dark Surface (51) (L (47, 148) (54) | ə (A11) | Dark Sur Polyvalu Thin Dar Loamy G Depleted Redox D Redox D Iron-Mar Iron-Mar Umbric S | face (S7) e Below Surfa k Surface (S9 Gleyed Matrix I Matrix (F3) ark Surface (Dark Surface epressions (F nganese Mass | ace (S8) (I)) (MLRA (F2) F6) = (F7) F8) ses (F12) ((MLRA 13 | MLRA 147, 147, 148) (LRR N, 36, 122) | Indicat 2 c 148) Co Pie Ve Otl | tors for Problematic Hydric Sof om Muck (A10) (MLRA 147) past Prairie Redox (A16) (MLRA 147, 148) edmont Floodplain Soils (F19) (MLRA 136, 147) pry Shallow Dark Surface (TF12) | |
| ydric Soil Ind Histosol (A Histic Epip Black Histi Hydrogen Stratified L 2 cm Muck Depleted E Thick Dark Sandy Muc MLRA 1 Sandy Gle | dicators: (1) (1) (2) (43) Sulfide (A4) (44) (A10) (LRR N) Selow Dark Surface (A12) | ə (A11) | Dark Sur Polyvalu Thin Dar Loamy G Depleted Redox D Redox D Iron-Mar Umbric S Piedmor | face (S7) e Below Surfa k Surface (S9 Gleyed Matrix I Matrix (F3) ark Surface (Dark Surface epressions (F nganese Mass A 136) Surface (F13) | ace (S8) (I (F2) F6) e (F7) ⁵ 8) ses (F12) ((MLRA 13 Soils (F19) | MLRA 147, 147, 148) (LRR N, 36, 122)) (MLRA 14 | Indicat 2 c 148) Co Pic Ve Oth ³ Indic 18) weth | tors for Problematic Hydric Soi om Muck (A10) (MLRA 147) past Prairie Redox (A16) (MLRA 147, 148) edmont Floodplain Soils (F19) (MLRA 136, 147) ery Shallow Dark Surface (TF12) her (Explain in Remarks) | |
| ydric Soil Ind Histosol (A Histic Epip Black Histi Hydrogen Stratified L 2 cm Muck Depleted E Thick Dark Sandy Muc MLRA 1 Sandy Gle Sandy Rec Stripped M | dicators: (1) (1) (2) (43) Sulfide (A4) (44) (A10) (LRR N) Selow Dark Surface (A12) | ∍ (A11) . RR N, | Dark Sur Polyvalu Thin Dar Loamy G Depleted Redox D Redox D Iron-Mar Umbric S Piedmor | face (S7) e Below Surfa k Surface (S9 Gleyed Matrix I Matrix (F3) ark Surface (Dark Surface (Dark Surface (F13) Surface (F13) tt Floodplain S | ace (S8) (I (F2) F6) e (F7) ⁵ 8) ses (F12) ((MLRA 13 Soils (F19) | MLRA 147, 147, 148) (LRR N, 36, 122)) (MLRA 14 | Indicat 2 c 148) Co Pic Ve Oth ³ Indic 18) weth | tors for Problematic Hydric Sol cm Muck (A10) (MLRA 147) past Prairie Redox (A16) (MLRA 147, 148) edmont Floodplain Soils (F19) (MLRA 136, 147) ery Shallow Dark Surface (TF12) her (Explain in Remarks) | |
| ydric Soil Ind Histosol (A Histic Epip Black Histi Hydrogen Stratified L 2 cm Muck Depleted E Thick Dark Sandy Muc MLRA 1 Sandy Gle Sandy Rec Stripped M | dicators: (1) (1) (2) (43) Sulfide (A4) (44) (44) (44) Selow Dark Surface (410) (LRR N) Selow Dark Surface (412) (A | ∍ (A11) . RR N, | Dark Sur Polyvalu Thin Dar Loamy G Depleted Redox D Redox D Iron-Mar Umbric S Piedmor | face (S7) e Below Surfa k Surface (S9 Gleyed Matrix I Matrix (F3) ark Surface (Dark Surface (Dark Surface (F13) Surface (F13) tt Floodplain S | ace (S8) (I (F2) F6) e (F7) ⁵ 8) ses (F12) ((MLRA 13 Soils (F19) | MLRA 147, 147, 148) (LRR N, 36, 122)) (MLRA 14 | Indicat 2 c 148) Co Pic Ve Oth ³ Indic 18) weth | tors for Problematic Hydric Sol cm Muck (A10) (MLRA 147) past Prairie Redox (A16) (MLRA 147, 148) edmont Floodplain Soils (F19) (MLRA 136, 147) ery Shallow Dark Surface (TF12) her (Explain in Remarks) | |

Remarks:

| | M | Vetl | and | Wetland Function-Value Evaluation Form | V-nc | alue | Eva | Iluatic | nn Forn | n | | |
|---|------------|--------------------|----------|--|-------------|------------------------------|------------------|-----------------------------------|---------|----------------------|--|-----|
| Fotal area of wetland 0.004 Human made? NO | | wetlar | ıd part | Is wetland part of a wildlife corridor?. | orridor? | | OF a | or a "habitat island"? | land"? | $\overline{\langle}$ | Wetland I.D. 227 Latitude Longitude | 1 |
| Adjacent land use CortowA | | | | Distance to nearest roadway or other development ~100H | earest ro | adway | or other o | levelopmer | nt~\DC | J. | by: NUBS | 1 1 |
| Dominant wetland systems present ACM | | | | Contiguous undeveloped buffer zone present | indevelo | ped but | fer zone | present | Les | | Wetland Impact: TypeArea | î |
| is the wetland a separate hydraulic system? \overline{NO} | 0 | - If no | t, wher | If not, where does the wetland lie in the drainage basin? UPP EN | tland lie | in the d | rainage l | asin? U | PPUL | | Evaluation based on: | |
| How many tributaries contribute to the wetland? | \bigcirc | | Wildlife | & vegetation diversity/abundance (see attached list) | l diversit | y/abuno | lance (se | e attached | list) | | Office Field Corps manual wetland delineation | |
| Function/Value | Suita Y | Suitability Y N | | Rationale (Reference #)* | ()* | Principal Function | ipal tion(s)/ | Principal Function(s)/Value(s) | | - ບິ | Comments | 1 |
| Croundwater Recharge/Discharge | | 2 | | | | | | | | | | _ |
| Floodflow Alteration | | > | | | | | | | | | | |
| Fish and Shellfish Habitat | - | | | | | | | | | | | - |
| Sediment/Toxicant Retention | Ň | | | | | | | | | | | |
| Mutrient Removal | > | ~ | | | | | | | | | | |
| Production Export | | 5 | | | | | | | | | | |
| Sediment/Shoreline Stabilization | | > | | | | | | | | | | |
| 😂 Wildlife Habitat | 1 | | | | | | | | | | | |
| Recreation | | 1 | | | | | | | | | | |
| Educational/Scientific Value | | 5 | | | | | | | | | | |
| 🜟 Uniqueness/Heritage | | 5 | | | | | | | | | | |
| Visual Quality/Aesthetics | | 5 | | | | | | | | | | |
| ES Endangered Species Habitat | | > | | | | | | | | | | |
| Other | | | | | | | | | | | | |
| Notes: | | | | | | | | | * Refe | r to bac | * Refer to backup list of numbered considerations. | |

| I-U95/J | 42. | -495/IT-270 MANNAN | | ANNS S | short v | Waters of the U.S. | | Data Sheet | | VON | CULLED | 5.9- | 5-9-2018 1 | 7-25/San |
|--|------------|-----------------------------------|---|-------------------------|--------------|---|--------------------------|------------------------|--------------------------------------|---------------------|---|--|--|---------------|
| Project: 1-495-IRVM Montgomery County | antgome | iry County | - | | | | | Feat | Feature ID: 01-N- | 1-N-2 | 24 | Stre | Stream Order: 3rd | |
| Date: 14/24/14 5/9 | 120 | 610 | | | State: MD | G | | Phoi | Photos: 30 | 5442 | 762- | PP | | |
| Crew: ALMN.AM-M | B51 | SSA | | | County: | County: Montgomery | | Last | Last Flag Number: 01-N-08A, 01-N-07B | mber: 01 | -N-08A, 01-N | V-07B L | DAR | |
| Feature Hydrologic Class (check one): | roloģi | c Class (cl | heck one) | | | | | | | | | | | |
| Tidal | | | Pet | Perennial | | 1 | Intermittent | t | | | | Ephemeral | ral | |
| O TNW (Subject to ebb and | ebb a | С | TNW - Perennial | rennial | | O RPW | RPW - Seasonal (must | (must | z O | on-RPW | Non-RPW draining uplands | uplands | | |
| (tlow) | | | (Flowing year round) | year round | d) | (flow (| flow at least 3 months a | onths a | | on-RPW | Non-RPW erosional | l feature | - | |
| | | • | Kr w – rerennial (Flowing year round) | rennial vear round | 1) | year) | | | | on-RPW | with adia | Non-RPW with adutting wetland Non-RPW with adjacent wetland | and | |
| Describe rational for hydrologic class: | | 6-12in of water in stream at time | ter in stre | eam at t | | of field visit | | | z e O | on-RPW utside of | Non-RPW wetland ad (outside of study area) | adjacent (ea) | Non-RPW wetland adjacent or abutting upstream (outside of study area) | tream |
| Hydrologic Connectivity - | vity – | | Upstream: outside of study area | e of study an | ea | Down | Downstream: WHHM | CC NH | AAC | A | jacent/A | Adjacent/Abutting: 04-0- | 10 22 G(| . [5 |
| Feature Description: (check all that apply) | riptio | in: (check | all that a | (A)da | | | | | | | | | | |
| Shi | npe (w | Shape (with respect to OHW | t to OHV | ربا ا | | | | Substrate | rate | | ┢ | Vegetation | Cover | Type (MBSS) |
| ✓ Natural Channel Shape | Shape | | Width: 40' | ١, | | | Silts | < S | Sands | M | Muck R | RB: Earact | | |
| Artificial (man-made) | lade) | | Depth: 6' | | | > | Cobbles | | Gravel | Ū | Other: | רסת | 10 | |
| ✓ Manipulated (man-altered) | n-altei | | Bank Ero | Bank Erosion/stability: | lity: | | Bedrock | | Concrete | rip-rap | - | | | |
| Other: | | - | moderate erosion | erosion | | Side slope: | ope: □ ≥1:1 | :1 🗸 2:1 | :1 🔲 3:1 | □ ≤4:1 | | LB: Forest | st | |
| Notes: stream name is Booze Creek, flows through culvert, lined with rip-rap, plantings along bank | Booze | Creek, flow | vs through | culvert, line | ed with rip- | -rap,-planting | <u>js along ban</u> | Ť | | | | | | |
| Weather/Precipitation Conditions: | cipitat | tion Cond | itions: | | | | | | | | | | | |
| | Inc | Inches of | | | | | Mo | nthly D. | Monthly Drought Condition | ondition | 2 | | | |
| During Field Visit | Kan Las | Kain Within Last Week | httn://w | aban ww | 0033 00 | NCDC Regional PDSI http://www.ncde.noga_gov/temn-and-nrecin/climatological-real/inge/index.nhn | l'aracia/al | NCDC | NCDC Regional PDSI | PDSI | nhn vo | Mo Oct | Month: October | Year: 2014 |
| No rain | 0 | 0-0.5 | С | С | C | С | C | С | С | C | C | С | C | C |
| O Light rain | 0 | 0.5-1 | ب و (| ک |)4 | <u>ب</u> | -2 | |) 0 |)- |) (1 |) က |)4 | 5 6 |
| O Heavy Rain | 0 | > | Sev | Severe Drought | ght | Moderate | Moderate Drought | | Normal | | Moderately | ely Wet | Severe | Severely Wet |
| Non-tidal tributary has: (<i>check all that apply; include photos for each & list photo #</i>) | utary | has: (che | ck all tha | t apply; ii | nclude ph | notos for ea | ch & list pl | noto #) | | | | | | |
| Bed and Banks | | | | | | | Ordinary | 2 | ater Mark | k | | | | |
| V Yes | > | Clear, na | Clear, natural line impressed on the bank | impressed | on the ba | ank 🗸 | Sedimer | Sediment deposition | tion | | ∠ Sedin | Sediment sorting | ng | |
| No | | Changes | Changes in the character of soil | racter of s | soil | | Water staining | aining | | | Scour | | | |
| | | Shelving | | | | > | Presence | e of floo | Presence of flood litter/debris | bris | Obser | rved/pred | Observed/predicted flow events | nts |
| | > | Vegetatic | Vegetation matted down, bent, or absent | down, bei | nt, or absu | ent | Destruct | tion of te | Destruction of terrestrial veg. | /eg. | Abru | pt change | Abrupt change in plant community | nunity |
| | > | Leaf litte | Leaf litter disturbed | q | | | _ | Presence of wrack line | ck line | | Other: | | | |
| Tidal tributary has: (check all that apply; include ph | y has | : (check a | ll that app | ily; inclue | te photos | notos for each & | Elist photo #) | (# | | | | | | |
| s anor hann hann hann | JIL LI | le Line | | | Mean High | Wat | VI SI'K | indicated by: | V: | | Chen | "hemical Cha | Inaracteristics | |
| Oil or scum line along shore objects | ulong (| shore obje | cts | | Survey | Survey to available datum | e datum | | | Water | Water is clear | | | |
| Fine shell or debris deposits (foreshore) | is dep | osits (fore | shore) | | Physic | Physical markings | | | | Water | Water is discolored | red | | |
| Physical markings/characteristics | s/char | acteristics | | | Vegeta | Vegetation lines/changes in types | hanges in t | ypes | | Oily film | ш | | | |
| Tidal gauges | | | | _ | | | | | | Other: | | | | |
| Notes: | | | | | | | | | | | | | | |