

## WETLAND AND WATERWAY INVESTIGATION REPORT

# **ECCLESTON MITIGATION SITE**

Baltimore County, Maryland

JMT Project Number 17-10977-001

Submitted to: NextEra Energy Marketing, LLC

July 2019



#### TABLE OF CONTENTS

1.0	Introduction	. 1
2.0	Methodology	. 1
2.1	Published Information	. 1
2.2	Agency Coordination	
2.3	Field Investigation	3
3.0	Findings	4
3.1	Published Information	4
3.2	Agency Coordination	8
3.3	Field Investigations	8
4.0	Conclusions	20
5.0	References	23

#### TABLE OF FIGURES

Figure 1: Vicinity Map	. 2
Figure 2: USGS Topographic Map	. 5
Figure 3: Published Water Resources Map	6
Figure 4: Soil Survey Map	. 7

#### LIST OF TABLES

Table 1: National Wetland Plant List Indicator Status Groups	3
Table 2: Summary of Delineated Wetlands	21
Table 3: Summary of Delineated Streams	22

#### LIST OF APPENDICES

- Appendix A: Agency Correspondence
- Appendix B: Delineated Resource Maps
- Appendix C: Wetland, Upland, and Datasheets
- Appendix D: Photo Documentation
- Appendix E: Functions and Values Datasheets





## **1.0 INTRODUCTION**

NextEra Energy Marketing, LLC is proposing to create a wetland and stream mitigation site at the Eccleston Property near Stevenson, Baltimore County, Maryland. To support this effort, Johnson, Mirmiran & Thompson (JMT) performed a wetland and waterway investigation to identify environmental resources that could be impacted within the Study Area.

The Study Area is approximately 55 acres and is located southwest of the intersection of Greenspring Valley Road and Park Heights Avenue (Figure 1). The land cover type consists of agricultural and forested land; narrow corridors of early- to mid-secessional deciduous forests are located along Jones Falls and its unnamed tributaries, with agricultural fields to either side. Surrounding development is zoned as low- or very low-density residential.

The Study Area is within the Eastern Mountains and Piedmont Physiographic Province. It lies in the Maryland Department of the Environment (MDE) 8-digit Jones Falls Watershed (#02130904; MDE, 2005) and the U.S. Geological Survey (USGS) Watershed Boundary Dataset 8-digit Gunpowder-Patapsco Watershed (#02060003; USGS, 2012).

A Forest Stand Delineation and a Specimen Tree Survey were also completed for the Study Area. Details regarding forests and trees are available in the Forest Stand Delineation Report.

## 2.0 METHODOLOGY

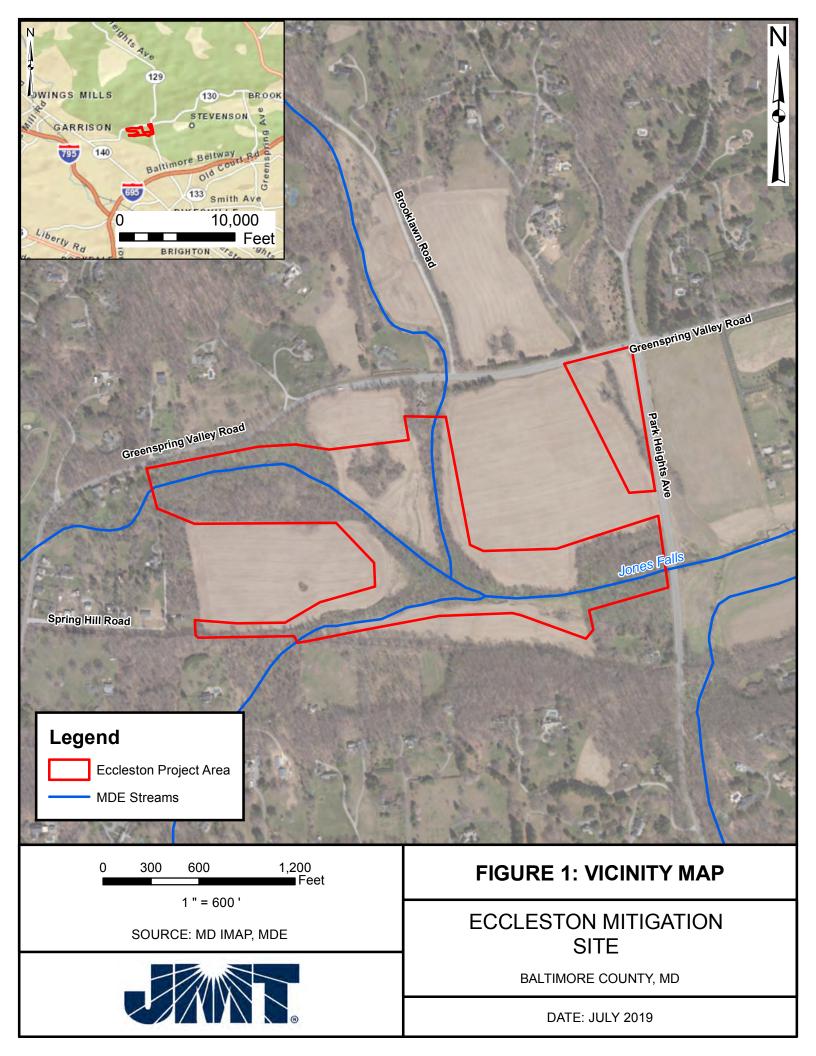
#### 2.1 PUBLISHED INFORMATION

JMT reviewed several background data sources prior to completing the field work. These sources included topographic maps, soil survey maps, National Wetland Inventory (NWI) and Maryland Department of Natural Resources (DNR) mapped wetlands, MDE mapped streams, Federal Emergency Management Agency (FEMA) floodplain maps, and recent aerial photographs. See **Section 3.1**.

#### 2.2 AGENCY COORDINATION

JMT coordinated with Maryland DNR, U.S. Fish and Wildlife Service (USFWS), and Maryland Historic Trust (MHT) to determine whether state-protected species, federal-protected species, and/or known historical or archaeological sites are present within the Study Area. See **Section 3.2** for results of this coordination.







#### 2.3 FIELD INVESTIGATION

A field investigation was conducted to delineate potentially jurisdictional waters of the United States (WUS), including wetlands and waterways, within the Study Area. The wetland delineation was performed according to the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: *Eastern Mountains and Piedmont Region, Version 2.0,* (US Army Corps of Engineers, 2012). The *Corps of Engineers Wetland Delineation Manual*: states three criteria (wetland vegetation, wetland soils, and wetland hydrology) must be present for an area to qualify as a wetland, unless the area is significantly disturbed (atypical situation) or is considered a problem area (e.g., seasonally ponded soils). If the area is significantly disturbed or a problem area, then only two parameters must be evident to classify an area as a wetland. Each wetland was classified into system, subsystem, class and subclass according to the *Classification of Wetlands and Deep Water Habitats of the United States* (Cowardin *et al.*, 1979).

Wetland (hydrophytic) vegetation was determined using the USACE National Wetland Plant List (NWPL), (Lichvar *et al.*, 2016). This document assigns a wetland indicator status to plants based on how frequently they occur in wetlands. The NWPL wetland indicator status and definitions are listed in **Table 1**.

Wetland Indicator Status	Definition
Obligate Wetland (OBL)	Almost always occur in wetlands
Facultative Wetland (FACW)	Usually occur in wetlands, but may occur in non-wetlands
Facultative (FAC)	Occur in wetlands or non-wetlands
Facultative Upland (FACU)	Usually occur in non-wetlands, but may occur in wetlands
Obligate Upland (UPL)	Almost never occur in wetlands

#### Table 1: National Wetland Plant List Indicator Status Groups

Source: Lichvar et al., 2016

In order to delineate wetland boundaries, samples were taken periodically using an open-faced auger. Soil samples were collected at each wetland and upland sample point, and soil colors were recorded in the field using a Munsell soil color chart (Munsell Color, 2010).

Wetland and WUS boundaries were flagged in the field and documented using a Trimble® global positioning system (GPS) capable of sub-meter accuracy. WUS boundaries were delineated using top of bank.

A functional assessment was completed for each of the delineated wetlands using *The Highway Methodology Workbook Supplement: Wetland Functions and Values* and *Wetland Function Value Evaluation Form* (USACE, 1999).





## 3.0 FINDINGS

#### 3.1 PUBLISHED INFORMATION

The Cockeysville Topographic 7.5' x 7.5' Quadrangle (USGS, 1957) depicts Jones Falls within the central portion of the Study Area, as well as two unnamed tributaries (**Figure 2**).

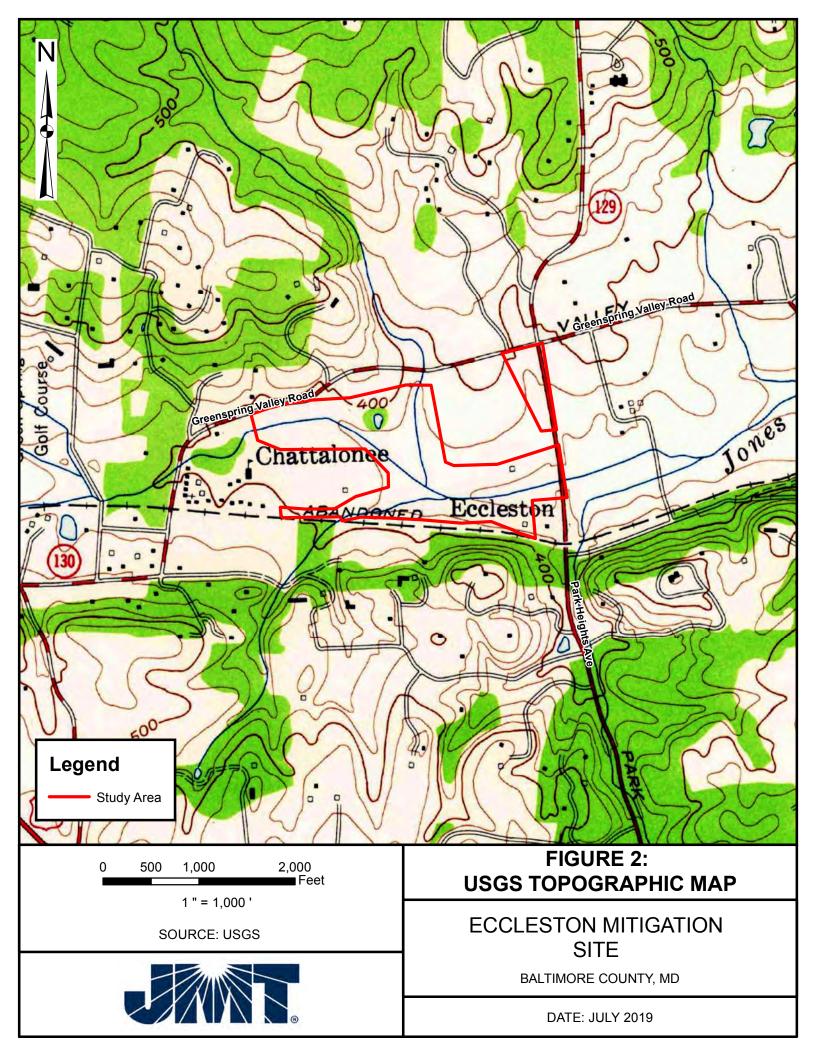
The NWI (USFWS, 2002) and Maryland DNR (DNR, 2005) wetland datasets show one mapped palustrine wetland within the Study Area (**Figure 3**).

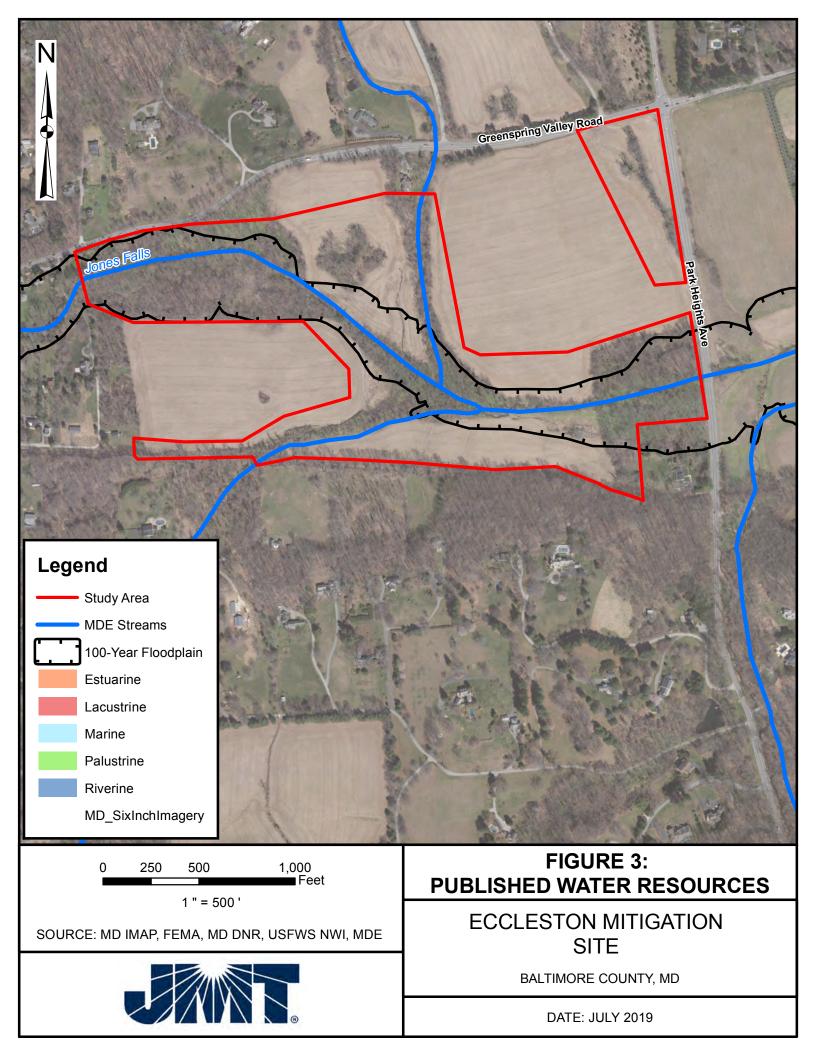
The MDE Stream Designated Use Class Map (MDE, 2014) shows three waterways: Jones Falls and two unnamed tributaries (Use III) (**Figure 3**).

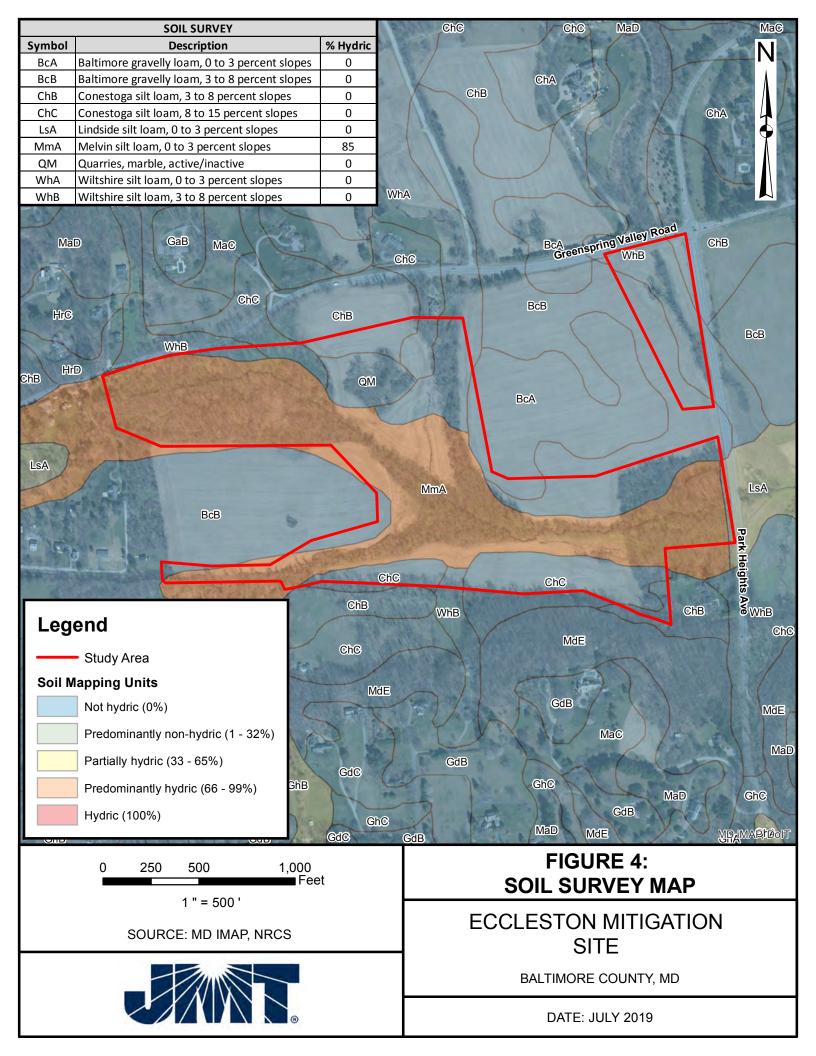
The FEMA floodplain mapping for Baltimore County, Maryland (FEMA, 2014) depicts that the central portion of the Study Area, along Jones Falls, is within the 100-year floodplain (FIRM Panel #2400100240F) (**Figure 3**).

The Web Soil Survey for Baltimore County, Maryland, (USDA-NRCS, 2017) indicates that nine soil survey units occur within the Study Area, one of which is predominantly hydric (**Figure 4**).











#### 3.2 AGENCY COORDINATION

#### Rare, Threatened, and Endangered Species

JMT sent a letter on September 19, 2017, to the Maryland DNR Wildlife and Heritage Service to determine if state-listed rare, threatened or endangered (RTE) species are present in the Study Area. A response was received on October 10, 2017, stating that there are no official state records for RTE species within the delineation area (**Appendix A**).

In a letter dated September 19, 2017, JMT contacted the DNR Environmental Review Program (ERP) to determine the presence of anadromous finfish or other fish in the Study Area. Response from DNR ERP was received on October 6, 2017. To protect spawning trout within Jones Falls, which is a Use III stream, no work may take place within streams between October 1 and April 30 of each year. DNR ERP also recommends strict adherence to the approved sediment and erosion control plan to prevent sediment-laden runoff from entering into the stream during construction (**Appendix A**).

Through coordination with USFWS, no federally listed threatened or endangered species are known to exist within the Study Area. The USFWS Online Certification Letters documenting these results, dated April 23, 2019, can be found in **Appendix A**. It should be noted that while the Northern Long-Eared Bat (*Myotis septentrionalis*) was flagged by the USFWS system, per the USFWS Chesapeake Bay Field Office (CBFO) website, the only areas in Maryland with documented hibernacula are Allegany, Garrett, and Washington Counties, and the only areas with documented maternity roosts are in Garrett and Allegany Counties. This project is located in Baltimore County, Maryland and would therefore not be located within 150 feet of a known maternity roost tree or within 0.25 miles of a known hibernaculum.

#### **Historical Resources**

JMT contacted the Maryland Historic Trust (MHT) in a letter dated September 19, 2017, to determine if the proposed project may impact known historical or archeological sites. A response was received on October 10, 2017, stating that MHT has determined that this project will have no adverse effects on historic or archaeological resources (**Appendix A**).

#### 3.3 FIELD INVESTIGATIONS

Field investigations were conducted between March 5 and 12, 2018, and on May 23, 2018, to identify and delineate wetlands and waterways within the Study Area. Additional resources were delineated on May 3 and June 5, 2019. JMT identified 15 non-tidal wetlands and 17 WUS. Locations of the delineated systems are shown on the Delineated Resource Maps in **Appendix B**.

At least one wetland sample plot was taken to represent each wetland cover type, and one upland plot was taken for each wetland or shared between adjacent wetlands. Wetland Determination Data Forms for the representative wetland and upland sample plots are presented in **Appendix C**, and photographic documentation is included in **Appendix D**. Functions and values datasheets can be found in **Appendix E**.





The identified wetlands and WUS are described below.

#### <u>Wetlands</u>

#### Wetland 01 (WET 01)

WET 01 consists of a patchwork of wetland cover types: palustrine, scrub-shrub, broadleaf deciduous, saturated/seasonally flooded (PSS1B/C); palustrine, emergent, persistent/*Phragmites australis*, temporarily flooded (PEM1/5A); and palustrine, forested, broadleaf deciduous, temporarily flooded/saturated (PFO1A/B). The PSS area is approximately 0.14 acres in size, the PEM is 0.41 acres, and the PFO is 0.55 acres. One wetland sample plot was taken within each cover type.

WET 01 is located in the southwestern portion of the Study Area (**Appendix B, Maps 1-2**). It has formed due to relocation of WUS 01; WUS 01 has not yet developed defined bed and banks in its new location, and as a result it, dissipates into WET 01 before reforming further to the east. In addition to discharging into WUS 01, WET 01 also discharges into WUS 02 in two locations. In one of those locations, water that has seeped a short distance underground from the main portion of WET 01 daylights and forms a small wetland polygon; this was delineated as WET 01A and is considered part of the forested section of WET 01. Functions and values provided by WET 01 include groundwater recharge, floodflow alteration, sediment/toxicant retention, nutrient removal, and wildlife habitat.

#### WET 01-SP1 (PSS)

Within the PSS sample plot, the dominance test for hydrophytic vegetation was met. Dominant plant species in the tree stratum included green ash (*Fraxinus pennsylvanica*, FACW), black willow (*Salix nigra*, OBL), and American sycamore (*Platanus occidentalis*, FACW). In the sapling/shrub stratum, green ash was dominant. In the herbaceous stratum, fig buttercup (*Ficaria verna*, FAC) was dominant.

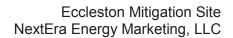
Primary hydrologic indicators observed included surface water, high water table, saturation, drift deposits, and water stained leaves. Secondary hydrologic indicators included drainage patterns, geomorphic position, and the FAC-neutral test. The soil profile met the depleted matrix (F3) indicator.

#### WET 01-SP2 (PEM)

The PEM sample plot was taken within one of the two large stands of common reed (*Phragmites australis*, FACW); however, non-phragmites-dominated emergent areas are also located within WET 01. Within the PEM wetland sample plot, the dominance test for hydrophytic vegetation was met. In the herbaceous stratum, common reed was dominant.

Primary hydrologic indicators observed included saturation and oxidized rhizospheres on living roots. Secondary hydrologic indicators included drainage patterns and the FAC-neutral test. The soil profile met the depleted matrix (F3) indicator.





#### WET 01-SP3 (PFO)

Within the PFO sample plot, the dominance test for hydrophytic vegetation was met. In the tree stratum, green ash was dominant. Dominant plant species in the sapling/shrub stratum included green ash and European privet (*Ligustrum vulgare*, FACU). In the herbaceous stratum, fig buttercup and skunk cabbage (*Symplocarpus foetidus*, OBL) were dominant.

Primary hydrologic indicators observed included saturation and oxidized rhizospheres on living roots. Secondary hydrologic indicators included drainage patterns and the FAC-neutral test. The soil profile met the depleted matrix (F3) indicator.

#### Wetland 02 (WET 02)

WET 02 is a palustrine, forested, broadleaf deciduous, temporarily flooded/saturated (PFO1A/B) and palustrine, emergent, persistent, temporarily flooded/saturated (PEM1A/B) wetland. The PEM portion of WET 02 is approximately 0.07 acres in size, while the PFO area is approximately 0.2 acres. The emergent portion of the wetland is located within a gap in the forest canopy; other than the lack of trees, it has the same characteristics as the forested portion. Therefore, only one sample plot was taken.

WET 02 is located in the south-central portion of the Study Area and likely receives hydrology from a broken underground waterworks pipe (**Appendix B, Map 2**). This broken pipe also provides hydrology to WUS 03. Additional sources of hydrology to the wetland include runoff from adjacent farm fields and occasional floodflow from Jones Falls (WUS 05). WET 02 discharges to WUS 03. Functions and values provided by WET 02 include groundwater recharge, floodflow alteration, and wildlife habitat.

The dominance test for hydrophytic vegetation was met. Dominant plant species in the tree stratum included green ash and boxelder (*Acer negundo*, FAC). Dominant species in the sapling/shrub stratum included European privet and boxelder. In the herbaceous stratum, fig buttercup and skunk cabbage were dominant. Poison ivy (*Toxicodendron radicans*, FAC) was dominant in the vine stratum.

Primary hydrologic indicators observed included water stained leaves. Secondary hydrologic indicators included geomorphic position and the FAC-neutral test. The soil profile met the depleted matrix (F3) indicator.

#### Wetland 03 (WET 03)

WET 03 is a palustrine, emergent, persistent, seasonally flooded (PEM1C) wetland approximately 0.01 acres in size. It is located in the south-central portion of the Study Area and has formed within a small depression located at the border between sloping farm fields and forested floodplain (**Appendix B, Map 2**). WET 03 receives hydrology from surface runoff from the fields and occasional floodflow, and it likely has a subsurface connection to Jones Falls. WET 03 appears to also function as a vernal pool; amphibian eggs were observed within the standing water. Functions and values provided by WET 03 include sediment/toxicant retention, nutrient removal, and wildlife habitat; it is not considered to provide floodflow alteration functions due to its small size.





The dominance test for hydrophytic vegetation was met. Dominant plant species in the herbaceous stratum included reed canary grass (*Phalaris arundinacea*, FACW) and soft rush (*Juncus effusus*, FACW).

Primary hydrologic indicators observed included surface water, high water table, saturation, and aquatic fauna. Secondary hydrologic indicators included geomorphic position and the FAC-neutral test. The soil profile met the loamy gleyed matrix (F2) indicator.

#### Wetland 04 (WET 04)

WET 04 consists of two wetland cover types: palustrine, forested, broadleaf deciduous, temporarily flooded/saturated (PFO1A/B); and palustrine, emergent, persistent, saturated/seasonally flooded (PEM1B/C). The PFO area is approximately 0.43 acres in size and the PEM area is 0.40 acres in size. One wetland sample plot was taken within each cover type.

WET 04 is located in the southeastern portion of the Study Area, adjacent to Park Heights Avenue (**Appendix B**, **Map 2**). It receives hydrology from groundwater, surface runoff from the adjacent farm fields and road, and occasional floodflow from Jones Falls. WET 04 is drained by a culvert that is currently partially blocked and backwatered; increased inundation is occurring within the wetland as a result. WET 04 is also hydrologically connected to Jones Falls through subsurface flow and possibly through surface flow during especially wet times. Functions and values provided by WET 04 include groundwater recharge/discharge, floodflow alteration, sediment/toxicant retention, nutrient removal, production export, and wildlife habitat.

#### WET 04-SP1 (PFO)

Within the PFO wetland sample plot, the dominance test for hydrophytic vegetation was met. In the tree stratum, red maple (*Acer rubrum*, FAC) and green ash were dominant. Dominant plant species in the sapling/shrub stratum included European privet, American beech (*Fagus grandifolia*, FACU), and boxelder. In the herbaceous stratum, skunk cabbage was dominant.

Primary hydrologic indicators observed included surface water, high water table, saturation, inundation visible on aerial imagery, and water stained leaves. Secondary hydrologic indicators included drainage patterns, geomorphic position and the FAC-neutral test. The soil profile met the depleted matrix (F3) indicator.

#### WET 04-SP2 (PEM)

The eastern half of the emergent cover type within WET 04 is dominated by reed canary grass. The PEM wetland sample plot was taken further west, within the more diverse emergent community that makes up the remainder of the cover type. Within the PEM wetland sample plot, the dominance test for hydrophytic vegetation was met. In the herbaceous stratum, false nettle (*Boehmeria cylindrica*, FACW), skunk cabbage, and woolgrass (*Scirpus cyperinus*, FACW) were dominant.





Primary hydrologic indicators observed included surface water, high water table, saturation, water stained leaves, and presence of reduced iron. Secondary hydrologic indicators included geomorphic position, microtopographic relief, and the FAC-neutral test. The soil profile met the thick dark surface (A12) indicator.

#### Wetland 05 (WET 05)

WET 05 is a palustrine, emergent, persistent, temporarily flooded/saturated (PEM1A/B) wetland approximately 0.03 acres in size. It is located in the southeastern portion of the Study Area, south of Jones Falls, and has formed within a small depression adjacent to WUS 06 and Jones Falls (**Appendix B, Map 2**). WET 05 appears to receive hydrology from WUS 06, existing tile drains, and subsurface flow from WET 06. WET 05 also occasionally receives floodflow from Jones Falls, but the wetland is not large enough to provide substantial floodflow alteration functions and values. WET 05 does, however, provide groundwater recharge and wildlife habitat functions.

The dominance test for hydrophytic vegetation was met. In the tree stratum, horse chestnut (*Aesculus hippocastanum*, NI) was dominant; European privet was dominant in the sapling/shrub stratum. In the herbaceous stratum, skunk cabbage and fig buttercup were dominant.

Primary hydrologic indicators observed included water stained leaves. Secondary hydrologic indicators included drainage patterns and geomorphic position. The soil profile met the depleted matrix (F3) indicator.

#### Wetland 06 (WET 06)

WET 06 consists of two wetland cover types: palustrine, emergent, persistent, saturated/seasonally flooded (PEM1B/C); and palustrine, forested, broad-leafed deciduous, saturated/seasonally flooded (PFO1B/C). The wetland is located in the southeastern portion of the Study Area, west of Park Heights Avenue, and extends outside of the study area to the south and east (**Appendix B, Map 2**). The PEM area is approximately 0.70 acres in size and the PFO area is approximately 0.66 acres in size. WET 06 receives hydrology from groundwater, surface runoff from the farm fields, roadway runoff, and occasional floodflow from Jones Falls. The wetland is likely hydrologically connected to Jones Falls and WUS 06 through subsurface flow. Functions and values provided by WET 06 include groundwater recharge/discharge, floodflow alteration, sediment/ toxicant retention, nutrient removal, and wildlife habitat.

#### WET 06-SP1 (PEM)

The dominance test for hydrophytic vegetation was met. Reed canary grass and soft rush were the dominant vegetation in the herbaceous stratum.

Primary hydrologic indicators observed included surface water, high water table, and saturation. Secondary hydrologic indicators included drainage patterns, saturation visible on areal imagery, geomorphic position, microtopographic relief, and the FAC-neutral test. The soil met the depleted matrix (F3) indicator.



#### WET 06-SP2 (PFO)

The dominance test for hydrophytic vegetation was met. Dominant vegetation in the tree stratum included green ash. In the herbaceous stratum, skunk cabbage was dominant.

Primary hydrologic indicators observed included surface water, saturation, water-stained leaves, and aquatic fauna. Secondary hydrologic indicators included drainage patterns, geomorphic position, and FAC-neutral test. The soil profile met the depleted matrix (F3) indicator.

#### Wetland 07 (WET 07)

WET 07 is a palustrine, forested, broadleaf deciduous, saturated/seasonally flooded (PFO1B/C) wetland approximately 0.4 acres in size. It is located in the northwestern portion of the Study Area, northeast of Jones Falls, and has formed at the toe of a wooded slope (**Appendix B, Map 3**). WET 07 receives hydrology from groundwater, surface runoff from the adjacent slope and farm fields, and occasional floodflow from Jones Falls. WET 07 discharges to WUS 07, a small intermittent stream located to the southeast. Functions and values provided by this wetland include groundwater discharge, floodflow alteration, sediment/toxicant retention, nutrient removal, and wildlife habitat.

The dominance test for hydrophytic vegetation was met. In the tree stratum, red maple was dominant. Dominant plant species in the sapling/shrub stratum included European privet and boxelder. In the herbaceous stratum, skunk cabbage was dominant, as was poison ivy in the woody vine stratum.

Primary hydrologic indicators observed included surface water, high water table, saturation, and water stained leaves. Secondary hydrologic indicators included drainage patterns, geomorphic position, and microtopographic relief. The soil profile met the depleted matrix (F3) indicator.

#### Wetland 08 (WET 08)

WET 08 consists of two wetland cover types: palustrine, forested, broadleaf deciduous, temporarily flooded/saturated (PFO1A/B); and palustrine, emergent, persistent, saturated/temporarily flooded (PEM1A/B). The PFO area is approximately 0.59 acres in size and the PEM area is 0.20 acres in size. One wetland sample plot was taken within each cover type.

WET 08 is located in the northwestern portion of the Study Area, south of Greenspring Valley Road (**Appendix B, Map 3**). WET 08A, a smaller wetland polygon, is located to the east of the main portion of WET 08. Although two separate wetland polygons were delineated, both are considered to be part of the same wetland system. WET 08 receives hydrology from WUS 14 and WUS 15, unmanaged road runoff, and precipitation. WET 08 discharges into WUS 08 and WUS 09, both of which are tributaries to Jones Falls. WET 08 is also hydrologically connected to Jones Falls through subsurface flow and possibly through surface flow during especially wet times. The wetland continues north outside of the Study Area in two locations. Functions and values provided by WET 08 include groundwater recharge, occasional floodflow alteration, sediment/toxicant retention, and wildlife habitat.





#### WET 08-SP1 (PFO)

Within the PFO sample plot, the dominance test for hydrophytic vegetation was met. In the tree stratum, red maple was dominant. Dominant vegetation in the sapling/shrub stratum included American sweetgum (*Liquidambar styraciflua*, FAC). In the herbaceous stratum, fig buttercup and one unidentified grass were dominant.

Primary hydrologic indicators observed included surface water, high water table, saturation, and water stained leaves. Secondary hydrologic indicators included drainage patterns, geomorphic position, microtopographic relief, and FAC-neutral test. The soil profile met the depleted matrix (F3) indicator.

#### WET 08-SP2 (PEM)

Within the PEM sample plot, the dominance test for hydrophytic vegetation was met. In the herbaceous stratum, tussock sedge (*Carex stricta*, OBL) and skunk cabbage were dominant.

Primary hydrologic indicators observed included surface water, high water table, saturation, inundation visible on aerial imagery, and water stained leaves. Secondary hydrologic indicators included drainage patterns, geomorphic position, microtopographic relief, and FAC-neutral test. The soil profile met the depleted matrix (F3) indicator.

#### Wetland 09 (WET 09)

WET 09 consists of two wetland cover types: palustrine, emergent, persistent, saturated/seasonally flooded (PEM1B/C); and palustrine, forested, broadleaf deciduous, temporarily flooded/saturated/seasonally flooded (PFO1A/B/C). The PFO area is approximately 3.56 acres in size and the PEM area is 1.02 acres in size. One wetland sample plot was taken within each cover type.

WET 09 is located in the northwestern portion of the Study Area, south of Jones Falls and north of a large farm field (**Appendix B, Map 3**). It receives hydrology from groundwater, surface runoff from the adjacent farm field, and occasional floodflow from Jones Falls. WET 09 discharges to Jones Falls through WUS 10, WUS 11, and WUS 12. WET 09 is also hydrologically connected to Jones Falls through subsurface flow and possibly through surface flow during especially wet times. Functions and values provided by WET 09 include groundwater recharge/discharge, floodflow alteration, sediment/toxicant retention, nutrient removal, and wildlife habitat. WET 09 continues outside of the Study Area to the west.

#### WET 09-SP1 (PEM)

Within the PEM sample plot, the dominance test for hydrophytic vegetation was met. Dominant plant species in the sapling/shrub stratum included European privet. In the herbaceous stratum skunk cabbage and rice cutgrass (*Leersia oryzoides*, OBL) were dominant.





Primary hydrologic indicators observed included surface water, high water table, saturation, and presence of reduced iron. Secondary hydrologic indicators included drainage patterns, geomorphic position, microtopographic relief, and FAC-neutral test. The soil profile met the thick dark surface (A12) indicator.

#### WET 09-SP2 (PFO)

Within the PFO sample plot, the dominance test for hydrophytic vegetation was met. In the tree stratum, pin oak (*Quercus palustris*, FACW) and silver maple (*Acer saccharinum*, FACW) were dominant. Dominant plant species in the sapling/shrub stratum included European privet and multiflora rose (*Rosa multiflora*, FACU). In the herbaceous stratum, sensitive fern (*Onoclea sensibilis*, FACW), false nettle, and rice cutgrass were dominant.

Primary hydrologic indicators observed included surface water, high water table, saturation, and water stained leaves. Secondary hydrologic indicators included drainage patterns, geomorphic position, microtopographic relief, and the FAC-neutral test. The soil profile met the depleted matrix (F3) indicator.

#### Wetland 10 (WET 10)

WET 10 is a palustrine, unconsolidated bottom, mud, permanently flooded (PUB3H) wetland, totaling approximately 0.12 acres in size. It is an abandoned quarry located in the north-central portion of the Study Area, west of WUS 20 and 21 (**Appendix B, Map 4**). It receives hydrology from groundwater, surface runoff from the adjacent farm fields, and precipitation. WET 10 contains a substantial amount of trash and debris. Functions and values provided by WET 10 include groundwater recharge/discharge and wildlife habitat.

No terrestrial vegetation was located within the wetland, due to the permanent presence of deep standing water. Likewise, soils could not be sampled due to the steep slopes of the quarry and the deep water. However, in cases of permanent inundation, hydric soils can be assumed. Therefore, while soils and vegetation are naturally problematic, the hydric soil and hydrophytic vegetation requirements are considered to still be met.

Primary hydrologic indicators observed included surface water, high water table, saturation, inundation visible on aerial imagery, and true aquatic plants. Secondary hydrologic indicators included geomorphic position.

#### Wetland 11 (WET 11)

WET 11 is a palustrine, emergent, persistent, temporarily flooded (PEM1A) wetland, approximately 0.02 acres in size. The wetland is located in the southcentral portion of the study area, at the toe of slope of an adjacent farm field (**Appendix B, Map 2**). The wetland is located within the Jones Falls floodplain and is likely connected to WUS 20, WUS 21, and WUS 05 through subsurface flow. Functions and values provided by WET 11 include groundwater recharge, although function is limited by the small size of the wetland.





The dominance test for hydrophytic vegetation was met. Dominant plant species in the herbaceous stratum included tussock sedge, Japanese stiltgrass (*Microstegium vimineum*, FAC), and creeping bentgrass (*Agrostis stolonifera*, FACW).

Primary hydrologic indicators observed included surface water, high water table, saturation, and drift deposits. Secondary hydrologic indicators included drainage patterns, geomorphic position, and FAC-neutral test. The soil profile met the depleted matrix (F3) indicator.

#### Wetland 12 (WET 12)

WET 12 is a palustrine, emergent, persistent, seasonally flooded (PEM1C) wetland, approximately 0.10 acres in size. The wetland is located on a farmed hillslope in the south-central portion of the Study Area (**Appendix B, Map 2**). WET 12 is fed by WUS 13 and upland runoff; discharge from the wetland and from WUS 13 is redirected east as sheet flow across the farm field, and dissipates near the edge of the forest. There may be a subsurface connection between this sheet flow and WUS 02. Functions and values provided by WET 12 include floodflow alteration, sediment/toxicant retention, and nutrient removal.

The dominance test for hydrophytic vegetation was met. Dominant plant species in the herbaceous stratum included switchgrass (*Panicum virgatum*, FAC) and arrowleaf tearthumb (*Polygonum sagittatum*, OBL).

Primary hydrologic indicators observed included surface water, high water table, saturation, and iron deposits. Secondary hydrologic indicators included microtopographic relief and FAC-neutral test. The soil profile met the depleted matrix (F3) indicator.

#### Wetland 20 (WET 20)

WET 20 is a palustrine, emergent, persistent, seasonally flooded, farmed (PEM1Cf) wetland approximately 0.04 acres in size. WET 20 is located in an agricultural field in the central portion of the Study Area, south of WET 10; due to impacts from agriculture, it is considered significantly disturbed (**Appendix B, Map 4**). WET 20 receives hydrology from precipitation and surface runoff from the adjacent farm fields, and it likely has a subsurface connection to Jones Falls. WET 20 also occasionally receives floodflow from Jones Falls, but the wetland is not large enough to provide a substantial floodflow alteration function. However, WET 20 does provide a groundwater recharge function.

Vegetation within the wetland was considered problematic, since it is actively farmed. Dominant plant species in the in the herbaceous stratum were Johnsongrass (*Sorghum halepense,* FACU), maize (*Zea mays,* NI), and yellow foxtail (*Setaria pumila,* FAC).

Primary hydrologic indicators observed included surface water and saturation. Secondary hydrologic indicators included geomorphic position. The soil profile met the depleted matrix (F3) indicator.

#### Wetland 21 (WET 21)

WET 21 is a palustrine, emergent, persistent, seasonally flooded, farmed (PEM1Cf) wetland totaling 0.03 acres in size. It is located in a farm field in the central portion of the Study Area, west of WUS 21; due to





impacts from agriculture, it is considered significantly disturbed (**Appendix B, Maps 1-2**). WET 21 receives hydrology from precipitation and surface runoff from the adjacent farm fields, and it likely has a subsurface connection to Jones Falls and WUS 21. WET 21 also occasionally receives floodflow from Jones Falls, but the wetland is not large enough to provide substantial floodflow alteration functions and values. However, WET 21 does provide the groundwater recharge function.

Vegetation within the wetland was considered problematic, since it is actively farmed. Dominant plant species in the herbaceous stratum were Johnsongrass, maize, and yellow foxtail.

The primary hydrologic indicator observed was water stained leaves. Secondary hydrologic indicators included surface soil cracks, drainage patterns, and geomorphic position. The soil profile met the depleted matrix (F3) indicator.

#### Wetland 22 (WET 22)

WET 22 is a palustrine, emergent, persistent, seasonally flooded (PEM1C) wetland totaling 0.10 acres in size. WET 22 is located in the central portion of the Study Area, abutting WUS 21 (**Appendix B, Map 4**). It receives hydrology from flow that was diverted from WUS 20 to provide a water source for cattle. The channel is not sufficiently sized to handle the hydrology being diverted through it; as a result, the area surrounding the stream is routinely inundated and saturated, resulting in the formation of WET 22. The wetland abuts active farmland, resulting in problematic vegetation. Functions and values provided by WET 22 include groundwater recharge and floodflow alteration.

The dominance test for hydrophytic vegetation was met. Dominant plant species in the herbaceous stratum included soft rush and arrowleaf tearthumb.

Primary hydrologic indicators observed included surface water, saturation, water stained leaves, and aquatic fauna. Secondary hydrologic indicators included drainage patterns, and geomorphic position. The soil profile met the depleted matrix (F3) indicator.

### <u>WUS</u>

#### Waters of the US 01 (WUS 01)

WUS 01 is a perennial stream that enters the Study Area from the southwest (**Appendix B, Maps 1-2**). Per aerial imagery, the stream formerly followed the flow path of WUS 02, then was altered to flow north and abandon that channel. WUS 01's path has recent been altered again and now flows east before losing its channel and dissipating into WET 01. WUS 01 reforms at the eastern edge of WET 01, eventually discharging into Jones Falls. Upstream of WET 01, the stream channel is approximately 6 feet wide with banks 1 foot high; at the time of the delineation, flow within the channel was between 6 and 24 inches deep. The substrate consists of cobble, sand, gravel, and silt.





#### Waters of the US 02 (WUS 02)

WUS 02 is a perennial and intermittent stream located in the southwestern portion of the Study Area (**Appendix B, Maps 1-2**). The stream flows to the east and becomes perennial after abutting WET 01; it discharges into Jones Falls. The stream channel is approximately 2 to 4 feet wide with banks between 1 and 2.5 feet high; at the time of the delineation, flow within the channel varied between 4 and 18 inches deep. The substrate consists of cobble, sand, gravel, and silt.

#### Waters of the US 03 (WUS 03)

WUS 03 is a perennial stream located in the center of the Study Area that receives hydrology from a broken waterworks pipe (**Appendix B, Map 2**). WUS 03 flows southeast, discharging into Jones Falls. The stream channel varies between 1 and 5 feet wide with banks between 0.5 and 1 feet high; at the time of the delineation, flow within the channel was between 2 and 12 inches deep. The substrate consists of cobble, sand, gravel, and silt.

#### Waters of the US 04 (WUS 04)

WUS 04 is a perennial stream that enters the Study Area from the north, originating from a culvert under Greenspring Valley Road (**Appendix B, Map 5**). The stream flows south/southeast, eventually discharging into a culvert under Park Heights Avenue at the eastern boundary of the Study Area. WUS 04 discharges into Jones Falls outside of the Study Area. The channel is between 2 and 6 feet wide with banks between 2 and 4 feet high; at the time of the delineation, flow within the channel was between 3 and 6 inches deep. The substrate consists of cobble, sand, gravel, and silt. The banks of WUS 04 are heavily vegetated with briers and vines.

#### Waters of the US 05 (WUS 05) - Jones Falls

WUS 05 is the perennial stream Jones Falls (**Appendix B, Maps 1-4**). The stream flows east to southeast through the entirety of the Study Area and receives hydrology from multiple tributaries and wetlands. Jones Falls eventually discharges into Baltimore Inner Harbor. The channel is approximately 8 feet wide and 2 to 4 feet deep; at the time of the delineation, flow within the channel was between 2 and 3 feet deep. The substrate consists of sand, cobble, and silt.

#### Waters of the US 06 (WUS 06)

WUS 06 is a perennial stream that originates from a groundwater seep (**Appendix B, Map 2**). This seep likely receives hydrology from subsurface flow from WET 06 as well as from tile drains. The stream flows north through the Study Area, abutting the southern side of WET 05 before discharging into Jones Falls. The channel is approximately 2 feet wide with banks between 0.5 and 2 feet deep; at the time of the delineation, flow within the channel was 3 inches deep. The substrate consists of sand and silt.





#### Waters of the US 07 (WUS 07)

WUS 07 is an intermittent stream that receives hydrology from WET 07 (**Appendix B, Map 3**). The stream flows southeast, discharging into Jones Falls. The channel is approximately 2 feet wide and 6 inches deep; at the time of the delineation, flow within the channel was 3 inches deep. The substrate consists of sand and silt.

#### Waters of the US 08 (WUS 08)

WUS 08 is an intermittent stream that receives hydrology from WET 08 (**Appendix B, Map 3**). The stream flows south, discharging into Jones Falls. The channel is 2 to 3 feet wide with banks between 1 and 2 feet high; at the time of the delineation, flow within the channel was between 4 and 6 inches deep. The substrate consists of sand, cobble, and silt.

#### Waters of the US 09 (WUS 09)

WUS 09 is an intermittent stream that receives hydrology from WET 08A (**Appendix B, Map 3**). It flows east, discharging into Jones Falls. The channel is approximately 2 feet wide with banks 6 inches deep; at the time of the delineation, flow within the channel was 3 inches deep. The substrate consists of sand and silt.

#### Waters of the US 10 (WUS 10)

WUS 10 is an intermittent stream that receives hydrology from WET 09 (**Appendix B, Map 3**). The stream flows north, discharging into Jones Falls. The channel is 2 to 3 feet wide with banks 1 to 2 feet high; at the time of the delineation, flow within the channel was 6 inches deep. The substrate consists of cobble, sand, gravel, and silt.

#### Waters of the US 11 (WUS 11)

WUS 11 is an intermittent stream that receives hydrology from WET 09 (**Appendix B, Map 3**). The stream flows east, discharging into Jones Falls. The channel is between 2 and 5 feet wide with banks between 1 and 2 feet high; at the time of the delineation, flow within the channel was between 3 to 9 inches deep. The substrate consists of cobble, sand, gravel, and silt.

#### Waters of the US 12 (WUS 12)

WUS 12 is a perennial stream that receives hydrology from WET 09 (**Appendix B, Map 3**). The stream flows northeast into Jones Falls. The channel is between 2 and 3 feet wide with banks 1 foot high; at the time of the delineation, flow within the channel was between 3 and 6 inches deep. The substrate consists of cobble, sand, gravel, and silt.





#### Waters of the US 13 (WUS 13)

WUS 13 is an intermittent stream that receives hydrology from a culvert outside of the Study Area (**Appendix B**, **Map 2**). The stream flows north through WET 12 and then dissipates into sheet flow. This sheet flow may have a subsurface connection to WUS 02. The channel is between 0.5 and 5 feet wide with banks less than 6 inches high; at the time of the delineation, flow within the channel was approximately 3 inches deep. The substrate consists of sand, silt, and vegetation.

#### Waters of the US 14 (WUS 14)

WUS 14 is an intermittent stream that receives hydrology from a culvert under Greenspring Valley Road (**Appendix B, Map 3**). The stream flows south and dissipates into WET 08, which is adjacent to Jones Falls. The channel is between 1 and 4 feet wide with banks between 1 and 3 feet high; at the time of the delineation, flow within the channel was 1 to 14 inches deep. The substrate consists of gravel, sand, and silt.

#### Waters of the US 15 (WUS 15)

WUS 15 is an intermittent stream that receives hydrology from a culvert under Greenspring Valley Road (**Appendix B, Map 3**). The stream flows south and dissipates into WET 08, which is adjacent to Jones Falls. The channel is between 1 and 2 feet wide with 1-foot high banks; at the time of the delineation, flow within the channel was 2 to 4 inches deep. The substrate consists of sand and silt.

#### Waters of the US 20 (WUS 20)

WUS 20 is a perennial stream located in the center of the Study Area (**Appendix B, Maps 2-4**). The stream flows south through the Study Area, eventually discharging into Jones Falls. Near the northern boundary of the Study Area, the majority of WUS 20's flow has been diverted through a pipe to WUS 21, leaving the downstream portion of WUS 20 dry. The channel is between 2 and 15 feet wide with banks 2 to 4 feet high; at the time of the delineation, flow within the channel was between 3 and 6 inches deep. The substrate consists of cobble, sand, gravel, vegetation, and silt.

#### Waters of the US 21 (WUS 21)

WUS 21 is an intermittent stream that receives hydrology from water diverted from WUS 20 (**Appendix B**, **Maps 2-4**). It flows south, discharging into Jones Falls and providing hydrology to WET 22. When the diversion pipe from WUS 20 becomes clogged, WUS 21 dries completely; therefore, WUS 21 is considered intermittent. The channel is between 2 and 6 feet wide and 1 foot deep; at the time of the delineation, flow within the channel was 3 to 6 inches deep. The substrate consists of sand, muck, vegetation, and silt.

#### 4.0 CONCLUSIONS

JMT conducted a review of published information and performed field investigations based on the *Regional* Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont





(*Version 2.0*) to identify potentially jurisdictional wetlands and WUS within the Study Area. Based on the results of the investigation, JMT identified 15 non-tidal wetlands and 17 WUS within the Study Area. **Tables 2 and 3** summarize the delineated resources.

Throughout the Study Area, evidence of anthropogenic alteration of the hydrologic regime was observed. Relocation of water from various parts of the floodplain to different locations through waterworks has resulted in the creation of new wetlands and streams and reduced hydrologic input within existing systems. Repeated relocation of WUS 01 has resulted in the lessening of hydrology within WUS 02 (its previous path) and the creation of WET 01. Altogether, the Eccleston Study Area presents a picture of an unstable, heavily altered system that would benefit from restoration.

Wetland Name	Cowardin Classification	Area (Ac.)
WET 01	PSS1B/C, PEM1/5A, PFO1A/B	1.10
WET 02	PFO1A/B, PEM1A/B	0.27
WET 03	PEM1C	0.01
WET 04	PFO1A/B, PEM1B/C	0.83
WET 05	PEM1A/B	0.03
WET 06	PEM1B/C, PFO1B/C	1.36
WET 07	PFO1B/C	0.40
WET 08	PFO1A/B, PEM1A/B	0.79
WET 09	PEM1B/C, PFO1A/B/C	4.58
WET 10	PUB3H	0.12
WET 11	PEM1A	0.02
WET 12	PEM1C	0.10
WET 20	PEM1Cf	0.04
WET 21	PEM1Cf	0.03
WET 22	PEM1C	0.10

#### **Table 2: Summary of Delineated Wetlands**





Waterway Name	Stream Classification	Length (LF)	Width (Ft.)
WUS 01	Perennial	859	6
WUS 02	Perennial/Intermittent	655	4
WUS 03	Perennial	295	5
WUS 04	Perennial	735	6
WUS 05	Perennial	3,800	8
WUS 06	Perennial	113	2
WUS 07	Intermittent	32	2
WUS 08	Intermittent	43	3
WUS 09	Intermittent	44	2
WUS 10	Intermittent	112	3
WUS 11	Intermittent	258	5
WUS 12	Perennial	43	3
WUS 13	Intermittent	143	2
WUS 14	Intermittent	19	3
WUS 15	Intermittent	19	2.5
WUS 20	Perennial	1,160	15
WUS 21	Intermittent	536	6

### **Table 3: Summary of Delineated Streams**

Environmental resources identified in this report may be subject to regulation by USACE and MDE. Impacts to these resources may require authorization by USACE and MDE as well as mitigation.





### **5.0 REFERENCES**

- Cowardin, L. M., V. Carter, F. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deep Water Habitats of the United States*. United States Fish and Wildlife Service, Washington DC
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Federal Emergency Management Agency. 2014. "Digital Flood Rate Insurance Map, Baltimore County, MD, Panel #2400100240F". <u>https://msc.fema.gov/portal/advanceSearch</u>. Accessed October 30, 2017.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List*. 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.
- Maryland Department of the Environment (MDE). 2005. "Maryland's 8-Digit Watersheds." <u>http://www.mde.state.md.us/programs/Water/TMDL/DataCenter/Pages/8DigitWatershed.aspx</u>. Accessed May 3, 2017.
- MDE. 2014. "Maryland's Designated Uses/Use Class Map." <u>http://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/DesignatedUsesMaps.aspx</u>. Accessed April 20, 2017.
- MDE. 2005. "Maryland's 8-Digit Watersheds." <u>http://www.mde.state.md.us/programs/Water/TMDL/DataCenter/Pages/8DigitWatershed.aspx</u>. Accessed May 3, 2017.
- Maryland Department of Natural Resources. 2005. "DNR Wetlands Inventory." Via MD iMAP. <u>http://geodata.md.gov/imap/services</u>. Accessed April 11, 2018.
- MD iMAP Services. 2013. "Imagery/MD\_SixInchImagery". <u>http://geodata.md.gov/imap/services</u>. Accessed January 18, 2018.
- Munsell Color. 2010. Munsell Soil Color Charts. Grand Rapids, MI.
- US Army Corps of Engineers (USACE). 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-12-9. Vicksburg, MS: US Army Engineer Research and Development Center.
- USACE. 1999. The Highway Methodology Workbook *Supplement*. *Wetland Functions and Values: A Descriptive Approach*. U.S. Army Corps of Engineers, New England District.





- US Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS). 2017. "NRCS Soil Survey for Baltimore County". <u>https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm</u>. Accessed April 11, 2018.
- US Fish and Wildlife Service. 2002. "Digital National Wetlands Inventory." Via MD iMAP. http://geodata.md.gov/imap/services. April 11, 2018.
- US Geological Survey (USGS). 1957. "USGS 7.5' X 7.5' Quadrangle for Cockeysville, MD". <u>https://ngmdb.usgs.gov</u>. Accessed April 11, 2018.
- USGS. 2009. "8-Digit Watershed Boundary Dataset." Via USDA-NRCS Geospatial Data Gateway. https://datagateway.nrcs.usda.gov/GDGOrder.aspx. Accessed April 28, 2017.

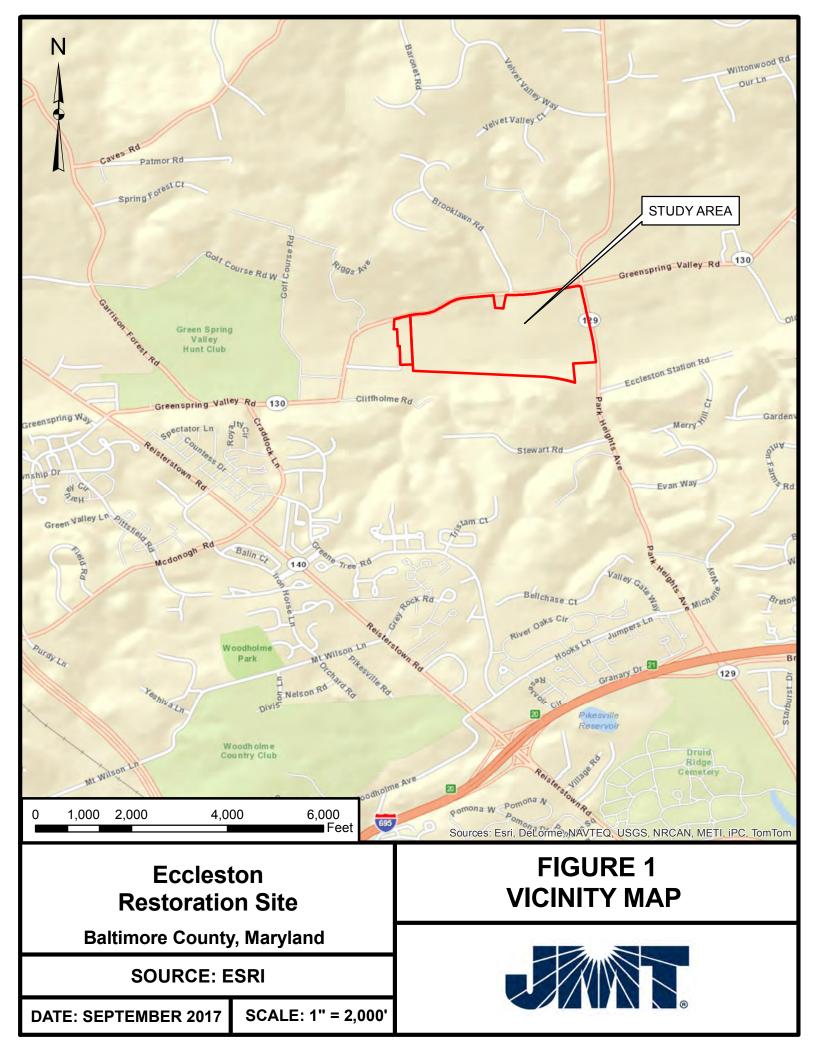




## APPENDIX A AGENCY CORRESPONDENCE









Larry Hogan, Governor Boyd Rutherford, Lt. Governor Mark Belton, Secretary Joanne Throwe, Deputy Secretary

October 10, 2017

Ms. Erin Markel Johnson, Mirmiran & Thompson, Inc. 40 Wight Avenue Hunt Valley, MD 21030

#### Environmental Review for Eccleston Stream and Wetland Restoration Site, JMT Job No. 17-10977, RE: Jones Falls and tributaries, Baltimore County, Maryland.

Dear Ms. Markel:

The Wildlife and Heritage Service has determined that there are no official State or Federal records for listed plant or animal species within the delineated area shown on the map provided. As a result, we have no specific concerns regarding potential impacts or recommendations for protection measures at this time. Please let us know however if the limits of proposed disturbance or overall site boundaries change and we will provide you with an updated evaluation.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

Lou'a. Bym

Lori A. Byrne, Environmental Review Coordinator Wildlife and Heritage Service MD Dept. of Natural Resources

ER# 2017.1492.ba



Larry Hogan, Governor Boyd Rutherford, Lt. Governor Mark Belton, Secretary Joanne Throwe, Deputy Secretary

18-MIS-054

October 6<sup>th</sup>, 2017

Erin Markel JMT 40 Wright Avenue Hunt Valley, MD 21030

Subject: Fisheries Information for the Eccleston Stream and Wetland Restoration Site, Baltimore County, JMT Job No. 17-10977

Dear Ms. Markel;

The above referenced project has been reviewed to determine fisheries species near the proposed project. The proposed activities include stream and wetland restoration efforts along parts of Jones Falls and its tributaries in Baltimore County, MD.

The project will take place within Jones Falls which is classified as a Use III stream (supports growth and propagation of trout). In general, no work is allowed within Use III stream between October 1<sup>st</sup> and April 30<sup>th</sup> to protect spawning trout. The applicant is encouraged to strictly adhere to the approved sediment and erosion control plan to prevent sediment laden runoff from entering the stream during construction.

DNR has documented resident fish species from Jones Falls and its nearby tributaries by our Maryland Biological Stream Survey. MBSS data can be accessed via the MDDNR web page at <u>http://streamhealth.maryland.gov</u>, allowing access to resource surveys.

If you have any further questions, please feel free to contact me at 410 260-8736.

Sincerely;

Christopher adland

Christopher Aadland Environmental Review Program



## United States Department of the Interior

FISH AND WILDLIFE SERVICE Chesapeake Bay Ecological Services Field Office 177 Admiral Cochrane Drive Annapolis, MD 21401-7307 Phone: (410) 573-4599 Fax: (410) 266-9127 <u>http://www.fws.gov/chesapeakebay/</u> http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html



April 23, 2019

In Reply Refer To: Consultation Code: 05E2CB00-2019-SLI-1262 Event Code: 05E2CB00-2019-E-03099 Project Name: MDTA Phase II I-95 Improvements Eccleston Mitigation Site

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

#### http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/ eagle\_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

## **Official Species List**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

#### **Chesapeake Bay Ecological Services Field Office**

177 Admiral Cochrane Drive Annapolis, MD 21401-7307 (410) 573-4599

## **Project Summary**

Consultation Code:	05E2CB00-2019-SLI-1262
Event Code:	05E2CB00-2019-E-03099
Project Name:	MDTA Phase II I-95 Improvements Eccleston Mitigation Site
Project Type:	TRANSPORTATION
Project Description:	The Maryland Transportation Authority (MDTA) is proposing the second implementation phase of the I-95 Section 200 Express Toll Lanes Improvements in Baltimore and Harford Counties. MDTA will be implementing stream restoration practices to enhance overall water quality and stream stability. Practices to be implemented include, but are not limited to, reconfiguration of horizontal and vertical profiles of existing stream channels using natural channel design techniques, bank stabilization, as well as conversion of concrete lined channels to more naturalized systems. Implementation of these practices will require disturbance to active stream channels, however, the end result will be improvements to water quality.

Project Location:

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/place/39.408154967994975N76.73515751086774W</u>



Counties: Baltimore, MD

## **Endangered Species Act Species**

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

#### Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i>	Threatened
No critical habitat has been designated for this species.	
This species only needs to be considered under the following conditions:	
<ul> <li>Projects with a federal nexus that have tree clearing = to or &gt; 15 acres: 1. REQUEST A</li> </ul>	
SPECIES LIST 2. NEXT STEP: EVALUATE DETERMINATION KEYS 3. SELECT	
EVALUATE under the Northern Long-Eared Bat (NLEB) Consultation and 4(d) Rule	
Consistency key	
Species profile: https://ecos.fws.gov/ecp/species/9045	

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

# Wetlands

Impacts to <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local <u>U.S. Army Corps of Engineers District</u>.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

• <u>PEM5A</u>

FRESHWATER FORESTED/SHRUB WETLAND

- <u>PFO1A</u>
- <u>PFO/SS1A</u>

201705494



September 19, 2017

Maryland Historical Trust **Division of Historical and Cultural Programs** 100 Community Place Crownsville, MD 21032-2023

Attn: Ms. Beth Cole Administrator, Review and Compliance

RE: Eccleston Stream and Wetland Restoration Site Baltimore County, Maryland JMT Job No. 17-10977

Dear Ms. Cole,

JMT is proposing stream and wetland restoration efforts along parts of Jones Falls and its tributaries in Baltimore County, MD.

Please accept this correspondence as a request for an evaluation of the study area for the presence of any historical sites, archeological sites or unique features. Following your review, we would appreciate an opinion as to whether an archeological investigation is warranted. We look forward to the receipt of your findings and appreciate your assistance with this matter. If additional information is required, please do not hesitate to contact me at (443) 212-7143 or emarkel@jmt.com.

Very truly yours,

JOHNSON, MIRMIRAN & THOMPSON, INC.

Sim R Marke

Erin Markel **Environmental Scientist** 

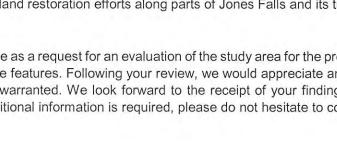
Cc: Chandler Denison, Associate, JMT

Enclosures

The Maryland Historical Trust has determined that this undertaking will have no adverse effect on historic properties. Date 10/10

BY-



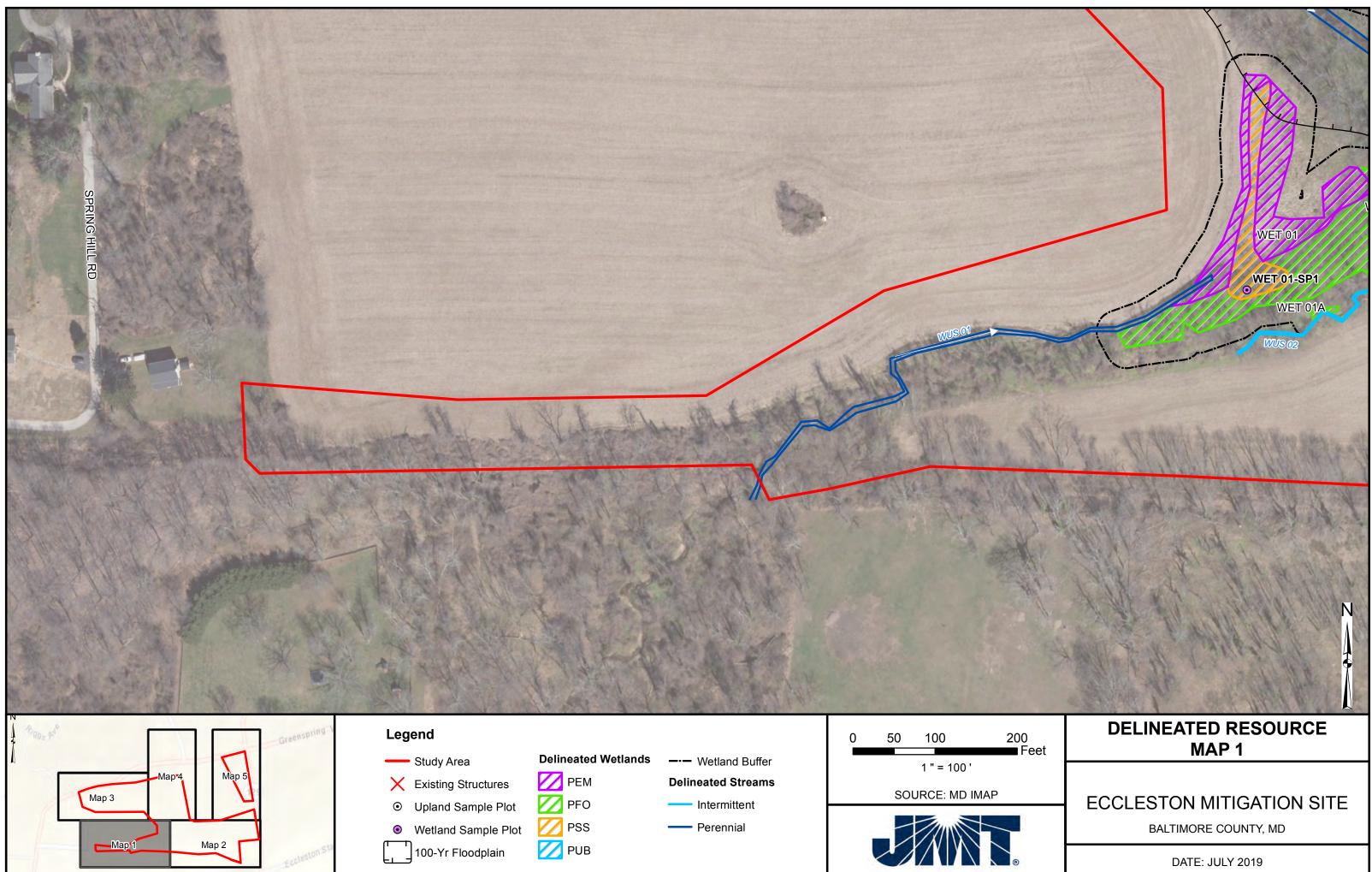


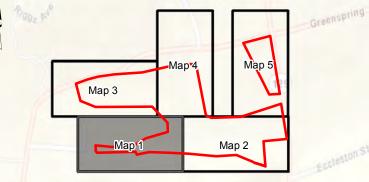
0

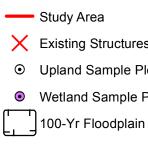


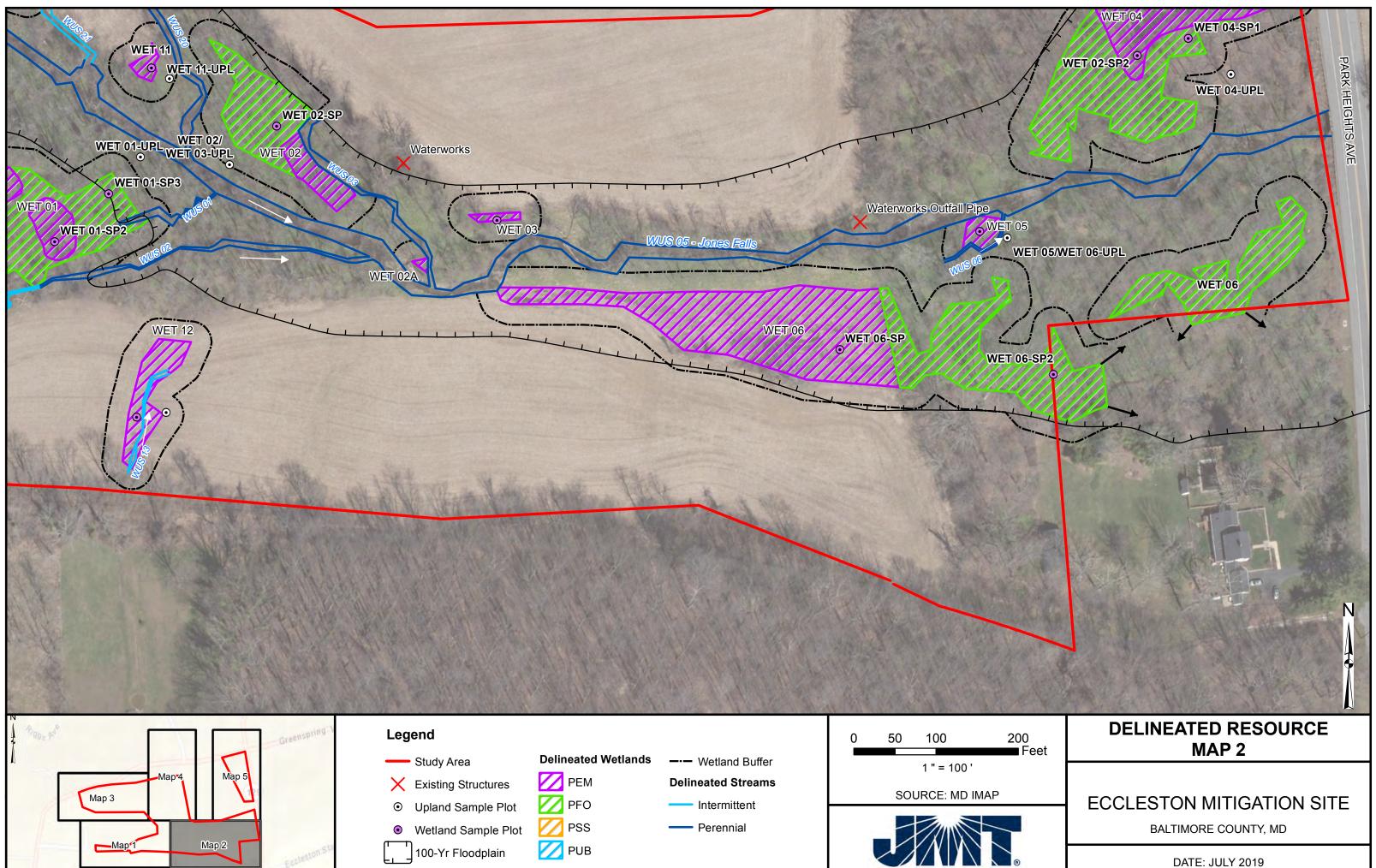
# APPENDIX B DELINEATED RESOURCE MAPS

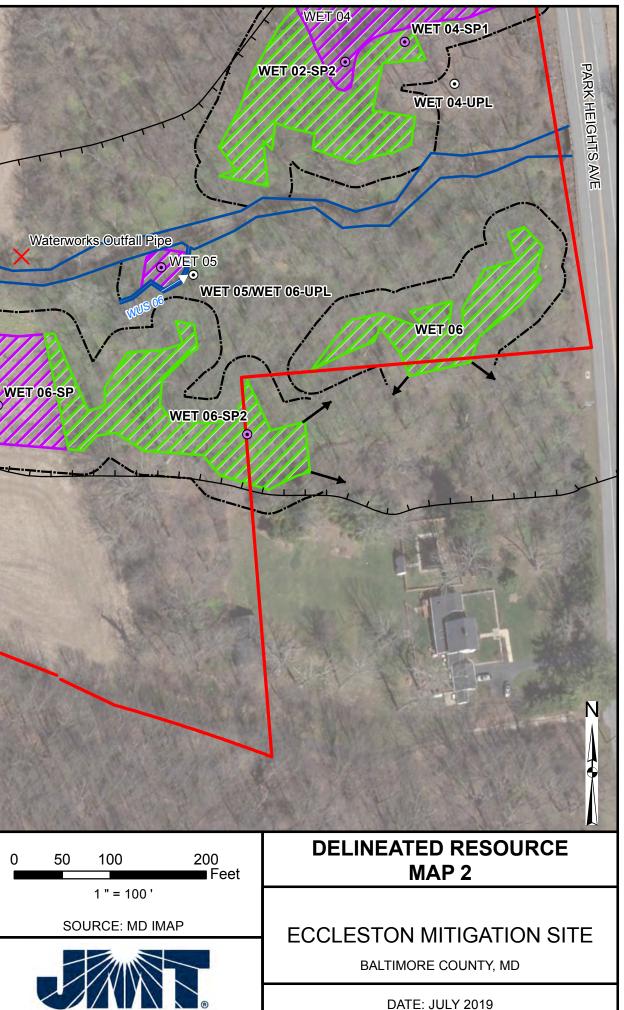


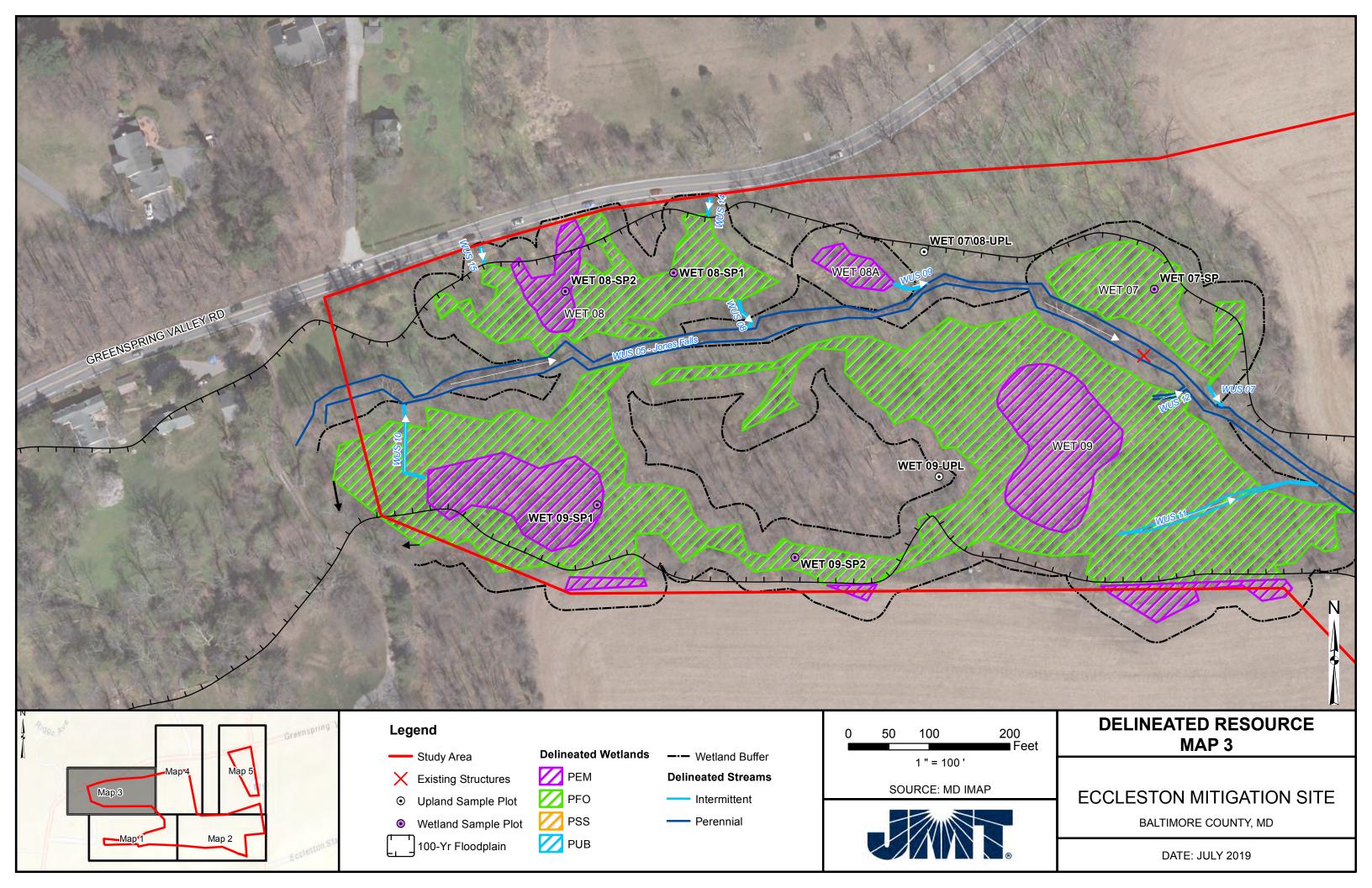


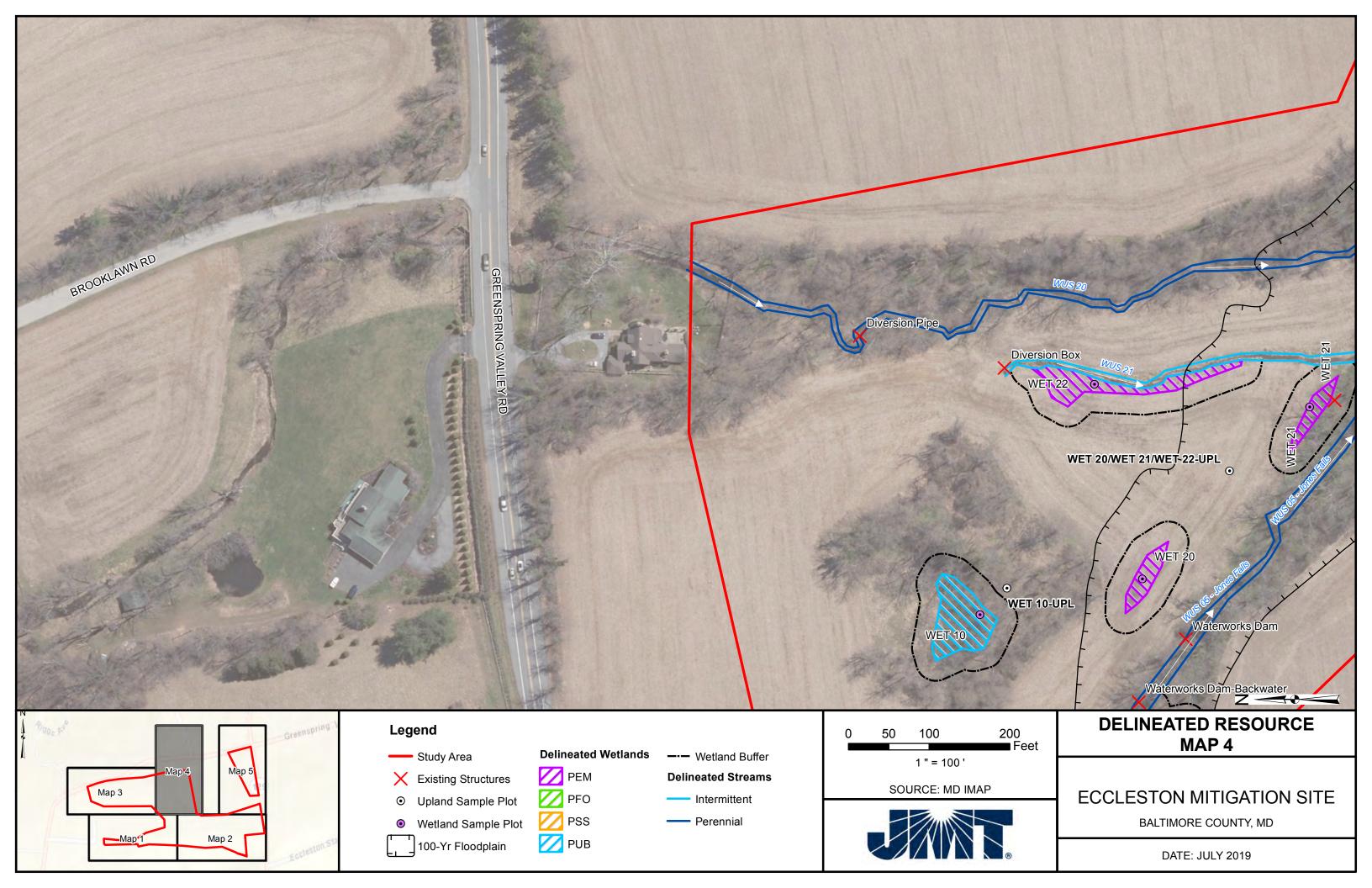


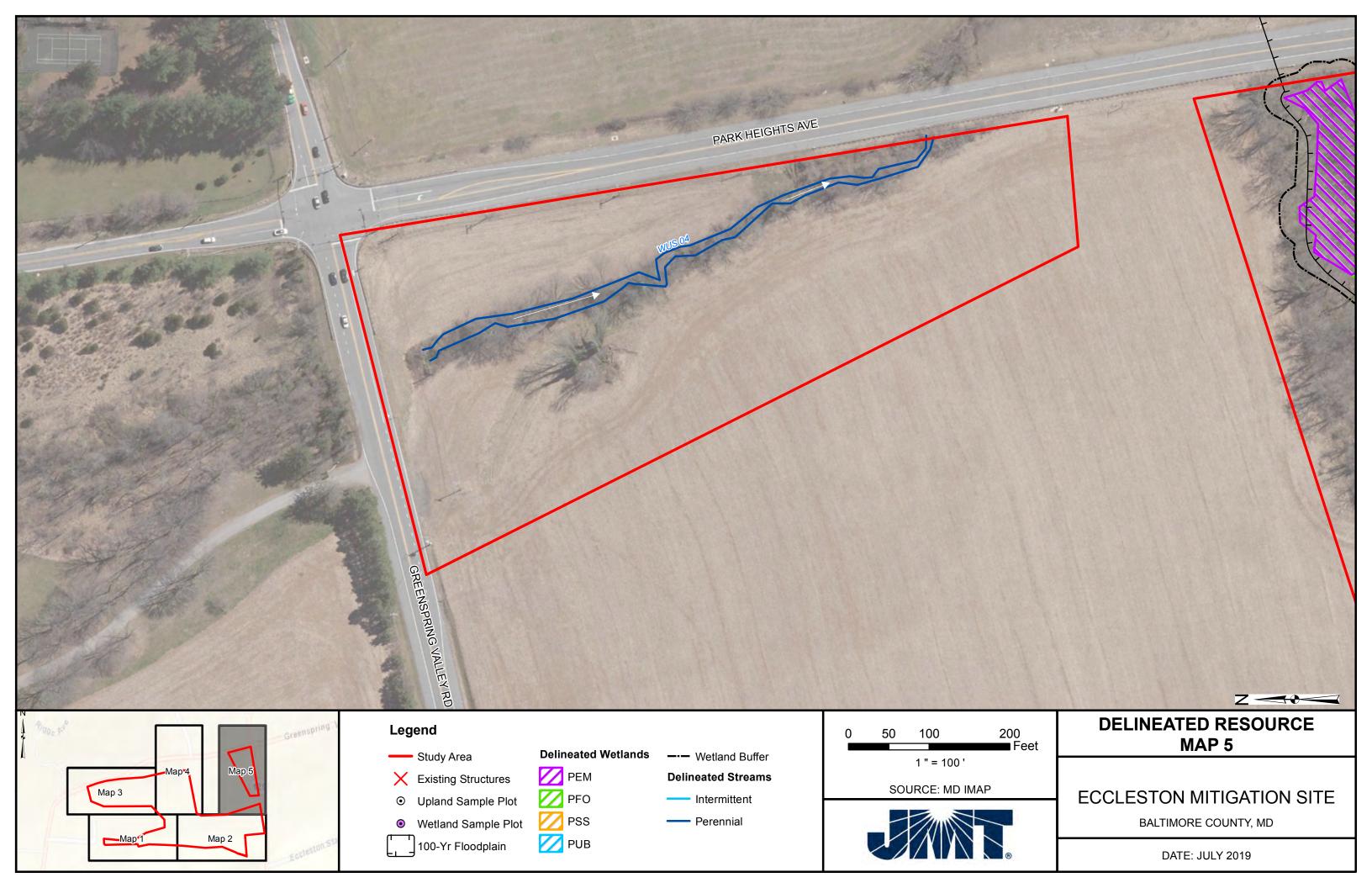






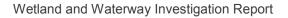








# APPENDIX C WETLAND, UPLAND, AND STREAM DATASHEETS





Project/Site: Eccleston		C	ity/County: Steve	enson, E	Baltimore	Sampling Date: 3/5/2018
Applicant/Owner: JMT					State: MD	Sampling Point: WET 01-SP1
Investigator(s): ERM, MEM		S	Section, Township,	Range:	N/A	
Landform (hillslope, terrace, etc	.): Riparian	L	ocal relief (concav	e, convex	, none): <u>Concave</u>	Slope (%): 0-1%
Subregion (LRR or MLRA): LF	R S	Lat: 39.406	653	Long:	-76.735625	Datum: NAD83
Soil Map Unit Name: MmA - I				_ 0		ication: PSS1B/C
Are climatic / hydrologic condition		•	•	(lf no e		
Are Vegetation Soil		ficantly disturbed?			al Circumstances"	
		-				
Are Vegetation Soil		ally problematic?	· ·		explain any answe	,
SUMMARY OF FINDING	S – Attach site r	nap showing s	ampling poin	t locatio	ons, transects	, important features, etc.
Hydrophytic Vegetation Prese	nt? • Yes	🔿 No	le the Same	alad Araa		
Hydric Soil Present?	Yes	🔿 No	Is the Samp within a We		• Yes	O No
Wetland Hydrology Present?	Yes	🔿 No				<u> </u>
Remarks:						
						ation and has dissipated to er channel of WUS 01, and
HYDROLOGY						
Wetland Hydrology Indicator	rs:				Secondary India	cators (minimum of two required)
Primary Indicators (minimum o	of one is required; che	ck all that apply)			Surface Soil	Cracks (B6)
× Surface Water (A1)	Tr	ue Aquatic Plants (	B14)		Sparsely Ve	getated Concave Surface (B8)
× High Water Table (A2)	H	ydrogen Sulfide Od	or (C1)		× Drainage Pa	tterns (B10)
× Saturation (A3)	0	xidized Rhizospher	es on Living Roots	s (C3)	Moss Trim L	ines (B16)
Water Marks (B1)	Pr	esence of Reduced	d Iron (C4)		Dry Season	Water Table (C2)
Sediment Deposits (B2)	R	ecent Iron Reductio	on in Tilled Soils (C	6)	Crayfish Bur	rows (C8)
× Drift Deposits (B3)		nin Muck Surface (C	27)		Saturation V	isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	O	ther (Explain in Rer	marks)			tressed Plants (D1)
Iron Deposits (B5)					× Geomorphic	
Inundation Visible on Aeria					Shallow Aqu	
× Water Stained Leaves (B9	)					aphic Relief (D4)
Aquatic Fauna (B13)					× FAC-Neutral	Test (D5)
Field Observations:			2			
Surface Water Present?	Yes No	Depth (inches):				
Water Table Present?	Yes No	Depth (inches):				
Saturation Present? (includes capillary fringe)	Yes ONO	Depth (inches):	0-8	Wetland	Hydrology Prese	nt? <ul> <li>Yes</li> <li>No</li> </ul>
Describe Recorded Data (stre	am gauge, monitoring	well, aerial photos	, previous inspecti	ons), if av	vailable:	
Remarks:						

Sampling Point: WET 01-SP1

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species	
1. Fraxinus pennsylvanica		Yes      No	FACW	That Are OBL, FACW, or FAC: <u>5</u> (A	A)
2. <u>Salix nigra</u>		Yes ONO	OBL	Total Number of Dominant	
3. Platanus occidentalis	_5	• Yes 🔿 No	FACW	Species Across All Strata: _5 (I	B)
4	(	🔾 Yes 🔵 No		Percent of Dominant Species	
5		🔾 Yes 🔵 No		That Are OBL, FACW, or FAC: 100.000 %	A/B)
6.				Prevalence Index worksheet:	
7.				Total % Cover of: Multiply by:	
8.				OBL species         x 1 =	
	20 :	= Total Cover		FACW species x 2 =	
50% of total cover: <u>10</u>	20%	% of total cover:	4	FAC species x 3 =	
Sapling/Shrub Stratum_ (Plot size:)				FACU species x 4 =	
1. Fraxinus pennsylvanica	50	• Yes 🔿 No	FACW	UPL species x 5 =	
2. Rosa multiflora	=	🔾 Yes 💿 No	FACU	Column Totals: (A)	(B)
3. Ligustrum vulgare		🔿 Yes 💿 No	FACU		(_)
4.		Yes No		Prevalence Index = B/A =	
5.				Hydrophytic Vegetation Indicators:	
6.				1 - Rapid Test for Hydrophytic Vegetation	
				× 2 - Dominance Test is >50%	
7.				☐ 3 - Prevalence Index is ≤3.0*	
8.				4 - Morphological Adaptations*	
		= Total Cover		Problematic Hydrophytic Vegetation* (Explain)	)
50% of total cover: <u>32</u> Herb Stratum (Plot size: )	<u>.5</u> 209	% of total cover:		*Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic.	ust
1. Ficaria verna	20	• Yes 🔿 No	FAC	Definitions of Four Vegetation Strata:	
2.		🔾 Yes 🔵 No		-	
3.				<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles	
4.				height.	3 01
5.				Sapling/Shrub – Woody plants, excluding vines, le	
6.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	:55
7.				<b>Herb</b> – All herbaceous (non-woody) plants, regardl of size, and woody plants less than 3.28 ft tall.	ess
8.					
9.				<b>Woody vine</b> – All woody vines greater than 3.28 ft height.	in
10.					
11.					
12.					
		= Total Cover			
50% of total cover: 10	200	% of total cover:	4		
Woody Vine Stratum (Plot size:)					
1		🔾 Yes 🔵 No			
2.					
3.					
4.					
5.					
	:	= Total Cover		Hydrophytic Vegetation	
50% of total cover:	209	% of total cover:		Present? • Yes No	
Remarks: (If observed, list morphological adaptations				1	

Profile Desc	ription: (Describe t	to the depth needed	to document	the ind	licator c	or confirm	the absence of indicato	ors.)
Depth	Matrix		Redox	0/	_			<b>_</b>
(inches)	Color (moist)	<u>%</u> Color (i	· · · · ·	%	Type <sub>1</sub>	Loc <sub>2</sub>	Texture	Remarks
0-6	10YR 4/1	<u>95</u> 10YR 3/6	5	<u> </u>	С	M	Silty clay	
6-12	10YR 4/1	100					Silty clay	
1Type: C=Co	ncentration. D=Depl	letion, RM=Reduced N	1atrix. MS=Ma	asked S	and Gra	ins.	2Location: PL=Pore L	ining. M=Matrix.
		able to all LRRs, unle				-		5,
Histosol (	41)		Dark Su	Irface (S	S7)			
🔲 Histic Epi	pedon (A2)		Polyvalı	ue Belov	w Surfac	e (S8) (Ml	LRA 147, 148)	
Black Hist	ic (A3)		Thin Da	rk Surfa	ace (S9)	(MLRA 14	17, 148)	
Hydrogen	Sulfide (A4)		Loamy	Gleyed	Matrix (F	-2)		
Stratified	Layers (A5)		× Deplete	d Matrix	(F3)			
	k (A10) (LRR N)		Redox [					
	Below Dark Surface	(A11)	Deplete					
	k Surface (A12)		Redox [					
		RR N, MLRA 147, 148		-		. , .	.RR N, MLRA 136)	
	eyed Matrix (S4)					MLRA 136		
Sandy Re	Matrix (S6)		Pleamo		ipiain Sc	JIIS (F 19) (	(MLRA 148)	
	or Problematic Hyc							
	k (A10) (MLRA 147							
	airie Redox (A16) (M							
	ent Material (TF2)	19) (MLRA 136, 147)						
	llow Dark Surface (1	(F12)				tic vegeta		
	plain in Remarks)	11 12)				st be prese blematic.	ent,	
			uncoo	uistuibt			1	
_	ayer (if observed):							
Type:								• Yes 🔿 No
Depth (in	ches):						Hydric Soil Present?	
Remarks:								

Project/Site: Eccleston	City	<sub>County:</sub> Stevenson, B	altimore	Sampling Date: 3/6/2018
Applicant/Owner: JMT				Sampling Point: WET 01-SP2
Investigator(s): ERM, MEM	Sec	tion, Township, Range: N	J/A	
Landform (hillslope, terrace, etc.): Terrac	e Loc	al relief (concave, convex,	, none): Concave	Slope (%): 0-2%
Subregion (LRR or MLRA): LRR S	Lat: 39.40690	)7 Lona:	-76.734851	Datum: NAD83
Soil Map Unit Name: MmA - Melvin sil				cation: PEM1/5A
Are climatic / hydrologic conditions on the si	•	•		
Are Vegetation Soil × Hydrology			al Circumstances" p	
Are Vegetation Soil Hydrology	naturally problematic?	(If needed, e	explain any answer	s in Remarks.)
SUMMARY OF FINDINGS – Attac	h site map showing sa	npling point locatio	ons, 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 O No			
Remarks:				
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is requ			Surface Soil C	( )
Surface Water (A1)	True Aquatic Plants (B1			etated Concave Surface (B8)
High Water Table (A2)	Hydrogen Sulfide Odor		× Drainage Patt	
× Saturation (A3)	× Oxidized Rhizospheres		Moss Trim Lin	
Water Marks (B1)	Presence of Reduced Ir			Vater Table (C2)
Sediment Deposits (B2)	Recent Iron Reduction i		Crayfish Burro	
Drift Deposits (B3)	Thin Muck Surface (C7)			sible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Rema	rks)		ressed Plants (D1)
Iron Deposits (B5)	7\		Geomorphic F	
Inundation Visible on Aerial Imagery (B	()		Shallow Aquita	
Water Stained Leaves (B9)				phic Relief (D4)
Aquatic Fauna (B13)			× FAC-Neutral 1	Test (D5)
Field Observations:				
Surface Water Present? O Yes	No Depth (inches):			
Water Table Present? O Yes				
Saturation Present? • Yes (	No Depth (inches): 0	.5-8 Wetland H	Hydrology Present	t? • Yes 🔿 No
(includes capillary fringe) Describe Recorded Data (stream gauge, n	nonitoring well, aerial photos, p	revious inspections), if ava	ailable:	
	······································			
Remarks:				

Sampling Point: WET 01-SP2

	Absolute Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover</u> Species?		Number of Dominant Species
1	O Yes O N		That Are OBL, FACW, or FAC: _1 (A)
2	O Yes O N	lo	Total Number of Dominant
3.			Species Across All Strata:(B)
4.			Demonst of Deminant Crossies
5.			Percent of Dominant Species That Are OBL, FACW, or FAC: 100.000 % (A/B)
6.			
			Prevalence Index worksheet:
7.			Total % Cover of:Multiply by:
8.			OBL species x 1 =
	= Total Cove	r	FACW species x 2 =
50% of total cover:	20% of total cov	ver:	FAC species x 3 =
Sapling/Shrub Stratum (Plot size: )			FACU species x 4 =
1	○ Yes ○ N	lo	UPL species x 5 =
2.			Column Totals: (A) (B)
3.			
4.			Prevalence Index = B/A =
5.			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
6. -			× 2 - Dominance Test is >50%
7.			☐ 3 - Prevalence Index is ≤3.0*
8.			4 - Morphological Adaptations*
	= Total Cove	r	Problematic Hydrophytic Vegetation* (Explain)
50% of total cover:	20% of total cov	er:	*Indicators of hydric soil and wetland hydrology must
Herb Stratum (Plot size: )			be present, unless disturbed or problematic.
1. Phragmites australis	75 💽 Yes 🔿 N	lo FACW	Definitions of Four Vegetation Strata:
	15 Yes N		
2. Ficana venia     3. Lonicera japonica	5 Yes N		<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or
			more in diameter at breast height (DBH), regardless of height.
4. Boehmeria cylindrica		17.017	
5. Unknown grass	<u>10</u> Yes • N		Sapling/Shrub – Woody plants, excluding vines, less
6	O Yes O N	lo	than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7.			<b>Herb</b> – All herbaceous (non-woody) plants, regardless
8.			of size, and woody plants less than 3.28 ft tall.
9.			Woody vine – All woody vines greater than 3.28 ft in
10.			height.
11.			
12.			
	110 = Total Cove	r	
FOR/ of total accuracy FE			
50% of total cover: 55	20% of total cov	er:	
Woody Vine Stratum (Plot size: )			
1	• Yes • N		
2.			
3.			
4.			
5.			
	= Total Cove	r	Hydrophytic Vegetation
50% of total cover:			Present? • Yes No
			1
Remarks: (If observed, list morphological adaptations	below).		

0-6 10 6-15 2. 1Type: C=Concen Hydric Soil Indic Histosol (A1) Histic Epipedo Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A1)	<b>ators: (Applica</b> n (A2) 3) ide (A4) rs (A5)	95 11 85 11	Rs, unless othe	1S=Masked ark Surface olyvalue Be	<b>ed.)</b> e (S7)	Loc2 PL M		Remarks
0-6 10 6-15 2. 17ype: C=Concen Hydric Soil Indic Histosol (A1) Histic Epipedo Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A1)	tration, D=Deple ators: (Applica n (A2) 3) ide (A4) rs (A5)	95 10 85 10 	0YR 4/4 0YR 4/6 duced Matrix, M <b>Rs, unless othe</b>	1S=Masked ark Surface olyvalue Be	C C C I Sand Gra ed.) e (S7)	PL M	Silty clay	
6-15 2.	<u>5Y 5/2</u> tration, D=Deple <b>ators: (Applica</b> n (A2) 3) ide (A4) rs (A5)	85 11	0YR 4/6 duced Matrix, M Rs, unless othe	15=Masked arwise note ark Surface olyvalue Be	C  I Sand Gra ed.) e (S7)	<u>M</u>	<u>Clay loam</u>	ning, M=Matrix.
<u>₁Type: C=Concen</u> <b>Hydric Soil Indic</b> Histosol (A1) Histic Epipedo Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A1)	tration, D=Deple <b>ators: (Applica</b> n (A2) 3) ide (A4) rs (A5)	tion, RM=Re	duced Matrix, M Rs, unless othe Da Pd Pd	1S=Masked erwise note ark Surface olyvalue Be	I Sand Gra ed.) e (S7)			ning, M=Matrix.
Hydric Soil Indic Histosol (A1) Histic Epipedo Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A <sup>4</sup> )	<b>ators: (Applica</b> n (A2) 3) ide (A4) rs (A5)		Rs, unless othe	e <b>rwise not</b> e ark Surface olyvalue Be	<b>ed.)</b> e (S7)	ins.	2Location: PL=Pore Li	ning, M=Matrix.
Hydric Soil Indic Histosol (A1) Histic Epipedo Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A1	<b>ators: (Applica</b> n (A2) 3) ide (A4) rs (A5)		Rs, unless othe	e <b>rwise not</b> e ark Surface olyvalue Be	<b>ed.)</b> e (S7)	ins.	2Location: PL=Pore Li	ning, M=Matrix.
Hydric Soil Indic Histosol (A1) Histic Epipedo Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A <sup>4</sup> )	<b>ators: (Applica</b> n (A2) 3) ide (A4) rs (A5)		Rs, unless othe	e <b>rwise not</b> e ark Surface olyvalue Be	<b>ed.)</b> e (S7)	ins.	2Location: PL=Pore Li	ining, M=Matrix.
Histic Epipedo Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A <sup>1</sup>	3) de (A4) rs (A5)			olyvalue Be				
<ul> <li>Black Histic (A</li> <li>Hydrogen Sulf</li> <li>Stratified Laye</li> <li>2 cm Muck (A<sup>1</sup></li> </ul>	3) de (A4) rs (A5)			-				
<ul> <li>Hydrogen Sulf</li> <li>Stratified Laye</li> <li>2 cm Muck (A1)</li> </ul>	de (A4) rs (A5)		TI		low Surfac	e (S8) (M	LRA 147, 148)	
Stratified Laye	rs (A5)			hin Dark Su	ırface (S9)	(MLRA 14	17, 148)	
2 cm Muck (A1				bamy Gleye	ed Matrix (F	2)		
			×D	epleted Ma	trix (F3)			
Depleted Below			R	edox Dark	Surface (F	6)		
	w Dark Surface	(A11)		epleted Da	rk Surface	(F7)		
Thick Dark Su	face (A12)		R	edox Depre	essions (F8	)		
Sandy Mucky	Vineral (S1) (LR	R N, MLRA 1	47, 148) 🗌 Iro	on-Mangan	ese Masse	s (F12) (L	RR N, MLRA 136)	
Sandy Gleyed	Matrix (S4)			mbric Surfa	ice (F13) (I	/ILRA 136	, 122)	
Sandy Redox	(S5)		Pi	edmont Flo	odplain So	oils (F19) (	MLRA 148)	
Stripped Matrix	(S6)							
	10) (MLRA 147)							
	Redox (A16) (MI							
	odplain Soils (F1	9) (MLRA 136	6, 147)					
Red Parent M		- 40	3	Indicators of	of hydrophy	tic vegeta	tion and	
Other (Explain	Dark Surface (T i in Remarks)	-12)	v U	vetland hyd Inless distu	rology mus	t be prese	ent,	
Restrictive Laye								
Type:	,							
Depth (inches)			_				Hydric Soil Present?	🖲 Yes 🔵 No
Remarks:			_					

Project/Site: Eccleston	City	//County: Stevenson,	Baltimore	Sampling Date: 3/6/2018
Applicant/Owner: JMT		, <u> </u>	State: MD	Sampling Point: WET 01-SP3
Investigator(s): ERM, MEM	Se	ction, Township, Range:	N/A	
Landform (hillslope, terrace, etc.): Depres		cal relief (concave, conve		Ve Slope (%): 0-2
Subregion (LRR or MLRA): NAD83	Lat: 39.4070	<b>,</b>	: -76.734713	Datum: NAD83
				ification: PFO1A/B
Soil Map Unit Name: MmA - Melvin silt				
Are climatic / hydrologic conditions on the si				
Are Vegetation Soil Hydrology	0 ,		nal Circumstances"	
Are Vegetation Soil Hydrology	naturally problematic?	(If needed	l, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS – Attac	h site map showing sa	mpling point locat	ions, transects	s, important features, etc.
Hydrophytic Vegetation Present?	Yes No	Is the Sampled Are	2	
Hydric Soil Present?	Yes No	within a Wetland?		s 🔿 No
Wetland Hydrology Present?	Yes No			
HYDROLOGY				
Wetland Hydrology Indicators:				icators (minimum of two required)
Primary Indicators (minimum of one is requ				il Cracks (B6)
Surface Water (A1)	True Aquatic Plants (B Hydrogen Sulfide Odor		<ul> <li>Sparsely Ve</li> <li>Drainage Pa</li> </ul>	egetated Concave Surface (B8)
× Saturation (A3)	× Oxidized Rhizospheres		Moss Trim L	
Water Marks (B1)	Presence of Reduced I			n Water Table (C2)
Sediment Deposits (B2)	Recent Iron Reduction		Crayfish Bu	
Drift Deposits (B3)	Thin Muck Surface (C7		-	Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Rema			Stressed Plants (D1)
Iron Deposits (B5)				c Position (D2)
Inundation Visible on Aerial Imagery (B	7)		Shallow Aqu	uitard (D3)
Water Stained Leaves (B9)			Microtopogr	raphic Relief (D4)
Aquatic Fauna (B13)			× FAC-Neutra	al Test (D5)
Field Observations:				
Surface Water Present? O Yes	No Depth (inches):			
Water Table Present? O Yes	No Depth (inches):			
Saturation Present?	No Depth (inches):	)-4 Wetland	d Hydrology Prese	ent? <ul> <li>Yes</li> <li>No</li> </ul>
(includes capillary fringe) Describe Recorded Data (stream gauge, m	onitoring well serial photos	vervious inspections) if a	wailable:	
Describe Necolded Data (Stream gauge, n				
Remarks:				

Sampling Point: WET 01-SP3

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: )	% Cover	Species?	Status	Number of Dominant Species
1. Fraxinus pennsylvanica	40	Yes ONO	FACW	That Are OBL, FACW, or FAC: _4(A)
2. Acer saccharinum	5	🔾 Yes 💿 No	FACW	Total Number of Dominant
3.		🔿 Yes 🔿 No		Species Across All Strata: _5(B)
4.				
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 80.000 % (A/B)
6.				
				Prevalence Index worksheet:
7.				Total % Cover of: Multiply by:
8.				OBL species x 1 =
	45	= Total Cover		FACW species x 2 =
50% of total cover: 22.	5 20	0% of total cover:	9	FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)				FACU species x 4 =
1. Fraxinus pennsylvanica	30	Yes ONO	FACW	UPL species x 5 =
2. Ligustrum vulgare	40	Yes ONO	FACU	Column Totals: (A) (B)
3. Rosa multiflora	5	🔿 Yes 💿 No	FACU	
		○ Yes ○ No	1400	Prevalence Index = B/A =
4				Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
6.				× 2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0*
8.				4 - Morphological Adaptations*
	75	= Total Cover		Problematic Hydrophytic Vegetation* (Explain)
50% of total cover:_37.	5 20	)% of total cover:	15	
	20			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	20	• Yes 🔿 No		
1. <u>Symplocarpus foetidus</u>		· · · · · · · · · · · · · · · · · · ·	OBL	Definitions of Four Vegetation Strata:
2. Ficaria verna			FAC	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or
3. Ligustrum vulgare	10	○ Yes ● No	FACU	more in diameter at breast height (DBH), regardless of
4		O Yes ○ No		height.
5.				Sapling/Shrub – Woody plants, excluding vines, less
6.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7.				Herb – All herbaceous (non-woody) plants, regardless
8.				of size, and woody plants less than 3.28 ft tall.
0				Woody vine All woody vince greater than 2.28 ft in
а. 10				<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
10.				
11.				
12.				
	100	= Total Cover		
50% of total cover:50	20	% of total cover:	20	
Woody Vine Stratum (Plot size: )				
1		🔿 Yes 🔿 No		
2.				
3.				
4.				
5.				Hydrophytic
		= Total Cover		Vegetation Present? • Yes No
50% of total cover:	20	0% of total cover:		Present? • Yes No
Remarks: (If observed, list morphological adaptations	below).			
	-			

	10YR 4 10YR 4 10YR 4 7.5YR 10 10 10 10 10 10 10 10 10 10	4/4 d Matrix, MS: nless otherv Dark Poly Thin Loar × Dep Red Dep Red 48) Iron-	<u>%</u> <u>5</u> <u>20</u> <u>20</u> <u>20</u> wise note k Surface value Be to Dark Su my Gleye bleted Mat lox Dark S bleted Dar lox Dark S bleted Dar lox Depre -Mangane bric Surfa	ed.) e (S7) elow Surfac urface (S9) ed Matrix (F trix (F3) Surface (F rk Surface essions (F esse Masse ace (F13) (I	ce (S8) (M (MLRA 1 <sup>-</sup> 2) 6) (F7) 3) cs (F12) (I MLRA 136	ILRA 147, 148) 47, 148) LRR N, MLRA 136)	e Lining, M=Matrix.
2-8+       5Y 5/1       6         2-8+       5Y 5/1       6         Indicators       (Applicable)         Indicators:       (Applicable)         Iditic Soil Indicators:       (Applicable)         Histosol (A1)       Histic Epipedon (A2)         Black Histic (A3)       Hydrogen Sulfide (A4)         Stratified Layers (A5)       2 cm Muck (A10) (LRR N)         Depleted Below Dark Surface (A12)       Sandy Mucky Mineral (S1) (LRR N)         Sandy Gleyed Matrix (S4)       Sandy Redox (S5)         Stripped Matrix (S6)       Stripped Matrix (S6)         ndicators for Problematic Hydric       2 cm Muck (A10) (MLRA 147)         Coast Prairie Redox (A16) (MLRA	1) N, MLRA 147, 14	4/4 d Matrix, MS: nless otherv Dark Poly Thin Loar × Dep Red Dep Red 48) Iron-	20 	d Sand Gra ed.) e (S7) elow Surface urface (S9) ed Matrix (F3) Surface (F13) (Elow Surface essions (F8) esse Masse ace (F13) (Elos	<u>M</u> <u>M</u> <u>M</u> <u>M</u> (MLRA 1: F2) 6) (F7) 8) es (F12) (I MLRA 130	<u>Silty clay</u> 2Location: PL=Por 1LRA 147, 148) 47, 148)	e Lining, M=Matrix.
Type: C=Concentration, D=Depletio Hydric Soil Indicators: (Applicable Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Indicators for Problematic Hydric 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA	n, RM=Reduced to all LRRs, ur 1) N, MLRA 147, 14	d Matrix, MS nless otherv Dark Poly Thin Loar X Dep Red Dep Red 48) Iron-	=Masked wise note k Surface value Be Dark Su my Gleye bleted Mat lox Dark S bleted Dar lox Depre -Mangane bric Surfa	d Sand Gra ed.) elow Surface urface (S9) ed Matrix (F trix (F3) Surface (Ff rk Surface essions (F8 esse Masse ace (F13) (f	ins. (MLRA 1 (MLRA 1 -2) 6) (F7) 3) es (F12) (I MLRA 136	2Location: PL=Pon ILRA 147, 148) 47, 148) LRR N, MLRA 136)	e Lining, M=Matrix.
Hydric Soil Indicators: (Applicable         Histosol (A1)         Histic Epipedon (A2)         Black Histic (A3)         Hydrogen Sulfide (A4)         Stratified Layers (A5)         2 cm Muck (A10) (LRR N)         Depleted Below Dark Surface (A12)         Sandy Mucky Mineral (S1) (LRR N)         Sandy Gleyed Matrix (S4)         Sandy Redox (S5)         Stripped Matrix (S6)         Indicators for Problematic Hydric         2 cm Muck (A10) (MLRA 147)         Coast Prairie Redox (A16) (MLRA	to all LRRs, ur 1) N, MLRA 147, 14	nless otherv Dark Poly Thin Loar × Dep Red Dep Red 48) Iron-	wise note k Surface /value Be n Dark Su my Gleye bleted Mat lox Dark S bleted Dar lox Depre -Mangane bric Surfa	ed.) e (S7) elow Surfac urface (S9) ed Matrix (F trix (F3) Surface (F rk Surface essions (F esse Masse ace (F13) (I	ce (S8) (M (MLRA 1 <sup>-</sup> 2) 6) (F7) 3) cs (F12) (I MLRA 136	ILRA 147, 148) 47, 148) LRR N, MLRA 136)	e Lining, M=Matrix.
Coast Prairie Redox (A16) (MLR/					oils (F19)	(MLRA 148)	
<ul> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF12</li> <li>Other (Explain in Remarks)</li> <li>Restrictive Layer (if observed):</li> </ul>	(MLRA 136, 147	₃Inc wet	tland hydi	of hydrophy Irology mus Irbed or pro	st be pres	ent,	
Type: Gravel							
Depth (inches): 8						Hydric Soil Presen	t? • Yes 🔿 No
Remarks:							

Project/Site: Eccleston	City/County: Stevenson, Baltimore Sampling Date: 3/6/2018
Applicant/Owner: JMT	State: MD Sampling Point: WET 01-UPL
Investigator(s): _ERM, MEM	Section, Township, Range: <u>N/A</u>
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): Convex Slope (%): 0-1
Subregion (LRR or MLRA): LRR S Lat: 39.40	07187 Long: -76.734667 Datum: NAD83
Soil Map Unit Name: MmA - Melvin silt Ioam, 0 to 3 percent	
Are climatic / hydrologic conditions on the site typical for this time of y	
Are Vegetation Soil Hydrology significantly disturbed	Are "Normal Circumstances" present? • Yes • No
Are Vegetation Soil Hydrology naturally problematic?	? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? • Yes No	Is the Sampled Area
Hydric Soil Present?     Yes • No       Wetland Hydrology Present?     Yes • No	within a Wetland? Yes  No
Wetland Hydrology Present? O Yes  No Remarks:	
Remarks.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1)	
High Water Table (A2)	
	neres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduc	
	ction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3)	
Algal Mat or Crust (B4) Other (Explain in F	
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? O Yes   No Depth (inches	s):
Water Table Present? O Yes  No Depth (inches	s):
Saturation Present? O Yes  No Depth (inches (includes capillary fringe)	s): Wetland Hydrology Present? O Yes  No
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if available:
Remarks:	

Sampling Point: WET 01-UPL

· · ·				· • •
	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover		Status	Number of Dominant Species
1. Fraxinus pennsylvanica	20	Yes No	FACW	That Are OBL, FACW, or FAC: _4 (A)
2. Acer saccharinum	20	• Yes 🔿 No	FACW	
				Total Number of Dominant
3. <u>Acer negundo</u>	15	• Yes 🔿 No	FAC	Species Across All Strata: 7 (B)
4. Cherry sp	5	🔾 Yes 💿 No	N/A	Demont of Dominant Chaption
5.		Yes No		Percent of Dominant Species That Are OBL, FACW, or FAC: 57.143 % (A/B)
6.				Prevalence Index worksheet:
7.				
0				Total % Cover of:Multiply by:
8.				OBL species x 1 =
	60	= Total Cover		FACW species x 2 =
50% of total cover: 30	20	0% of total cover:	12	FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)				FACU species x 4 =
1. Ligustrum vulgare	15	• Yes · No	FACU	UPL species x 5 =
2. Rosa multiflora	5	🖲 Yes  No	FACU	Column Totals: (A) (B)
3.		Yes No		
3		- 0 163 0 110		Prevalence Index = B/A =
4.				
5.				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
6.				× 2 - Dominance Test is >50%
7.				$\boxed{3}$ - Prevalence Index is ≤3.0*
0				
8.				4 - Morphological Adaptations*
	20	= Total Cover		Problematic Hydrophytic Vegetation* (Explain)
50% of total cover: 10	20	0% of total cover:	4	
				*Indicators of hydric soil and wetland hydrology must
Herb Stratum (Plot size:)				be present, unless disturbed or problematic.
1. <i>Ficaria verna</i>	90	• Yes 🔿 No	FAC	Definitions of Four Vegetation Strata:
2. Ligustrum vulgare	5	🔾 Yes 💿 No	FACU	_
		Yes No		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
3				more in diameter at breast height (DBH), regardless of
4.				height.
5.				Sapling/Shrub – Woody plants, excluding vines, less
				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
6.				
7.				Herb – All herbaceous (non-woody) plants, regardless
8.				of size, and woody plants less than 3.28 ft tall.
9.				Woody vine – All woody vines greater than 3.28 ft in
10.				height.
11.				
12.				
	95	= Total Cover		
E00/ of total accurry 47	5 0	- 00/ oftatal asvari	10	
50% of total cover: <u>47</u> .	<u> </u>	0% of total cover:	19	
Woody Vine Stratum (Plot size:)				
1. Hedera helix	20	🖲 Yes  No	FACU	
2		Yes No		
2		- 0 103 0 100		
3.				
4.				
5.				Hydrophytic
	20	= Total Cover		Vegetation
50% of total cover:_10	20	0% of total cover:	4	Present?
Remarks: (If observed, list morphological adaptations	below).			

Depth (inches)	Matrix		Redox				the absence of indica	
o 4 =	Color (moist)	% Co	olor (moist)	%	Type₁	Loc <sub>2</sub>	Texture	Remarks
0-15	10YR 4/3	100					Clay loam	
Type: C=Cor	ncentration, D=Depl	etion. RM=Reduc	ed Matrix. MS=	Masked S	and Gra	ins.	2Location: PL=Pore	Lining, M=Matrix.
	ndicators: (Applica							
Histosol (A	<b>\</b> 1)		Dark	Surface (S	57)			
Histic Epip	oedon (A2)		Poly	alue Belo	w Surfac	e (S8) (M	LRA 147, 148)	
Black Histi				Dark Surfa			17, 148)	
•••	Sulfide (A4)		Loan	ny Gleyed	Matrix (F	2)		
	₋ayers (A5)			eted Matrix				
	k (A10) (LRR N)			ox Dark Su				
	Below Dark Surface	(A11)		eted Dark				
	surface (A12)			x Depress				
	cky Mineral (S1) (LF	≀R N, MLRA 147,	,	-			RR N, MLRA 136)	
	eyed Matrix (S4)			ric Surface				
Sandy Rec			Pied	mont Flood	dplain Sc	oils (F19) (	MLRA 148)	
Stripped M	latrix (S6)							
Indicators fo	or Problematic Hyd	ric Soils₃:						
2 cm Muc	k (A10) (MLRA 147)	)						
	airie Redox (A16) (M							
Piedmont	Floodplain Soils (F	19) (MLRA 136, 1	47)					
	nt Material (TF2)		₃Ind	icators of h	vdrophy	tic vegeta	tion and	
	low Dark Surface (T	F12)	wetl	and hydro	logy mus	t be prese		
Other (Exp	plain in Remarks)		unle	ss disturb	ed or pro	blematic.		
Restrictive I	ayer (if observed):							
Type:							Hydric Soil Present	? 🔾 Yes 💿 No
	ches):							
Type: Depth (inc	ches):							
Type: Depth (inc	ches):							
Type: Depth (inc	thes):							
Type: Depth (inc	shes):						1	
Type: Depth (inc	thes):						1	
Type: Depth (inc	:hes):						1	
Type: Depth (inc	:hes):							
Type: Depth (inc	:hes):							
Type: Depth (inc	thes):							
Type: Depth (inc	:hes):							
Type: Depth (inc	:hes):							
Type: Depth (inc	:hes):							
Type: Depth (inc	:hes):							
Type: Depth (inc	:hes):							
Type:	:hes):							
Type: Depth (inc	:							
Type: Depth (inc	:hes):							
Type: Depth (inc	:hes):							
Type: Depth (inc	:hes):							

Project/Site: Eccleston		City/Co	ounty: Stevenson, E	Baltimore	Sampling Date: 3/6/2018
Applicant/Owner: JMT				State: MD	Sampling Point: WET 02-SP
Investigator(s): ERM, MEM		Sectio	n, Township, Range: <u>1</u>	N/A	
Landform (hillslope, terrace, etc	.): Floodplain	Local r	relief (concave, convex	, none): <u>Concav</u>	e Slope (%): <u>0-2</u>
Subregion (LRR or MLRA): LF	R S	Lat: 39.407265	Long:	-76.733776	Datum: NAD83
Soil Map Unit Name: MmA - I	Melvin silt loam,	0 to 3 percent slopes	<u> </u>	NWI Classif	ication: PFO1/PEM1A/B
Are climatic / hydrologic condition				xplain in Remarks	.)
Are Vegetation Soil		nificantly disturbed?		al Circumstances"	
	, , , ,	urally problematic?		explain any answe	
	, ,,	5.			, important features, etc.
				,	, <b>p</b>
Hydrophytic Vegetation Prese		0	Is the Sampled Area		
Hydric Soil Present? Wetland Hydrology Present?	• Yes		within a Wetland?	Yes	○ No
Remarks:	• Yes	○ No			
Likely fed by broken water Southern half of wetland is characteristics as the rest	s is located in a cle				al floodflow from Jones Falls. trees, it shows the same
HYDROLOGY					
Wetland Hydrology Indicator	rs:				cators (minimum of two required)
Primary Indicators (minimum o					Cracks (B6)
Surface Water (A1)		True Aquatic Plants (B14)			getated Concave Surface (B8)
High Water Table (A2)		Hydrogen Sulfide Odor (C		Drainage Pa	
Saturation (A3) Water Marks (B1)		Oxidized Rhizospheres on Presence of Reduced Iron		Moss Trim L	Water Table (C2)
Sediment Deposits (B2)		Recent Iron Reduction in 1	( )	Crayfish Bur	( )
Drift Deposits (B3)		Thin Muck Surface (C7)		,	isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		Other (Explain in Remarks	;)		tressed Plants (D1)
Iron Deposits (B5)			')	× Geomorphic	
Inundation Visible on Aeria	I Imagery (B7)			Shallow Aqu	
× Water Stained Leaves (B9					aphic Relief (D4)
Aquatic Fauna (B13)				× FAC-Neutra	
Field Observations:					
Surface Water Present?	🔾 Yes 💿 No	Depth (inches):			
Water Table Present?	🔾 Yes 💿 No	Depth (inches):			
Saturation Present? (includes capillary fringe)	🔾 Yes 💿 No	Depth (inches):	Wetland	Hydrology Prese	nt? • Yes 🔿 No
Describe Recorded Data (stre	am gauge, monitorin	ig well, aerial photos, prev	vious inspections), if av	ailable:	
Remarks:					

Sampling Point: WET 02-SP

	Absolute	e Domir	nant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cove			Status	Number of Dominant Species
1. Fraxinus pennsylvanica	40	• Yes	🔵 No	FACW	That Are OBL, FACW, or FAC: _6(A)
2. <u>Acer negundo</u>	35	• Yes	🔵 No	FAC	Total Number of Dominant
3.		O Yes	🔵 No		Species Across All Strata: _7(B)
4.		_			Demont of Dominant Chaption
5.					Percent of Dominant Species That Are OBL, FACW, or FAC: 85.714 % (A/B)
6.					
7.					Prevalence Index worksheet:
					Total % Cover of:Multiply by:
8.	75				OBL species x 1 =
	75	_ = Total C			FACW species x 2 =
50% of total cover: <u>37</u> .	.5 2	20% of total	cover: _	15	FAC species x 3 =
Sapling/Shrub_Stratum (Plot size:)					FACU species x 4 =
1. Ligustrum vulgare	40	_● Yes (	🔵 No	FACU	UPL species x 5 =
2. Acer negundo	20	• Yes	🔵 No	FAC	Column Totals: (A) (B)
3. Fraxinus pennsylvanica	5	O Yes	No	FACW	
4. Rosa multiflora	5	O Yes	No	FACU	Prevalence Index = B/A =
5.		O Yes	🔿 No		Hydrophytic Vegetation Indicators:
6.		-			1 - Rapid Test for Hydrophytic Vegetation
					× 2 - Dominance Test is >50%
7.					☐ 3 - Prevalence Index is ≤3.0*
8.					4 - Morphological Adaptations*
	70	_ = Total C	over		Problematic Hydrophytic Vegetation* (Explain)
50% of total cover:_35	2	20% of total	cover:	14	*Indicators of hydric soil and wetland hydrology must
Herb Stratum (Plot size:)					be present, unless disturbed or problematic.
1. <u>Ficaria verna</u>	60	• Yes	🔵 No	FAC	Definitions of Four Vegetation Strata:
2. Symplocarpus foetidus	20	• Yes	🔿 No	OBL	
3. Ligustrum vulgare	5	O Yes	No	FACU	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
4. Unknown grass	5	O Yes	No	N/A	height.
		O Yes	No		Sapling/Shrub – Woody plants, excluding vines, less
6		O Yes			than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7.					<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
8.					
9.					<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
10.					height.
11.					
12.					
	90	_ = Total C	over		
50% of total cover:_45	2	20% of total	cover:	18	
Woody Vine Stratum (Plot size: )			-		
1. Toxicodendron radicans	5	• Yes	🔿 No	FAC	
		O Yes		1710	
			0.10		
3.					
4.					
5.					Hydrophytic
	5	_ = Total C	over		Vegetation
50% of total cover: 2.5	5 2	20% of total	cover:	1	Present? • Yes No
Remarks: (If observed, list morphological adaptations	below).				
	,				

Profile Des	cription: (Describe te	o the dept	h needed to doc	ument the i	ndicator o	or confirm	the absence of indicato	ors.)
Depth	Matrix			edox				
(inches)	Color (moist)	%	Color (moist)	%	Type₁	Loc <sub>2</sub>	Texture	Remarks
	10YR 4/2	95	10YR 4/4	5	C	PI	Silty clay	
4-15	10YR 4/1	90	10YR 4/6	10	С	Μ	Silty clay	
<b>T</b> 0.0			<b>D I I I I I I I I I I</b>					· · • • • • • • •
	oncentration, D=Deple Indicators: (Applica					ains.	2Location: PL=Pore L	ining, M=Matrix.
Histosol (				Dark Surface				
	ipedon (A2)					re (S8) (M	LRA 147, 148)	
Black His				Thin Dark Su				
	n Sulfide (A4)			.oamy Gleye			, , , , , , , , , , , , , , , , , , , ,	
	Layers (A5)			Depleted Mat		_)		
	ck (A10) (LRR N)			Redox Dark S		6)		
	Below Dark Surface	(A11)		Depleted Dar	•	,		
	rk Surface (A12)	()		Redox Depre				
	ucky Mineral (S1) (LR	R N. MLR					RR N, MLRA 136)	
	leyed Matrix (S4)			Jmbric Surfa			,	
Sandy Re	•			Piedmont Flo				
	Matrix (S6)				•	. ,	· · ·	
Indicators	for Problematic Hyd	ric Soiles						
	ck (A10) (MLRA 147)							
	airie Redox (A16) (M		148)					
	t Floodplain Soils (F1							
	ent Material (TF2)		100, 147)					
	allow Dark Surface (T	F12)		3Indicators o				
	xplain in Remarks)	,		wetland hyd unless distu			ent,	
	Layer (if observed):				•			
Type:							Ubuduia Cail Duasant2	• Yes 🔿 No
Depth (in							Hydric Soil Present?	
Remarks:								

Project/Site: Eccleston		City/County:	Stevenson, Baltimore	Sampling Date: 3/6/2018
Applicant/Owner: JMT			State: MD	Sampling Point: WET 03-SP
Investigator(s): ERM, MEM		Section, Tow	nship, Range: N/A	
Landform (hillslope, terrace, etc.):	Depression		oncave, convex, none): Conca	Ve Slope (%): 0-4
Subregion (LRR or MLRA): LRF	RS Lat: 39	9.407045	Long: -76.732971	Datum: NAD83
Soil Map Unit Name: MmA - Me		ent slopes	NWI Class	sification: PEM1C
Are climatic / hydrologic condition	s on the site typical for this time	of year?  Yes	No (If no, explain in Remark	(S.)
Are Vegetation Soil	Hydrology significantly distur	bed?	Are "Normal Circumstances	s" present? <ul> <li>Yes</li> <li>No</li> </ul>
	Hydrology naturally problema		(If needed, explain any ans)	
	, , , , , , , , , , , , , , , , , , , ,			ts, important features, etc.
Hydrophytic Vegetation Present		Is the	Sampled Area	
Hydric Soil Present?	• Yes No	withir	a Wetland? • Ye	s 🔘 No
Wetland Hydrology Present?	Yes No			
Remarks: Fed by runoff from field. Like	ely connected by subsurface	flow to Jones Fa	lls. Evidence of amphibian b	reeding observed.
HYDROLOGY				
Wetland Hydrology Indicators:	1			dicators (minimum of two required)
	one is required; check all that ap			bil Cracks (B6)
× Surface Water (A1)	True Aquatic P			egetated Concave Surface (B8)
× High Water Table (A2)	Hydrogen Sulfi		Patterns (B10)	
× Saturation (A3)		spheres on Living		Lines (B16)
Water Marks (B1)		educed Iron (C4)		n Water Table (C2)
Sediment Deposits (B2)		duction in Tilled S		urrows (C8)
Drift Deposits (B3)	Thin Muck Surf			Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain	in Remarks)		Stressed Plants (D1)
Iron Deposits (B5)				ic Position (D2)
Inundation Visible on Aerial I	magery (B7)			quitard (D3)
Water Stained Leaves (B9)				praphic Relief (D4)
× Aquatic Fauna (B13)			× FAC-Neutr	al Test (D5)
Field Observations:				
Surface Water Present?	Yes No Depth (inc			
Water Table Present?	Yes O No Depth (inc		_	
Saturation Present? (includes capillary fringe)	Yes O No Depth (inc	:hes): 0	Wetland Hydrology Pres	ent? • Yes 🔿 No
	n gauge, monitoring well, aerial p	hotos, previous in	spections), if available:	
Remarks:				
Frog eggs present				

Sampling Point: WET 03-SP

	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species
1.	🔾 Yes 🚫 No	That Are OBL, FACW, or FAC: _2 (A)
2.		
3.		Total Number of DominantSpecies Across All Strata:2(B)
		Species Across All Strata: <u>2</u> (B)
4.		Percent of Dominant Species
5.		That Are OBL, FACW, or FAC: 100.000 % (A/B)
6.		
7.		Prevalence Index worksheet:
8.		Total % Cover of: Multiply by:
ο.		OBL species x 1 =
	= Total Cover	FACW species x 2 =
50% of total cover:	20% of total cover:	FAC species x 3 =
Sapling/Shrub Stratum (Plot size: )		FACU species x 4 =
<u> </u>	🔿 Yes 🔵 No	UPL species x 5 =
-		
	0.00 0.00	Column Totals: (A) (B)
3.		Prevalence Index = B/A =
4.		
5.		Hydrophytic Vegetation Indicators:
6.		1 - Rapid Test for Hydrophytic Vegetation
		× 2 - Dominance Test is >50%
7.		☐ 3 - Prevalence Index is ≤3.0*
8.		4 - Morphological Adaptations*
	= Total Cover	Problematic Hydrophytic Vegetation* (Explain)
50% of total cover:	20% of total cover:	*Indicators of hydric soil and wetland hydrology must
Herb Stratum (Plot size: )		be present, unless disturbed or problematic.
A Dhalania annu dia ana	15 • Yes O No FACW	
····		Definitions of Four Vegetation Strata:
2. Juncus effusus		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
3. <u>Rosa multiflora</u>		more in diameter at breast height (DBH), regardless of
4. <i>Carex</i> sp.	5 Yes No N/A	height.
5	◯ Yes ◯ No	Sapling/Shrub – Woody plants, excluding vines, less
6.		than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7.		Herb – All herbaceous (non-woody) plants, regardless
8.		of size, and woody plants less than 3.28 ft tall.
9.		<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
10.		
11.		
12.		
	35 = Total Cover	
50% of total cover:_17		
Woody Vine Stratum (Plot size:)		
1	O Yes O No	
2.		
3.		
4.		
5.		
0.	- Total Cover	Hydrophytic
	= Total Cover	Vegetation Present? • Yes No
50% of total cover:	20% of total cover:	
Remarks: (If observed, list morphological adaptations	s below).	

Depth	Matrix		Redo	x				
(inches)	Color (moist)	%	Color (moist)	%	Type₁	Loc <sub>2</sub>	Texture	Remarks
0-5	GLEY1 6/N	90 1	0YR 5/4	10	С	Μ	Sandy clay	
5-9	10YR 3/9	95 1	0YR 3/4	5	С	Μ	Sandy clay	
	oncentration, D=Depl					ins.	2Location: PL=Pore I	Lining, M=Matrix.
•	Indicators: (Applica	able to all LR						
Histosol (				k Surface		- (CO) (M		
	ipedon (A2)						_RA 147, 148)	
Black His	n Sulfide (A4)				urface (S9) ed Matrix (F		7, 140)	
	Layers (A5)			leted Ma		2)		
	ck (A10) (LRR N)				Surface (F	3)		
	Below Dark Surface	(A11)			rk Surface			
	rk Surface (A12)	. ,			essions (F8			
Sandy M	ucky Mineral (S1) (LF	RR N, MLRA 1	47, 148) 🗌 Iron	-Mangan	ese Masse	s (F12) (L	RR N, MLRA 136)	
Sandy Gl	eyed Matrix (S4)				ace (F13) (I		,	
	edox (S5)		Piec	Imont Flo	podplain So	oils (F19) (	MLRA 148)	
Stripped	Matrix (S6)							
Indicators f	for Problematic Hyd	lric Soils₃:						
2 cm Mu	ck (A10) (MLRA 147)	)						
	airie Redox (A16) (M							
	t Floodplain Soils (F	19) (MLRA 13	6, 147)					
	ent Material (TF2)				of hydrophy			
	allow Dark Surface (T xplain in Remarks)	F12)			Irology mus		ent,	
			um		ibed of pic		1	
	Layer (if observed):							
Туре:			_					• Yes 🔿 No
Depth (in	iches):		_				Hydric Soil Present?	
Remarks:								
Remarks:								
Remarks:								
Remarks:								
Remarks:								
Remarks:								
Remarks:								
Remarks:								
Remarks:								
Remarks:								
Remarks:								
Remarks:								
Remarks:								
Remarks:								
Remarks:								
Remarks:								

Project/Site: Eccleston	City/County: Stevenson,	, Baltimore si	ampling Date: <u>3/6/2018</u>
Applicant/Owner: JMT			ampling Point: WET 02/WET 03-UPI
Investigator(s): ERM, MEM	Section, Township, Range:		
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, conv		Slope (%): 0-3
Subregion (LRR or MLRA): LRR S La		g: -76.734186	Datum: NAD83
Soil Map Unit Name: MmA - Melvin silt loam, 0 to 3 percent s	lopes	NWI Classificat	tion: Upland
Are climatic / hydrologic conditions on the site typical for this	time of year?   Yes   No (If no	, explain in Remarks.)	
Are Vegetation Soil Hydrology significantly			esent? <ul> <li>Yes</li> <li>No</li> </ul>
Are Vegetation Soil Hydrology naturally pro	blematic? (If neede	d, explain any answers	in Remarks.)
SUMMARY OF FINDINGS – Attach site map sl	howing sampling point loca	tions, transects, i	mportant features, etc.
Hydrophytic Vegetation Present?          • Yes          • No         • Yes         • No         • Yes         • No         • Yes         • No         • Yes         • No         • Yes         • No         • Yes         • No         • Yes         • No         • No	Is the Sampled Are within a Wetland?		No
HYDROLOGY			
Wetland Hydrology Indicators:		,	ors (minimum of two required)
Primary Indicators (minimum of one is required; check all th	• • •	Surface Soil Cra	
	atic Plants (B14) Sulfide Odor (C1)	Drainage Patter	ated Concave Surface (B8)

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)		ots (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)			Stunted or Stressed Plants (D1)		
Iron Deposits (B5)					Geomorphic Position (D2)
Inundation Visible on Aeria	I Imagery	(B7)			Shallow Aquitard (D3)
Water Stained Leaves (B9)	)				Microtopographic Relief (D4)
Aquatic Fauna (B13)					FAC-Neutral Test (D5)
Field Observations:					
Field Observations:	○ Vaa				
Surface Water Present?	Yes	NO	Depth (inches):		
Water Table Present?	O Yes	No	Depth (inches):		
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):	Wetland	Hydrology Present? Yes  No
	am gauge,	monitori	ng well, aerial photos, previous inspe	ctions), if a	vailable:
Remarks:					

Sampling Point: WET 02/WET 03-UPL

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: )	% Cover	Species?	Status	Number of Dominant Species
1. Prunus serotina	5	🔾 Yes 💿 No	FACU	That Are OBL, FACW, or FAC: _4 (A)
2. <u>Acer negundo</u>	30	Yes ONO	FAC	Total Number of Dominant
3. Juglans nigra	10	🔾 Yes 💿 No	FACU	Species Across All Strata: _5(B)
4. Fraxinus pennsylvanica	20	🖲 Yes 🔵 No	FACW	Demonstrat Demoissont Operation
5		Yes No		Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80.000 %</u> (A/B)
6.				Prevalence Index worksheet:
7.				Total % Cover of: Multiply by:
8.				OBL species         x1 =
	65	= Total Cover		FACW species         x 2 =
50% of total cover: 32.	.5 209	% of total cover:	13	
Sapling/Shrub Stratum (Plot size: )	20			FAC species x 3 =
	20	• Yes 🔿 No	FACU	FACU species x 4 =
1. Ligustrum vulgare				UPL species x 5 =
2. <u>Acer negundo</u>		Yes      No	FAC	Column Totals: (A) (B)
3		🔾 Yes 🔵 No		Prevalence Index = B/A =
4.				
5.				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7.				x 2 - Dominance Test is >50%
8.				3 - Prevalence Index is ≤3.0*
0.	50	<b>T</b> 1 1 0		4 - Morphological Adaptations*
		= Total Cover		Problematic Hydrophytic Vegetation* (Explain)
50% of total cover: <u>25</u> Herb Stratum (Plot size: )	209	% of total cover:	10	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. Ficaria verna	80	🖲 Yes 🔵 No	FACW	Definitions of Four Vegetation Strata:
		🔿 Yes 💿 No		Definitions of Four Vegetation offata.
2 Liquetrum vulgere	<u> </u>	Yes  No	FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
		Yes No	FACU	more in diameter at breast height (DBH), regardless of height.
4. Galanthus nivalis				l
5. <i>Narcissus</i> sp.		🔾 Yes 💿 No		<b>Sapling/Shrub</b> – Woody plants, excluding vines, less
6		🔾 Yes 🔵 No		than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7. 8.				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
9.				Weedwaine All weedwaines greater than 2.29 ft in
				<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
10.				
11.				
12.				
	94	= Total Cover		
50% of total cover: 47	209	% of total cover:	18.8	
Woody Vine Stratum (Plot size:)				
1 /	(	🔿 Yes 🔿 No		
2.				
3.				
4.				
5.				Hydrophytic
	:	= Total Cover		Vegetation
50% of total cover:	209	% of total cover:		Present? • Yes No
Remarks: (If observed, list morphological adaptations				1
nonario. (il observed, list morphological adaptations	501000.			

ype: C=Concer ydric Soil Indic Histosol (A1) Histic Epipedc Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri dicators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M	A3) (fide (A4) ers (A5) (10) (LRR N) ow Dark Surface ( urface (A12) (Mineral (S1) (LR d Matrix (S4) (S5) (x (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (MI podplain Soils (F1)	<b>ble to all L</b> (A11) RR N, MLRA <b>ric Soils</b> ₃: LRA 147, 1	RRs, unless of	MS=Mask therwise no Dark Surfa Polyvalue Thin Dark Loamy Gle Depleted N Redox Dar Depleted D Redox Dep Iron-Manga Umbric Su	oted.) ce (S7) Below Surfa Surface (S9 yed Matrix ( latrix (F3) k Surface (F ark Surface ressions (F anese Mass face (F13)	ce (S8) (M ) (MLRA 14 F2) (6) (F7) 3) es (F12) (L MLRA 136	.RR N, MLRA 136)	e Lining, M=Matrix.
pe: C=Concer dric Soil Indic Histosol (A1) Histic Epipedc Black Histic (A Hydrogen Sull Stratified Laye 2 cm Muck (A Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri Licators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	ntration, D=Deple cators: (Applical on (A2) A3) Ifide (A4) ers (A5) (10) (LRR N) ow Dark Surface ( urface (A12) Mineral (S1) (LR d Matrix (S4) (S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	etion, RM=F ble to all L (A11) RR N, MLRA ric Soils3:	RRs, unless of	therwise no Dark Surfa Polyvalue Thin Dark Loamy Gle Depleted N Redox Dar Depleted D Redox Dep Iron-Manga Umbric Su	oted.) ce (S7) Below Surfa Surface (S9 yed Matrix ( latrix (F3) k Surface (F ark Surface ressions (F anese Mass face (F13)	ce (S8) (M ) (MLRA 14 F2) (6) (F7) 3) es (F12) (L MLRA 136	2Location: PL=Pore LRA 147, 148) 47, 148) RR N, MLRA 136) 5, 122)	e Lining, M=Matrix.
ric Soil Indic distosol (A1) distic Epipedo Black Histic (A dydrogen Sulf Stratified Laye 2 cm Muck (A Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri icators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	cators: (Applical on (A2) A3) fide (A4) ers (A5) A10) (LRR N) ow Dark Surface ( urface (A12) Mineral (S1) (LR d Matrix (S4) (S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	<b>ble to all L</b> (A11) RR N, MLRA <b>ric Soils</b> ₃: LRA 147, 1	RRs, unless of	therwise no Dark Surfa Polyvalue Thin Dark Loamy Gle Depleted N Redox Dar Depleted D Redox Dep Iron-Manga Umbric Su	oted.) ce (S7) Below Surfa Surface (S9 yed Matrix ( latrix (F3) k Surface (F ark Surface ressions (F anese Mass face (F13)	ce (S8) (M ) (MLRA 14 F2) (6) (F7) 3) es (F12) (L MLRA 136	LRA 147, 148) 47, 148) .RR N, MLRA 136) 5, 122)	e Lining, M=Matrix.
Iric Soil Indic Histosol (A1) Histic Epipedo Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A Depleted Belo Fhick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri icators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	cators: (Applical on (A2) A3) fide (A4) ers (A5) A10) (LRR N) ow Dark Surface ( urface (A12) Mineral (S1) (LR d Matrix (S4) (S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	<b>ble to all L</b> (A11) RR N, MLRA <b>ric Soils</b> ₃: LRA 147, 1	RRs, unless of	therwise no Dark Surfa Polyvalue Thin Dark Loamy Gle Depleted N Redox Dar Depleted D Redox Dep Iron-Manga Umbric Su	oted.) ce (S7) Below Surfa Surface (S9 yed Matrix ( latrix (F3) k Surface (F ark Surface ressions (F anese Mass face (F13)	ce (S8) (M ) (MLRA 14 F2) (6) (F7) 3) es (F12) (L MLRA 136	LRA 147, 148) 47, 148) .RR N, MLRA 136) 5, 122)	e Lining, M=Matrix.
tric Soil Indic Histosol (A1) Histic Epipedc Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri <b>licators for P</b> 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	cators: (Applical on (A2) A3) fide (A4) ers (A5) A10) (LRR N) ow Dark Surface ( urface (A12) Mineral (S1) (LR d Matrix (S4) (S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	<b>ble to all L</b> (A11) RR N, MLRA <b>ric Soils</b> ₃: LRA 147, 1	RRs, unless of	therwise no Dark Surfa Polyvalue Thin Dark Loamy Gle Depleted N Redox Dar Depleted D Redox Dep Iron-Manga Umbric Su	oted.) ce (S7) Below Surfa Surface (S9 yed Matrix ( latrix (F3) k Surface (F ark Surface ressions (F anese Mass face (F13)	ce (S8) (M ) (MLRA 14 F2) (6) (F7) 3) es (F12) (L MLRA 136	LRA 147, 148) 47, 148) .RR N, MLRA 136) 5, 122)	e Lining, M=Matrix.
dric Soil Indic Histosol (A1) Histic Epipedc Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri dicators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	cators: (Applical on (A2) A3) fide (A4) ers (A5) A10) (LRR N) ow Dark Surface ( urface (A12) Mineral (S1) (LR d Matrix (S4) (S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	<b>ble to all L</b> (A11) RR N, MLRA <b>ric Soils</b> ₃: LRA 147, 1	RRs, unless of	therwise no Dark Surfa Polyvalue Thin Dark Loamy Gle Depleted N Redox Dar Depleted D Redox Dep Iron-Manga Umbric Su	oted.) ce (S7) Below Surfa Surface (S9 yed Matrix ( latrix (F3) k Surface (F ark Surface ressions (F anese Mass face (F13)	ce (S8) (M ) (MLRA 14 F2) (6) (F7) 3) es (F12) (L MLRA 136	LRA 147, 148) 47, 148) .RR N, MLRA 136) 5, 122)	e Lining, M=Matrix.
dric Soil Indic Histosol (A1) Histic Epipedc Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri dicators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	cators: (Applical on (A2) A3) fide (A4) ers (A5) A10) (LRR N) ow Dark Surface ( urface (A12) Mineral (S1) (LR d Matrix (S4) (S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	<b>ble to all L</b> (A11) RR N, MLRA <b>ric Soils</b> ₃: LRA 147, 1	RRs, unless of	therwise no Dark Surfa Polyvalue Thin Dark Loamy Gle Depleted N Redox Dar Depleted D Redox Dep Iron-Manga Umbric Su	oted.) ce (S7) Below Surfa Surface (S9 yed Matrix ( latrix (F3) k Surface (F ark Surface ressions (F anese Mass face (F13)	ce (S8) (M ) (MLRA 14 F2) (6) (F7) 3) es (F12) (L MLRA 136	LRA 147, 148) 47, 148) .RR N, MLRA 136) 5, 122)	e Lining, M=Matrix.
dric Soil Indic Histosol (A1) Histic Epipedc Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri dicators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	cators: (Applical on (A2) A3) fide (A4) ers (A5) A10) (LRR N) ow Dark Surface ( urface (A12) Mineral (S1) (LR d Matrix (S4) (S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	<b>ble to all L</b> (A11) RR N, MLRA <b>ric Soils</b> ₃: LRA 147, 1	RRs, unless of	therwise no Dark Surfa Polyvalue Thin Dark Loamy Gle Depleted N Redox Dar Depleted D Redox Dep Iron-Manga Umbric Su	oted.) ce (S7) Below Surfa Surface (S9 yed Matrix ( latrix (F3) k Surface (F ark Surface ressions (F anese Mass face (F13)	ce (S8) (M ) (MLRA 14 F2) (6) (F7) 3) es (F12) (L MLRA 136	LRA 147, 148) 47, 148) .RR N, MLRA 136) 5, 122)	
Histic Epipedc Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri dicators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	A3) (fide (A4) ers (A5) (10) (LRR N) ow Dark Surface ( urface (A12) Mineral (S1) (LR d Matrix (S4) (S5) (S5) (S5) (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	RR N, MLRA ric Soils₃: LRA 147, 1	A 147, 148)	Polyvalue Thin Dark Loamy Gle Depleted M Redox Dar Depleted D Redox Dep Iron-Manga Umbric Su	Below Surfa Surface (S9 yed Matrix ( latrix (F3) k Surface (F ark Surface ressions (F anese Mass face (F13)	(MLRA 14 F2) (F7) (F7) 3) es (F12) (L MLRA 136	47, 148) .RR N, MLRA 136) 5, 122)	
Black Histic (A Hydrogen Sulf Stratified Laye 2 cm Muck (A Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri dicators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	A3) (fide (A4) ers (A5) (10) (LRR N) ow Dark Surface ( urface (A12) Mineral (S1) (LR d Matrix (S4) (S5) (S5) (S5) (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	RR N, MLRA ric Soils₃: LRA 147, 1	A 147, 148)	Thin Dark Loamy Gle Depleted M Redox Dar Depleted D Redox Dep Iron-Manga Umbric Su	Surface (S9 yed Matrix ( latrix (F3) k Surface (F ark Surface ressions (F anese Mass face (F13)	(MLRA 14 F2) (F7) (F7) 3) es (F12) (L MLRA 136	47, 148) .RR N, MLRA 136) 5, 122)	
Hydrogen Sulf Stratified Laye 2 cm Muck (A Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri <b>dicators for P</b> 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	fide (A4) ers (A5) (10) (LRR N) ow Dark Surface ( urface (A12) Mineral (S1) (LR d Matrix (S4) (S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	RR N, MLRA ric Soils₃: LRA 147, 1	A 147, 148)	Loamy Gle Depleted M Redox Dar Depleted D Redox Dep Iron-Manga Umbric Su	yed Matrix ( latrix (F3) k Surface (F ark Surface ressions (F anese Mass face (F13)	F2) 6) (F7) 8) es (F12) (L MLRA 136	.RR N, MLRA 136) 5, 122)	
Stratified Laye 2 cm Muck (A Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri dicators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	ers (A5) (10) (LRR N) ow Dark Surface ( urface (A12) Mineral (S1) (LR Matrix (S4) (S5) (S5) Problematic Hydr (A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	RR N, MLRA ric Soils₃: LRA 147, 1	A 147, 148)	Depleted M Redox Dar Depleted E Redox Dep Iron-Manga Umbric Su	latrix (F3) k Surface (F ark Surface ressions (F anese Mass face (F13)	6) (F7) 3) es (F12) (L MLRA 136	6, 122)	
2 cm Muck (A Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri <b>dicators for P</b> 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	A10) (LRR N) bw Dark Surface ( urface (A12) Mineral (S1) (LR d Matrix (S4) (S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML bodplain Soils (F1 Material (TF2)	RR N, MLRA ric Soils₃: LRA 147, 1	A 147, 148)	Redox Dar Depleted E Redox Dep Iron-Manga Umbric Su	k Surface (F Park Surface Pressions (F Anese Mass face (F13)	(F7) 8) es (F12) (L MLRA 136	6, 122)	
Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri dicators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	ow Dark Surface ( urface (A12) Mineral (S1) (LR d Matrix (S4) (S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	RR N, MLRA ric Soils₃: LRA 147, 1	A 147, 148)	Depleted E Redox Dep Iron-Manga Umbric Su	ark Surface pressions (F anese Mass face (F13)	(F7) 8) es (F12) (L MLRA 136	6, 122)	
Thick Dark Su Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri dicators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	urface (A12) Mineral (S1) (LR Matrix (S4) (S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML bodplain Soils (F1 Material (TF2)	RR N, MLRA ric Soils₃: LRA 147, 1	A 147, 148)	Redox Dep Iron-Manga Umbric Su	ressions (F anese Mass face (F13)	8) es (F12) (L MLRA 136	6, 122)	
Sandy Mucky Sandy Gleyed Sandy Redox Stripped Matri <b>dicators for P</b> 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	Mineral (S1) (LR d Matrix (S4) (S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML bodplain Soils (F1 Material (TF2)	<b>ric Soils</b> ₃: LRA 147, 1	A 147, 148)	Iron-Manga Umbric Su	anese Mass face (F13)	es (F12) (L MLRA 136	6, 122)	
Sandy Gleyed Sandy Redox Stripped Matri <b>dicators for P</b> 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	d Matrix (S4) (S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	<b>ric Soils</b> ₃: LRA 147, 1	48)	Umbric Su	face (F13)	MLRA 136	6, 122)	
Sandy Redox Stripped Matri dicators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	(S5) ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	LRA 147, 1	48)					
Stripped Matri dicators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	ix (S6) Problematic Hydr A10) (MLRA 147) Redox (A16) (ML podplain Soils (F1 Material (TF2)	LRA 147, 1	48)				(112) (1140)	
dicators for P 2 cm Muck (A Coast Prairie Piedmont Flo Red Parent M Very Shallow	Problematic Hydr A10) (MLRA 147) Redox (A16) (ML bodplain Soils (F1 Material (TF2)	LRA 147, 1						
Other (Explain		F12)		wetland h	of hydroph drology mu	st be prese		
				unless dis	turbed or pr	oblematic.	-	
estrictive Laye Type:	er (if observed):							
	-)·						Hydric Soil Present	Yes No
Depth (inches	5)						Hydric Soli Present	
marks:								

Project/Site: Eccleston		Ci	ty/County: Stev	enson, B	altimore	Sampling Date: 3/6/2018
Applicant/Owner: JMT					State: MD	Sampling Point: WET 04-SP1
Investigator(s): ERM, MEM		Se	ection, Township	, Range: N	۱/A	
Landform (hillslope, terrace, etc	.): Depression	Lo	ocal relief (conca	ve, convex	, none): Concave	Slope (%): 0-1
Subregion (LRR or MLRA): LF	RR S	Lat: 39.407	581	Long:	-76.729951	Datum: NAD83
Soil Map Unit Name: MmA - I		to 3 percent slo	opes	_ •		cation: PFO1A/B
Are climatic / hydrologic conditi		•	•	(If no e		
, ,	51	ficantly disturbed?			al Circumstances" p	,
	, , , ,	,				
_ 0 _	, ,	ally problematic?	,	,	explain any answe	,
SUMMARY OF FINDING	iS – Attach site r	nap showing s	ampling poir	nt locatio	ons, transects	, important features, etc.
Hydrophytic Vegetation Prese	nt? • Yes	🔿 No	la the Sam	plad Araa		
Hydric Soil Present?	Yes	🔿 No	Is the Sam within a W		• Yes	○ No
Wetland Hydrology Present?	Yes	🔿 No			0.11	0.11
Remarks:			1			
Sample plot for the PFO p well as groundwater. WET the wetland. This wetland	Γ04 is drained by a	culvert that is cur	rently partially	blocked a		
HYDROLOGY						
Wetland Hydrology Indicato	rs:				Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum	of one is required; che	ck all that apply)			Surface Soil	Cracks (B6)
× Surface Water (A1)		ue Aquatic Plants (B	,			etated Concave Surface (B8)
× High Water Table (A2)		/drogen Sulfide Odd			× Drainage Pat	
× Saturation (A3)		kidized Rhizosphere	-	s (C3)	Moss Trim Li	
Water Marks (B1)		esence of Reduced	( )			Nater Table (C2)
Sediment Deposits (B2)		ecent Iron Reduction	· ·	C6)	Crayfish Burr	
Drift Deposits (B3)		in Muck Surface (C	,			sible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		her (Explain in Rem	harks)			ressed Plants (D1)
Iron Deposits (B5)					× Geomorphic	
<ul> <li>Inundation Visible on Aeria</li> <li>Water Stained Leaves (B9</li> </ul>	<b>J J ( )</b>				Shallow Aqui	
Aquatic Fauna (B13)	)				× FAC-Neutral	phic Relief (D4)
Field Observations:	Yes No	Depth (inches):	4			
Surface Water Present?		• • •				
Water Table Present?	Yes No	Depth (inches):		14/ - 411 I		
Saturation Present? (includes capillary fringe)	Yes ONO	Depth (inches):	0	wetland	Hydrology Preser	nt? • Yes 🔿 No
Describe Recorded Data (stre	am gauge, monitoring	well, aerial photos,	previous inspect	tions), if ava	ailable:	
Remarks:						

	Sampling	Point:	WET	04-SP1
--	----------	--------	-----	--------

	Absolute	Dominant	Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size: )	% Cover	Species?	Status	Number of Dominant Species			
1. <u>Acer rubrum</u>	15	Yes      No	FAC	That Are OBL, FACW, or FAC: _4 (A)			
2. Fraxinus pennsylvanica	15	Yes ONO	FACW	Total Number of Dominant			
3. Fagus grandifolia		🔾 Yes 💿 No	FACU	Species Across All Strata: (B)			
4. Quercus alba	5	🔾 Yes 💿 No	FACU	Percent of Dominant Species			
5. <u>Acer negundo</u>	5	🔾 Yes 💿 No	FAC	That Are OBL, FACW, or FAC: 66.667 % (A/B)			
6. Liriodendron tulipifera	5	🔾 Yes 💿 No	FACU	Prevalence Index worksheet:			
7		🔾 Yes 🔵 No		Total % Cover of:Multiply by:			
8.				OBL species x 1 =			
	50	= Total Cover		FACW species x 2 =			
50% of total cover:_25	20	% of total cover:	10	FAC species x 3 =			
Sapling/Shrub Stratum (Plot size:)				FACU species x 4 =			
1. Ligustrum vulgare	10	💿 Yes  No	FACU	UPL species x 5 =			
2. Fagus grandifolia	_	🖲 Yes 🔵 No	FACU	Column Totals: (A) (B)			
3. Acer negundo	10	• Yes 🔿 No	FAC				
4.		Yes No		Prevalence Index = B/A =			
		0.11.0.11	·	Hydrophytic Vegetation Indicators:			
5.				1 - Rapid Test for Hydrophytic Vegetation			
6.				x 2 - Dominance Test is >50%			
7.				☐ 3 - Prevalence Index is ≤3.0*			
8.				4 - Morphological Adaptations*			
		= Total Cover		Problematic Hydrophytic Vegetation* (Explain)			
50% of total cover:         12.5         20% of total cover:         5           Herb Stratum         (Plot size:         )         )				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
1. Symplocarpus foetidus	20	• Yes 🔿 No	OBL	Definitions of Four Vegetation Strata:			
2		Yes No		Deminions of Four Vegetation Strata.			
3.	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.						
4.							
5. 6.		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.					
7.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
8. 9.				Woody vine – All woody vines greater than 3.28 ft in			
10.				height.			
11.							
12.	20	<b>T</b> ( ) O					
		= Total Cover					
50% of total cover: <u>10</u>	20'	% of total cover:	4				
Woody Vine Stratum (Plot size:)							
1		🔾 Yes 🔵 No					
2.							
3.							
4.							
5. Hydrophytic							
	= Total Cover			Vegetation			
50% of total cover:	20	% of total cover:		Present?			
Remarks: (If observed, list morphological adaptations below).							
	/-						

Depth	Matrix		Red	ох			the absence of indicato	
inches)	Color (moist)	%	Color (moist)	%	Type₁	Loc <sub>2</sub>	Texture	Remarks
0-12	2.5Y 4/1	95	2.5Y 4/4	5	С	М	Silty clay	
				_				
	oncentration, D=Dep					ains.	2Location: PL=Pore L	.ining, M=Matrix.
lydric Soil	Indicators: (Applic	able to all	LRRs, unless othe	rwise not	ed.)			
Histosol (	(A1)		Da	ark Surface	e (S7)			
Histic Ep	ipedon (A2)			-			LRA 147, 148)	
Black His	. ,			in Dark Su			47, 148)	
Hydroger	n Sulfide (A4)		Lo	amy Gleye	ed Matrix (	F2)		
	Layers (A5)			epleted Ma				
	ck (A10) (LRR N)			dox Dark				
	Below Dark Surface	e (A11)		epleted Da				
	rk Surface (A12)			edox Depre				
	ucky Mineral (S1) (L	rr n, mlf		-			RR N, MLRA 136)	
	leyed Matrix (S4)			nbric Surfa				
Sandy Re	edox (S5)		Pie	edmont Flo	oodplain S	oils (F19)	(MLRA 148)	
Stripped	Matrix (S6)							
Indicators	for Problematic Hy	dric Soils:	:					
	ck (A10) (MLRA 147							
	rairie Redox (A16) (N		148)					
	nt Floodplain Soils (F							
	ent Material (TF2)							
	allow Dark Surface (	TF12)		ndicators of				
	xplain in Remarks)	,		etland hyd nless distu			ent,	
	Layer (if observed)	:						
Type:	<b>,</b> ,							
·· —	nches):_12						Hydric Soil Present?	Yes No
	ienes). <u> </u>						Thyunc con resent:	
Remarks:								

Project/Site: Eccleston		City/County: Stev	venson, Baltimore	Sampling Date: 3/6/2018				
Applicant/Owner: JMT			State: MD	Sampling Point: WET 04-SP2				
Investigator(s): ERM, MEM		Section, Township	, Range: N/A					
Landform (hillslope, terrace, etc.):	Depression		ve, convex, none): Concav	/e Slope (%): 0-2				
Subregion (LRR or MLRA): LRF	RS Lat: 39.40	)7574	Long: -76.729992 Datum: NAD83					
• • • •	elvin silt loam, 0 to 3 percent s			fication: PEM1B/C				
Are climatic / hydrologic condition	ns on the site typical for this time of ye	ear? 💿 Yes  🔿 No	o (If no, explain in Remarks	S.)				
Are Vegetation Soil	Hydrology significantly disturbed	?	Are "Normal Circumstances"	present? <ul> <li>Yes</li> <li>No</li> </ul>				
Are Vegetation Soil			(If needed, explain any answ					
				·				
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.								
Hydrophytic Vegetation Present	? • Yes • No	Is the Sam	pled Area					
Hydric Soil Present?	Yes No	within a W	vetland?  Yes	No				
Wetland Hydrology Present?	Yes No							
Remarks:								
Eastern half of PEM ar	rea dominated by reed cana	ary grass; san	nple plot was taken ir	n western half.				
	-							
HYDROLOGY								
Wetland Hydrology Indicators	:		Secondary Ind	icators (minimum of two required)				
Primary Indicators (minimum of	one is required; check all that apply)		Surface Soi	I Cracks (B6)				
X Surface Water (A1)	True Aquatic Plants	s (B14)	Sparsely Ve	egetated Concave Surface (B8)				
K High Water Table (A2)	Hydrogen Sulfide C	dor (C1)	Drainage Page	atterns (B10)				
× Saturation (A3)	Oxidized Rhizosphe	eres on Living Roo	ts (C3) Moss Trim I	Lines (B16)				
Water Marks (B1)	× Presence of Reduc	ed Iron (C4)	Dry Season	Water Table (C2)				
Sediment Deposits (B2)	Recent Iron Reduct	tion in Tilled Soils (	C6) Crayfish Bu	rrows (C8)				
Drift Deposits (B3)	Thin Muck Surface	(C7)	Saturation \	/isible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)	Other (Explain in R	emarks)	Stunted or S	Stressed Plants (D1)				
Iron Deposits (B5)			× Geomorphic	c Position (D2)				
Inundation Visible on Aerial	magery (B7)		Shallow Aquitard (D3)					
× Water Stained Leaves (B9)		× Microtopographic Relief (D4)						
Aquatic Fauna (B13)			× FAC-Neutra	al Test (D5)				
Field Observations:								
Surface Water Present?	Yes No Depth (inches)	) <sup>.</sup> 6						
Water Table Present?	Yes No Depth (inches)							
Saturation Present?	Yes No Depth (inches)	,	Wetland Hydrology Prese	ent? • Yes O No				
(includes capillary fringe)	n gauge, monitoring well, aerial photo		tiona) if available:					
	n gauge, monitoring well, aenai priote	os, previous irispec	uons), ii avaliable.					
Remarks:								

Sampling Point: WET 04-SP2

	Absolute Dominant Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: )	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species		
1	○ Yes ○ No	That Are OBL, FACW, or FAC: <u>3</u> (A)		
2.		Total Number of Dominant		
3.		Species Across All Strata: <u>3</u> (B)		
4.				
5.		Percent of Dominant Species That Are OBL, FACW, or FAC: 100.000 % (A/B)		
6.		Prevalence Index worksheet:		
7.		Total % Cover of: Multiply by:		
8.		OBL species x 1 =		
	= Total Cover	FACW species x 2 =		
50% of total cover:	20% of total cover:	FAC species         x 3 =		
Sapling/Shrub Stratum (Plot size: )		FACU species         x 4 =		
4	Yes No			
		UPL species x 5 =		
2.		Column Totals: (A) (B)		
3.		Prevalence Index = B/A =		
4.				
5.		Hydrophytic Vegetation Indicators:		
6.		1 - Rapid Test for Hydrophytic Vegetation		
7.		× 2 - Dominance Test is >50%		
		3 - Prevalence Index is ≤3.0*		
8.		4 - Morphological Adaptations*		
	= Total Cover	Problematic Hydrophytic Vegetation* (Explain)		
50% of total cover:	20% of total cover:	*Indicators of hydric soil and wetland hydrology must		
Herb Stratum (Plot size:)		be present, unless disturbed or problematic.		
1. Boehmeria cylindrica	30 • Yes 🔿 No 🛛 FACW	Definitions of Four Vegetation Strata:		
2. Symplocarpus foetidus	30 • Yes O No OBL	_		
3. Scirpus cyperinus	30 • Yes No FACW	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or		
		more in diameter at breast height (DBH), regardless of height.		
4. Grass sp.				
5	O Yes O No	<b>Sapling/Shrub</b> – Woody plants, excluding vines, less		
6.		than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
7.		Herb – All herbaceous (non-woody) plants, regardless		
8.		of size, and woody plants less than 3.28 ft tall.		
9.		Woody vine – All woody vines greater than 3.28 ft in		
10.		height.		
11.				
12.				
	100 = Total Cover			
50% of total cover: <u>50</u>	20% of total cover: 20			
Woody Vine Stratum (Plot size:)				
1	🔿 Yes 🔿 No			
2.				
3.				
4.				
5.		Hydrophytic		
	= Total Cover	Vegetation Present? • Yes No		
50% of total cover:	20% of total cover:	Present? • Yes • No		
Remarks: (If observed, list morphological adaptations	s below).			

Profile Desc	ription: (Describe t	to the depth	needed to docun	nent the i	ndicator o	or confirm	the absence of indicato	rs.)
Depth	Matrix		Redo					
(inches)	Color (moist)	%	Color (moist)	%	Type₁	Loc <sub>2</sub>	Texture	Remarks
0-10	2.5Y 2.5/1	100					Mucky silt	
10-14+	2.5Y 2.5/1	100					Mucky loam	
1Type: C=Co	ncentration, D=Depl	etion. RM=R	educed Matrix. MS	=Masked	Sand Gra	ins.	2Location: PL=Pore Li	ining. M=Matrix.
	Indicators: (Applica							
Histosol (	A1)		Dar	k Surface	(S7)			
	pedon (A2)			-			LRA 147, 148)	
Black His					rface (S9)		47, 148)	
	Sulfide (A4)			• •	d Matrix (F	-2)		
	Layers (A5)			oleted Mat		<b>C</b> )		
	k (A10) (LRR N)	(11)			Surface (F k Surface			
	Below Dark Surface k Surface (A12)	(ATT)			ssions (F8	. ,		
	ucky Mineral (S1) (LF	RN MIRA			•	·	.RR N, MLRA 136)	
	eyed Matrix (S4)			-	ce (F13) (I			
Sandy Re							(MLRA 148)	
	Matrix (S6)				•		, ,	
Indicators f	or Problematic Hyd	tric Soilsa						
	ck (A10) (MLRA 147							
	airie Redox (A16) (M		8)					
	t Floodplain Soils (F							
Red Pare	ent Material (TF2)		- In	diaatara a	fhydroph	tio vogoto	tion and	
Very Sha	llow Dark Surface (T	F12)			of hydrophy rology mus			
Other (Ex	kplain in Remarks)				rbed or pro		,	
Restrictive I	Layer (if observed):							
Type:								
Depth (in	ches):						Hydric Soil Present?	Yes ONO
Remarks:								

Project/Site: Eccleston		City/County: Stevenson,	Baltimore	Sampling Date: 3/6/2018
Applicant/Owner: JMT			State: MD	Sampling Point: WET 04-UPL
Investigator(s): _ERM, MEM		Section, Township, Range:	N/A	
Landform (hillslope, terrace, etc.): Terrace		Local relief (concave, conv	ex, none): <u>Convex</u>	Slope (%): <u>0-1</u>
Subregion (LRR or MLRA): LRR S	Lat: 39.40	D7364 Long	: <u>-76.729833</u>	Datum: NAD83
Soil Map Unit Name: MmA - Melvin silt loam, 0 to 3 pe	ercent slopes		NWI Classif	fication: Upland
Are climatic / hydrologic conditions on the site typical for	or this time of ye	ear?   Yes   No (If no,	explain in Remarks	.)
Are 🗌 Vegetation 🗌 Soil 📄 Hydrology signific	cantly disturbed	? Are "Nor	mal Circumstances"	present? <ul> <li>Yes</li> <li>No</li> </ul>
Are Vegetation Soil Hydrology natura	Illy problematic?	? (If neede	d, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site m	ap showing	sampling point loca	tions, transects	s, important features, etc.
Hydrophytic Vegetation Present?	No			
Hydric Soil Present? Yes	No	Is the Sampled Are within a Wetland?	a 🔿 Yes	• No
Wetland Hydrology Present? O Yes	No		0	
Remarks:				
HYDROLOGY				

Wetland Hydrology Indicators	5:				Secondary Indicators (minimum of two required)		
Primary Indicators (minimum of	one is re	auired:	check all that apply)		Surface Soil Cracks (B6)		
Surface Water (A1)				Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2)			Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)		
Saturation (A3)			Oxidized Rhizospheres on Living Root	s (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:							
	O Yes	No	Darth (inch ac):				
Surface Water Present?			Depth (inches):				
Water Table Present?	Yes		· · · · · ·				
Saturation Present? (includes capillary fringe)	Yes		Depth (inches):		Hydrology Present? O Yes  No		
Describe Recorded Data (strea	m gauge,	monito	ring well, aerial photos, previous inspec	tions), if av	ailable:		
Remarks:							

Sampling Point: WET 04-UPL

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: )	% Cover	Species?	Status	
		• Yes 🔿 No	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
•		Yes  No	FACW	
				Total Number of Dominant
3. <u>Quercus alba</u>		• Yes 🔿 No	FACU	Species Across All Strata: <u>5</u> (B)
4. Fagus grandifolia	0	🔵 Yes 💿 No	FACU	Percent of Dominant Species
5. Aesculus hippocastanum	0	🔵 Yes 💿 No		That Are OBL, FACW, or FAC: <u>60.000</u> (A/B)
6.	(	🔾 Yes 🔵 No		
7.				Prevalence Index worksheet:
8.				Total % Cover of:Multiply by:
8.	05			OBL species x 1 =
		Total Cover		FACW species x 2 =
50% of total cover:_42.	5 20%	6 of total cover:	17	FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)				FACU species x 4 =
1. Acer negundo	20	🖲 Yes 🔵 No	FAC	UPL species x 5 =
2.	(	🔾 Yes  No		Column Totals: (A) (B)
3.				
				Prevalence Index = B/A =
4.				Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
6.				$\times$ 2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0*
8.				4 - Morphological Adaptations*
	20 =	Total Cover		Problematic Hydrophytic Vegetation* (Explain)
FOOL of total accurate 10			٨	
50% of total cover: <u>10</u>	20%	6 of total cover:	4	*Indicators of hydric soil and wetland hydrology must
Herb Stratum (Plot size:)				be present, unless disturbed or problematic.
1. Rosa multiflora	_2	Yes 💿 No	FACU	Definitions of Four Vegetation Strata:
2. Hedera helix	_5	🖲 Yes 🔵 No	FACU	Tree Mondy plants evaluating vince 2 in (7.6 cm) or
3. Ficaria verna	5	🖲 Yes  No	FACW	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
4.	(	Yes 🔿 No		height.
5.				One line (Ohmelten ) Was de stande anderste sonderstingen in de
				<b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
6.				
7.				<b>Herb</b> – All herbaceous (non-woody) plants, regardless
8.				of size, and woody plants less than 3.28 ft tall.
9.				Woody vine – All woody vines greater than 3.28 ft in
10.				height.
11.				
12.	10			
		<ul> <li>Total Cover</li> </ul>		
50% of total cover:_6	20%	6 of total cover:	2.4	
Woody Vine Stratum (Plot size: )				
1	(	🔾 Yes  No		
2.				
3.				
4.				
5.				Hydrophytic
	=	<ul> <li>Total Cover</li> </ul>		Vegetation
50% of total cover:	20%	6 of total cover:		Present? • Yes No
Remarks: (If observed, list morphological adaptations	below)			1

Profile Desc	cription: (Describe to	o the depth needed to	docum	ent the i	ndicator c	or confirm	the absence of indicat	ors.)
Depth	Matrix		Redo					
(inches)	Color (moist)	% Color (m	oist)	%	Type₁	Loc <sub>2</sub>	Texture	Remarks
0-8	10YR 4/3	100					Loam	
-								
		etion, RM=Reduced Ma ble to all LRRs, unles				ins.	2Location: PL=Pore	Lining, M=Matrix.
Histosol (				k Surface				
	pedon (A2)					e (S8) (M	LRA 147, 148)	
Black His					rface (S9)			
	n Sulfide (A4)				d Matrix (F		,,	
	Layers (A5)			leted Mat		_,		
	k (A10) (LRR N)				Surface (F	6)		
	Below Dark Surface	(A11)			k Surface			
Thick Da	k Surface (A12)	. ,			ssions (F8			
Sandy M	ucky Mineral (S1) (LR	R N, MLRA 147, 148)	Iron	-Mangane	ese Masse	es (F12) (L	.RR N, MLRA 136)	
Sandy GI	eyed Matrix (S4)		Um	oric Surfa	ce (F13) (I	MLRA 136	6, 122)	
Sandy Re	edox (S5)		Piec	dmont Flo	odplain So	oils (F19) (	(MLRA 148)	
Stripped	Matrix (S6)							
Indicators	for Problematic Hyd	ric Soils₃:						
	ck (A10) (MLRA 147)							
	airie Redox (A16) (M							
	t Floodplain Soils (F1							
Red Pare	ent Material (TF2)		l.e.	dia atawa a	f ha alana a ha		tion and	
Very Sha	allow Dark Surface (T	F12)			f hydrophy rology mus			
Other (E	xplain in Remarks)				bed or pro		,	
Restrictive	Layer (if observed):							
Type: G	iravel							
Depth (in							Hydric Soil Present?	🔾 Yes 💿 No
Remarks:	,						-	

Project/Site: Eccleston		City/Cour	nty: Stevenson, Ba	altimore	Sampling Da	ite: <u>3/9/2018</u>		
Applicant/Owner: JMT			S	State: MD	Sampling Po	int: WET 05-SP		
Investigator(s): ERM, MEM		Section,	Section, Township, Range: N/A					
Landform (hillslope, terrace, etc.	): Depression		Local relief (concave, convex, none): Concave Slope (%): 0-1					
Subregion (LRR or MLRA): LR		at: 39.406898		76.730769		Datum: NAD83		
Soil Map Unit Name: MmA - N			0		fication: PEN	11A/B		
Are climatic / hydrologic conditio								
Are Vegetation Soil	Hydrology significantly	disturbed?	Are "Normal	Circumstances"	present?	Yes 🔿 No		
Are Vegetation Soil	Hydrology naturally pro	oblematic?	(If needed, ex	xplain any answ	ers in Remarks	S.)		
SUMMARY OF FINDING	S – Attach site map s	howing sampli	ing point location	ns, transects	s, importan	t features, etc.		
Hydrophytic Vegetation Preser	nt? • Yes • No							
Hydric Soil Present?	Yes O No		the Sampled Area vithin a Wetland?	Yes	O No			
Wetland Hydrology Present?	💿 Yes 🔵 No			0.00	0110			
Remarks: Likely fed by WUS 06 and t	ile drains that feed WUS	06, as well as occ	casional floodflow fr	om Jones Fall	S.			
HYDROLOGY								
Wetland Hydrology Indicator	S:			Secondary Indi	cators (minimu	m of two required)		
Primary Indicators (minimum o	f one is required; check all t	hat apply)		Surface Soil	Cracks (B6)			
Surface Water (A1)	True Aqu	uatic Plants (B14)		Sparsely Ve	getated Conca	ve Surface (B8)		
High Water Table (A2)	Hydroge	n Sulfide Odor (C1)	le Odor (C1) x Drainage Patterns (B10)					
Saturation (A3)	Oxidized	Rhizospheres on Li	pheres on Living Roots (C3)					
Water Marks (B1)	Presence	e of Reduced Iron (C	luced Iron (C4) Dry Season Water Table (C2)					
Sediment Deposits (B2)	Recent I	ron Reduction in Tille	luction in Tilled Soils (C6) Crayfish Burrows (C8)					
Drift Deposits (B3)	Thin Muc	ck Surface (C7)						
Algal Mat or Crust (B4)	Other (E	xplain in Remarks)		Stunted or S	Stressed Plants	s (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-Neutra	l Test (D5)			
Field Observations:								
Surface Water Present?	🔾 Yes 💿 No 🛛 Dep	oth (inches):						
Water Table Present?	🔿 Yes 💿 No 🛛 Dep	oth (inches):						
Saturation Present?	🔾 Yes 💿 No 🛛 Dep	oth (inches):	Wetland H	ydrology Prese	nt?	O No		
(includes capillary fringe)								
Describe Recorded Data (strea	im gauge, monitoring well, a	aeriai photos, previot	us inspections), it avai	lable:				
Remarks:								

Sampling Point: WET 05-SP

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover		Status	Number of Dominant Species
1. Aesculus hippocastanum	20	• Yes 🔿 No	NI	That Are OBL, FACW, or FAC: _2(A)
2		🔿 Yes 🔿 No		Total Number of Dominant
3.				Species Across All Strata: _3(B)
4.				
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 66.667 % (A/B)
6.				
				Prevalence Index worksheet:
7.				Total % Cover of: Multiply by:
8.				OBL species x 1 =
	20	= Total Cover		FACW species x 2 =
50% of total cover:_10	20	0% of total cover:	4	FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)				FACU species x 4 =
1. Ligustrum vulgare	10	Yes O No	FACU	UPL species x 5 =
2		🔾 Yes 🚫 No		Column Totals: (A) (B)
3.				
4.				Prevalence Index = B/A =
5.				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
				× 2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0*
8.				4 - Morphological Adaptations*
	10	= Total Cover		Problematic Hydrophytic Vegetation* (Explain)
50% of total cover: <u>5</u>	20	0% of total cover:	2	*Indicators of hydric soil and wetland hydrology must
Herb Stratum (Plot size:)				be present, unless disturbed or problematic.
1. <i>Symplocarpus foetidus</i>		• Yes O No	OBL	Definitions of Four Vegetation Strata:
2. Juncus effusus	5	OYes  No	FACW	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or
3. Sedge sp.	10	🔾 Yes 💿 No	N/A	more in diameter at breast height (DBH), regardless of
4. Boehmeria cylindrica	5	🔾 Yes 💿 No	FACW	height.
5. Ficaria verna	60	Yes ONO	FAC	Sapling/Shrub – Woody plants, excluding vines, less
6.		Yes No		than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7.				Herb – All herbaceous (non-woody) plants, regardless
8.				of size, and woody plants less than 3.28 ft tall.
9.				Woody vine – All woody vines greater than 3.28 ft in
10.				height.
11.				
12.				
12.	100	- Total Cause		
500/ 51 1 1 50		= Total Cover	20	
50% of total cover: 50	20	0% of total cover:	20	
Woody Vine Stratum (Plot size:)				
1		OYes ONo		
2.				
3.				
4.				
5.				The show of head in
		= Total Cover		Hydrophytic Vegetation
50% of total cover:	20	)% of total cover:		Present? • Yes O No
Remarks: (If observed, list morphological adaptations				1
	2010117.			

Profile Dese Depth		to the dept			indicator o	or confirm	the absence of indicate	ors.)
(inches)	Matrix Color (moist)	%	Color (moist)	dox%	Type₁	Loc <sub>2</sub>	Texture	Remarks
0-4	10YR 4/1	95	10YR 3/6	5	D	PL	Silty clay	
4-12		100	10111(0,0			<u>.                                     </u>		
4-12	5Y 4/1	100			·		Silty clay	
					·			
	oncentration, D=Dep					iins.	2Location: PL=Pore L	ining, M=Matrix.
•	Indicators: (Applic	able to all I	•		•			
Histosol	ipedon (A2)			ark Surface		o (S8) (M	LRA 147, 148)	
Black His				hin Dark Su				
	n Sulfide (A4)			oamy Gleye			, 140)	
	Layers (A5)			epleted Ma		_)		
	ck (A10) (LRR N)			edox Dark		6)		
	Below Dark Surface	e (A11)		epleted Da				
	rk Surface (A12)	· · ·		Redox Depre				
Sandy M	ucky Mineral (S1) (L	RR N, MLR	A 147, 148) 🔲 Ir	on-Mangar	ese Masse	es (F12) (L	.RR N, MLRA 136)	
Sandy G	leyed Matrix (S4)		🗌 L	Imbric Surfa	ace (F13) (	MLRA 136	6, 122)	
Sandy R	edox (S5)		🗌 P	liedmont Flo	oodplain So	oils (F19) (	(MLRA 148)	
Stripped	Matrix (S6)							
Indicators	for Problematic Hy	dric Soils₃:						
2 cm Mu	ick (A10) (MLRA 147	7)						
Coast Pr	rairie Redox (A16) (N	/LRA 147, <sup>-</sup>	148)					
Piedmor	nt Floodplain Soils (F	19) (MLRA	136, 147)					
Red Par	ent Material (TF2)			Indicators	of hydrophy	utic voceta	tion and	
Very Sha	allow Dark Surface (	TF12)		wetland hyc				
Other (E	xplain in Remarks)		ı	unless distu	rbed or pro	oblematic.		
Restrictive	Layer (if observed)	:						
Туре:								
Depth (ir	nches):						Hydric Soil Present?	Yes No
Remarks:								

Project/Site: Eccleston		City	//County: Steve	enson, E	Baltimore	Sampling D	Date: 3/9/2018	
Applicant/Owner: JMT					State: MD	Sampling F	oint: WET 06-SP1	
Investigator(s): ERM, MEM		Sec	ction, Township,	Range:	N/A	-		
Landform (hillslope, terrace, etc.	): Depression	Loc	al relief (concav	e, convex	k, none): Concav	e	Slope (%): 0-2	
Subregion (LRR or MLRA): LR	RS	Lat: 39.4065	41	Long:	-76.731423		Datum: NAD83	
Soil Map Unit Name: MmA - M				_ 0		ication: PE	- M1B/C	
Are climatic / hydrologic conditio				(lf no. e				
Are Vegetation Soil		ntly disturbed?			al Circumstances"		• Yes 🔿 No	
Are Vegetation Soil	, , , ,	problematic?			explain any answe			
	, , ,	•	·				,	
SUMMARY OF FINDING	S – Attach site ma	p showing sa	mpling poin	t locati	ons, transects	, importa	nt features, etc.	
Hydrophytic Vegetation Preser	nt? • Yes •	No	Is the Samp	olod Aroa				
Hydric Soil Present?	• Yes 🔾	No	within a We		• Yes	O No		
Wetland Hydrology Present?	• Yes 🔾	No						
Remarks:								
Fed by runoff from the adja								
area. Includes small patch	of Phragmites outside	e sample plot. S	mall patches o	of black v	villow occur alon	g the wetlar	nd fringes.	
HYDROLOGY								
Wetland Hydrology Indicator	s:				Secondary Indi	cators (minim	num of two required)	
Primary Indicators (minimum o					Surface Soil	. ,		
X Surface Water (A1)		Aquatic Plants (B1	•			-	cave Surface (B8)	
K High Water Table (A2)		ogen Sulfide Odor			× Drainage Pa			
× Saturation (A3)	Oxidi	zed Rhizospheres	on Living Roots	s (C3)	Moss Trim L	ines (B16)		
Water Marks (B1)	Prese	ence of Reduced I	ron (C4)	Dry Season Water Table (C2)				
Sediment Deposits (B2)	Rece	nt Iron Reduction	in Tilled Soils (C	6)	Crayfish Bur	rows (C8)		
Drift Deposits (B3)		Muck Surface (C7					ial Imagery (C9)	
Algal Mat or Crust (B4)	Othe	r (Explain in Rema	irks)		Stunted or S		( )	
Iron Deposits (B5)					× Geomorphic		()	
Inundation Visible on Aeria					Shallow Aqu			
Water Stained Leaves (B9)					× Microtopogra		D4)	
Aquatic Fauna (B13)					× FAC-Neutra	l Test (D5)		
Field Observations:								
Surface Water Present?		Depth (inches): 2						
Water Table Present?		Depth (inches): 3						
Saturation Present? (includes capillary fringe)	Yes O No	Depth (inches): _	<u> </u>	Wetland	Hydrology Prese	nt? • Ye	es 🔘 No	
Describe Recorded Data (strea	am gauge, monitoring we	ell, aerial photos, p	revious inspecti	ons), if av	/ailable:			
Remarks:								

Sampling Point: WET 06-SP1

	Absolute Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Species?	Status	Number of Dominant Species
1.	🔾 Yes 🚫 No		That Are OBL, FACW, or FAC: _2 (A)
2.			
3.			Total Number of Dominant         Species Across All Strata:       2       (B)
			Species Across All Strata: 2 (B)
4.			Percent of Dominant Species
5.			That Are OBL, FACW, or FAC: 100.000 % (A/B)
6.			
7.			Prevalence Index worksheet:
			Total % Cover of:Multiply by:
8.			OBL species x 1 =
	= Total Cover		FACW species x 2 =
50% of total cover:	20% of total cover:		FAC species x 3 =
Sapling/Shrub Stratum (Plot size: )			FACU species x 4 =
<u> </u>	🔾 Yes 🔵 No		UPL species x 5 =
2.			
			Column Totals: (A) (B)
3.			Prevalence Index = B/A =
4.			
5.			Hydrophytic Vegetation Indicators:
6.			1 - Rapid Test for Hydrophytic Vegetation
			× 2 - Dominance Test is >50%
7.			☐ 3 - Prevalence Index is ≤3.0*
8.			4 - Morphological Adaptations*
	= Total Cover		Problematic Hydrophytic Vegetation* (Explain)
50% of total cover:	20% of total cover:		*Indiastors of hydric soil and watland hydrology must
Herb Stratum (Plot size: )			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1 Dhalania amundinaaaa	30 • Yes O No	FACW	
··· <u>·······················</u>			Definitions of Four Vegetation Strata:
2. Juncus effusus		FACW	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or
3. Boehmeria cylindrica	15 OYes  No	FACW	more in diameter at breast height (DBH), regardless of
4. Ficaria verna	O Yes <ul> <li>No</li> </ul>	FAC	height.
5. Grass sp.	10 Yes No	N/A	Sapling/Shrub – Woody plants, excluding vines, less
6. Sedge sp.	5 🛛 Yes 🖲 No	N/A	than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7.	○ Yes ○ No		Herb – All herbaceous (non-woody) plants, regardless
8.			of size, and woody plants less than 3.28 ft tall.
0.			
9.			<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
10.			
11.			
12.			
	100 = Total Cover		
50% of total cover: <u>50</u>	20% of total cover:	20	
Woody Vine Stratum (Plot size: )			
4	🔿 Yes 🔵 No		
1	0103 0110		
2.			
3.			
4.			
5.			
	= Total Cover		Hydrophytic Vegetation
50% of total cover:	20% of total cover:		Present? • Yes O No
Remarks: (If observed, list morphological adaptations	DelOW).		

Depth (inches)         Matrix         Redox           0-8         2.5Y 5/2         90         10YR 4/6         10         C         M         Silty clay	
0-8         2.5Y 5/2         90         10YR 4/6         10         C         M         Silty clay	
	Remarks
8-15         2.5Y 5/1         85         10YR 3/6         15         C         M         Clay loam	
· · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · ·  · · · · · · · · · · · · · · ·	
1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 2Location: PL=Pore Lining	, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	
Histosol (A1) Dark Surface (S7)	
Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148)	
Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148)	
Hydrogen Sulfide (A4)	
Stratified Layers (A5)	
2 cm Muck (A10) (LRR N) Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	
🗌 Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) 📃 Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)	
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148)	
Stripped Matrix (S6)	
Indicators for Problematic Hydric Soils <sub>3</sub> :	
2 cm Muck (A10) (MLRA 147)	
Coast Prairie Redox (A16) (MLRA 147, 148)	
Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
Red Parent Material (TF2)	
<ul> <li>☐ Very Shallow Dark Surface (TF12)</li> <li>3Indicators of hydrophytic vegetation and wetland hydrology must be present,</li> </ul>	
Other (Explain in Remarks) unless disturbed or problematic.	
Restrictive Layer (if observed):	
l vpe:	Yes 🔘 No
Type: Depth (inches): Hvdric Soil Present?	
Depth (inches): Hydric Soil Present? •	
Depth (inches): Hydric Soil Present?	
Depth (inches): Hydric Soil Present?	
Depth (inches): Hydric Soil Present?	
Depth (inches): Hydric Soil Present? •	
Depth (inches): Hydric Soil Present?	
Depth (inches): Hydric Soil Present? •	
Depth (inches): Hydric Soil Present? •	
Depth (inches): Hydric Soil Present? •	
Depth (inches): Hydric Soil Present? •	
Depth (inches): Hydric Soil Present? •	
Depth (inches): Hydric Soil Present? •	
Depth (inches): Hydric Soil Present?	
Depth (inches): Hydric Soil Present? •	
Depth (inches): Hydric Soil Present?	
Depth (inches): Hydric Soil Present? •	

Project/Site: Eccleston	City/County: Stevenson,	Baltimore	Sampling Date: 0	05/23/2018
Applicant/Owner: JMT		State: MD	Sampling Point:	WET 06-SP2
Investigator(s): ERM, MEM	Section, Township, Range:	N/A		
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, convex	x, none): <u>Convex</u>	Slope	(%): 0-2
Subregion (LRR or MLRA): LRR S	Lat: <u>39.406285</u>	Long:76.730	375 Datur	n: NAD 83
Soil Map Unit Name: <u>MmA – Melvin silt loam, 0 to 3 percent</u>	slopes	NWI classifi	cation: PFO1B/C	,
Are climatic/hydrologic conditions on the site typical for this time	e of year? Yes X	No (If no,	explain in Remarks.)	
Are Vegetation Soil or Hydrology sig	gnificantly disturbed? Are "	Normal Circumstances	" present? Yes	X No
Are Vegetation Soil or Hydrology na	aturally problematic? (If ne	eded, explain any answe	ers in Remarks.)	

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	X X X	No No No	Is the Sampled Area Within a Wetland?	Yes _	x	No
Remarks:							

#### HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
X Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1)	X Drainage Patterns (B10)
X 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)
Iron Deposits (B5) Other (Explain in Remarks)	X Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
X Water-Stained Leaves (B9)	Microtopographic Relief (D4)
X Aquatic Fauna (B13)	X FAC-Neutral Test (D5)
Field Observations:       Ves       X       No       Depth (inches):       0.5         Water Table Present?       Yes       No       X       Depth (inches):	drology Present? Yes X No

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:		
1. Liriodendron tulipifera	10	No	FACU	Number of Dominant Species	0	(
2. Fraxinus pennsylvanica	60	Yes	FACW	That Are OBL, FACW, or FAC:	2	(A)
3. Acer rubrum	5	No	FAC	Total Number of Dominant		_ ()
4				Species Across All Strata:	2	(B)
5				Percent of Dominant Species		_
				That Are OBL, FACW, or FAC:	100	(A/B)
						_
				Prevalence Index Worksheet:		
8		Total		Frevalence index worksheet.		
	75	= Cover		Total % Cover of:	Multiply by	y:
Sapling/Shrub Stratum (Plot Size: 15')				OBL species	x1=	
1				FACW species		
2				FAC species	x3=	
3				FACU species		
4				UPL species		
5.				Column Totals		
16						
7.				Prevalence Index = B/A	=	
				Hydrophytic Vegetation Indic	ators:	
				1 – Rapid Test for Hyd		tation
9 10.				X 2 – Dominance Test is		lation
10:		Total			3 - 00 /0	
		= Cover		3 – Prevalence Index i		
Herb Stratum (Plot Size: 5' )				4 – Morphological Ada	ptations <sup>1</sup> (Prov	vide
1. Symplocarpus foetidus	80	Yes	OBL	supporting data in Rema	irks or separa	te sheet)
2. Agrostis stolonifera	15	No	FACW	Problematic Hydrophy	tic Vegetation	1
3. Rosa multiflora	10	No	FACU			(Explain)
4. Boehmeria cylindrica	2	No	FACW	<sup>1</sup> Indicators of hydric soil and we	etland hydrolo	av
5. Parthenocissus quinquefolia	2	No	FACU	must be present, unless disturb		
6				Definitions of Vegetation Stra	ita:	
7.				Tree – Woody plants, excluding		7.6 cm)
8				or more in diameter at breast h		7.0 Cm)
9				regardless of height.	0 ( )	
10				Sapling/Shrub – Woody plants	excluding vir	nes less
11.				than 3 in. DBH and greater than	1 3.28 ft (1m)	tall.
12.						
12.		Total		Herb – All herbaceous (non-wo		0.00.4
	109	= Cover		regardless of size and woody p tall.	ants less than	1 3.28 π
Woody Vine Stratum (Plot Size: 30')						
1					and a tag the are f	00 6 :
2				Woody vine – All woody vines height.	greater than a	5.28 π in
3						
4						
5						
6.				Hydrophytic		
		Total		Vegetation		
		= Cover		Present? Yes	<u>X</u> No _	
Remarks: (If observed, list morphological adaptatic	ons delow).					

Depth	Matrix	R	edox Feat	ures				
(inches)	Color (moist) %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Rem	arks
0-12	10YR 4/2 95	10YR 4/6	5	С	М	Clay		
·								
	<u> </u>							
·								
	<u> </u>							
<u> </u>								
ype: C=Conce	entration, D=Depletion, RN	M=Reduced Matrix, CS=	Covered of	or Coated Sa	and Grains.	<sup>2</sup> Location: PL	-=Pore Lining, M=	=Matrix.
dric Soil Indi	cators:					Indicators for P	Problematic Hyd	ric Soils <sup>3</sup> :
Histosol	(A1)	Dark Surface	e (S7)			2 cm Muck	(A10) (MLRA 14	7)
	ipedon (A2)	Polyvalue Be		ice (S8) <b>(ML</b>	.RA 147,148)		rie Redox (A16)	
Black His		Thin Dark Su					A 147, 148)	
	n Sulfide (A4)	Loamy Gleye			,,		Floodplain Soils (	E19)
	I Layers (A5)	X Depleted Ma		(1 2)			A 136, 147)	13)
				-0)				
	ck (A10) <b>(LLR N)</b>	Redox Dark					ow Dark Surface	(1F12)
	Below Dark Surface (A11	· ·				Other (Exp	lain in Remarks)	
	rk Surface (A12)	Redox Depre						
Sandy M	lucky Mineral (S1) (LLR N,	, Iron-Mangan	iese Mass	es (F12) <b>(LF</b>	RR N,			
MLR	RA 147, 148)	MLRA 1	36)					
Sandy G	leyed Matrix (S4)	Umbric Surfa	ace (F13)	(MLRA 136, <sup>-</sup>	122)	<sup>3</sup> Indicato	ors of hydrophytic	vegetation and
Sandy R	edox (S5)	Piedmont Flo	oodplain S	oils (F19) <b>(</b>	VLRA 148)	wetlan	nd hydrology mus	t be present,
	Matrix (S6)	Red Parent I				unle	ss disturbed or p	roblematic.
	( )			, (				
strictive Laye	er (if observed):							
Туре:								
Depth (inches	s):				Hydric	Soil Present?	Yes X	No
	·							
marks:								

Project/Site: Eccleston	City/County: Stevens	son, Baltimore	Sampling Date: 3/9/2018
Applicant/Owner: JMT			Sampling Point: WET 05/WET 06-UP
Investigator(s): ERM, MEM	Section, Township, Ra		· · · · · · · · · · · · · · · · · · ·
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, o		Slope (%): 0
		Long: -76.730653	Datum: NAD83
• • • •		•	cation: Upland
Soil Map Unit Name: MmA - Melvin silt loam, 0 to 3 p			
Are climatic / hydrologic conditions on the site typical for this			
Are Vegetation Soil Hydrology significantly	disturbed? Are '	"Normal Circumstances" p	oresent? <ul> <li>Yes</li> <li>No</li> </ul>
Are Vegetation Soil Hydrology naturally pro	blematic? (If ne	eeded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing sampling point lo	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present?• YesNoHydric Soil Present?Yes• NoWetland Hydrology Present?• Yes• No	Is the Sampled within a Wetla		• No
HYDROLOGY			
Wetland Hydrology Indicators:			ators (minimum of two required)
Primary Indicators (minimum of one is required; check all th		Surface Soil (	· ,
	atic Plants (B14) n Sulfide Odor (C1)	Drainage Pat	etated Concave Surface (B8)
	Rhizospheres on Living Roots (C		
	of Reduced Iron (C4)		Vater Table (C2)
	on Reduction in Tilled Soils (C6)	Crayfish Burr	· · ·
× Drift Deposits (B3)	k Surface (C7)	Saturation Vis	sible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	plain in Remarks)	Stunted or St	ressed Plants (D1)
Iron Deposits (B5)		Geomorphic I	
Inundation Visible on Aerial Imagery (B7)		Shallow Aquit	. ,
Water Stained Leaves (B9)			phic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral	Test (D5)
Field Observations:			
	th (inches):		
	th (inches):	etland Hydrology Presen	<b>12</b> • Van • No
(includes capillary fringe)	th (inches): We	elianu nyurology Presen	t? • Yes No
Describe Recorded Data (stream gauge, monitoring well, a	erial photos, previous inspections	s), if available:	
Remarks:			

Sampling Point: WET 05/WET 06-UPL

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: )	% Cover		Status	Number of Dominant Species
1. Robinia pseudoacacia	10	• Yes O No	FACU	That Are OBL, FACW, or FAC: _3 (A)
2		OYes ONo		Total Number of Dominant
3.				Species Across All Strata: _5(B)
4.				Percent of Dominant Species
5.				That Are OBL, FACW, or FAC: 60.000 % (A/B)
6.				
7.				Prevalence Index worksheet:
8.				Total % Cover of:Multiply by:
0.	10	<b>T</b> ( ) O		OBL species x 1 =
_	10	= Total Cover	•	FACW species x 2 =
50% of total cover: 5	20	0% of total cover:	2	FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)				FACU species x 4 =
1. Aesculus hippocastanum	10	OYes ● No	N/A	UPL species x 5 =
2. Ligustrum vulgare	50	🖲 Yes 🔵 No	FACU	Column Totals: (A) (B)
3. Acer negundo	20	🖲 Yes  No	FAC	
4.		OYes ○ No		Prevalence Index = B/A =
5.		-		Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
6.				x 2 - Dominance Test is >50%
7.				☐ 3 - Prevalence Index is ≤3.0*
8.				4 - Morphological Adaptations*
	80	= Total Cover		Problematic Hydrophytic Vegetation* (Explain)
50% of total cover: 40	20	0% of total cover:	16	*Indicators of hydric soil and wetland hydrology must
Herb Stratum (Plot size: )				be present, unless disturbed or problematic.
1. Ficaria verna	80	• Yes 🔿 No	FAC	
2 Symplocarpus footidus	20	• Yes O No	OBL	Definitions of Four Vegetation Strata:
	20	Yes No		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
3				more in diameter at breast height (DBH), regardless of
4.				height.
5.				Sapling/Shrub – Woody plants, excluding vines, less
6.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7.				Herb – All herbaceous (non-woody) plants, regardless
8.				of size, and woody plants less than 3.28 ft tall.
9.				Woody vine – All woody vines greater than 3.28 ft in
10.				height.
11.				
12.				
	100	= Total Cover		
50% of total cover: <u>50</u>	20	0% of total cover:	20	
Woody Vine Stratum (Plot size:)				
1		🔿 Yes 🔿 No		
2.		-		
3.				
4. -				
5.				Hydrophytic
		= Total Cover		Vegetation
50% of total cover:	20	0% of total cover:		Present?
Remarks: (If observed, list morphological adaptations	below).			
, , , , , , , , , , , , , , , , , , ,	,			

nches)	<u>Matrix</u> Color (moist)	%	Color (moist)	%	Type₁	Loc <sub>2</sub>	Texture	Remarks
0-15	10YR 4/2	100					Clay loam	
	1011(4/2							
vne: C=Co	ncentration, D=Depl	etion RM=R	educed Matrix_MS=	Masked	Sand Gra	ins	2Location: PL=Pore	Lining M=Matrix
	ndicators: (Applica							
Histosol (A	41)		Dark	Surface	(S7)			
Histic Epip	pedon (A2)		Poly	alue Bel	ow Surfac	e (S8) (M	_RA 147, 148)	
Black Hist	ic (A3)					(MLRA 14	7, 148)	
	Sulfide (A4)		Loan	ny Gleyeo	d Matrix (I	-2)		
	Layers (A5)			eted Mati				
	k (A10) (LRR N)				urface (F			
	Below Dark Surface	(A11)			Surface	. ,		
	k Surface (A12)				ssions (F8			
-	icky Mineral (S1) (LF	KR N, MLRA		•		` '`	RR N, MLRA 136)	
Sandy Ge Sandy Re	eyed Matrix (S4)					MLRA 136	MLRA 148)	
	Matrix (S6)					)15 (1 15) (	WERA 140)	
	. ,							
	or Problematic Hyd							
	ck (A10) (MLRA 147		0)					
	airie Redox (A16) (M							
	t Floodplain Soils (F ent Material (TF2)	19) (IVILKA 13	50, 147)					
	llow Dark Surface (1	(F12)	₃Indi	icators of	hydrophy	tic vegeta	tion and	
-	plain in Remarks)	1 12)				st be prese	ent,	
	_ayer (if observed):						1	
Type:	Layer (il observed).							
Depth (ind	ches).						Hydric Soil Present	Yes 💿 No
							Tryane oon Tresent	
marks:								

Project/Site: Eccleston		City/County:	Stevenson, Baltimore	Sampling Date: 3/8/2018
Applicant/Owner: JMT			State: MD	Sampling Point: WET 07-SP
Investigator(s): ERM, MEM		Section, Towr	nship, Range: N/A	
Landform (hillslope, terrace, etc.	): Depression	Local relief (c	oncave, convex, none): <u>Conc</u>	Slope (%): 0-2
Subregion (LRR or MLRA): LR	KRS Lat: 39	9.409145	Long: <u>-76.737341</u>	Datum: NAD83
Soil Map Unit Name: MmA - M	Melvin silt loam, 0 to 3 perce	ent slopes	NWI Cla	ssification: PFO1B/C
Are climatic / hydrologic condition	ons on the site typical for this time	of year?   Yes	No (If no, explain in Rema	rks.)
Are Vegetation Soil	Hydrology significantly distur	bed?	Are "Normal Circumstance	es" present? 💿 Yes 🔵 No
Are Vegetation Soil			(If needed, explain any an	swers in Remarks.)
			point locations, transe	cts, important features, etc.
				, <b>,</b> ,
Hydrophytic Vegetation Preser			Sampled Area	
Hydric Soil Present? Wetland Hydrology Present?		within	a Wetland?	es 🔘 No
Remarks:	Yes O No			
HYDROLOGY				
Wetland Hydrology Indicator	s:		Secondary I	ndicators (minimum of two required)
Primary Indicators (minimum c	of one is required; check all that ap	ply)		Soil Cracks (B6)
× Surface Water (A1)	True Aquatic P		Sparsely	Vegetated Concave Surface (B8)
× High Water Table (A2)	Hydrogen Sulfi	de Odor (C1)	× Drainage	Patterns (B10)
× Saturation (A3)	Oxidized Rhizo	spheres on Living	Roots (C3) Moss Tri	m Lines (B16)
Water Marks (B1)	Presence of Re	educed Iron (C4)	Dry Seas	on Water Table (C2)
Sediment Deposits (B2)		eduction in Tilled So		Burrows (C8)
Drift Deposits (B3)	Thin Muck Surf			n Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain	in Remarks)		or Stressed Plants (D1)
<ul> <li>Iron Deposits (B5)</li> <li>Inundation Visible on Aeria</li> </ul>	lmagan (DZ)			hic Position (D2) Aquitard (D3)
× Water Stained Leaves (B9)				ographic Relief (D4)
Aquatic Fauna (B13)				itral Test (D5)
Field Observations:				
Surface Water Present?	Yes No Depth (inc	,	—	
Water Table Present? Saturation Present?	<ul> <li>Yes No</li> <li>Yes No</li> <li>Depth (inc</li> <li>Depth (inc</li> </ul>			
(includes capillary fringe)	Yes No Depth (inc	nes). <u> </u>	Wetland Hydrology Pre	esent? • Yes O No
Describe Recorded Data (strea	am gauge, monitoring well, aerial p	photos, previous in	spections), if available:	
Remarks:				

Sampling Point: WET 07-SP

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1. Acer rubrum	40	Yes ONO	FAC	That Are OBL, FACW, or FAC: _3(A)
2.		🔾 Yes 🔵 No		Total Number of Dominant
3.		🔾 Yes 🔿 No		Species Across All Strata: _4(B)
4.				Percent of Deminent Species
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75.000 %</u> (A/B)
6.				Prevalence Index worksheet:
7.				Total % Cover of: Multiply by:
8.				OBL species         x1 =
	40	= Total Cover		
50% of total cover: 20	20	% of total cover:	8	FACW species x 2 =
Sapling/Shrub Stratum (Plot size:)	20			FAC species x 3 =
	30	• Yes 🔿 No	FACU	FACU species x 4 =
1. <u>Ligustrum vulgare</u>		O Yes ● No		UPL species x 5 = (1)
2. <u>Acer negundo</u>		Yes No	FAC	Column Totals: (A) (B)
3				Prevalence Index = B/A =
4.				Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
6.				× 2 - Dominance Test is >50%
7.				☐ 3 - Prevalence Index is ≤3.0*
8.				4 - Morphological Adaptations*
	35	= Total Cover		Problematic Hydrophytic Vegetation* (Explain)
50% of total cover:17.	5 20	% of total cover:	7	*Indicators of hydric soil and wetland hydrology must
Herb Stratum (Plot size:)				be present, unless disturbed or problematic.
1. Symplocarpus foetidus	40	• Yes 🔿 No	OBL	Definitions of Four Vegetation Strata:
2. Boehmeria cylindrica	10	○ Yes ● No	FACW	
3. Ficaria verna	10	Yes  No	FAC	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or
		○ Yes ○ No		more in diameter at breast height (DBH), regardless of height.
4 5.		0		
6.				<b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7.				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
8. 9.				Woody vine – All woody vines greater than 3.28 ft in
10.				height.
11.				
12.				
12.	60	<b>T</b> ( ) O		
		= Total Cover	10	
50% of total cover: <u>30</u>	20	% of total cover:	12	
Woody Vine Stratum (Plot size:)				
1. Toxicodendron radicans	5	Yes ONO	FAC	
2		🔾 Yes 🔿 No		
3.				
4.				
5.				
	5	= Total Cover		Hydrophytic
500% of total actions			1	Vegetation Present? • Yes No
50% of total cover: 2.		% of total cover:		
Remarks: (If observed, list morphological adaptations	below).			

Profile Des	cription: (Describe t	to the dept	h needed to docun	nent the i	ndicator o	or confirm	the absence of indicate	ors.)
Depth	Matrix		Redo					
(inches)	Color (moist)	%	Color (moist)	%	Type₁	Loc <sub>2</sub>	Texture	Remarks
0-2	10YR 3/1	100					Mucky silt	
2-6	10YR 4/1	95	10YR 3/6	5	C	M	Mucky clay	
6-11	2.5Y 5/2	80	10YR 5/6	20	C	Μ	Clay	
1Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	I Sand Gra	ins.	2Location: PL=Pore I	_ining, M=Matrix.
Hydric Soil	Indicators: (Applica	able to all	LRRs, unless other	wise note	ed.)			
Histosol	(A1)		Dar	k Surface	e (S7)			
Histic Ep	ipedon (A2)		Pol	yvalue Be	elow Surfac	e (S8) (M	LRA 147, 148)	
Black His	stic (A3)		🔄 Thi	n Dark Su	ırface (S9)	(MLRA 14	47, 148)	
Hydroger	n Sulfide (A4)		Loa	amy Gleye	ed Matrix (F	-2)		
Stratified	Layers (A5)		× Dep	pleted Ma	trix (F3)			
2 cm Mu	ck (A10) (LRR N)		Red	dox Dark \$	Surface (F	6)		
Depleted	Below Dark Surface	(A11)	Dep	pleted Dar	rk Surface	(F7)		
Thick Da	rk Surface (A12)		Red	dox Depre	essions (F8	3)		
	ucky Mineral (S1) (LF	rr n, mlr		-			RR N, MLRA 136)	
	leyed Matrix (S4)				ice (F13) (I		,	
	edox (S5)		Pie	dmont Flo	odplain So	oils (F19)	(MLRA 148)	
Stripped	Matrix (S6)							
Indicators	for Problematic Hyd	lric Soils₃:						
🗌 2 cm Mu	ck (A10) (MLRA 147	)						
Coast Pr	rairie Redox (A16) (M	ILRA 147,	148)					
Piedmor	nt Floodplain Soils (F	19) (MLRA	136, 147)					
Red Par	ent Material (TF2)		ala	diaatara a	fhydroph	tio vogoto	tion and	
Very Sha	allow Dark Surface (T	F12)			of hydrophy rology mus			
Other (E	xplain in Remarks)				rbed or pro		,	
Restrictive	Layer (if observed):	1						
Type:								
Depth (ir	iches):						Hydric Soil Present?	Yes O No
Remarks:	,						•	

Project/Site: Eccleston	City/Co	ounty: Stevenson, E	Baltimore	Sampling Date: 3/9/2018
Applicant/Owner: JMT			State: MD	Sampling Point: WET 08-SP1
Investigator(s): ERM, MEM	Section	n, Township, Range:	N/A	
Landform (hillslope, terrace, etc.): Toe of slope		elief (concave, conve	-	e Slope (%): 0-2
Subregion (LRR or MLRA): LRR S	Lat: 39.409135		-76.739439	Datum: NAD83
Soil Map Unit Name: MmA - Melvin silt loam, 0 to		0		ication: PFO1A/B
Are climatic / hydrologic conditions on the site typical for t				
	tly disturbed?	Are "Norm	al Circumstances"	present? <ul> <li>Yes</li> <li>No</li> </ul>
Are Vegetation Soil Hydrology naturally	problematic?	(If needed,	explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing same	oling point locati	ons, transects	, important features, etc.
Hydrophytic Vegetation Present?  • Yes  N	lo			
Hydric Soil Present?	lo	Is the Sampled Area within a Wetland?	• Yes	
Wetland Hydrology Present? <ul> <li>Yes</li> </ul>	lo			
Remarks:				
Fed by a small culvert and unmanaged road rund	off as well as prec	initation Flows into	Jones Falls	
	in, do non do proc			
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary India	cators (minimum of two required)
Primary Indicators (minimum of one is required; check a	ll that apply)		Surface Soil	Cracks (B6)
× Surface Water (A1)	quatic Plants (B14)		Sparsely Ve	getated Concave Surface (B8)
x High Water Table (A2) ☐ Hydrog	gen Sulfide Odor (C	1)	× Drainage Pa	tterns (B10)
× Saturation (A3)	ed Rhizospheres on	Living Roots (C3)	Moss Trim L	ines (B16)
Water Marks (B1)	nce of Reduced Iron	(C4)	Dry Season	Water Table (C2)
Sediment Deposits (B2)	t Iron Reduction in T	Tilled Soils (C6)	Crayfish Bur	rows (C8)
Drift Deposits (B3)	luck Surface (C7)		Saturation V	isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	(Explain in Remarks	)	Stunted or S	tressed Plants (D1)
Iron Deposits (B5)			× Geomorphic	
Inundation Visible on Aerial Imagery (B7)			Shallow Aqu	
× Water Stained Leaves (B9)				aphic Relief (D4)
Aquatic Fauna (B13)			× FAC-Neutral	Test (D5)
Field Observations:				
Surface Water Present?	epth (inches): 1			
Water Table Present?	epth (inches): 0			
Saturation Present?  • Yes No D (includes capillary fringe)	epth (inches): 0	Wetland	Hydrology Prese	nt? • Yes 🔾 No
Describe Recorded Data (stream gauge, monitoring well	l, aerial photos, prev	vious inspections), if a	vailable:	
Remarks:				

Sampling Point: WET 08-SP1

	Absolute			Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover			Status	Number of Dominant Species	
1. Acer saccharinum	10	_ O Yes (		FACW	That Are OBL, FACW, or FAC: <u>3</u> (A)	)
2. Acer rubrum	50	• Yes	🔵 No	FAC	Total Number of Dominant	
3.		O Yes	🔵 No		Species Across All Strata: <u>3</u> (B)	)
4.		O Yes	🔿 No		Percent of Dominant Species	
5.		_			Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.000 %</u> (A/	′B)
6.					Prevalence Index worksheet:	
7.					Total % Cover of: Multiply by:	
8.					OBL species         x 1 =	
	60	= Total Co	over			
50% of total cover:_30	2	0% of total	cover <sup>.</sup>	12	FACW species x 2 =	
Sapling/Shrub Stratum (Plot size: )					FAC species x 3 =	
	10	• Yes	No		FACU species x 4 =	
1. <u>Liquidambar styraciflua</u>		_ Yes		FAC	UPL species x 5 =	
2. Rosa multiflora	2	-		FACU	Column Totals: (A) (B	3)
3. Ligustrum vulgare	2	_ Yes		FACU	Prevalence Index = B/A =	
4		O Yes	) No	:	Hydrophytic Vegetation Indicators:	
5.					1 - Rapid Test for Hydrophytic Vegetation	
6.					× 2 - Dominance Test is >50%	
7.					3 - Prevalence Index is ≤3.0*	
8.					4 - Morphological Adaptations*	
	14	= Total Co	over		<ul> <li>Problematic Hydrophytic Vegetation* (Explain)</li> </ul>	
50% of total cover:_7_		_		2.8		
Herb Stratum (Plot size:)	2	0% of total	cover.	2.0	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	t
1. Boehmeria cylindrica	10	O Yes	No	FACW	Definitions of Four Vegetation Strata:	
2. Symplocarpus foetidus	10	O Yes	No	OBL	Deminitions of Four vegetation Strata.	
		• Yes			Tree – Woody plants, excluding vines, 3 in. (7.6 cm)	
3. Ficaria verna	15	_		FAC	more in diameter at breast height (DBH), regardless of height.	of
4. Unidentified grass	_20	• Yes		N/A	licight.	
5. Juncus effusus	5	O Yes		FACW	Sapling/Shrub – Woody plants, excluding vines, less	S
6		_ Yes (	) No		than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
7.					Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall.	SS
8.						
9.					Woody vine – All woody vines greater than 3.28 ft in	۱
10.					height.	
11.						
12.						
	60	= Total Co	over			
50% of total cover:30	-	- 0% of total		12		
Woody Vine Stratum (Plot size: )						
1.		O Yes	No			
2.						
3.						
4.						
5.					Hydrophytic	
		_ = Total Co	over		Vegetation	
50% of total cover:	2	0% of total	cover:		Present? • Yes No	
Remarks: (If observed, list morphological adaptations	below).					

(inches)	Matrix		Redo					
<u> </u>	Color (moist)	% Color	(moist)	%	Type <sub>1</sub>	Loc <sub>2</sub>	Texture	Remarks
0-14+	2.5Y 4/1	90 5YR 4/6	3	10	С	Μ	Silty clay	
Type: C=Co	ncentration, D=Depl	etion RM=Reduced	Matrix MS	=Masker	Sand Gra	ins	2Location: PL=Pore	Lining M=Matrix
	Indicators: (Applica						2200000000000000	
Histosol (A	A1)		Dar	k Surface	(S7)			
	pedon (A2)						LRA 147, 148)	
Black Hist	. ,				rface (S9)		17, 148)	
, ,	Sulfide (A4)				d Matrix (F	-2)		
	Layers (A5)			oleted Ma	. ,	<b>C</b> )		
	k (A10) (LRR N) Below Dark Surface	(Δ11)			Surface (F k Surface	,		
	k Surface (A12)	(ATT)			essions (F8			
	ucky Mineral (S1) (LF	RR N. MLRA 147. 14					.RR N, MLRA 136)	
	eyed Matrix (S4)	,		-	ce (F13) (	. , .	,	
Sandy Re							(MLRA 148)	
Stripped N	Vatrix (S6)							
Indicators f	or Problematic Hyd	lric Soils₃:						
	ck (A10) (MLRA 147							
Coast Pra	airie Redox (A16) (M	ILRA 147, 148)						
Piedmont	t Floodplain Soils (F	19) (MLRA 136, 147	)					
	ent Material (TF2)		зIn	dicators o	of hydrophy	/tic vegeta	ition and	
		F12)	we	tland hyd	rology mus	st be prese		
Very Sha	llow Dark Surface (T	,		less distu	rbed or pro	blematic.		
Very Sha	llow Dark Surface (T kplain in Remarks)		un					
Very Sha	llow Dark Surface (T		un					
Very Sha Other (Ex Restrictive L Type:	Illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>		un					
Very Sha	Illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>		un				Hydric Soil Present?	• • Yes 🔿 No
Very Sha Other (Ex Restrictive L Type: Depth (inc	Illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>		un				Hydric Soil Present?	• • Yes 🔿 No
Very Sha Other (Ex Restrictive L Type: Depth (inc	Illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>		un				Hydric Soil Present?	• Yes 🔿 No
Very Sha Other (Ex Restrictive L Type: Depth (inc	Illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>						Hydric Soil Present?	• • Yes 🔿 No
Very Sha Other (Ex Restrictive L Type: Depth (inc	Illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>		un				Hydric Soil Present?	• • Yes 🔾 No
Very Sha Other (Ex Restrictive L Type: Depth (inc	Illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>		un				Hydric Soil Present?	• • Yes O No
Very Sha Other (Ex Restrictive L Type: Depth (inc	Illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>		un				Hydric Soil Present?	• • Yes O No
Very Sha Other (Ex Restrictive L Type: Depth (inc	illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>		un				Hydric Soil Present?	• • Yes 🔾 No
Very Sha Other (Ex Restrictive L Type: Depth (inc	illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>		un				Hydric Soil Present?	• • Yes O No
Very Sha Other (Ex Restrictive L Type: Depth (inc	illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>		un				Hydric Soil Present?	• • Yes O No
Very Sha Other (Ex Restrictive L Type:	illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>						Hydric Soil Present?	• Yes O No
Very Sha Other (Ex Restrictive L Type: Depth (inc	illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>		un				Hydric Soil Present?	• • Yes O No
Very Sha Other (Ex Restrictive L Type: Depth (inc	illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>		un				Hydric Soil Present?	• • Yes O No
Very Sha Other (Ex Restrictive L Type: Depth (inc	illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>						Hydric Soil Present?	• • Yes O No
Very Sha Other (Ex Restrictive L Type: Depth (inc	illow Dark Surface (T kplain in Remarks) L <b>ayer (if observed):</b>						Hydric Soil Present?	• Yes No

Project/Site: Eccleston		Ci	ity/County: Stev	enson, Baltimore	Sampling Date: 3/9/2018
Applicant/Owner: JMT				State: MD	Sampling Point: WET 08-SP2
Investigator(s): ERM, MEM		S	ection, Township	, Range: N/A	
Landform (hillslope, terrace, etc	.): Depression	Lo	ocal relief (conca	ve, convex, none): CONCa	Ve Slope (%): _0-1
Subregion (LRR or MLRA): LF	RR S	Lat: 39.409	9122	Long: -76.739846	Datum: NAD83
Soil Map Unit Name: MmA - I				NWI Class	fication: PEM1A/B
Are climatic / hydrologic condition		•			
Are Vegetation Soil		ficantly disturbed?		Are "Normal Circumstances'	,
Are Vegetation Soil		ally problematic?		If needed, explain any answ	
	, ,,		· · · · · ·		
SUMMARY OF FINDING	5 – Attach site r	nap snowing s	ampling poir	it locations, transect	s, important features, etc.
Hydrophytic Vegetation Prese	nt? • Yes	🔿 No	Is the Sam	inled Area	
Hydric Soil Present?	Yes	🔿 No	within a W		No
Wetland Hydrology Present?	Yes	🔿 No			
Remarks:			·		
Fed by roadside culvert ar	าd runoff.				
HYDROLOGY					
Wetland Hydrology Indicator					icators (minimum of two required)
Primary Indicators (minimum o					I Cracks (B6)
× Surface Water (A1)		ue Aquatic Plants (I			egetated Concave Surface (B8)
× High Water Table (A2)		drogen Sulfide Odd		× Drainage P	
× Saturation (A3)		kidized Rhizosphere	-		
Water Marks (B1)		esence of Reduced			Water Table (C2)
<ul> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> </ul>		ecent Iron Reduction			
Algal Mat or Crust (B4)		hin Muck Surface (C ther (Explain in Ren			/isible on Aerial Imagery (C9) Stressed Plants (D1)
Iron Deposits (B5)			narks)	× Geomorphi	
<ul> <li>Inundation Visible on Aeria</li> </ul>	l Imageny (B7)			Shallow Aq	
× Water Stained Leaves (B9					anard (D3) aphic Relief (D4)
Aquatic Fauna (B13)	)			× FAC-Neutra	
					ii Test (D3)
Field Observations:			2		
Surface Water Present?	• Yes O No	Depth (inches):			
Water Table Present?	Yes No	Depth (inches):			
Saturation Present? (includes capillary fringe)	Yes O No	Depth (inches):	0	Wetland Hydrology Prese	ent? • Yes 🔿 No
Describe Recorded Data (stre	am gauge, monitoring	well, aerial photos,	, previous inspect	tions), if available:	
Remarks:					

Sampling Point: WET 08-SP2

	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species
1	○ Yes ○ No	That Are OBL, FACW, or FAC: _2 (A)
2.		Total Number of Dominant
3.		Species Across All Strata: 2 (B)
4.		
5.		Percent of Dominant Species That Are OBL, FACW, or FAC: 100.000 % (A/B)
6.		Prevalence Index worksheet:
7.		Total % Cover of:Multiply by:
8.		OBL species x 1 =
	= Total Cover	FACW species x 2 =
50% of total cover:	20% of total cover:	FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)		FACU species            x 4 =
	Yes No	UPL species
2.		
		Column Totals: (A) (B)
3.		Prevalence Index = B/A =
4.		Hydrophytic Vegetation Indicators:
5.		
6.		1 - Rapid Test for Hydrophytic Vegetation
7.		x 2 - Dominance Test is >50%
8.		3 - Prevalence Index is ≤3.0*
0.	Tatal Oscar	4 - Morphological Adaptations*
	= Total Cover	Problematic Hydrophytic Vegetation* (Explain)
50% of total cover:	20% of total cover:	*Indicators of hydric soil and wetland hydrology must
Herb Stratum (Plot size:)		be present, unless disturbed or problematic.
1. Carex stricta	50 • Yes O No OBL	Definitions of Four Vegetation Strata:
2. Juncus effusus	10	Tree Mondy planta avaluding vince 2 in (7.6 am) or
3. Symplocarpus foetidus	30 • Yes 🔿 No 🛛 OBL	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
4.	○ Yes ○ No	height.
5.		Sapling/Shrub – Woody plants, excluding vines, less
6.		than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7.		Harb All borbassous (non woody) planta, regardlass
		<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
8.		
9.		<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
10.		
11.		
12.		
	90 = Total Cover	
50% of total cover:_45		
Woody Vine Stratum (Plot size: )		
	Yes No	
1	0.0000.000	
2.		
3.		
4.		
5.		Hydrophytic
	= Total Cover	Vegetation
50% of total cover:	20% of total cover:	Present? • Yes No
Remarks: (If observed, list morphological adaptation	s below).	

	ription: (Describe to	o the dep	th needed to docum	ent the i	ndicator o	r confirm	the absence of indic	ators.)
Depth	Matrix		Redo					<b>-</b> .
(inches)	Color (moist)	%	Color (moist)	%	Type₁	Loc <sub>2</sub>	Texture	Remarks
0-6	10YR 5/1	100					Silty clay	Upper in feel mucky
6-10	2.5Y 5/1	90	2.5Y 3/1	10	D	Μ	Sandy clay	
	ncentration D=Denle	ation RM=	Reduced Matrix, MS	=Masked	I Sand Gra	ine	⊲Location: PI =Po	re Lining, M=Matrix.
			LRRs, unless other					
Histosol (	A1)		Dar	k Surface	e (S7)			
Histic Epi	pedon (A2)		Poly	/value Be	elow Surfac	e (S8) (M	LRA 147, 148)	
Black Hist	tic (A3)		Thir	n Dark Su	ırface (S9)	(MLRA 14	47, 148)	
Hydrogen	Sulfide (A4)		Loa	my Gleye	ed Matrix (F	2)		
Stratified	Layers (A5)		× Dep	leted Ma	trix (F3)			
	k (A10) (LRR N)				Surface (F			
	Below Dark Surface	(A11)			rk Surface			
	k Surface (A12)			•	essions (F8	,		
	ucky Mineral (S1) (LR	R N, MLF		-			.RR N, MLRA 136)	
Sandy Gi	eyed Matrix (S4)				ice (F13) (l odplain Sc		(MLRA 148)	
	Matrix (S6)					///3 (1 13) (		
	or Problematic Hyd							
	ck (A10) (MLRA 147) airie Redox (A16) (Ml		148)					
	t Floodplain Soils (F1							
	ent Material (TF2)		100, 147)					
	llow Dark Surface (T	F12)			of hydrophy rology mus			
	vplain in Remarks)	,			rbed or pro		ent,	
Restrictive I	_ayer (if observed):							
Type:								
Depth (in							Hydric Soil Preser	t? • Yes 🔿 No
Remarks:								···
Remarks.								

Project/Site: Eccleston				City/County: Ste	venson, E	Baltimore	Sampling Date: 3/9/2018
Applicant/Owner: JMT						State: MD	Sampling Point: WET 07/WET-08-0
Investigator(s): ERM, MEM	Λ			Section, Townshi	b. Range:	N/A	
Landform (hillslope, terrace, et		e		Local relief (conca			/e Slope (%): 3-5
Subregion (LRR or MLRA): L		•	Lat: 39.40			-76.738327	Datum: NAD83
• · · <u> </u>					Long.	-	
Soil Map Unit Name: MmA -				•			fication: None
Are climatic / hydrologic condi	tions on the si	te typical	for this time of ye	ear? • Yes 🔿 N	o (lf no, e	explain in Remarks	s.)
Are Vegetation Soil	Hydrology	y signi	ficantly disturbed?	?	Are "Norm	al Circumstances'	' present? 💿 Yes 🔘 No
Are Vegetation Soil	Hydrology	/ natu	ally problematic?		(If needed,	explain any answ	ers in Remarks.)
	GS – Attac	h site r	nan showing	sampling poi	nt locati	ons transect	s, important features, etc.
					int locati		
Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present?		<ul> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>	-	Is the San within a V	npled Area Vetland?		i 💿 No
HYDROLOGY							
Wetland Hydrology Indicate	ors:					Secondary Ind	icators (minimum of two required)
Primary Indicators (minimum	of one is requ						I Cracks (B6)
Surface Water (A1)			ue Aquatic Plants	· ,			egetated Concave Surface (B8)
High Water Table (A2)			ydrogen Sulfide C				atterns (B10)
Saturation (A3)				eres on Living Roc	its (C3)	Moss Trim I	· · ·
<ul> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> </ul>			esence of Reduc	ion in Tilled Soils	(C6)	Crayfish Bu	Water Table (C2)
Drift Deposits (B3)			nin Muck Surface		(00)		/isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)			ther (Explain in R	. ,			Stressed Plants (D1)
Iron Deposits (B5)				0			c Position (D2)
Inundation Visible on Aer	ial Imagery (B	7)				Shallow Aq	( )
Water Stained Leaves (B	9)					Microtopogi	raphic Relief (D4)
Aquatic Fauna (B13)						FAC-Neutra	al Test (D5)
Field Observations:							
Surface Water Present?	O Yes	No	Depth (inches)	):			
Water Table Present?	Yes	No		):			
Saturation Present?	O Yes			):	Wetland	Hydrology Prese	ent? 🔿 Yes 💿 No
(includes capillary fringe)							
Describe Recorded Data (str	eam gauge, n	nonitoring	well, aerial photo	os, previous inspec	ctions), if av	/ailable:	
Remarks:							

Sampling Point: WET 07/WET-08-UPL

	Absolute Domin		Dominance Test worksheet:
Tree Stratum (Plot size: )	<u>% Cover</u> Speci		Number of Dominant Species
1. Juglans nigra		No FACU	That Are OBL, FACW, or FAC: <u>3</u> (A)
2. Acer rubrum	_50 • Yes	No FAC	Total Number of Dominant
3. Liriodendron tulipifera	O Yes (	No FACU	Species Across All Strata: _5(B)
4	O Yes (	⊃ No	Percent of Dominant Species
5.			That Are OBL, FACW, or FAC: 60.000 % (A/B)
6.			<b></b>
7.			Prevalence Index worksheet:
8.			Total % Cover of: Multiply by:
0.	85 = Total C	over	OBL species x 1 =
FOOL of total accurate 42			FACW species x 2 =
50% of total cover: 42.	5 20% of total		FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)	10 • Yes	NO FAC	FACU species x 4 =
1. <u>Acer rubrum</u>		<u> </u>	UPL species x 5 =
2. Ligustrum vulgare			Column Totals: (A) (B)
3	O Yes (	○ No	Provolonoo Indox = P/A =
4.			Prevalence Index = B/A =
5.			Hydrophytic Vegetation Indicators:
6.			□ 1 - Rapid Test for Hydrophytic Vegetation
7.			x 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0*
8.			3 - Prevalence index is ≤3.0 4 - Morphological Adaptations*
0.	12 = Total C	over	Problematic Hydrophytic Vegetation* (Explain)
FOO/ of total accurate 6			
50% of total cover: <u>6</u> <u>Herb Stratum</u> (Plot size:)	20% of total	cover: 2.4	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ficaria verna</u>	98 💽 Yes (	No FAC	Definitions of Four Vegetation Strata:
2. Lonicera japonica	2 Yes (		Deminitions of Four Vegetation Strata.
	Yes		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
	0.00		more in diameter at breast height (DBH), regardless of height.
4.			
5. 6.			<b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7. 8.			<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
9.			Woody vine – All woody vines greater than 3.28 ft in
10.			height.
11.			
12.			
	= Total C	over	
50% of total cover:_50	20% of total	cover: 20	
Woody Vine Stratum (Plot size:)			
1. Hedera helix	_5 • Yes	No FACU	
2	O Yes (	○ No	
3.			
4.			
5.			
-	5 = Total C	over	Hydrophytic Vocatation
EQU/ of total acyary 25			Vegetation Present? • Yes No
50% of total cover: 2.5			
Remarks: (If observed, list morphological adaptations	below).		

Depth	Matrix		Red	lox				
(inches)	Color (moist)	%	Color (moist)	%	Type <sub>1</sub>	Loc <sub>2</sub>	Texture	Remarks
0-6	10YR 5/3	98	10YR 3/6	2	С	M	Clay loam	
6-15+	10YR 5/4	90	10YR 4/6	10	С	М	Loam	
0.10							Loain	
		·						
	ncentration, D=Depl Indicators: (Application)					iins.	2Location: PL=Pore	Lining, M=Matrix.
Histosol (				ark Surface				
	pedon (A2)					o (S8) (M	LRA 147, 148)	
Black His				-	urface (S9)			
	Sulfide (A4)				ed Matrix (I		<i>i</i> , 140)	
•••	Layers (A5)			epleted Ma		<i>_</i> )		
	k (A10) (LRR N)				Surface (F	6)		
	Below Dark Surface	(A11)			rk Surface			
	k Surface (A12)	()			essions (F8			
	icky Mineral (S1) (Ll	RR N, MLF					.RR N, MLRA 136)	
	eyed Matrix (S4)	,		-	ace (F13) (			
Sandy Re	• • • •						(MLRA 148)	
	Matrix (S6)					. ,	. ,	
		dula Calla						
	an David Lance Alle I land							
	or Problematic Hyd		•					
2 cm Mu	ck (A10) (MLRA 147	)						
2 cm Muo Coast Pra	ck (A10) (MLRA 147 airie Redox (A16) (M	") /ILRA 147,	148)					
2 cm Muo Coast Pra Piedmon	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F	") /ILRA 147,	148)					
2 cm Muo Coast Pra Piedmon Red Pare	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2)	<sup>7</sup> ) ILRA 147, 19) (MLRA	148) 136, 147) 3		of hydrophy			
2 cm Muo Coast Pra Piedmon Red Pare Very Sha	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1	<sup>7</sup> ) ILRA 147, 19) (MLRA	148) 136, 147) ° v	etland hyc	Irology mus	st be prese		
2 cm Mue Coast Pra Piedmon Red Pare Very Sha Other (Ex	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (T xplain in Remarks)	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc		st be prese		
2 cm Muo Coast Pra Piedmon Red Pare Very Sha Other (Ex Restrictive I	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese		
2 cm Mu Coast Pr Piedmon Red Pare Very Sha Other (E) Restrictive I	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	
2 cm Muo Coast Pra Piedmon Red Pare Very Sha Other (Ex Restrictive I	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese		? OYes • No
2 cm Mu Coast Pr Piedmon Red Pare Very Sha Other (E) Restrictive I	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? OYes • No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? OYes • No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? OYes • No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? OYes No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? OYes • No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? OYes • No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? OYes • No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? Ves • No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? OYes • No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? ○ Yes ● No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? OYes No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? Yes No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? Yes No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? Yes • No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? Yes • No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? Yes • No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? Yes No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) <b>_ayer (if observed)</b>	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? Yes No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) Layer (if observed)	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? Yes No
2 cm Muc Coast Pra Piedmon Red Pare Very Sha Other (E) Restrictive I Type: Depth (in	ck (A10) (MLRA 147 airie Redox (A16) (M t Floodplain Soils (F ent Material (TF2) Illow Dark Surface (1 kplain in Remarks) Layer (if observed)	<sup>r</sup> ) 1LRA 147, 19) (MLRA TF12)	148) 136, 147) ° v	etland hyc	Irology mus	st be prese	ent,	? Yes No

Project/Site: Eccleston		_ City/Coun	ty: Stevenson, Baltimore	Sampling Date: 3/12/2018
Applicant/Owner: JMT			State: M	D Sampling Point: WET 09-SP1
Investigator(s): ERM, MEM		Section, 7	Township, Range: N/A	
Landform (hillslope, terrace, etc.)	: Depression		ef (concave, convex, none): Co	ncave Slope (%): 0-1
Subregion (LRR or MLRA): LR			Long: -76.7397	
· · · · <u> </u>	Melvin silt loam, 0 to 3 percei			Classification: PEM1B/C
Are climatic / hvdrologic conditio	ns on the site typical for this time of	vear?  Ye	s 🔿 No (If no. explain in Re	marks.)
Are Vegetation Soil			Are "Normal Circumsta	
	, , , ,			
Are Vegetation Soil			(If needed, explain any	
SUMMARY OF FINDING	5 – Attach site map showir	ig samplii	ng point locations, trans	sects, important features, etc.
Hydrophytic Vegetation Presen	t? • Yes O No	Is	the Sampled Area	
Hydric Soil Present?	Yes No			Yes 🔘 No
Wetland Hydrology Present?	Yes O No			
Remarks:				
Fed by groundwater and run	noff from adjacent farm fields. F	lows into Jo	ones Falls as well as WUS 1	1 and WUS 12.
	-			
HYDROLOGY				
Wetland Hydrology Indicators				ry Indicators (minimum of two required)
	f one is required; check all that appl			ce Soil Cracks (B6)
× Surface Water (A1)	True Aquatic Pla	. ,		ely Vegetated Concave Surface (B8)
× High Water Table (A2)	Hydrogen Sulfide			age Patterns (B10)
× Saturation (A3)	Oxidized Rhizos			Trim Lines (B16)
Water Marks (B1)	× Presence of Red		, _ ,	eason Water Table (C2)
Sediment Deposits (B2)	Recent Iron Red			sh Burrows (C8)
Drift Deposits (B3)	Thin Muck Surface			ation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in	Remarks)		ed or Stressed Plants (D1)
Iron Deposits (B5)				orphic Position (D2)
Inundation Visible on Aerial	Imagery (B7)			w Aquitard (D3)
Water Stained Leaves (B9)				opographic Relief (D4)
Aquatic Fauna (B13)			× FAC-N	Neutral Test (D5)
Field Observations:				
Surface Water Present?	Yes No Depth (inch			
Water Table Present?	Yes No Depth (inch	,		
Saturation Present?	Yes ONO Depth (inch	es): 0	Wetland Hydrology	Present?   • Yes  No
(includes capillary fringe) Describe Recorded Data (strea	m gauge, monitoring well, aerial ph	otos, previou	is inspections), if available:	
Remarks:				

Sampling Point: WET 09-SP1

	Absolute Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size:)	<u>% Cover</u> <u>Species?</u>	Status	Number of Dominant Species	
1	○ Yes ○ No		That Are OBL, FACW, or FAC: 2	(A)
2	Yes O No		Total Number of Dominant	
3.			Species Across All Strata: 3	(B)
4.			Percent of Dominant Species	
5.				(A/B)
6.				· /
7.			Prevalence Index worksheet:	
			Total % Cover of:Multiply by:	_
8.			OBL species x 1 =	
	= Total Cover		FACW species x 2 =	_
	20% of total cover: _		FAC species x 3 =	_
Sapling/Shrub Stratum (Plot size:)			FACU species x 4 =	_
1. Ligustrum vulgare	20 • Yes • No	FACU	UPL species x 5 =	_
2	◯ Yes ◯ No		Column Totals: (A)	(B)
3.				
4.			Prevalence Index = B/A =	_
			Hydrophytic Vegetation Indicators:	
5.			1 - Rapid Test for Hydrophytic Vegetation	
6.			× 2 - Dominance Test is >50%	
7.			☐ 3 - Prevalence Index is ≤3.0*	
8.			4 - Morphological Adaptations*	
	20 = Total Cover		Problematic Hydrophytic Vegetation* (Explain	n)
50% of total cover:10	20% of total cover:	4	*Indicators of hydric soil and wetland hydrology n	auet
Herb Stratum (Plot size: )			be present, unless disturbed or problematic.	lust
1. Juncus effusus	10 🔿 Yes 💿 No	FACW	Definitions of Four Vegetation Strata:	
2 Symplecarpus footidus	30 • Yes • No	OBL	Deminitions of Four Vegetation Strata.	
	30 • Yes • No		Tree – Woody plants, excluding vines, 3 in. (7.6 c	
		OBL	more in diameter at breast height (DBH), regardle height.	ess of
4. Carex stricta		OBL		
5. Ligustrum vulgare	5 O Yes O No	FACU	<b>Sapling/Shrub</b> – Woody plants, excluding vines,	less
6. Boehmeria cylindrica	10 Yes  No	FACW	than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
7	Yes O No		Herb - All herbaceous (non-woody) plants, regar	dless
8.			of size, and woody plants less than 3.28 ft tall.	
9.			<b>Woody vine</b> – All woody vines greater than 3.28	ft in
10.			height.	
11.				
12.				
12.	00 7.1.0			
	90 = Total Cover			
50% of total cover:45	20% of total cover:	18		
Woody Vine Stratum (Plot size:)				
1	O Yes O No			
2.				
3.				
4.				
5.				
	= Total Cover		Hydrophytic	
E0% of total action			Vegetation Present? • Yes No	
50% of total cover:	20% of total cover: _			
Remarks: (If observed, list morphological adaptations	below).			

Profile Desc	cription: (Describe t	o the dep	th needed to docun	nent the i	ndicator o	or confirm	the absence of indicat	ors.)
Depth	Matrix		Redo	х				
(inches)	Color (moist)	%	Color (moist)	%	Type₁	Loc <sub>2</sub>	Texture	Remarks
0-1	7.5YR 2.5/1	100					Mucky Silt	
1-10	7.5YR 2.5/1	100					Silty Clay	
10-14	7.5YR 2.5/1	95	7.5YR 4/4	5	C	M	Silty Clay	
	oncentration, D=Depl Indicators: (Application)					ins.	2Location: PL=Pore	Lining, M=Matrix.
Histosol (				k Surface	-			
	pedon (A2)					e (S8) (M	LRA 147, 148)	
Black His				-	irface (S9)			
Hydroger	n Sulfide (A4)		Loa	imy Gleye	ed Matrix (F	-2)		
Stratified	Layers (A5)		Dep	pleted Mat	trix (F3)			
	ck (A10) (LRR N)				Surface (F	,		
	Below Dark Surface	(A11)			rk Surface			
	rk Surface (A12)				essions (F8			
	ucky Mineral (S1) (LF	KK N, MLF	,	-	ese Masse Ice (F13) (I	. , .	RR N, MLRA 136)	
Sandy G	eyed Matrix (S4)				. , .		(MLRA 148)	
	Matrix (S6)					, , , , , , , , , , , , , , , , , , ,		
	for Problematic Hyd	Iric Soile						
	ck (A10) (MLRA 147							
	airie Redox (A16) (M		148)					
	t Floodplain Soils (F							
	ent Material (TF2)	- / (						
	allow Dark Surface (T	F12)			of hydrophy rology mus			
Other (E	xplain in Remarks)				rbed or pro		511t,	
Restrictive	Layer (if observed):							
Type: G	Bravel							
Depth (in	ches): 14						Hydric Soil Present?	💿 Yes 🔵 No
Remarks:								
Deint of re	fund at 14 inchas	doploted	matrix assumed to	he prog	ont holou	( oboon (	dlovero	
Formorie	fusal at 14 inches;	depleted		be pres		V ODSEIVE	eu layers	

Project/Site: Eccleston		City/County: Stev	enson, Baltimore	Sampling Date: 3/12/2018
Applicant/Owner: JMT			State: MD	Sampling Point: WET 09-SP2
Investigator(s): ERM, MEM		Section, Township		
Landform (hillslope, terrace, etc.)	): Depression		ve, convex, none): Concav	/e Slope (%): 0-1
Subregion (LRR or MLRA): LR			Long: -76.739042	Datum: NAD83
	Velvin silt loam, 0 to 3 percent			fication: PFO1A/B/C
	ns on the site typical for this time of y			
	Hydrology significantly disturbed		Are "Normal Circumstances'	
Are Vegetation Soil	Hydrology naturally problematic?	? (	If needed, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS	S – Attach site map showing	y sampling poir	t locations, transect	s, important features, etc.
Hydrophytic Vegetation Presen	et? • Yes • No	Is the Sam	nled Area	
Hydric Soil Present?	Yes O No	within a W		No
Wetland Hydrology Present?	Yes O No			
HYDROLOGY				
Wetland Hydrology Indicators	e.		Secondary Ind	icators (minimum of two required)
	f one is required; check all that apply)	)		I Cracks (B6)
× Surface Water (A1)	True Aquatic Plant			egetated Concave Surface (B8)
× High Water Table (A2)	Hydrogen Sulfide (	Odor (C1)	× Drainage P	atterns (B10)
× Saturation (A3)	Oxidized Rhizosph	neres on Living Root	s (C3) 🛛 🗌 Moss Trim I	_ines (B16)
Water Marks (B1)	Presence of Reduce			Water Table (C2)
Sediment Deposits (B2)		ction in Tilled Soils (		
Drift Deposits (B3)	Thin Muck Surface Change (Fundain in F			/isible on Aerial Imagery (C9)
<ul> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> </ul>	Other (Explain in R	(emarks)	× Geomorphi	Stressed Plants (D1)
<ul> <li>Inundation Visible on Aerial</li> </ul>	Imagery (B7)		Shallow Aq	
× Water Stained Leaves (B9)	inagery (Er)			andra (20) aphic Relief (D4)
Aquatic Fauna (B13)			× FAC-Neutra	• • •
Field Observations:				
Surface Water Present?	Yes No Depth (inches)	<sub>s)</sub> . 6		
Water Table Present?	Yes No Depth (inches	·		
Saturation Present? (includes capillary fringe)	Yes No Depth (inches	·	Wetland Hydrology Prese	ent? • Yes O No
	m gauge, monitoring well, aerial phot	tos, previous inspect	ions), if available:	
Remarks:				

Sampling Point: WET 09-SP2

	Absolut	e D	ominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: )	% Cove	-	pecies?	Status	Number of Dominant Species
1. Quercus palustris	20	● Ye	es 🔿 No	FACW	That Are OBL, FACW, or FAC: _7 (A)
2. Fraxinus pennsylvanica	10		es 💿 No	FACW	
3 Appr rubrum	10		es 🖲 No	FAC	Total Number of Dominant Species Across All Strata: 9 (B)
		-			
4. Acer saccharinum	30	_ ● Ye		FACW	Percent of Dominant Species
5		_ O Ye	es 🔿 No		That Are OBL, FACW, or FAC: <u>77.778 %</u> (A/B)
6.					Prevalence Index worksheet:
7.					Total % Cover of: Multiply by:
8.					OBL species         x1 =
	70	= Tot	al Cover		
50% of total cover: <u>35</u>	-	_	total cover:	14	FACW species x 2 =
		20% 01			FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)					FACU species x 4 =
1. Ligustrum vulgare	30		es O No	FACU	UPL species x 5 =
2. Rosa multiflora	15	_ • Ye	es 🔿 No	FACU	Column Totals: (A) (B)
3		_ O Ye	es 🔿 No		
4.					Prevalence Index = B/A =
5.					Hydrophytic Vegetation Indicators:
					1 - Rapid Test for Hydrophytic Vegetation
6.					× 2 - Dominance Test is >50%
7.					☐ 3 - Prevalence Index is ≤3.0*
8.					4 - Morphological Adaptations*
	45	= Tot	al Cover		Problematic Hydrophytic Vegetation* (Explain)
50% of total cover: 22.	5	20% of t	total cover:	9	*Indicators of hydric soil and wotland hydrology must
Herb Stratum (Plot size: )					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	20	• Ye	es 🔿 No	FACW	
	-	_	es 🔿 No		Definitions of Four Vegetation Strata:
2. Boehmeria cylindrica				FACW	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or
3. Ligustrum vulgare	10		es   No	FACU	more in diameter at breast height (DBH), regardless of
4. Leersia oryzoides	20	_ • Ye	es 🔿 No	OBL	height.
5. <i>Symplocarpus foetidus</i>	10	_ O Ye	es 💿 No	OBL	Sapling/Shrub – Woody plants, excluding vines, less
6. Lonicera japonica	15	⊖ Ye	es 💿 No	FACU	than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7. Carex stricta	5		es 💿 No	OBL	Herb – All herbaceous (non-woody) plants, regardless
8.			es 🔿 No		of size, and woody plants less than 3.28 ft tall.
0.		_			We should a Allow should be set to the 2.00 ft is
9.					<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
10.					linght.
11.					
12.					
	100	= Tot	al Cover		
50% of total cover: 50		20% of t	total cover:	20	
Woody Vine Stratum (Plot size: )					
	10	• Ye	es 🔿 No	FAC	
1. Toxicodendron radicans		_			
2. Smilax rotundifolia	10	_	es 🔿 No	FAC	
3		_ O Ye	es 🔿 No		
4.					
5.					
	20	= Tot	al Cover		Hydrophytic Vegetation
50% of total cover: 10			total cover:	4	Present? • Yes O No
		_0 /0 01			
Remarks: (If observed, list morphological adaptations	below).				

(inches)	<u>Matrix</u> Color (moist)	% Color	Redo (moist)	x	Type <sub>1</sub>	Loc <sub>2</sub>	Texture	Remarks
)-14	5Y 4/1	80 10YR 4		20	C	 M	Sandy Clay	
			<u> </u>				<u>Sandy Glay</u>	
		<u> </u>						
			Matrix MO	Maalaad				- Linin - NA NA-Anin
		letion, RM=Reduced able to all LRRs, un				iins.	2Location: PL=Por	e Lining, M=Matrix.
Histosol (				k Surface				
Histic Epi	pedon (A2)		Poly	value Be	low Surfa	ce (S8) (M	LRA 147, 148)	
Black His	tic (A3)		Thir	Dark Su	rface (S9)	(MLRA 14	47, 148)	
Hydroger	n Sulfide (A4)		Loa	my Gleye	d Matrix (	=2)		
Stratified	Layers (A5)		× Dep	leted Mat	rix (F3)			
2 cm Muc	:k (A10) (LRR N)		Rec	lox Dark S	Surface (F	6)		
Depleted	Below Dark Surface	e (A11)	Dep	leted Dar	k Surface	(F7)		
Thick Da	k Surface (A12)			lox Depre				
		RR N, MLRA 147, 14	8) Iron	-Mangane	ese Masse	es (F12) (L	.RR N, MLRA 136)	
	eyed Matrix (S4)			-		MLRA 136		
Sandy Re							(MLRA 148)	
-	Matrix (S6)					. ,	. ,	
Red Pare Very Sha	t Floodplain Soils (F ent Material (TF2) allow Dark Surface ( <sup>-</sup> xplain in Remarks)	19) (MLRA 136, 147 TF12)	₃In we	tland hydr	rology mu	/tic vegeta st be prese oblematic.		
	Layer (if observed)	:						
Type: G	iravel							
Depth (in	ches): 14						Hydric Soil Presen	t? • Yes 🔿 No
emarks:							1	

Project/Site: Eccleston		City/C	ounty: Stevenson, I	Baltimore	_ Sampling Date: <u>3/12/2018</u>
Applicant/Owner: JMT				State: MD	Sampling Point: WET 09-UPL
Investigator(s): ERM, MEM		Sectio	n, Township, Range: _	N/A	
Landform (hillslope, terrace, etc.):	Terrace	Local	relief (concave, conve	k, none): <u>None</u>	Slope (%): 0
Subregion (LRR or MLRA): LRR	S Lat: 39.4	08448	Long:	-76.738239	Datum: NAD83
Soil Map Unit Name: MmA - Me	lvin silt loam, 0 to 3 percent	slope	S	NWI Classi	fication: Upland
Are climatic / hydrologic conditions	on the site typical for this time of y	ear?	Yes No (If no. e	explain in Remarks	s.)
Are Vegetation Soil				al Circumstances'	
Are Vegetation Soil				explain any answ	
			·		
SUMMARY OF FINDINGS	<ul> <li>Attach site map showing</li> </ul>	g sam	pling point locati	ons, transect	s, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	<ul><li>Yes ● No</li><li>Yes ● No</li><li>Yes ● No</li><li>Yes ● No</li></ul>		Is the Sampled Area within a Wetland?		No
Remarks:					
HYDROLOGY					
Wetland Hydrology Indicators:				Secondary Ind	icators (minimum of two required)
	ne is required; check all that apply)	,			I Cracks (B6)
Surface Water (A1)	True Aquatic Plant				egetated Concave Surface (B8)
High Water Table (A2)	, Odor (C		. ,	atterns (B10)	
Saturation (A3)	Oxidized Rhizosph	neres or	Living Roots (C3)	Moss Trim	Lines (B16)
Water Marks (B1)	Presence of Reduc	ced Iron	ı (C4)	Dry Season	Water Table (C2)
Sediment Deposits (B2)	Recent Iron Reduc	ction in <sup>-</sup>	Tilled Soils (C6)	Crayfish Bu	rrows (C8)
Drift Deposits (B3)	Thin Muck Surface	e (C7)		Saturation V	/isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in F	Remarks	6)		Stressed Plants (D1)
Iron Deposits (B5)					c Position (D2)
Inundation Visible on Aerial In	nagery (B7)			Shallow Aq	· ,
Water Stained Leaves (B9)					raphic Relief (D4)
Aquatic Fauna (B13)				FAC-Neutra	ai Test (D5)
Field Observations:					
Surface Water Present?	○ Yes ● No Depth (inches)	s):			
Water Table Present?	Yes  No Depth (inches)	s):			

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

Depth (inches):

Depth (inches):

Wetland Hydrology Present?

🔾 Yes 💿 No

🔾 Yes 💿 No

Remarks:

Saturation Present?

🔾 Yes 💿 No

Sampling Point: WET 09-UPL

	Absolute	Dom	inant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover	Spec	cies?	Status	Number of Dominant Species	
1. Acer rubrum	80	Yes	🔿 No	FAC	That Are OBL, FACW, or FAC: 2	(A)
2.		O Yes	🔿 No		Total Number of Deminent	
3.		_			Total Number of Dominant Species Across All Strata: 5	(B)
						(D)
4.					Percent of Dominant Species	
5.					That Are OBL, FACW, or FAC: 40.000 %	(A/B)
6.					Prevalence Index worksheet:	
7.						
8.						_
0.	00	<b>T</b> - 4 - 1 /	2		OBL species x 1 =	_
	80	_ = Total (			FACW species x 2 =	_
50% of total cover:_40	2	0% of tota	al cover:	16	FAC species x 3 =	_
Sapling/Shrub Stratum (Plot size:)					FACU species x 4 =	_
1. <i>llex opaca</i>	20	Yes	🔿 No	FACU	UPL species x 5 =	
2. Ligustrum vulgare	10	<ul> <li>Yes</li> </ul>	No	FACU	Column Totals: (A)	
3. Berberis thunbergii	20	• Yes	O No	FACU		_ (D)
		-			Prevalence Index = B/A =	
4. Rosa multiflora	15	• Yes		FACU	Hydrophytic Vegetation Indicators:	_
5		_ O Yes	🔿 No			
6.					1 - Rapid Test for Hydrophytic Vegetation	
7.					2 - Dominance Test is >50%	
					3 - Prevalence Index is ≤3.0*	
8.					4 - Morphological Adaptations*	
	65	_ = Total (	Cover		Problematic Hydrophytic Vegetation* (Explain	n)
50% of total cover: <u>32.</u>	5 2	0% of tota	al cover:	13	*Indicators of hydric soil and wetland hydrology n	nust
Herb Stratum (Plot size:)	_	○ Voo	No		be present, unless disturbed or problematic.	
1. <u>Hedera helix</u>	5	_ Yes		FACU	Definitions of Four Vegetation Strata:	
2. Microstegium vimineum	20	• Yes	O No	FAC	Tree – Woody plants, excluding vines, 3 in. (7.6 c	m) or
3. Lonicera japonica	5	<ul> <li>Yes</li> </ul>	No	FACU	more in diameter at breast height (DBH), regardle	
4.		O Yes	🔿 No		height.	
 5.		_			Senling/Shrub Weedy plants evaluating vince	1000
6.					Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
7.					Herb – All herbaceous (non-woody) plants, regard	dless
8.					of size, and woody plants less than 3.28 ft tall.	
9.					<b>Woody vine</b> – All woody vines greater than 3.28	ft in
10.					height.	
11.						
12.						
12.	20		-			
	30	_ = Total (	Cover			
50% of total cover: <u>15</u>	2	0% of tota	al cover:	6		
Woody Vine Stratum (Plot size: )						
1.		O Yes	🔿 No			
		O Yes	O No			
			0.11			
3.						
4.						
5.					Under a brothe	
		= Total (	Cover		Hydrophytic Vegetation	
50% of total cover:		-			Present? Yes No	
Remarks: (If observed, list morphological adaptations	below).					

Inches) Color (moist) % Type: Locz Texture Remarks   0-12 2.5Y 5/3 70 2.5Y 4/1 30 D M Clay loam   Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Locz in the second seco	Inches)       Color (moist)       %       Type:       Loc:       Texture       Remarks         0-12       2.5Y 5/3       70       2.5Y 4/1       30       D       M       Clay loam	Depth (inches)	Matrix		Redo	х			n the absence of indica	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.       aLocation: PL=Pore Lining, M=Matrix.         Typdric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Initional Surface (S7)         Histic Epipedon (A2)       Polyvalue Below Surface (S8) (MLRA 147, 148)         Black Histic (A3)       Thin Dark Surface (S9) (MLRA 147, 148)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Stratified Layers (A5)       Depleted Matrix (F3)         2 cm Muck (A10) (LRR N)       Redox Dark Surface (F6)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F7)         Thick Dark Surface (A12)       Redox Depressions (F8)         Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)       Umbric Surface (F13) (MLRA 136, 122)         Sandy Redox (S5)       Piedmont Floodplain Soils (F19) (MLRA 148)         Stripped Matrix (S6)       Indicators of Problematic Hydric Soilss:         2 cm Muck (A10) (MLRA 147, 148)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       Indicators of pydpersent.         Urbert       Loamy Gleyed Or problematic.         Very Shallow Dark Surface (TF12)       Indicators of pydprophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       Indicators of	Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.       aLocation: PL=Pore Lining, M=Matrix.         tydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.)			%			Type <sub>1</sub>	Loc <sub>2</sub>	Texture	Remarks
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Sandy Gleyed Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Cother (Explain in Remarks)   unless disturbed or problematic.  <	lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Stripped Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Other (Explain in Remarks)   unless disturbed or problematic.	0-12	2.5Y 5/3	70	2.5Y 4/1	30	D	Μ	Clay loam	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Sandy Gleyed Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Cother (Explain in Remarks)   unless disturbed or problematic.  <	lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Stripped Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Other (Explain in Remarks)   unless disturbed or problematic.									
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Sandy Gleyed Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Cother (Explain in Remarks)   unless disturbed or problematic.  <	lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Stripped Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Other (Explain in Remarks)   unless disturbed or problematic.									
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Sandy Gleyed Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Cother (Explain in Remarks)   unless disturbed or problematic.  <	lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Stripped Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Other (Explain in Remarks)   unless disturbed or problematic.									
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Sandy Gleyed Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Cother (Explain in Remarks)   unless disturbed or problematic.  <	lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Stripped Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Other (Explain in Remarks)   unless disturbed or problematic.									
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Sandy Gleyed Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Cother (Explain in Remarks)   unless disturbed or problematic.  <	lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Stripped Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Other (Explain in Remarks)   unless disturbed or problematic.									
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Sandy Gleyed Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Cother (Explain in Remarks)   unless disturbed or problematic.  <	lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Stripped Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Other (Explain in Remarks)   unless disturbed or problematic.									
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Sandy Gleyed Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 146, 147)   Cother (Explain in Remarks)   unless disturbed or problematic.  <	lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)   Dark Surface (S7)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Stratified Layers (A5)   Depleted Matrix (F3)   2 cm Muck (A10) (LRR N)   Depleted Dark Surface (F6)   Depleted Below Dark Surface (A11)   Depleted Dark Surface (F7)   Thick Dark Surface (A12)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)   Stripped Matrix (S4)   Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5)   Piedmont Floodplain Soils (F19) (MLRA 147, 148)   Other (Explain in Remarks)   unless disturbed or problematic.									
Histosol (A1)       Dark Surface (S7)         Histic Epipedon (A2)       Polyvalue Below Surface (S8) (MLRA 147, 148)         Black Histic (A3)       Thin Dark Surface (S9) (MLRA 147, 148)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Stratified Layers (A5)       Depleted Matrix (F3)         2 cm Muck (A10) (LRR N)       Redox Dark Surface (F6)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F7)         Thick Dark Surface (A12)       Redox Depressions (F8)         Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)       Iron-Manganese Masses (F12) (LRR N, MLRA 136)         Sandy Gleyed Matrix (S4)       Umbric Surface (F13) (MLRA 136, 122)         Sandy Redox (S5)       Piedmont Floodplain Soils (F19) (MLRA 148)         Stripped Matrix (S6)       Piedmont Floodplain Soils (F19) (MLRA 148)         Coast Prairie Redox (A16) (MLRA 147, 148)       Iron-Manganese flow park Surface (F19) (MLRA 148)         Piedmont Floodplain Soils (F19) (MLRA 136, 147)       Iron-Muse floodplain Soils (F19) (MLRA 148)         Piedmont Floodplain Soils (F19) (MLRA 136, 147)       Iron Surface (F12)         Red Parent Material (TF2)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       Iron-Manganese disturbed or problematic.         Type:	Histosol (A1)       Dark Surface (S7)         Histic Epipedon (A2)       Polyvalue Below Surface (S8) (MLRA 147, 148)         Black Histic (A3)       Thin Dark Surface (S9) (MLRA 147, 148)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Stratified Layers (A5)       Depleted Matrix (F3)         2 cm Muck (A10) (LRR N)       Redox Dark Surface (F6)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F7)         Thick Dark Surface (A12)       Redox Depressions (F8)         Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)       Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122)         Sandy Gleyed Matrix (S4)       Umbric Surface (F13) (MLRA 136, 122)         Sandy Redox (S5)       Piedmont Floodplain Soils (F19) (MLRA 148)         Stripped Matrix (S6)       Piedmont Floodplain Soils (F19) (MLRA 148)         Coast Prairie Redox (A16) (MLRA 147, 148)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Type:	Type: C=Co	ncentration, D=Depl	etion, RM	=Reduced Matrix, MS	S=Masked	d Sand Gra	ins.	2Location: PL=Pore	Lining, M=Matrix.
Histic Epipedon (A2)       Polyvalue Below Surface (S8) (MLRA 147, 148)         Black Histic (A3)       Thin Dark Surface (S9) (MLRA 147, 148)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Stratified Layers (A5)       Depleted Matrix (F3)         2 cm Muck (A10) (LRR N)       Redox Dark Surface (F6)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F7)         Thick Dark Surface (A12)       Redox Dark Surface (F7)         Stratified Layers (S4)       Umbric Surface (F13) (MLRA 136, 122)         Sandy Gleyed Matrix (S4)       Umbric Surface (F13) (MLRA 148)         Striped Matrix (S6)       Piedmont Floodplain Soils (F19) (MLRA 148)         Striped Matrix (S6)       sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Type:	Histic Epipedon (A2)       Polyvalue Below Surface (S8) (MLRA 147, 148)         Black Histic (A3)       Thin Dark Surface (S9) (MLRA 147, 148)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Stratified Layers (A5)       Depleted Matrix (F3)         2 cm Muck (A10) (LRR N)       Redox Dark Surface (F6)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F7)         Thick Dark Surface (A12)       Redox Dark Surface (F7)         Stratified Layers (S4)       Umbric Surface (F13) (MLRA 136, 122)         Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)       Iron-Manganese Masses (F12) (LRR N, MLRA 148)         Sandy Gleyed Matrix (S4)       Umbric Surface (F13) (MLRA 136, 122)         Sandy Redox (S5)       Piedmont Floodplain Soils (F19) (MLRA 148)         Striped Matrix (S6)       Fiedmont Floodplain Soils (F19) (MLRA 147, 148)         Piedmont Floodplain Soils (F19) (MLRA 147, 148)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         testrictive Layer (if observed):       Type:	-		able to all						
Black Histic (A3)       Thin Dark Surface (S9) (MLRA 147, 148)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Stratified Layers (A5)       Depleted Matrix (F3)         2 cm Muck (A10) (LRR N)       Redox Dark Surface (F6)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F7)         Thick Dark Surface (A12)       Redox Depressions (F8)         Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)       Iron-Manganese Masses (F12) (LRR N, MLRA 136)         Sandy Gleyed Matrix (S6)       Diedmont Floodplain Soils (F19) (MLRA 147, 148)         Stripped Matrix (S6)       Piedmont Floodplain Soils (F19) (MLRA 136, 147)         Red Parent Material (TF2)       sIndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       wetland hydrology must be present, unless disturbed or problematic.         Type:	Black Histic (A3)       Thin Dark Surface (S9) (MLRA 147, 148)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Stratified Layers (A5)       Depleted Matrix (F3)         2 cm Muck (A10) (LRR N)       Redox Dark Surface (F6)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F7)         Thick Dark Surface (A12)       Redox Depressions (F8)         Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)       Iron-Manganese Masses (F12) (LRR N, MLRA 136)         Sandy Gleyed Matrix (S6)       Piedmont Floodplain Soils (F19) (MLRA 147, 148)         Stripped Matrix (S6)       Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Type:									
Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Stratified Layers (A5)       Depleted Matrix (F3)         2 cm Muck (A10) (LRR N)       Redox Dark Surface (F6)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F7)         Thick Dark Surface (A12)       Redox Depressions (F8)         Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)       Iron-Manganese Masses (F12) (LRR N, MLRA 136)         Sandy Gleyed Matrix (S4)       Umbric Surface (F13) (MLRA 136, 122)         Sandy Redox (S5)       Piedmont Floodplain Soils (F19) (MLRA 148)         Striped Matrix (S6)       Piedmont Floodplain Soils (F19) (MLRA 148)         Coast Prairie Redox (A16) (MLRA 147, 148)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Type:	Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Stratified Layers (A5)       Depleted Matrix (F3)         2 cm Muck (A10) (LRR N)       Redox Dark Surface (F6)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F7)         Thick Dark Surface (A12)       Redox Depressions (F8)         Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)       Iron-Manganese Masses (F12) (LRR N, MLRA 136)         Sandy Gleyed Matrix (S4)       Umbric Surface (F13) (MLRA 136, 122)         Sandy Redox (S5)       Piedmont Floodplain Soils (F19) (MLRA 148)         Stripped Matrix (S6)       Piedmont Floodplain Soils (F19) (MLRA 148)         Coast Prairie Redox (A16) (MLRA 147, 148)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Type:					-				
Stratified Layers (A5)       Depleted Matrix (F3)         2 cm Muck (A10) (LRR N)       Redox Dark Surface (F6)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F7)         Thick Dark Surface (A12)       Redox Depressions (F8)         Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)       Iron-Manganese Masses (F12) (LRR N, MLRA 136)         Sandy Gleyed Matrix (S4)       Umbric Surface (F13) (MLRA 136, 122)         Sandy Redox (S5)       Piedmont Floodplain Soils (F19) (MLRA 148)         Stripped Matrix (S6)       Piedmont Floodplain Soils (F19) (MLRA 148)         Ocast Prairie Redox (A16) (MLRA 147, 148)       Piedmont Floodplain Soils (F19) (MLRA 136, 147)         Red Parent Material (TF2)       alndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       alndicators of hydrophytic vegetation and period or problematic.         Very Shallow Dark Surface (TF12)       alndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if observed):       Type:	Stratified Layers (A5)       Depleted Matrix (F3)         2 cm Muck (A10) (LRR N)       Redox Dark Surface (F6)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F7)         Thick Dark Surface (A12)       Redox Depressions (F8)         Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)       Iron-Manganese Masses (F12) (LRR N, MLRA 136)         Sandy Gleyed Matrix (S4)       Umbric Surface (F13) (MLRA 136, 122)         Sandy Redox (S5)       Piedmont Floodplain Soils (F19) (MLRA 148)         Stripped Matrix (S6)       Piedmont Floodplain Soils (F19) (MLRA 147)         Coast Prairie Redox (A16) (MLRA 147, 148)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Type:								47, 148)	
2 cm Muck (A10) (LRR N)       Redox Dark Surface (F6)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F7)         Thick Dark Surface (A12)       Redox Depressions (F8)         Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)       Iron-Manganese Masses (F12) (LRR N, MLRA 136)         Sandy Gleyed Matrix (S4)       Umbric Surface (F13) (MLRA 136, 122)         Sandy Redox (S5)       Piedmont Floodplain Soils (F19) (MLRA 148)         Stripped Matrix (S6)       Piedmont Floodplain Soils (F19) (MLRA 148)         Ocast Prairie Redox (A16) (MLRA 147, 148)       Piedmont Floodplain Soils (F19) (MLRA 147, 148)         Piedmont Floodplain Soils (F19) (MLRA 136, 147)       alndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if observed):       Type:	2 cm Muck (A10) (LRR N)       Redox Dark Surface (F6)         Depleted Below Dark Surface (A11)       Depleted Dark Surface (F7)         Thick Dark Surface (A12)       Redox Depressions (F8)         Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)       Iron-Manganese Masses (F12) (LRR N, MLRA 136)         Sandy Gleyed Matrix (S4)       Umbric Surface (F13) (MLRA 136, 122)         Sandy Redox (S5)       Piedmont Floodplain Soils (F19) (MLRA 148)         Stripped Matrix (S6)       Piedmont Floodplain Soils (F19) (MLRA 148)         otast Prairie Redox (A16) (MLRA 147, 148)       Piedmont Floodplain Soils (F19) (MLRA 147)         Coast Prairie Redox (A16) (MLRA 136, 147)       alndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       alndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Type:		. ,					-2)		
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)   Thick Dark Surface (A12) Redox Depressions (F8)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Iron-Manganese Masses (F12) (LRR N, MLRA 136)   Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148)   Stripped Matrix (S6)   ndicators for Problematic Hydric Soilss:   2 cm Muck (A10) (MLRA 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 136, 147)   Red Parent Material (TF2)   Very Shallow Dark Surface (TF12)   Other (Explain in Remarks)   Type:	Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)   Thick Dark Surface (A12) Redox Depressions (F8)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Iron-Manganese Masses (F12) (LRR N, MLRA 136)   Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148)   Stripped Matrix (S6)   ndicators for Problematic Hydric Soilsa:   2 cm Muck (A10) (MLRA 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 136, 147)   Red Parent Material (TF2)   Very Shallow Dark Surface (TF12)   Other (Explain in Remarks)   unless disturbed or problematic.   Hydric Soil Present? Yes No						. ,	6)		
Thick Dark Surface (A12) Redox Depressions (F8)   Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Iron-Manganese Masses (F12) (LRR N, MLRA 136)   Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148)   Stripped Matrix (S6)   ndicators for Problematic Hydric Soilss:   2 cm Muck (A10) (MLRA 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 136, 147)   Red Parent Material (TF2)   Very Shallow Dark Surface (TF12)   Very Shallow Dark Surface (TF12)   Other (Explain in Remarks)   unless disturbed or problematic.   Type:	Thick Dark Surface (A12)       Redox Depressions (F8)         Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)       Iron-Manganese Masses (F12) (LRR N, MLRA 136)         Sandy Gleyed Matrix (S4)       Umbric Surface (F13) (MLRA 136, 122)         Sandy Redox (S5)       Piedmont Floodplain Soils (F19) (MLRA 148)         Stripped Matrix (S6)       Piedmont Floodplain Soils (F19) (MLRA 148)         ndicators for Problematic Hydric Soilss:       2 cm Muck (A10) (MLRA 147)         Coast Prairie Redox (A16) (MLRA 147, 148)       Piedmont Floodplain Soils (F19) (MLRA 136, 147)         Red Parent Material (TF2)       sIndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Very Shallow Dark Surface (TF12)       unless disturbed or problematic.         Type:			(A11)						
Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Iron-Manganese Masses (F12) (LRR N, MLRA 136)   Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148)   Stripped Matrix (S6) Piedmont Floodplain Soils (F19) (MLRA 148)   ndicators for Problematic Hydric Soils3: 2 cm Muck (A10) (MLRA 147)   Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147)   Red Parent Material (TF2) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.   Very Shallow Dark Surface (TF12) wetland hydrology must be present, unless disturbed or problematic.   Restrictive Layer (if observed): Type:   Type: Yes • No	Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Iron-Manganese Masses (F12) (LRR N, MLRA 136)   Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148)   Stripped Matrix (S6) Piedmont Floodplain Soils (F19) (MLRA 147)   Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147)   Piedmont Floodplain Soils (F19) (MLRA 136, 147) Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.   Very Shallow Dark Surface (TF12) slndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.   Type:			(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148)   Stripped Matrix (S6)   ndicators for Problematic Hydric Soilss:   2 cm Muck (A10) (MLRA 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 136, 147)   Red Parent Material (TF2)   Very Shallow Dark Surface (TF12)   Other (Explain in Remarks)   Image: Strictive Layer (if observed):   Type:   Depth (inches):   Yes No	Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148)   Stripped Matrix (S6)   ndicators for Problematic Hydric Soilss:   2 cm Muck (A10) (MLRA 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 136, 147)   Red Parent Material (TF2)   Very Shallow Dark Surface (TF12)   Other (Explain in Remarks)   Indextors of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.   Type:   Type:   Depth (inches):   Yes No			RR N, MLI				,	RR N, MLRA 136)	
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148)   Stripped Matrix (S6)   ndicators for Problematic Hydric Soilss:   2 cm Muck (A10) (MLRA 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 136, 147)   Red Parent Material (TF2)   Very Shallow Dark Surface (TF12)   other (Explain in Remarks)   testrictive Layer (if observed):   Type:   Depth (inches):   Yes No	Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148)   Stripped Matrix (S6)   ndicators for Problematic Hydric Soilss:   2 cm Muck (A10) (MLRA 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 136, 147)   Red Parent Material (TF2)   Very Shallow Dark Surface (TF12)   Very Shallow Dark Surface (TF12)   Other (Explain in Remarks)   unless disturbed or problematic.   Hydric Soil Present? Yes			,		-				
ndicators for Problematic Hydric Soilss:         2 cm Muck (A10) (MLRA 147)         Coast Prairie Redox (A16) (MLRA 147, 148)         Piedmont Floodplain Soils (F19) (MLRA 136, 147)         Red Parent Material (TF2)         Very Shallow Dark Surface (TF12)         Other (Explain in Remarks)         Strictive Layer (if observed):         Type:         Depth (inches):         Depth (inches):	ndicators for Problematic Hydric Soilss:         2 cm Muck (A10) (MLRA 147)         Coast Prairie Redox (A16) (MLRA 147, 148)         Piedmont Floodplain Soils (F19) (MLRA 136, 147)         Red Parent Material (TF2)         'Very Shallow Dark Surface (TF12)         Other (Explain in Remarks)         Unless disturbed or problematic.         Restrictive Layer (if observed):         Type:         Depth (inches):         Werk (inches):				Pie	dmont Flo	oodplain So	oils (F19)	(MLRA 148)	
2 cm Muck (A10) (MLRA 147)         Coast Prairie Redox (A16) (MLRA 147, 148)         Piedmont Floodplain Soils (F19) (MLRA 136, 147)         Red Parent Material (TF2)         Very Shallow Dark Surface (TF12)         Other (Explain in Remarks)         unless disturbed or problematic.         Restrictive Layer (if observed):         Type:         Depth (inches):         Depth (inches):	2 cm Muck (A10) (MLRA 147)   Coast Prairie Redox (A16) (MLRA 147, 148)   Piedmont Floodplain Soils (F19) (MLRA 136, 147)   Red Parent Material (TF2)   Very Shallow Dark Surface (TF12)   Other (Explain in Remarks)   unless disturbed or problematic.	Stripped N	Matrix (S6)							
Type: Depth (inches): Yes  No	Type:				зIn	tland hyc	Irology mus	st be pres	ent,	
Depth (inches): Yes  No	Depth (inches):     Hydric Soil Present?     Yes <ul> <li>Yes</li> <li>No</li> </ul>	Very Sha Other (Ex	plain in Remarks)			less distu	inded of pro		-1	
		Very Sha Other (Ex Restrictive L	plain in Remarks)			less distu				
Remarks:	lemarks:	Very Sha Other (Ex Restrictive L Type:	xplain in Remarks) <b>_ayer (if observed):</b>			less distu				
		Very Sha Other (Ex Restrictive L Type:	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? OYes • No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? OYes • No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? ○Yes ●No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? OYes • No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? Ves • No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? ○Yes ●No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? OYes • No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? ○Yes ● No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? ○Yes ● No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? ○Yes ● No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? Ves No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? OYes No
		Very Sha Other (Ex Restrictive L Type:	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? Ves No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? Ves No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? Yes No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? ○Yes ● No
		Very Sha Other (Ex Restrictive L Type: Depth (inc	xplain in Remarks) <b>_ayer (if observed):</b>			less distu			Hydric Soil Present	? Yes No

### WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Eccleston		C	ity/County:	Stevenson, [	Baltimore	Sampling Da	ate: 3/12/2018
Applicant/Owner: JMT				S	State: MD		pint: WET 10-SP
Investigator(s): CJ, AS		S	ection. Towns	hip, Range: N/	/A		
Landform (hillslope, terrace, etc.	): Depression				none): Concav	'e	Slope (%): 0-1
Subregion (LRR or MLRA): LR		 Lat: 39.408			-76.736086	•	Datum: NAD83
Soil Map Unit Name: QM - QL			010	Long		fication: PUE	
Are climatic / hydrologic conditic				No (If no ev			
		-					
Are Vegetation Soil	, , , ,	cantly disturbed?			Circumstances"		Yes No
Are x Vegetation x Soil	Hydrology natura	Ily problematic?		(If needed, ex	xplain any answe	ers in Remark	s.)
SUMMARY OF FINDING	S – Attach site m	ap showing s	ampling p	oint location	ns, transects	s, importan	nt features, etc.
Hydrophytic Vegetation Preser	nt? • Yes	No					
Hydric Soil Present?	• Yes			ampled Area Wetland?		O No	
Wetland Hydrology Present?	• Yes	No		i Wettand :	• 163		
Remarks:							
WET 10 is fed by groundw observed floating on top of		an abandoned	quarry which	i contains a lo	t of trash and o	debris. Algae	e was
HYDROLOGY							
Wetland Hydrology Indicator	s:						um of two required)
Primary Indicators (minimum o						Cracks (B6)	
× Surface Water (A1)		e Aquatic Plants (				-	ave Surface (B8)
× High Water Table (A2)		drogen Sulfide Od				atterns (B10)	
× Saturation (A3)		dized Rhizospher	-	oots (C3)	Moss Trim L		
Water Marks (B1)		sence of Reduced				Water Table (	(C2)
Sediment Deposits (B2)		cent Iron Reductio		IS (C6)	Crayfish Bur		(00)
Drift Deposits (B3)		n Muck Surface (C					al Imagery (C9)
<ul> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> </ul>		ier (Explain in Rer	narks)		× Geomorphic	Stressed Plants	
× Inundation Visible on Aerial	Imageny (B7)				Shallow Aqu		
Water Stained Leaves (B9)						aphic Relief (E	14)
Aquatic Fauna (B13)					FAC-Neutra		5-1)
Field Observations: Surface Water Present?	• Yes 🔿 No	Depth (inches):	3				
Water Table Present?		Depth (inches):		-			
Saturation Present?	<ul> <li>Yes</li> <li>No</li> <li>Yes</li> <li>No</li> </ul>	Depth (inches):		- Wotland H	ydrology Prese	nt? Nor	
(includes capillary fringe)	• res () No	Depth (inches).	00		yarology Prese		s 🔿 No
Describe Recorded Data (strea	am gauge, monitoring v	well, aerial photos	, previous insp	pections), if avai	ilable:		
Remarks:							

Sampling Point: WET 10-SP

	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover</u> Species? Status	Number of Dominant Species
1	◯ Yes ◯ No	That Are OBL, FACW, or FAC: $0$ (A)
2		Total Number of Dominant
3.		Species Across All Strata: 0 (B)
4.		
5.		Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)
		$\begin{bmatrix} \text{III at Ale OBL, FACW, OF FAC.} & \underline{0} & \underline{0} \\ \end{bmatrix}$
6.		Prevalence Index worksheet:
7.		Total % Cover of: Multiply by:
8.		OBL species x 1 =
	= Total Cover	FACW species x 2 =
50% of total cover:	20% of total cover:	FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)		FACU species x 4 =
1	🔿 Yes 🔵 No	UPL species x 5 =
2.		Column Totals:         (A)         (B)
		Prevalence Index = B/A =
4.		Hydrophytic Vegetation Indicators:
5.		1 - Rapid Test for Hydrophytic Vegetation
6.		2 - Dominance Test is >50%
7.		$3$ - Prevalence Index is $\leq 3.0^*$
8.		4 - Morphological Adaptations*
	= Total Cover	× Problematic Hydrophytic Vegetation* (Explain)
50% of total cover:	20% of total cover:	
		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size:)	Yes O	
1		Definitions of Four Vegetation Strata:
2	O Yes O No	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
3.		more in diameter at breast height (DBH), regardless of
4.		height.
5.		Sapling/Shrub – Woody plants, excluding vines, less
6.		than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7.		Herb – All herbaceous (non-woody) plants, regardless
8.		of size, and woody plants less than 3.28 ft tall.
9.		<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
10.		
11.		
12.		
	= Total Cover	
50% of total cover:	20% of total cover:	
Woody Vine Stratum (Plot size: )		
1 /	🔿 Yes 🔘 No	
2.		
3.		
4. -		
5.		Hydrophytic
	= Total Cover	Vegetation
50% of total cover:	20% of total cover:	Present? • Yes No
Remarks: (If observed, list morphological adaptations	below).	
		water Duckwood was absorved
No terrestrial vegetation located within	r - OB due to deep standing v	VALEI. DUURWEEU WAS UDSEIVEU

## SOIL

		o the depth needed to			ndicator o	or confirm	the absence of indica	ators.)
Depth (inches)	<u>Matrix</u> Color (moist)	% Color (m	Redo	0X %	Type		Texture	Remarks
(inches)			ust)	70	Type <sub>1</sub>	Loc <sub>2</sub>		Remarks
								· · · · · · · · · · · · · · · · · · ·
	anoantration D-Donk	tion DM-Doducod Ma	striv MA	-Mookod	Sand Cra	ino	al agostion: DI -Doro	Lipipa M-Matrix
		etion, RM=Reduced Ma ble to all LRRs, unles					2Location: PL=Pore	
Histosol				rk Surface				
	ipedon (A2)					ce (S8) (M	LRA 147, 148)	
Black His				-	Inface (S9)			
	n Sulfide (A4)				ed Matrix (F		, , , , , , , , , , , , , , , , , , , ,	
	Layers (A5)			pleted Ma		-)		
	ck (A10) (LRR N)				Surface (F	6)		
	Below Dark Surface	(A11)			rk Surface			
	rk Surface (A12)	(/(1))			essions (F8	. ,		
	, ,	R N, MLRA 147, 148)					.RR N, MLRA 136)	
	leyed Matrix (S4)	(((,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		-	ice (F13) (I			
	edox (S5)				. , .		MLRA 148)	
	Matrix (S6)							
	for Problematic Hyd							
	ick (A10) (MLRA 147)							
	rairie Redox (A16) (M							
	nt Floodplain Soils (F1	9) (MLRA 136, 147)						
	ent Material (TF2)	540	зIr	dicators o	of hydrophy	/tic vegeta	tion and	
	allow Dark Surface (T	F12)	We	etland hyd	rology mus	st be prese	ent,	
	xplain in Remarks)		un	less distu	rbed or pro	oblematic.	-	
Restrictive	Layer (if observed):							
Type:								
Depth (ir	nches):						Hydric Soil Present	? • Yes 🔿 No
Remarks:							<b>I</b>	
Hydric so	oile can be assumed ir	n cases of permanently	etandir	na water				
Tryunc sc		reases of permanentry	Stanun	ig water				

### WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Eccleston	City/County: Stevenson, Baltin	nore	Sampling Date:	3/12/2018
Applicant/Owner: JMT	State	MD	Sampling Point:	WET 10-UPL
Investigator(s): CJ, AS	_ Section, Township, Range: <u>N/A</u>			
Landform (hillslope, terrace, etc.): Flat	_ Local relief (concave, convex, none	): None	Slo	pe (%): <u>0-5</u>
Subregion (LRR or MLRA): LRR S Lat: 39.4	108890 Long: <u>-76.</u>	736117	Da	atum: NAD83
Soil Map Unit Name: QM - Quarries, marble, active/inactive	9	NWI Classif	ication: Upland	
Are climatic / hydrologic conditions on the site typical for this time of	year? 💿 Yes  No 🛛 (If no, explain	in Remarks	.)	
Are 🗌 Vegetation 🗌 Soil 📄 Hydrology significantly disturbe	d? Are "Normal Circu	umstances"	present? <ul> <li>Yes</li> </ul>	es 🔿 No
Are 🗌 Vegetation 🗌 Soil 📄 Hydrology naturally problemation	c? (If needed, explain	n any answe	ers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showin	g sampling point locations,	transects	, important fe	eatures, etc.
Hydrophytic Vegetation Present?       Yes <ul> <li>No</li> <li>Hydric Soil Present?</li> <li>Yes              <ul> <li>Yes                     <ul> <li>Yes                     <ul> <li>No</li> </ul> <li>Yes                     <ul> <li>Yes                     <ul> <li>Yes                         </li> <li>Yes                      <ul> <li>Yes                      <ul> <li>Yes                      </li> </ul> <li>Yes                            <ul></ul></li></li></ul></li></ul></li></ul></li></li></ul></li></ul></li></ul>	Is the Sampled Area within a Wetland?	) Yes	No	
Remarks:				

Wetland Hydrology Indicators	s:			Secondary Indicators (minimum of two required)
Primary Indicators (minimum of	f one is required; che	ck all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)	Tr	ue Aquatic Plants (B14)		Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	🔲 Hy	ydrogen Sulfide Odor (C1)		Drainage Patterns (B10)
Saturation (A3)	0)	xidized Rhizospheres on Living Root	s (C3)	Moss Trim Lines (B16)
Water Marks (B1)	Pr	resence of Reduced Iron (C4)		Dry Season Water Table (C2)
Sediment Deposits (B2)	Re	ecent Iron Reduction in Tilled Soils (	C6)	Crayfish Burrows (C8)
Drift Deposits (B3)	Tł	nin Muck Surface (C7)		Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Ot	ther (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 ● No	Depth (inches):		
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):	Wetland I	Hydrology Present? O Yes   No
	m gauge, monitoring	well, aerial photos, previous inspec	tions), if ava	ailable:
Remarks:				

HYDROLOGY

Sampling Point: WET 10-UPL

	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: )	% Cover		Status	Number of Dominant Species
1. Robinia pseudoacacia	20	• Yes • No	FACU	That Are OBL, FACW, or FAC: 2 (A)
2. <u>Acer negundo</u>	20	• Yes 🔿 No	FAC	Total Number of Dominant
3. Morus alba	10	• Yes • No	UPL	Species Across All Strata: _7(B)
4		_ O Yes O No		Percent of Dominant Species
5.				That Are OBL, FACW, or FAC: 29 (A/B)
6.				Prevalence Index worksheet:
7.				Total % Cover of: Multiply by:
8.				OBL species         x1 =
	50	_ = Total Cover		FACW species x 2 =
50% of total cover:_25	2	0% of total cover:	10	FAC species         x 3 =
Sapling/Shrub Stratum (Plot size:)				FACU species x 4 =
1. Ligustrum vulgare	20	🖲 Yes 🔵 No	FACU	UPL species         x 5 =
2.		 ─YesNo	·	Column Totals:         (A)         (B)
3.		_		
4.				Prevalence Index = B/A =
5.				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7.				2 - Dominance Test is >50%
8.				□ 3 - Prevalence Index is ≤3.0*
0.	20	- Total Cover		<ul> <li>4 - Morphological Adaptations*</li> <li>Problematic Hydrophytic Vegetation* (Explain)</li> </ul>
50% of total cover:_ <u>10</u>		_ = Total Cover 20% of total cover:	Д	
Herb Stratum (Plot size: )	2		<u> </u>	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. Lonicera japonica	25	💿 Yes  No	FACU	Definitions of Four Vegetation Strata:
2. Hedera helix		• Yes 🔿 No	FACU	Deminitions of Four Vegetation Strata.
3. Microstegium vimineum		• Yes O No	FAC	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or
		 O Yes O No		more in diameter at breast height (DBH), regardless of height.
4 5.		_		Sapling/Shrub – Woody plants, excluding vines, less
6.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7.				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
8.				
9.				<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
10.				noight.
11.				
12.				
	75	_ = Total Cover		
50% of total cover: <u>37</u>	.52	0% of total cover:	15	
Woody Vine Stratum (Plot size:)				
1		🔿 Yes 🔿 No		
2.				
3.				
4.				
5.				
		= Total Cover		Hydrophytic Vegetation
50% of total cover:	2	_		Present? Yes No
				1
Remarks: (If observed, list morphological adaptations	below).			

## SOIL

Profile Des	cription: (Describe	to the depth ne	eded to docu	ment the i	ndicator o	or confirm	the absence of indicato	rs.)
Depth	Matrix		Red					
(inches)	Color (moist)	<u>%</u> C	Color (moist)	%	Type₁	Loc <sub>2</sub>	Texture	Remarks
0-12	10YR 3/4	100					Silt Loam	
12-20	10YR 5/5	50					Silt Loam	
	7.5YR 6/6	50						
·		·			·			
		· ·						
1Type: C=Co	oncentration, D=Depl	etion RM=Red	iced Matrix M	IS=Masked	I Sand Gra	ins	2Location: PL=Pore Li	ining M=Matrix
	Indicators: (Applica							initig, in matrix.
Histosol (	(A1)		D	ark Surface	e (S7)			
Histic Ep	ipedon (A2)		P	olyvalue Be	elow Surfac	e (S8) (MI	LRA 147, 148)	
Black His	stic (A3)			nin Dark Su	Irface (S9)	(MLRA 14	17, 148)	
Hydroger	n Sulfide (A4)			oamy Gleye	ed Matrix (F	-2)		
Stratified	Layers (A5)			epleted Ma	trix (F3)			
🗌 2 cm Mu	ck (A10) (LRR N)		R	edox Dark	Surface (F	6)		
Depleted	Below Dark Surface	(A11)	D	epleted Da	rk Surface	(F7)		
Thick Da	rk Surface (A12)		🗌 R	edox Depre	essions (F8	3)		
Sandy M	ucky Mineral (S1) (Lf	RR N, MLRA 14	7, 148) 🗌 Ire	on-Mangan	ese Masse	es (F12) (L	.RR N, MLRA 136)	
Sandy Gl	leyed Matrix (S4)		U	mbric Surfa	ice (F13) (I	MLRA 136	5, 122)	
	edox (S5)		P	edmont Flo	odplain So	oils (F19) (	MLRA 148)	
Stripped	Matrix (S6)							
Indicators	for Problematic Hyd	dric Soils₃:						
2 cm Mu	ck (A10) (MLRA 147	)						
Coast Pr	rairie Redox (A16) (N	ILRA 147, 148)						
Piedmor	nt Floodplain Soils (F	19) (MLRA 136,	147)					
Red Par	ent Material (TF2)			Indicators o	of bydroph	tic vogota	tion and	
Very Sha	allow Dark Surface (1	ſF12)		vetland hyd				
Other (E	xplain in Remarks)		U	nless distu	rbed or pro	blematic.	,	
Restrictive	Layer (if observed)	:						
Type:								
Depth (in	iches):						Hydric Soil Present?	🔾 Yes 💿 No
Remarks:	,							

### WETLAND DETERMINATION DATA FORM – Eastern Mountains & Piedmont

Project/Site: Eccleston	City/County: Stevenson,	Baltimore	Sampling Date:	5/23/18
Applicant/Owner: JMT		State: MD	Sampling Point:	WET 11-SP
Investigator(s): ERM, MEM	Section, Township, Range:	N/A		
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, convex	x, none): <u>Concave</u>	Slope	(%): 0-1
Subregion (LRR or MLRA): LRR S	Lat: <u>39.401395</u>	Long:76.750	227 Datur	n: NAD 83
Soil Map Unit Name: MmA – Melvin silt loam, 0 to 3 percent	slopes	NWI classifi	cation: PEM1A	
Are climatic/hydrologic conditions on the site typical for this time	e of year? Yes <u>X</u>	No (If no, -	explain in Remarks.)	
Are Vegetation Soil or Hydrology si	gnificantly disturbed? Are "	Normal Circumstances	" present? Yes	X No
Are Vegetation Soil or Hydrology na	aturally problematic? (If ne	eded, explain any answe	ers in Remarks.)	

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <u>X</u> Yes <u>X</u> Yes <u>X</u>	No No No	Is the Sampled Area Within a Wetland?	Yes <u>X</u>	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)
X Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
X High Water Table (A2) Hydrogen Sulfide Odor (C1	)X Drainage Patterns (B10)
X 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 T	lled Soils (C6) Crayfish Burrows (C8)
X 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) Other (Explain in Remarks)	X Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	X FAC-Neutral Test (D5)
Field Observations:         Surface Water Present?       Yes       X       No       Depth (inches):       3         Water Table Present?       Yes       X       No       Depth (inches):       3         Saturation Present?       Yes       X       No       Depth (inches):       0         (includes capillary fringe)       Yes       X       No       Depth (inches):       0	Wetland Hydrology Present? Yes X No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	ections), if available:
<b>Remarks:</b> Wetland receives hydrology from farm field runoff. Surface water and saturation pres WUS 21.	ent. Located in the Jones Falls floodplain between WUS 20 and

Tree	Stratum (Plot size:30')	Absolute % Cover		ominant Species?	Indicator Status	Dominance Test Worksheet:		
	(i lot 0.20 )			<u></u>		Number of Dominant Species		
						That Are OBL, FACW, or FAC:	3	(A)
3.						Total Number of Dominant Species Across All Strata:	3	(B)
								_
						Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)
				,	·			_
					. <u> </u>	Duran lan an Indan Warda ha at		
8.		·		Total		Prevalence Index Worksheet		
			=	Cover		Total % Cover of:	Multiply b	<u>y:</u>
<u>Saplir</u>	ng/Shrub Stratum (Plot Size: 15')					OBL species	x1=	
1.						FACW species	x2=	
					<u> </u>	FAC species	x3=	
					<u> </u>	FACU species	x4=	
					<u> </u>	UPL species		
					<u> </u>	Column Totals	(A)	(B)
6.						Prevalence Index = B/A	=	
						Hydrophytic Vegetation Indic	ators	
						1 – Rapid Test for Hyd		etation
-						x 2 – Dominance Test i		
			=	Total				
			. –	Cover		3 – Prevalence Index		
Herb	Stratum (Plot Size: 5' )					4 – Morphological Ada	• •	
1.	Boehmeria cylindrica	5		No	FACW	supporting data in Rema		
2.	Carex stricta	30		Yes	OBL	Problematic Hydrophy	-	
3.	Carex lurida	10		No	OBL			(Explain)
4.	Microstegium vimineum	15		Yes	FAC	<sup>1</sup> Indicators of hydric soil and w		
5.	Impatiens capensis	10		No	FACW	must be present, unless disturb	ed or problen	natic.
-	Agrostis stolonifera	15	· -	Yes	FACW	Definitions of Vegetation Stra	ata:	
				,		Tree – Woody plants, excluding		7.6 cm)
0						or more in diameter at breast h regardless of height.	eight (DBH),	
10.						Sapling/Shrub – Woody plants	s, excluding vi	nes, less
11.						than 3 in. DBH and greater that		
12.						Herb – All herbaceous (non-wo	ody) plante	
		85	=	Total Cover		regardless of size and woody p tall.		n 3.28 ft
Wood	<u>y Vine Stratum</u> (Plot Size: <u>30</u> ')							
1.			· _			Woody vine – All woody vines	oreater than :	3 28 ft in
2.			· _			height.	greater than t	0.20 11 11
3.			· _					
4.			· _					
5.			· _					
6.		. <u> </u>				Hydrophytic		
			=	Total Cover		Vegetation Present? Yes	x No	
			•					
Rema	rks: (If observed, list morphological adaptatio	ns below).						

(inches)	Color (moist)	%	Color	(moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-3	2.5Y 5/2	95		Y 4/4	5	С	М	Sandy clay loam	
3-10	2.5Y 5/1	90		′R 4/3	10	С	М	Sandy clay loam	
/pe: C=Con	centration, D=Deple	etion, RM=R	Reduced I	Matrix, CS=	Covered c	or Coated S	and Grains.		=Pore Lining, M=Matrix.
dric Soil Ind	dicators:							Indicators for P	roblematic Hydric Soils <sup>3</sup> :
Histoso	ol (A1)		C	ark Surfac	e (S7)			2 cm Muck	(A10) <b>(MLRA 147)</b>
Histic E	Epipedon (A2)		P	olyvalue B	elow Surfa	ce (S8) <b>(ML</b>	.RA 147,148)	Coast Prair	ie Redox (A16)
Black H	Histic (A3)		т	hin Dark S	urface (S9)	) <b>(MLRA 14</b> 7	7,148)	(MLRA	. 147, 148)
Hydrog	en Sulfide (A4)		L	oamy Gley	ed Matrix (	F2)		Piedmont F	loodplain Soils (F19)
Stratifie	ed Layers (A5)		<u> </u>	epleted Ma	atrix (F3)			(MLRA	136, 147)
2 cm N	luck (A10) <b>(LLR N)</b>		R	Redox Dark	Surface (F	6)		Very Shallo	w Dark Surface (TF12)
Deplete	ed Below Dark Surfa	ace (A11)	C	epleted Da	rk Surface	(F7)		Other (Expl	ain in Remarks)
Thick D	Dark Surface (A12)		F	Redox Depr	essions (F	8)			
	Mucky Mineral (S1)	(LLR N.				, es (F12) <b>(LI</b>	RR N.		
	LRA 147, 148)	(,		MLRA 1			,		
	Gleyed Matrix (S4)					MLRA 136,	122)	<sup>3</sup> Indicato	rs of hydrophytic vegetation a
									d hydrology must be present,
	Redox (S5) d Matrix (S6)					oils (F19) <b>(I</b> 21) <b>(MLRA</b>			ss disturbed or problematic.
strictive La	yer (if observed):								
Туре:									
Depth (inch	es):						Hydrid	c Soil Present?	Yes X No
marks:									

## WETLAND DETERMINATION DATA FORM – Eastern Mountains & Piedmont

Project/Site: Eccleston	City/County: Stevenson,	Baltimore	Sampling Date:	5/23/2018
Applicant/Owner: JMT		State: MD	Sampling Point:	WET 11-UPL
Investigator(s): ERM, MEM	Section, Township, Range:	N/A		
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, conve	ex, none): <u>Concave</u>	Slope	e (%): <u>0-1</u>
Subregion (LRR or MLRA): LRR S	Lat: <u>39.407426</u>	Long: <u>-76.734</u>	525 Dati	um: <u>NAD 83</u>
Soil Map Unit Name: MmA – Melvin silt loam, 0 to 3 percent	slopes	NWI classif	ication: Upland	
Are climatic/hydrologic conditions on the site typical for this time	e of year? Yes X	No (If no,	explain in Remarks.)	
Are Vegetation Soil or Hydrology si	gnificantly disturbed? Are	"Normal Circumstance	s" present? Yes	X No
Are Vegetation Soil or Hydrology na	aturally problematic? (If ne	eeded, explain any answ	ers in Remarks.)	

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

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

#### 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)		
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) Other (Explain in Remarks)	X 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 _X _ Depth (inches):			
Water Table Present? Yes <u>No X</u> Depth (inches):			
Saturation Present? Yes No X Depth (inches): Wetland Hyd	rology Present? Yes No _X		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if availab	le:		
Remarks:			

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:		
``	70 00001	opecies	Otatus	Number of Dominant Species		
1 2				That Are OBL, FACW, or FAC:	0	(A)
3				Total Number of Dominant Species Across All Strata:	1	(B)
4 5.				Percent of Dominant Species		_
				That Are OBL, FACW, or FAC:	0	(A/B)
						_
7				Prevalence Index Worksheet		
8	·	Total		Frevalence index worksheet		
		= Cover		Total % Cover of:	Multiply by	/:
Sapling/Shrub Stratum (Plot Size: 15')				OBL species		
1				FACW species		
2				FAC species		
3				FACU species		
4				UPL species		
5				Column Totals	(A)	(B)
6 7				Prevalence Index = B/A	=	
8				Hydrophytic Vegetation Indic	ators:	
9.				1 – Rapid Test for Hyd		tation
10				2 – Dominance Test i		
		_ Total				
	97	Cover		3 – Prevalence Index		
Herb Stratum (Plot Size: 5' )				4 – Morphological Ada		
1. Aegopodium podagraria	60	Yes	FACU	supporting data in Remarks or separate sheet)		
2. Carex sp.	20	Yes	NA	Problematic Hydrophytic Vegetation <sup>1</sup>		
3. Agrostis stolonifera	10	No	FACW		(	(Explain)
4. Impatiens capensis	5	No	FACW			
5. Aesculus hippocastanum	2	No	NA	must be present, unless disturb	ed or problem	iatic.
6				Definitions of Vegetation Stra	ata:	
7				Tree – Woody plants, excluding		7.6 cm)
8	·			or more in diameter at breast h regardless of height.	eight (DBH),	
9						
10.				Sapling/Shrub – Woody plants than 3 in. DBH and greater that		
11				than 5 m. DBH and greater that	1 3.20 ft ( iiii) t	lan.
12.		Total		Herb – All herbaceous (non-wo		
	97	= Cover		regardless of size and woody p	lants less than	n 3.28 ft
Woody Vine Stratum (Plot Size: 30')				tall.		
1						
2.				Woody vine – All woody vines height.	greater than 3	3.28 ft in
3.				hoight		
4.						
5.						
6.				Hydrophytic		
	·	Total		Vegetation		
	. <u> </u>	= Cover		Present? Yes	No	<u>X</u>
Remarks: (If observed, list morphological adaptation	ns below)					
אסוומותס. ווו טשפו זפע, ווסג ווטו אוטוטוטעוכמו מעמאנמונס	na below).					

(inches) 0-10	Color (moist)			edox Feati	ules				
	10YR 4/2	<u></u>	Color (moist)	<u>%</u>	<u>Type</u> <sup>1</sup>	Loc <sup>2</sup>	Texture Sandy clay Ioam	۲ 	Remarks
Гуре: C=Concer	ntration, D=Deplet	ion, RM=Red	duced Matrix, CS=	Covered o	r Coated Sa	nd Grains.	<sup>2</sup> Location: PL		-
Black Histi Hydrogen Stratified L 2 cm Muck	A1) bedon (A2)	- - - - - - - - - - - - - - - - 	Dark Surface Polyvalue Be Thin Dark Se Loamy Gleye Depleted Ma Redox Dark Depleted Da	elow Surfa urface (S9) ed Matrix ( atrix (F3) Surface (F	) <b>(MLRA 147</b> F2) F6)		Coast Prain (MLRA Piedmont F (MLRA Very Shallo	(A10) (MLRA rie Redox (A1 A 147, 148) Floodplain Soi A 136, 147) ow Dark Surfa lain in Remar	6) ils (F19) nce (TF12)
Sandy Mue		_ LLR N, _ _ _	Redox Depro Iron-Mangar MLRA 1 Umbric Surfa Piedmont Flo Red Parent	nese Masse <b>36)</b> ace (F13) ( oodplain S	es (F12) <b>(LR</b> ( <b>MLRA 136,1</b> oils (F19) <b>(N</b>	22) ILRA 148)	wetlar	d hydrology r	ytic vegetation a nust be present or problematic.
estrictive Layer Type: Depth (inches)						Hydric	Soil Present?	Yes	NoX

### WETLAND DETERMINATION DATA FORM – Eastern Mountains & Piedmont

Project/Site: Eccleston	City/County: Stevenson,	Baltimore	Sampling Date: 5	/3/19
Applicant/Owner: JMT		State: MD	Sampling Point: V	VET 12-SP
Investigator(s): AS, CJ	Section, Township, Range:	N/A		
Landform (hillslope, terrace, etc.): Hillslope	Local relief (concave, convex	x, none): <u>None</u>	Slope (	%): <u>5-8</u>
Subregion (LRR or MLRA): LRR S	Lat: <u>39.40630</u>	Long:76.734	17 Datum	: <u>NAD 83</u>
Soil Map Unit Name: WhB – Wiltshire silt loam, 3 to 8 percent	nt slopes	NWI classifi	cation: PEM1C	
Are climatic/hydrologic conditions on the site typical for this time	e of year? Yes <u>X</u>	No (If no, e	explain in Remarks.)	
Are Vegetation Soil or Hydrology _X si	gnificantly disturbed? Are "	Normal Circumstances	" present? Yes <u>×</u>	<u>No</u>
Are Vegetation Soil or Hydrology na	aturally problematic? (If ne	eded, explain any answe	ers in Remarks.)	

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

Hydrophytic Vegetation Present?	Yes	Х	No							
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area Yes	X No					
Wetland Hydrology Present?	Yes _	Х	No _	Within a Wetland?						
Demorties WILLS 12 flows through and prov	Demonstry WILS 12 flows through and provides by dralamy to WET 12. Walland is leasted in the middle of an activally formed field. Tracks interpose the									

Remarks: WUS 13 flows through and provides hydrology to WET 12. Wetland is located in the middle of an actively farmed field. Tracks intersect the northern portion of the wetland, cutting off natural hydrologic flow. Hydrology is redirected east as sheet flow across the farm field; this area was not considered part of the wetland, as it lacked hydric soils. Sheet flow dissipates near the edge of the forest, but there is likely a subsurface connection with WUS 02 in this area.

#### HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
X Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
X High Water Table (A2) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
X 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)
X Iron Deposits (B5) Other (Explain in Remarks)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	X Microtopographic Relief (D4)
Aquatic Fauna (B13)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes X No Depth (inches): 4	
Water Table Present?     Yes     X     No     Depth (inches):     10	
Saturation Present?       Yes       X       No       Depth (inches):       surface       Wetland Hye         (includes capillary fringe)	drology Present? Yes X No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if availa	ble:
Remarks:	

	Absolute	Dominant	Indicator			
Tree Stratum (Plot size: 30')	% Cover	Species?	Status	Dominance Test Worksheet:		
1				Number of Dominant Species	2	(A)
2				That Are OBL, FACW, or FAC:	2	(A)
3				Total Number of Dominant Species Across All Strata:	2	(B)
4						_
5		. <u></u>		Percent of Dominant Species	100	(A/B)
6		<u> </u>		That Are OBL, FACW, or FAC:		_
7		<u> </u>				
8		Tatal		Prevalence Index Worksheet	:	
		Total = Cover		Total % Cover of:	Multiply by	<i>r</i> :
Sapling/Shrub Stratum (Plot Size:15')				OBL species		
1 /				FACW species		
2.			. <u> </u>	FAC species		
3.				FACU species		
4				UPL species		
5				Column Totals		
6						
7				Prevalence Index = B/A	=	_
8.				Hydrophytic Vegetation Indic	ators:	
9.				1 – Rapid Test for Hyd		tation
10.				X 2 – Dominance Test i		
		= Total				
		Cover		3 – Prevalence Index		
Herb Stratum (Plot Size: 5' )				4 – Morphological Ada		
1. Juncus effusus	15	<u>N</u>	FACW	supporting data in Rema		
2. Panicum virgatum	40	Y	FAC	Problematic Hydrophy	-	' Explain)
3. Polygonum sagittatum		<u> </u>	OBL			,
Impatiens capensis			FACW	<sup>1</sup> Indicators of hydric soil and w must be present, unless disturb	, ,	
6.				Definitions of Vegetation Stra	ata:	
7				Tree – Woody plants, excluding	a vines. 3 in. (7	7.6 cm)
8.				or more in diameter at breast h		/
9				regardless of height.		
10				Sapling/Shrub – Woody plants	s, excluding vin	nes, less
11				than 3 in. DBH and greater tha	n 3.28 ft (1m) t	all.
12			<u> </u>	Herb – All herbaceous (non-wo	odv) plants	
	85	Total = Cover		regardless of size and woody p		1 3.28 ft
Woody Vine Stratum (Plot Size: 30')	0	- 00001		tall.		
1 2.				Woody vine – All woody vines	greater than 3	5.28 ft in
2 3				height.		
5 6.		. <u></u> .		Hydrophytic		
U		Total		Hydrophytic Vegetation		
		= Cover		Present? Yes	X No	
<b>_</b>	<b>.</b>					
Remarks: (If observed, list morphological adaptati	ons below).					

	Re					
(inches) Color (moist)	6 Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-15 10YR 4/2 9	5 7.5YR 4/4	<u>5</u> <u>C</u>	Μ	Sandy clay loam		
			<u> </u>			
<sup>1</sup> Type: C=Concentration, D=Depletion,	RM=Reduced Matrix, CS=	Covered or Coated Sa	and Grains.	<sup>2</sup> Location: PL=Po	ore Lining, M=Matrix.	
Hydric Soil Indicators:				Indicators for Prob	olematic Hydric Soils <sup>3</sup> :	
Histosol (A1)	Dark Surface	e (S7)	2 cm Muck (A10) (MLRA 147)			
Histic Epipedon (A2)	Polyvalue Be	elow Surface (S8) (ML	RA 147,148)	Coast Prairie Redox (A16)		
Black Histic (A3)	Thin Dark Su	Irface (S9) (MLRA 147	7,148)	(MLRA 147, 148)		
Hydrogen Sulfide (A4)	Loamy Gleye	ed Matrix (F2)		Piedmont Floo	dplain Soils (F19)	
Stratified Layers (A5)	X Depleted Ma	trix (F3)	(MLRA 13	6, 147)		
2 cm Muck (A10) (LLR N)	Redox Dark	Surface (F6)		Very Shallow [	Dark Surface (TF12)	
Depleted Below Dark Surface (A	A11) Depleted Dar	rk Surface (F7)		Other (Explain in Remarks)		
Thick Dark Surface (A12)	Redox Depre	essions (F8)				
Sandy Mucky Mineral (S1) (LLR	N, Iron-Mangan	ese Masses (F12) (LF	RR N,			
MLRA 147, 148)	MLRA 1	36)				
Sandy Gleyed Matrix (S4)		ice (F13) (MLRA 136,	122)	<sup>3</sup> Indicators o	of hydrophytic vegetation and	
Sandy Redox (S5)	Piedmont Flo	odplain Soils (F19) (N	/ILRA 148)	wetland h	ydrology must be present,	
Stripped Matrix (S6)	Red Parent N	Material (F21) (MLRA	127, 147)	unless c	disturbed or problematic.	
Restrictive Layer (if observed):						
Type: Gravel						
Depth (inches): 15	;		Hydrid	c Soil Present?	Yes X No	

Soils are saturated in upper 4 inches. Below 4 inches, soil became drier, grittier. Profile is consistent throughout entire sample.

### WETLAND DETERMINATION DATA FORM – Eastern Mountains & Piedmont

Project/Site: Eccleston	City/County:	Stevenson,	Baltimore		Sampling Date:	5/3/1	9
Applicant/Owner: JMT			State:	MD	Sampling Point:	WET	12-UPL
Investigator(s): _AS, CJ	Section, Towns	hip, Range:	N/A				
Landform (hillslope, terrace, etc.): Hillslope	Local relief (co	ncave, conve	x, none):	None	Slo	pe (%):	5-8
Subregion (LRR or MLRA): LRR S	Lat: <u>39.406</u>	31	Long	-76.7343	34 Da	atum:	NAD 83
Soil Map Unit Name: WhB – Wiltshire silt loam, 3 to 8 perce	nt slopes			NWI classifie	cation: None		
Are climatic/hydrologic conditions on the site typical for this tim	e of year? Ye	es X	No	(If no, e	explain in Remarks	s.)	
Are Vegetation Soil or Hydrology si	ignificantly distur	bed? Are "	Normal C	ircumstances	" present? Yes	Х	No
Are Vegetation Soil or Hydrology na	aturally problema	atic? (If ne	eded, expl	ain any answe	rs in Remarks.)		

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

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

#### HYDROLOGY

Wetland Hydrology Indi	cators:					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 L	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 Til	lled 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)				Other (Explain in Remarks)		Geomorphic Position (D2)		
Inundation Visible	on Aerial Ima	agery (B7)				Shallow Aquitard (D3)		
Water-Stained Lea	ves (B9)					Microtopographic Relief (D4)		
Aquatic Fauna (B1	3)					FAC-Neutral Test (D5)		
Field Observations:								
Surface Water Present?	Yes	No	Х	Depth (inches):				
Water Table Present?	Yes	No	Х	Depth (inches):				
Saturation Present? (includes capillary fringe)	Yes	No	Х	Depth (inches):	Wetland Hyd	rdrology Present? Yes No _X		
Describe Recorded Data (s	stream gauge	e, monitori	ng wel	, aerial photos, previous insp	ections), if availab	le:		
Remarks:								

Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
		<u> </u>		Number of Dominant Species	
1.       2.				That Are OBL, FACW, or FAC:	1 (A)
3				Total Number of Dominant Species Across All Strata:	2 (B)
4 5				Percent of Dominant Species	
6.				That Are OBL, FACW, or FAC:	50 (A/B)
7					
8				Prevalence Index Worksheet:	
		= Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot Size: 15')				OBL species	x1=
1				FACW species	
2				FAC species	
3				FACU species	
4				UPL species	
5				Column Totals	(A) (B
6				Prevalence Index = B/A	=
7.				Hydrophytic Vegetation Indic	ators:
9				1 – Rapid Test for Hyd	rophytic Vegetation
10				2 – Dominance Test is	s > 50%
		= Total		3 – Prevalence Index i	$c < 3.0^{1}$
Harb Stratum (Diat Siza: 5')		Cover		4 – Morphological Ada	
<u>Herb Stratum</u> (Plot Size: <u>5'</u> )	5	Y	NI	supporting data in Rema	
Arabidopsis thaliana     Veronica peregrina	5		FAC	Problematic Hydrophy	
2 Ovalia atriata	5	Y	FAC		(Explain
	-		FACU		
				<sup>1</sup> Indicators of hydric soil and we must be present, unless disturb	
			·	Definitions of Vegetation Stra	
				-	
				Tree – Woody plants, excluding or more in diameter at breast he	
				regardless of height.	<u>g</u> (),
				Sapling/Shrub – Woody plants	excluding vines les
10 11				than 3 in. DBH and greater than	1 3.28 ft (1m) tall.
12				Herb – All herbaceous (non-wo	odv) plants
	15	Total = Cover		regardless of size and woody pl tall.	
Woody Vine Stratum (Plot Size: 30')				tan.	
1					
2				<b>Woody vine</b> – All woody vines height.	greater than 3.28 π In
3					
4					
5					
6				Hydrophytic	
		Total = Cover		Vegetation Present? Yes	No <u>X</u>
Remarks: (If observed, list morphological adaptation of the served of th	ons below).			_]	

Depth (inches)	Matrix								
(inches)				edox Feat					
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	R	emarks
0-8	10YR 4/4	100					Silty clay		
						<u> </u>			
<u> </u>									
<u> </u>						<u> </u>			
<u> </u>	<u> </u>								
<u> </u>									
<u> </u>									
<sup>1</sup> Type: C=Concer	ntration, D=Deple	tion, RM=Re	duced Matrix, CS=	Covered c	or Coated Sa	nd Grains.	<sup>2</sup> Location: PL	=Pore Lining,	M=Matrix.
Hydric Soil Indica	ators:						Indicators for P	roblematic H	ydric Soils <sup>3</sup> :
Histosol (A	A1)		Dark Surface	e (S7)			2 cm Muck	(A10) <b>(MLRA</b>	147)
Histic Epip	oedon (A2)		Polyvalue Be	elow Surfa	ce (S8) <b>(MLF</b>	RA 147,148)	Coast Prair	ie Redox (A16	6)
Black Histi	ic (A3)		Thin Dark Su	urface (S9)	) (MLRA 147	148)	(MLRA	147, 148)	
Hydrogen	Sulfide (A4)		Loamy Gleye	ed Matrix (	F2)		Piedmont F	loodplain Soil	s (F19)
Stratified L	_ayers (A5)		Depleted Ma	trix (F3)			(MLRA	136, 147)	
2 cm Mucł	< (A10) <b>(LLR N)</b>		Redox Dark	Surface (F	-6)		Very Shallo	w Dark Surfa	ce (TF12)
Depleted F	Below Dark Surfa	ce (A11)	Depleted Da	rk Surface	e (F7)		Other (Exp	ain in Remark	s)
Thick Dark	surface (A12)		Redox Depre	essions (F	8)				
Sandy Mu	cky Mineral (S1)	(LLR N,	Iron-Mangan	ese Mass	es (F12) <b>(LR</b>	RN,			
	4 147, 148)		MLRA 1						
	eyed Matrix (S4)		Umbric Surfa	ace (F13)	(MLRA 136,1	22)	<sup>3</sup> Indicato	rs of hydrophy	tic vegetation a
Sandy Red			Piedmont Flo	odplain S	oils (F19) <b>(</b>	LRA 148)	wetlan	d hydrology m	lust be present,
Stripped N			Red Parent I				unle	ss disturbed o	r problematic.
Restrictive Layer	(if observed):								
Туре:									
Depth (inches)	:					Hydric	Soil Present?	Yes	NoX
Demonstration									
Remarks:									

### WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Eccleston		City/County:	Owings Mills, Baltimore	Sampling Date: 3/12/2018
Applicant/Owner: JMT		-	State: MD	Sampling Point: WET 20-SP
Investigator(s): CJ, AS		Section, Towr	ship, Range: N/A	
Landform (hillslope, terrace, etc.):	Depression		oncave, convex, none): Conca	Ve Slope (%): 0-1
Subregion (LRR or MLRA): LRR	S Lat:	39.408444	Long: -76.735975	Datum: NAD83
Soil Map Unit Name: MmA - Me		es	NWI Class	ification: PEM1Cf
Are climatic / hydrologic conditions			No (If no. explain in Remark	(S.)
Are × Vegetation Soil			Are "Normal Circumstances	
	Hydrology naturally problem		(If needed, explain any answ	
SUMMARY OF FINDINGS	- Attach site map sho	wing sampling	point locations, transect	s, important features, etc.
Hydrophytic Vegetation Present?	Yes O No	lo the	Sampled Area	
Hydric Soil Present?	Yes No			s 🔿 No
Wetland Hydrology Present?	Yes No			
Remarks:		·		
WET 20 is located in a	corn field, fed by runo	ff, and is being	actively farmed.	
HYDROLOGY				
Wetland Hydrology Indicators:				dicators (minimum of two required)
Primary Indicators (minimum of o	•			il Cracks (B6)
× Surface Water (A1)	True Aquatic			egetated Concave Surface (B8)
High Water Table (A2)		lfide Odor (C1)		Patterns (B10)
× Saturation (A3)		zospheres on Living		Lines (B16)
Water Marks (B1)		Reduced Iron (C4)		n Water Table (C2)
Sediment Deposits (B2)		Reduction in Tilled So		urrows (C8)
Drift Deposits (B3)	Thin Muck Su			Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		n in Remarks)		Stressed Plants (D1)
<ul> <li>Iron Deposits (B5)</li> <li>Inundation Visible on Aerial In</li> </ul>	accor (DZ)			ic Position (D2)
	lagery (B7)		Shallow Aq	
Water Stained Leaves (B9)				raphic Relief (D4)
Aquatic Fauna (B13)			FAC-Neutr	al Test (D5)
Field Observations:	_	0		
		nches): 2	_	
Water Table Present?	Yes  No Depth (i		_	
Saturation Present? (includes capillary fringe)	Yes No Depth (i	nches): 0-9	Wetland Hydrology Pres	ent? • Yes 🔿 No
Describe Recorded Data (stream	gauge, monitoring well, aeria	l photos, previous in	pections), if available:	
Remarks:				

Sampling Point: WET 20-SP

	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species
1	O Yes O No	That Are OBL, FACW, or FAC: _1(A)
2.	🔿 Yes 🚫 No	Total Number of Dominant
3.		Species Across All Strata: _2 (B)
4.		
5.		Percent of Dominant Species That Are OBL, FACW, or FAC: 50.000 % (A/B)
6.		Prevalence Index worksheet:
7.		Total % Cover of: Multiply by:
8.		OBL species 0 x 1 = 0
	= Total Cover	FACW species <u>0</u> x 2 = <u>0</u>
50% of total cover:	20% of total cover:	FAC species _40 x 3 = _120
Sapling/Shrub Stratum (Plot size: )		FACU species <u>30</u> x 4 = <u>120</u>
1	◯ Yes ◯ No	UPL species $0   x 5 = 0$
2.		Column Totals: 70 (A) 240 (B)
3.		
4.		Prevalence Index = $B/A = 3.429$
5.		Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
6.		2 - Dominance Test is >50%
7.		☐ 3 - Prevalence Index is ≤3.0*
8.		4 - Morphological Adaptations*
	= Total Cover	× Problematic Hydrophytic Vegetation* (Explain)
50% of total cover:	20% of total cover:	*Indicators of hydric soil and wetland hydrology must
Herb Stratum (Plot size:)		be present, unless disturbed or problematic.
1. Sorghum halepense	30 • Yes O No FACU	Definitions of Four Vegetation Strata:
2. Zea mays		
3. Setaria pumila	40 • Yes No FAC	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
	Yes ○ No	height.
4 5.		
		<b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
6.		
7.		<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
8.		
9.		<b>Woody vine</b> – All woody vines greater than 3.28 ft in
10.		height.
11.		
12.		
	90 = Total Cover	
50% of total cover: 45	20% of total cover: 18	
Woody Vine Stratum (Plot size: )		
1	🔿 Yes 🚫 No	
2.		
3.		
4.		
5.		Hydrophytic
	= Total Cover	Vegetation Present? • Yes • No
50% of total cover:	20% of total cover:	
Remarks: (If observed, list morphological adaptations	below).	
Wetland actively farmed.		

## SOIL

		to the depth			indicator o	or confirm	the absence of indicate	vrs.)
Depth (inches)	<u>Matrix</u> Color (moist)	%	Redo Color (moist)	x%	Type₁	Loc <sub>2</sub>	Texture	Remarks
0-9	10YR 4/2		10YR 5/6	10	C	 M		
							Clay	
9-20	10YR 2/1	90	10YR 6/8	10	<u>C</u>	M	Clay	
Type: C=C	oncentration, D=Dep	letion RM=R	educed Matrix MS	=Masker	d Sand Gra	aine	2Location: PL=Pore L	ining M=Matrix
	Indicators: (Applic							
Histosol				k Surface				
	ipedon (A2)					ce (S8) (MI	LRA 147, 148)	
Black His					urface (S9)			
	n Sulfide (A4)				ed Matrix (I		· · ·	
	Layers (A5)			leted Ma		,		
	ck (A10) (LRR N)				Surface (F	6)		
	Below Dark Surface	e (A11)			rk Surface			
	rk Surface (A12)	()			essions (F8			
	ucky Mineral (S1) (L	RR N. MLRA					RR N. MLRA 136)	
	leyed Matrix (S4)			-	ace (F13) (			
	edox (S5)						MLRA 148)	
	Matrix (S6)							
	for Problematic Hy							
	ick (A10) (MLRA 147		•					
	rairie Redox (A16) (N							
	nt Floodplain Soils (F	19) (MLRA 1	36, 147)					
	ent Material (TF2)		зIn	dicators of	of hydroph	ytic vegeta	tion and	
	allow Dark Surface (	IF12)			lrology mu		ent,	
-	xplain in Remarks)		un	ess distu	irbed or pro	oblematic.	-	
Restrictive	Layer (if observed)	:						
Type:								
Depth (ir	nches):						Hydric Soil Present?	Yes No
Remarks:								

### WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Eccleston	City/County: Stevenson ,Baltimore Sampling Date: 3/12/2018
Applicant/Owner: JMT	State: MD Sampling Point: WET 21-SP
Investigator(s): CJ, AS	Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, convex, none): <u>Concave</u> Slope (%): <u>0-1</u>
Subregion (LRR or MLRA): LRR S Lat: 39.40	07859 Long: -76.735290 Datum: NAD83
Soil Map Unit Name: MmA - Melvin silt loam, 0-3% slopes	NWI Classification: PEM1Cf
Are climatic / hydrologic conditions on the site typical for this time of ye	ear?  • Yes  No (If no, explain in Remarks.)
Are X Vegetation Soil Hydrology significantly disturbed	
Are Vegetation Soil Hydrology naturally problematic?	
	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? O Yes   No	Is the Sampled Area
Hydric Soil Present?       Yes       No	within a Wetland? • Yes No
Wetland Hydrology Present?	
Remarks:	
WET 21 is located in a corn field, fed by groundw	ater and is being actively farmed.
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)	s (B14) Sparsely Vegetated Concave Surface (B8)
☐ High Water Table (A2) ☐ Hydrogen Sulfide C	Ddor (C1) x Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizosph	eres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduc	ced Iron (C4) Dry Season Water Table (C2)
Sediment Deposits (B2)	tion in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3)	e (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in R	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? O Yes  No Depth (inches	3):
Water Table Present? O Yes  No Depth (inches	3):
Saturation Present? O Yes  No Depth (inches (includes capillary fringe)	s): Wetland Hydrology Present?  • Yes  No
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if available:
Remarks:	

Sampling Point: WET 21-SP

	Absolute Dominant Indicato	Dominance Test worksheet:
Tree Stratum (Plot size: )	<u>% Cover</u> <u>Species?</u> <u>Status</u>	- Number of Dominant Species
1		_ That Are OBL, FACW, or FAC: <u>1</u> (A)
2	Yes 🕐 No	- Total Number of Dominant
3.		Species Across All Strata: 2 (B)
4.		Percent of Dominant Species
5.		That Are OBL, FACW, or FAC: 50.000 % (A/B)
6.		
7.		Prevalence Index worksheet:
		Total % Cover of:Multiply by:
8.	<b>T</b> ( ) <b>O</b>	OBL species 0 x 1 = 0
	= Total Cover	FACW species <u>0</u> x 2 = <u>0</u>
50% of total cover:	20% of total cover:	FAC species <u>40</u> x 3 = <u>120</u>
Sapling/Shrub Stratum (Plot size:)		FACU species <u>30</u> x 4 = <u>120</u>
1	Yes 🕐 No	_ UPL species 0 x 5 = 0
2.		Column Totals: 70 (A) 240 (B)
3.		
4.		Prevalence Index = $B/A = 3.429$
5.		Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
6.		2 - Dominance Test is >50%
7.		☐ 3 - Prevalence Index is ≤3.0*
8.		4 - Morphological Adaptations*
	= Total Cover	× Problematic Hydrophytic Vegetation* (Explain)
50% of total cover:	20% of total cover:	*Indicators of hydric soil and wetland hydrology must
Herb Stratum (Plot size:)		be present, unless disturbed or problematic.
1. Sorghum halepense	30 • Yes No FACU	Definitions of Four Vegetation Strata:
$2$ $\overline{7}$ $7$	15 • Yes O No NI	
		<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or
· · · · · · · · · · · · · · · · · · ·		more in diameter at breast height (DBH), regardless of height.
4	0100 0100	-
5.		<b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
6.		
7.		Herb – All herbaceous (non-woody) plants, regardless
8.		of size, and woody plants less than 3.28 ft tall.
9.		Woody vine – All woody vines greater than 3.28 ft in
10.		height.
11.		
12.		
12.	65 = Total Cover	
50% of total cover: <u>32</u>	5 20% of total cover: <u>13</u>	
Woody Vine Stratum (Plot size:)		
1	O Yes O No	-
2.		
3.		
4.		
5.		
	= Total Cover	Hydrophytic Vegetation
50% of total cover	20% of total cover:	Present? Yes • No
		•
Remarks: (If observed, list morphological adaptations	below).	
Wetland actively farmed.		

## SOIL

	Matrix			edox				
(inches)	Color (moist)	%	Color (moist)	%	Type <sub>1</sub>	Loc <sub>2</sub>	Texture	Remarks
0-3	10YR 4/3	100					Sandy Clay Loam	
3-14+	10YR 6/1	50	7.5YR 6/8	15	С	Μ	Sandy Loam	
	10YR 6/4	30	10YR 2/1	10	D	М		
	oncentration, D=Depl					ins.	2Location: PL=Pore L	_ining, M=Matrix.
-	Indicators: (Applica	able to all		Dark Surface				
Histosol (	ipedon (A2)					o (S8) (M	LRA 147, 148)	
				-				
Black His	n Sulfide (A4)			Thin Dark Su .oamy Gleye			+7, 140)	
	Layers (A5)			Depleted Ma		2)		
	ck (A10) (LRR N)			Redox Dark		6)		
	Below Dark Surface	(Δ11)		Depleted Dark				
	rk Surface (A12)	(,,,,)		Redox Depre		• •		
	ucky Mineral (S1) (Lf						.RR N, MLRA 136)	
	leyed Matrix (S4)			Jmbric Surfa				
	edox (S5)				. , .		(MLRA 148)	
-	Matrix (S6)					5113 (1 10) (		
		duia Caila.						
	for Problematic Hyd		•					
	ick (A10) (MLRA 147		140)					
	rairie Redox (A16) (N nt Floodplain Soils (F							
	ent Material (TF2)		(130, 147)					
		(F12)		3Indicators				
	allow Dark Surface (1	112)		wetland hyo unless distu			ent,	
Very Sha	allow Dark Surface (1 xplain in Remarks)							
Very Sha	xplain in Remarks)							
Very Sha								
Very Sha	xplain in Remarks) Layer (if observed):						Hudria Sail Dressat?	• Yes 🔿 No
Very Sha Other (E: Restrictive Type: Depth (in	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes 🔿 No
Very Sha Other (E: Restrictive I Type: Depth (in	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes 🔵 No
Very Sha Other (E: Restrictive I Type: Depth (in	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes 🔿 No
Very Sha Other (E: Restrictive Type: Depth (in	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes 🔿 No
Very Sha Other (E: Restrictive I Type: Depth (in	xplain in Remarks) Layer (if observed):	: 					Hydric Soil Present?	• Yes 🔿 No
Very Sha Other (E: Restrictive Type: Depth (in	xplain in Remarks) Layer (if observed):	: 					Hydric Soil Present?	• Yes 🔿 No
Very Sha Other (E: Restrictive Type: Depth (in	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes 🔾 No
Very Sha Other (E: Restrictive Type: Depth (in	xplain in Remarks) Layer (if observed):	: 					Hydric Soil Present?	• Yes 🔾 No
Very Sha Other (E: Restrictive Type: Depth (in	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes O No
Very Sha Other (E: Restrictive Type: Depth (in	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes 🔿 No
Very Sha Other (E: Restrictive Type: Depth (in	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes 🔿 No
Very Sha Other (E: Restrictive Type: Depth (in	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes O No
Very Sha Other (E: Restrictive I Type: Depth (in	xplain in Remarks) Layer (if observed):	: 					Hydric Soil Present?	• Yes O No
Very Sha Other (E: Restrictive I Type: Depth (in	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes O No
Very Sha	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes O No
Very Sha Other (E: Restrictive I Type: Depth (in	xplain in Remarks) Layer (if observed):	: 					Hydric Soil Present?	• Yes O No
Very Sha Other (E: Restrictive I Type: Depth (in	xplain in Remarks) Layer (if observed):	: 					Hydric Soil Present?	• Yes O No
Very Sha Other (E: Restrictive Type: Depth (in	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes No
Very Sha Other (E) Restrictive Type: Depth (in	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes O No
Very Sha Other (E: <b>Restrictive</b> Type: Depth (in	xplain in Remarks) Layer (if observed):						Hydric Soil Present?	• Yes O No

### WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Eccleston		City/C	ounty: Stevenson,	Baltimore	Sampling Date: 3/12/2018	
Applicant/Owner: JMT			-	State: MD	Sampling Point: WET 22-SP	_
Investigator(s): CJ, AS		Sectio	n, Township, Range:	N/A		_
Landform (hillslope, terrace, etc.)	: Depression		relief (concave, conve		Ve Slope (%): 0-3	_
Subregion (LRR or MLRA): LRI		t: 39.408732	Long:	-76.734921	Datum: NAD83	
Soil Map Unit Name: MmA - M			3		ification: PEM1C	
Are climatic / hydrologic conditio			Yes No (If no. e	explain in Remark	s.)	
Are Vegetation Soil				al Circumstances'		
Are × Vegetation Soil				, explain any answ		
SUMMARY OF FINDING	5 – Attach site map sh	nowing sam	pling point locati	ons, transect	s, important features, etc	•
Hydrophytic Vegetation Presen	t? • Yes • No		Is the Sampled Area			
Hydric Soil Present?	Yes O No		within a Wetland?		s 🔿 No	
Wetland Hydrology Present?	Yes O No					
Remarks:						
WET 22 abuts WUS	21 and receives hy	drology fro	m WUS 21. Th	e wetland a	lso abuts an actively	
farmed field and conta	ins problematic vege	tation.				
HYDROLOGY						
Wetland Hydrology Indicators					icators (minimum of two required)	!
Primary Indicators (minimum of					I Cracks (B6)	
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> </ul>		tic Plants (B14) Sulfide Odor (C		× Drainage P	egetated Concave Surface (B8)	
× Saturation (A3)			n Living Roots (C3)	Moss Trim		
		of Reduced Iror				
Water Marks (B1) Sediment Deposits (B2)			Tilled Soils (C6)	Crayfish Bu	Water Table (C2)	
Drift Deposits (B3)		Surface (C7)			/isible on Aerial Imagery (C9)	
Algal Mat or Crust (B4)		blain in Remarks	2)		Stressed Plants (D1)	
Iron Deposits (B5)			)		c Position (D2)	
<ul> <li>Inundation Visible on Aerial</li> </ul>	Imagery (B7)			Shallow Aq	. ,	
× Water Stained Leaves (B9)					raphic Relief (D4)	
× Aquatic Fauna (B13)				FAC-Neutra	• • •	
Field Observations:						
Surface Water Present?		n (inches): 0-6	<u> </u>			
Water Table Present?		n (inches):	<u>,                                     </u>			
Saturation Present? (includes capillary fringe)	Yes No Depth	n (inches): 0-8	• Wetland	Hydrology Prese	ent? • Yes O No	
Describe Recorded Data (strea	m gauge, monitoring well, ae	rial photos, pre-	vious inspections), if av	vailable:		_
Remarks:						

Sampling Point: WET 22-SP

	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: )	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species
1	○ Yes ○ No	That Are OBL, FACW, or FAC: _2 (A)
2.		Total Number of Dominant
3.		Species Across All Strata: 2 (B)
4.		
		Percent of Dominant Species
5.		That Are OBL, FACW, or FAC: <u>100</u> % (A/B)
6.		Prevalence Index worksheet:
7.		Total % Cover of: Multiply by:
8.		
	= Total Cover	OBL species x 1 =
		FACW species x 2 =
50% of total cover:	20% of total cover:	FAC species x 3 =
Sapling/Shrub Stratum (Plot size: )		FACU species x 4 =
1	Yes No	UPL species x 5 =
2.	🔿 Yes 🚫 No	Column Totals: (A) (B)
3.		
		Prevalence Index = B/A =
4.		Hydrophytic Vegetation Indicators:
5.		<ul> <li>1 - Rapid Test for Hydrophytic Vegetation</li> </ul>
6.		x 2 - Dominance Test is >50%
7.		$3 - \text{Prevalence Index is } \le 3.0^*$
8.		4 - Morphological Adaptations*
0.	Tatal Qarray	
	= Total Cover	Problematic Hydrophytic Vegetation* (Explain)
50% of total cover:	20% of total cover:	*Indicators of hydric soil and wetland hydrology must
Herb Stratum (Plot size:)		be present, unless disturbed or problematic.
1. <u>Rosa multiflora</u>	5 🛛 Yes 💿 No 🛛 FACU	Definitions of Four Vegetation Strata:
2. Juncus effusus	20 • Yes O No FACW	
		<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or
		more in diameter at breast height (DBH), regardless of height.
4. Boehmeria cylindrica		noight.
5. Leersia virginica		Sapling/Shrub – Woody plants, excluding vines, less
6	O Yes O No	than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7.		Herb – All herbaceous (non-woody) plants, regardless
8.		of size, and woody plants less than 3.28 ft tall.
9.		Weady vine All weady vince greater than 2.29 ft in
		Woody vine – All woody vines greater than 3.28 ft in height.
10.		
11.		
12.		
	_80 = Total Cover	
50% of total cover:40	20% of total cover: 16	
Woody Vine Stratum (Plot size:)	🔿 Yes 🔿 No	
1		
2.		
3.		
4.		
5.		
	= Total Cover	Hydrophytic Verentitien
500/ ( ) )		Vegetation Present? • Yes No
50% of total cover:	20% of total cover:	
Remarks: (If observed, list morphological adaptations	s below).	

## SOIL

	• •	o the dep			indicator o	or confirm	the absence of indicator	rs.)
Depth (inches)	Matrix Color (moint)	%	Redo	0X %	Tupo	Loc <sub>2</sub>	Texture	Remarks
<u> </u>	Color (moist) 10YR 4/2	<u></u> 95	Color (moist) 10YR 2/1	5	Type₁			Rellidiks
0-10						<u>M</u>	Silty Clay	
10-20	10YR 4/2	95	7.5YR 4/6	5	C	M	Silty Clay	
	oncentration, D=Deple					ains.	2Location: PL=Pore Li	ning, M=Matrix.
Histosol	Indicators: (Applica	DIE to all			-			
	ipedon (A2)			k Surface		co (S8) (M	LRA 147, 148)	
Black His				-	urface (S9)			
	n Sulfide (A4)				ed Matrix (I		<i>i</i> , 140)	
	Layers (A5)			oleted Ma		(2)		
	ck (A10) (LRR N)				Surface (F	6)		
	Below Dark Surface	(A11)			irk Surface			
	rk Surface (A12)	( )			essions (F8			
	ucky Mineral (S1) (LF	RR N, MLF					RR N, MLRA 136)	
Sandy G	leyed Matrix (S4)		Um	bric Surfa	ace (F13) (	MLRA 136	6, 122)	
Sandy Re	edox (S5)		Pie	dmont Fle	oodplain Se	oils (F19) (	(MLRA 148)	
Stripped	Matrix (S6)							
Indicators	for Problematic Hyd	ric Soils						
	ck (A10) (MLRA 147)							
	airie Redox (A16) (M		148)					
Piedmor	nt Floodplain Soils (F1	9) (MLRA	136, 147)					
Red Par	ent Material (TF2)		alm	dicatore	of hydroph	utic vogota	ation and	
Very Sha	allow Dark Surface (T	F12)			drology mu			
Other (E	xplain in Remarks)		un	less distu	urbed or pro	oblematic.		
Restrictive	Layer (if observed):							
Type:								
Depth (ir	iches):						Hydric Soil Present?	Yes No
Remarks:								

### WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Eccleston		City/County: Stevenson	Baltimore	Sampling Date: 3/12/2018
Applicant/Owner: JMT			State: <u>MD</u>	_ Sampling Point: WET 20/21/22-UP
Investigator(s): CJ, AS		Section, Township, Range	: <u>N/A</u>	
Landform (hillslope, terrace, etc.): Flat	t	Local relief (concave, conv	vex, none): <u>None</u>	Slope (%): <u>0-2%</u>
Subregion (LRR or MLRA): LRR S	Lat:	39.408231 Long	g: <u>-76.735736</u>	Datum: NAD83
Soil Map Unit Name: MmA - Melvin	silt loam, 0-3% slop	bes	NWI Classi	fication: Upland
Are climatic / hydrologic conditions on the	he site typical for this tim	e of year? <ul> <li>Yes</li> <li>No</li> <li>If no</li> </ul>	, explain in Remark	5.)
Are Vegetation Soil Hydro	ology significantly dist	urbed? Are "Nor	mal Circumstances'	present? <ul> <li>Yes</li> <li>No</li> </ul>
Are Vegetation Soil Hydro	ology naturally problem	matic? (If neede	ed, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS – At	ttach site map sho	wing sampling point loca	itions, transect	s, important features, etc.
Hydrophytic Vegetation Present?	Yes  No			
Hydric Soil Present?	Yes No	Is the Sampled Ar within a Wetland?		
Wetland Hydrology Present?	Yes No		⊖ res	No
Remarks:				
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Ind	cators (minimum of two required)
Primary Indicators (minimum of one is	required: check all that			I Cracks (B6)
Surface Water (A1)	True Aquatic			egetated Concave Surface (B8)
High Water Table (A2)		lfide Odor (C1)	- · ·	atterns (B10)
Saturation (A3)		zospheres on Living Roots (C3)	Moss Trim I	
Water Marks (B1)	Presence of	Reduced Iron (C4)	Dry Season	Water Table (C2)
Sediment Deposits (B2)	Recent Iron F	Reduction in Tilled Soils (C6)	Crayfish Bu	rrows (C8)
Drift Deposits (B3)	Thin Muck Su	urface (C7)	Saturation V	/isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explai	in in Remarks)	Stunted or S	Stressed Plants (D1)
Iron Deposits (B5)			Geomorphie	c Position (D2)
Inundation Visible on Aerial Image	ry (B7)		Shallow Aq	uitard (D3)
Water Stained Leaves (B9)				raphic Relief (D4)
Aquatic Fauna (B13)			FAC-Neutra	Il Test (D5)
Field Observations:				
Surface Water Present? O Ye	es 💿 No 👘 Depth (i	nches):		

(includes capillary fringe) \_\_\_\_\_\_\_\_\_\_ Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Depth (inches):

Depth (inches):

🔾 Yes 💿 No

🔾 Yes 💿 No

Remarks:

Water Table Present?

Saturation Present?

🔾 Yes 💿 No

Wetland Hydrology Present?

Sampling Point: WET 20/21/22-UPL

	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: )	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species
1		That Are OBL, FACW, or FAC: _0 (A)
2.		Total Number of Dominant
3.		Species Across All Strata: _1(B)
4.		
5.		Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)
6.		Prevalence Index worksheet:
7.		Total % Cover of: Multiply by:
8.		OBL species x 1 =
	= Total Cover	FACW species x 2 =
50% of total cover:	20% of total cover:	FAC species x 3 =
Sapling/Shrub Stratum (Plot size: )		FACU species x 4 =
4	Yes No	
		UPL species x 5 =
2.		Column Totals: (A) (B)
3.		Prevalence Index = B/A =
4.		Hydrophytic Vegetation Indicators:
5.		
6.		1 - Rapid Test for Hydrophytic Vegetation
7.		2 - Dominance Test is >50%
8.		☐ 3 - Prevalence Index is ≤3.0*
8.		4 - Morphological Adaptations*
	= Total Cover	Problematic Hydrophytic Vegetation* (Explain)
50% of total cover:	20% of total cover:	*Indicators of hydric soil and wetland hydrology must
Herb Stratum (Plot size:)		be present, unless disturbed or problematic.
1. Zea mays	80 💿 Yes 🔾 No 🛛 NI	Definitions of Four Vegetation Strata:
2. Sorghum halepense	10 Yes INO FACU	_
		<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
		height.
4.		
5.		<b>Sapling/Shrub</b> – Woody plants, excluding vines, less
6.		than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7.		Herb – All herbaceous (non-woody) plants, regardless
8.		of size, and woody plants less than 3.28 ft tall.
9.		Woody vine – All woody vines greater than 3.28 ft in
10.		height.
11.		
12.		
	90 = Total Cover	
50% of total cover: 45	20% of total cover: <u>18</u>	
Woody Vine Stratum (Plot size:)		
1.	🔿 Yes 🔿 No	
2.		
3.		
4.		
5.		Hydrophytic
	= Total Cover	Vegetation
50% of total cover:	20% of total cover:	Present? Yes  No
Remarks: (If observed, list morphological adaptations	s below)	1
	, <u>below</u> ).	

## SOIL

	cription: (Describe t	o the depth needed to	o docum	ent the ir	ndicator o	or confirm	the absence of indicat	ors.)
Depth	Matrix		Redo		<b>T</b>		Terture	Demender
(inches)	Color (moist)	% Color (m	oist)	%	Type₁	Loc <sub>2</sub>	Texture	Remarks
0-20	10YR 4/4						Silt Loam	
	population D-Donk	etion, RM=Reduced Ma	otriv MC	-Maakad	Sand Cra	ino	2Location: PL=Pore	Lining M-Matrix
		ble to all LRRs, unles						
Histosol (		,,		k Surface				
	pedon (A2)					ce (S8) (M	LRA 147, 148)	
Black His						(MLRA 14		
	n Sulfide (A4)				d Matrix (F		. ,	
	Layers (A5)			leted Mat		,		
2 cm Muc	ck (A10) (LRR N)		Rec	lox Dark S	Surface (F	6)		
Depleted	Below Dark Surface	(A11)	Dep	leted Dar	k Surface	(F7)		
Thick Dai	rk Surface (A12)		Red	lox Depre	ssions (F8	3)		
Sandy Mu	ucky Mineral (S1) (LF	R N, MLRA 147, 148)	lron	-Mangane	ese Masse	es (F12) (L	.RR N, MLRA 136)	
Sandy GI	eyed Matrix (S4)		Um	bric Surfa	ce (F13) (I	MLRA 136	6, 122)	
Sandy Re	edox (S5)		Piec	dmont Flo	odplain So	oils (F19) (	(MLRA 148)	
Stripped	Matrix (S6)							
Indicators f	for Problematic Hyd	ric Soils₃:						
2 cm Mu	ck (A10) (MLRA 147)							
Coast Pr	airie Redox (A16) (M	LRA 147, 148)						
Piedmon	t Floodplain Soils (F1	9) (MLRA 136, 147)						
Red Pare	ent Material (TF2)		alm	dicators of	fbydroph	/tic vegeta	tion and	
Very Sha	allow Dark Surface (T	F12)				st be prese		
Other (E	xplain in Remarks)				bed or pro			
Restrictive	Layer (if observed):							
Type:								
Depth (in	ches):						Hydric Soil Present?	🛛 🔿 Yes 💿 No
Remarks:								

Project: Eccleston		Date:	3/5/18	Stream ID:	WUS 01
Staff: EM, MM	Flow Type:	Perennial		ntermittent 🗆	Ephemeral 🗆
Flow Direction: East	Drains	Into: We	t 01/ Jone	es Falls	
Fed By: Continues offsite					
Bank Height: <u>1 ft</u>	Water Dept	<b>h:</b> 6-24 ir	nches	Width: _6 ft	
Substrate: Cobble 🖂	Gravel 🛛 S	and $\boxtimes$	Silt 🛛	Muck 🗌 Veg	g 🗌 Riprap 🗌
Photos? Upstream 🛛	Downstream 🛛	3			
			-	arming activity. Los	
Wet 01, reappears as drainag	ge pattern perio	dically befo	re enterir	ng Jones Falls. Refo	rms partway
through WET 01, barely chan	nelized until las	t 6 flags or	so – then	becomes incised a	s it erodes down
to meet Jones Falls.					
Project: Eccleston Staff: EM, MM	Flow Type:	Date: Perennial	3/5/18 ⊠ I	Stream ID:	WUS 02
Flow Direction: East	Drains	Into: Jon	es Falls		
Fed By: _ Runoff from farm f	ield, Wet 01				
Bank Height: 1-2.5ft	Water Dept	<b>h:</b> 4-18 ir	nches	<b>Width:</b> _ 2-4 ft	
Substrate: Cobble 🖂	Gravel 🛛 S	and 🖂	Silt 🛛	Muck 🗌 Veg	g 🗌 Riprap 🗌
Photos? Upstream 🖂	Downstream 🛛	3			
Other Comments:					

Project: Eccleston		Date:	3/6/18	Stream ID:	WUS 03
Staff:EM, MM	Flow Type:	Perennial	$\boxtimes$	Intermittent $\Box$	Ephemeral 🗌
Flow Direction:SE	Drains	Into: Jon	es Falls		
Fed By: Broken waterwo	orks pipe				
Bank Height: <u>½</u> -1ft	Water Dept	h: <u>2-12"</u>		Width: 1-5ft	
Substrate: Cobble 🛛	Gravel 🛛 S	Sand $\boxtimes$	Silt 🖂	Muck 🗌 Ve	g 🗌 Riprap 🗌
Photos? Upstream 🖂	Downstream	$\boxtimes$			
Other Comments: Con	tains watercress, k	bordered by	WET 02.		
Project: Eccleston		Date:	3/12/18	Stream ID:	WUS 04
Project: Eccleston		_ Date: _	3/12/18	Stream ID:	WUS 04
-	Flow Type:			S Stream ID:	
Staff: CJ, AS	_	Perennial	$\boxtimes$	Intermittent 🗆	Ephemeral 🗆
Project: <u>Eccleston</u> Staff: <u>CJ, AS</u> Flow Direction: <u>S-SE</u>	_	Perennial	$\boxtimes$		Ephemeral 🗌
Staff: CJ, AS	_	Perennial	$\boxtimes$	Intermittent 🗆	Ephemeral 🗆
Staff: CJ, AS Flow Direction: S-SE	_	Perennial	$\boxtimes$	Intermittent 🗆	Ephemeral 🗌
Staff: CJ, AS Flow Direction: S-SE Fed By: Groundwater Bank Height: 2-4ft	Drains	Perennial	$\boxtimes$	Intermittent hes Falls) *Outside Width: 2-6ft	Ephemeral 🗌
Staff: CJ, AS Flow Direction: S-SE Fed By: Groundwater Bank Height: 2-4ft	Drains	Perennial Into: <u>WL</u> Sand 🖂	⊠ JS 05 (Jor	Intermittent hes Falls) *Outside Width: 2-6ft	Ephemeral 🗆 of Study Area
Staff:       CJ, AS         Flow Direction:       S-SE         Fed By:       Groundwater         Bank Height:       2-4ft         Substrate:       Cobble         Photos?       Upstream	Drains Water Dept Gravel ⊠ S Downstream □	Perennial Into: <u>WL</u> Sand	⊠ JS 05 (Jor Silt ⊠	Intermittent hes Falls) *Outside Width: 2-6ft	Ephemeral of Study Area g Riprap
Staff:       CJ, AS         Flow Direction:       S-SE         Fed By:       Groundwater         Bank Height:       2-4ft         Substrate:       Cobble         Photos?       Upstream	Drains Water Dept Gravel ⊠ S Downstream am channel varies	Perennial Into: <u>WL</u> I	Silt Som the cu	Intermittent hes Falls) *Outside Width: 2-6ft Muck U Ve	Ephemeral of Study Area g Riprap Greenspring
Staff:       CJ, AS         Flow Direction:       S-SE         Fed By:       Groundwater         Bank Height:       2-4ft         Substrate:       Cobble         Photos?       Upstream         Other Comments:       Stree         Valley Road (approx. 6ft w	Drains Water Dept Gravel ⊠ S Downstream  am channel varies ride) to the culvert	Perennial Into: WL In	IS 05 (Jor         JS 05 (Jor         Silt ⊠         om the cu         Heights	Intermittent hes Falls) *Outside Width: 2-6ft Muck Ve Uvert underneath ( Ave (approx. 3ft wi	Ephemeral of Study Area g Riprap Greenspring ide). The banks of
Staff:       CJ, AS         Flow Direction:       S-SE         Fed By:       Groundwater         Bank Height:       2-4ft         Substrate:       Cobble         Photos?       Upstream         Other Comments:       Street	Drains Water Dept Gravel ⊠ S Downstream am channel varies ide) to the culvert ated with briers an	Perennial Into: WL In	Silt <u>om the cu</u> Heights e stream	Intermittent hes Falls) *Outside Width: 2-6ft Muck Ve Ulvert underneath ( Ave (approx. 3ft wi is nearly inaccessib	Ephemeral of Study Area g Riprap Greenspring ide). The banks of ile just south of

Project: Eccleston	Date:	3/12/18	Stream ID:	WUS 05 (Jones Falls)
Staff: CJ, AS Flow Type:	Perennia	al 🖂 Ir	ntermittent 🗆	Ephemeral 🗆
Flow Direction: E-SE Drains	Into: Ba	ltimore Inr	er Harbor	
Fed By:Multiple tributaries/groundwater				
Bank Height: Varies 2-4ft Water Dept	:h: Varies	s 2-3ft	Width: Varies	s – 8ft
Substrate: Cobble 🛛 Gravel 🗆 S	Sand $\boxtimes$	Silt 🗵	Muck 🗌 Ve	g 🗌 Riprap 🗌
Photos? Upstream 🛛 Downstream	X			
Other Comments: WUS 05 (Jones Falls) f	lows throu	gh the enti	rety of the Study /	Area; it intersects
multiple tributaries and wetlands which fee	d into the s	tream. Por	tions of the strear	n have been altered
or straightened. The banks range as it flows	through th	e project si	ite. The northwest	t section of the
stream contains banks 2-3 feet in height and	d contain a	Bald Cypre	ss patch on either	r side of its banks. As
the stream travels through the site, the ban	ks become	wider and	gradually more in	cised.
Project: Eccleston	_ Date:	3/9/18	Stream ID:	WUS 06
Staff: EM, MM Flow Type:	Perennia	al 🖂 Ir	ntermittent 🗆	Ephemeral 🗌
Flow Direction: North Drains	Into: Joi	nes Falls		
Fed By:Likely tile drains in uphill field, gro	oundwater			
Bank Height: <u>½-2 ft</u> Water Dept	: <b>h:</b> <u>3 in.</u>		Width: 2 ft	
Substrate: Cobble 🗆 Gravel 🗆 S	Sand $\boxtimes$	Silt 🖂	Muck 🗌 Ve	g 🗌 Riprap 🗌
Photos? Upstream 🛛 Downstream 🛛	X			
Other Comments:				

	<b>Date:</b> 3/9/18 <b>Stream I</b>	
Staff: EM, MM	Flow Type: Perennial 🗌 Intermittent 🗵	🛛 Ephemeral 🗆
Flow Direction: South	Drains Into: Jones Falls	
Fed By: WET 07		
Bank Height: <u>½</u> ft	Water Depth: <u>3 in.</u> Width: <u>2</u>	ft.
Substrate: Cobble 🗆	Gravel 🗆 Sand 🛛 Silt 🖾 Muck 🗆	Veg 🗌 Riprap 🛛
Photos? Upstream 🖂	Downstream	
Other Comments:		
Project: <u>Eccleston</u>		D: WUS 08 □ Ephemeral □
Staff: EM, MM	Flow Type: Perennial 🗌 Intermittent 🗵	
Staff:EM, MM Flow Direction:South	Flow Type: Perennial  Intermittent  Drains Into: Jones Falls	3 Ephemeral 🗆
Staff:       EM, MM         Flow Direction:       South         Fed By:       WET 08         Bank Height:       1-2 ft	Flow Type: Perennial  Intermittent  Drains Into: Jones Falls	3 Ephemeral 🗆 3 ft.
Staff:       EM, MM         Flow Direction:       South         Fed By:       WET 08         Bank Height:       1-2 ft         Substrate:       Cobble	Flow Type:       Perennial       Intermittent         Drains Into:       Jones Falls         Water Depth:       4-6 in.       Width:       2-         Gravel       Sand       Silt       Muck       D	3 Ephemeral 🗆 3 ft.
Staff:       EM, MM         Flow Direction:       South         Fed By:       WET 08         Bank Height:       1-2 ft         Substrate:       Cobble	Flow Type:       Perennial       Intermittent         Drains Into:       Jones Falls         Water Depth:       4-6 in.       Width:       2-         Gravel       Sand       Silt       Muck       D	3 Ephemeral 🗆 3 ft.
Staff:       EM, MM         Flow Direction:       South         Fed By:       WET 08         Bank Height:       1-2 ft         Substrate:       Cobble         Photos?       Upstream	Flow Type:       Perennial       Intermittent         Drains Into:       Jones Falls         Water Depth:       4-6 in.       Width:       2-         Gravel       Sand       Silt       Muck       D	3 Ephemeral 🗆 3 ft.
Staff: <u>EM, MM</u> Flow Direction: <u>South</u> Fed By: <u>WET 08</u> Bank Height: <u>1-2 ft</u> Substrate: Cobble $\boxtimes$ Photos? Upstream $\boxtimes$	Flow Type:       Perennial       Intermittent         Drains Into:       Jones Falls         Water Depth:       4-6 in.       Width:       2-         Gravel       Sand       Silt       Muck       D	3 Ephemeral 🗆 3 ft.

Project: Eccleston			18 Stream ID:	
Staff: EM MM	Flow Type:	Perennial 🗌	Intermittent 🛛	Ephemeral 🗌
Flow Direction: East	Drains	Into: Jones Falls	5	
Fed By: WET 08A				
Bank Height: ½ ft	Water Dept	<b>h:</b> <u>3 in.</u>	Width: 2 ft	
Substrate: Cobble 🗆	Gravel 🗌 S	Sand 🖂 🛛 Silt 🖂	Muck 🗆 Ve	eg 🗌 🛛 Riprap 🛛
Photos? Upstream 🖂	Downstream	$\boxtimes$		
Other Comments:				
Project: Eccleston		Date: 3/9/1	8 Stream ID:	WUS 10
Project: Eccleston		<b>Date</b> :3/9/18	8 Stream ID:	WUS 10
-	Flow Type:			
Staff: EM, MM		Perennial 🗌	Intermittent 🛛	
-			Intermittent 🛛	
Staff: EM, MM		Perennial 🗌	Intermittent 🛛	
Staff: EM, MM Flow Direction: North		Perennial 🗆	Intermittent 🛛	Ephemeral 🗆
Staff:EM, MM Flow Direction:North Fed By:WET 09 Bank Height:1-2 ft	Drains	Perennial  Into: Jones Falls h: 6 in.	Intermittent 🛛	Ephemeral 🗆
Staff:       EM, MM         Flow Direction:       North         Fed By:       WET 09         Bank Height:       1-2 ft         Substrate:       Cobble	Drains Water Dept Gravel 🖂 S	Perennial Into: Jones Falls Into: 6 in. Sand Silt S	Intermittent 🖂	Ephemeral 🗆
Staff:       EM, MM         Flow Direction:       North         Fed By:       WET 09         Bank Height:       1-2 ft         Substrate:       Cobble         Photos?       Upstream	Drains Water Dept Gravel 🖂 S	Perennial Into: Jones Falls Into: 6 in. Sand Silt S	Intermittent 🖂	Ephemeral 🗆
Staff:       EM, MM         Flow Direction:       North         Fed By:       WET 09         Bank Height:       1-2 ft	Drains Water Dept Gravel 🖂 S	Perennial Into: Jones Falls Into: 6 in. Sand Silt S	Intermittent 🖂	Ephemeral 🗆
Staff:       EM, MM         Flow Direction:       North         Fed By:       WET 09         Bank Height:       1-2 ft         Substrate:       Cobble         Photos?       Upstream	Drains Water Dept Gravel 🖂 S	Perennial Into: Jones Falls Into: 6 in. Sand Silt S	Intermittent 🖂	Ephemeral 🗆

Project:         Eccleston         Date:         3/12/18         Stream ID:         WUS 11
Staff: EM, MM Flow Type: Perennial 🗆 Intermittent 🗵 Ephemeral 🗆
Flow Direction:   East   Drains Into:   Jones Falls
Fed By:
Bank Height:1-2 ftWater Depth:3-9 in.Width:2-5 ft
Substrate: Cobble 🛛 Gravel 🖾 Sand 🖾 Silt 🖾 Muck 🗌 Veg 🗌 Riprap 🗌
Photos? Upstream 🛛 Downstream 🖾
Other Comments: Fed by drainage patterns in WET 09
Project:     Eccleston     Date:     3/12/18     Stream ID:     WUS 12
Staff:EM, MM Flow Type: Perennial 🛛 Intermittent 🗌 Ephemeral 🗌
Flow Direction:     East     Drains Into:     Jones Falls
Fed By:WET 09
Bank Height:       1 ft       Water Depth:       3-6 in.       Width:       2-3 ft
Substrate: Cobble 🛛 Gravel 🖾 Sand 🖾 Silt 🖾 Muck 🗆 Veg 🗆 Riprap 🗆
Photos? Upstream 🛛 Downstream 🖾
Other Comments: Fed by drainage patterns within WET 09

## **Stream Datasheet**

			Stream ID:	WUS 13
Staff: AS, CJ	Flow Type:	Perennial 🗌	Intermittent 🛛	Ephemeral 🗌
Flow Direction: North	Drains	Into: WET 12		
Fed By: <u>Culvert outside s</u>	tudy area			
Bank Height: < 6 in.	Water Dept	: <b>h:</b> <u>3 in.</u>	Width: 0.5 –	5 ft
Substrate: Cobble 🗆	Gravel 🗆 S	Sand 🛛 Silt 🖂	Muck 🗌 Ve	g 🖂 🛛 Riprap 🛛
Photos? Upstream 🖂	Downstream	$\boxtimes$		
Other Comments: Dissi WUS 02	pates at edge of f	field but likely is con	nected through sub	surface flow to
Project: Eccleston		<b>Date</b> :6/5/19	Stream ID:	WUS 14
Project: <u>Eccleston</u> Staff: <u>EM, LS</u>	Flow Type:	_ <b>Date:</b> <u>6/5/19</u> Perennial □		WUS 14
-	Flow Type: Drains	Perennial 🗆		
Staff: EM, LS		Perennial 🗆		
Staff: EM, LS Flow Direction: South	Drains	Perennial 🗆	Intermittent 🛛	Ephemeral 🗆
Staff:       EM, LS         Flow Direction:       South         Fed By:       Culvert         Bank Height:       1-3 ft	Drains	Perennial 🗆 Into: WET 08	Intermittent ⊠ Width: <u>1-4 ft</u>	Ephemeral 🗆
Staff:       EM, LS         Flow Direction:       South         Fed By:       Culvert         Bank Height:       1-3 ft	Drains Water Dept Gravel 🖂 S	Perennial Into: <u>WET 08</u> :h: <u>1-14 in.</u> Sand Silt S	Intermittent ⊠ Width: <u>1-4 ft</u>	Ephemeral 🗆
Staff:       EM, LS         Flow Direction:       South         Fed By:       Culvert         Bank Height:       1-3 ft         Substrate:       Cobble	Drains Water Dept Gravel 🖂 S	Perennial Into: <u>WET 08</u> :h: <u>1-14 in.</u> Sand Silt S	Intermittent ⊠ Width: <u>1-4 ft</u>	Ephemeral 🗆
Staff: EM, LS   Flow Direction: South   Fed By: Culvert   Bank Height: 1-3 ft   Substrate: Cobble   Photos? Upstream	Drains Water Dept Gravel 🖂 S	Perennial Into: <u>WET 08</u> :h: <u>1-14 in.</u> Sand Silt S	Intermittent ⊠ Width: <u>1-4 ft</u>	Ephemeral 🗆

## **Stream Datasheet**

Project: Eccleston	Date:         5/5/19         Stream ID:         WUS 15
Staff: EM, LS	_ Flow Type: Perennial 🗆 Intermittent 🖾 Ephemeral
Flow Direction: South	Drains Into: WET 08
Fed By: Culvert	
Bank Height:1 ft	Water Depth: 2-4 in. Width: 1-2 ft
Substrate: Cobble 🗆	Gravel 🗆 Sand 🖾 Silt 🖾 Muck 🗆 Veg 🗆 Riprap
Photos? Upstream 🖂	Downstream
Other Comments:	
_	
 Project:	Date: Stream ID:
Project:	Date: Stream ID: Flow Type: Perennial  Intermittent  Ephemeral
Staff:	<b>Flow Type:</b> Perennial 🗆 Intermittent 🗆 Ephemeral
Staff:	<b>Flow Type:</b> Perennial 🗆 Intermittent 🗆 Ephemeral
Staff: Flow Direction: Fed By:	_ Flow Type: Perennial  _ Intermittent  _ Ephemeral _ Drains Into:
Staff: Flow Direction: Fed By: Bank Height:	_ Flow Type: Perennial  Intermittent  Ephemeral Drains Into:
Staff: Flow Direction: Fed By: Bank Height:	_ Flow Type: Perennial Intermittent Ephemeral Drains Into: Water Depth: Gravel Sand Silt Muck Veg Riprap
Staff:   Flow Direction:   Fed By:   Bank Height:   Substrate:   Cobble   Photos?	Flow Type: Perennial Intermittent Ephemeral   Drains Into:
Staff:   Flow Direction:   Fed By:   Bank Height:   Substrate:   Cobble   Photos?	_ Flow Type: Perennial Intermittent Ephemeral Drains Into: Water Depth: Gravel Sand Silt Muck Veg Riprap
Staff:   Flow Direction:   Fed By:   Bank Height:   Substrate:   Cobble   Photos?	Flow Type: Perennial Intermittent Ephemeral   Drains Into:

## **Stream Datasheet**

				Stream ID:	
Staff: CJ, AS	Flow Type:	Perennial	⊠ In	termittent 🗆	Ephemeral 🗌
Flow Direction: S-SE	Drains	Into: WL	IS 05 (Jone	s Falls)	
Fed By: Groundwater					
Bank Height: 2-4ft	Water Dept	<b>h:</b> <u>3-6in</u>		Width: 2-15	īt
Substrate: Cobble 🖂	Gravel 🛛 S	and $\boxtimes$	Silt 🗵	Muck 🗌 Ve	eg 🛛 Riprap 🛛
Photos? Upstream 🖂	Downstream	$\triangleleft$			
Other Comments:	am varies in width	and change	es betweer	perennial and e	ephemeral.
Drainage pipe collects flow	r from WUS 20 an	d distribute	s it undergi	round to WUS 22	2 through a spring
box in the middle of the co	orn field; downstre	eam of this o	diversion, t	he stream is dry	
Project: Eccleston		Date:	3/12/18	Stream ID:	WUS 21
Project: <u>Eccleston</u> Staff: CJ, AS	Flow Type:	<b>Date:</b> Perennial		_ Stream ID: termittent 🖂	WUS 21
-	_ Flow Type: _ Drains	Perennial		- termittent ⊠	
Staff: CJ, AS		Perennial	🗆 In	- termittent ⊠	
Staff:		Perennial	□ In IS 05 (Jone	- termittent ⊠	Ephemeral 🗆
Staff: CJ, AS Flow Direction: South Fed By: Water diversion	Drains Water Dept	Perennial	□ In IS 05 (Jone	- termittent ⊠ s Falls) Width: 2-6 ft	Ephemeral 🗆
Staff:	Drains Water Dept Gravel  S	Perennial Into: WL h: 3-6 in.	□ In IS 05 (Jone:	- termittent ⊠ s Falls) Width: 2-6 ft	Ephemeral 🗆
Staff:       CJ, AS         Flow Direction:       South         Fed By:       Water diversion         Bank Height:       1 ft         Substrate:       Cobble         Photos?       Upstream         Other Comments:       Street	Drains Water Dept Gravel  S Downstream  am is fed from spr	Perennial Into: WL h: 3-6 in. Gand S	□ In IS 05 (Jone: Silt ⊠ receives h	- termittent ⊠ <u>s Falls)</u> Width: <u>2-6 ft</u> Muck ⊠ Ve	Ephemeral Ephemeral E Ephemeral E Ephe
Staff:       CJ, AS         Flow Direction:       South         Fed By:       Water diversion         Bank Height:       1 ft         Substrate:       Cobble         Photos?       Upstream         Other Comments:       Stre         WUS 20. Fish were observ	Drains Water Dept Gravel □ S Downstream am is fed from spr ed in the stream a	Perennial Into: <u>WL</u> h: <u>3-6 in.</u> Gand ⊠ ing box and t the time o	□ In IS 05 (Jone: Silt ⊠ receives h f the field i	- termittent ⊠ <u>s Falls)</u> Width: <u>2-6 fi</u> Muck ⊠ Ve ydrology from a nvestigation. W	Ephemeral □  eg ⊠ Riprap □  piped segment of idth of stream ran
Staff:       CJ, AS         Flow Direction:       South         Fed By:       Water diversion         Bank Height:       1 ft         Substrate:       Cobble         Photos?       Upstream         Other Comments:       Stre         WUS 20. Fish were observed       depending on amount of f	Drains Water Dept Gravel □ S Downstream am is fed from spr ed in the stream a low stream receiv	Perennial Into: <u>WL</u> h: <u>3-6 in.</u> Gand ⊠ ≦ ing box and t the time o es from WU	□ In IS 05 (Jone: Silt ⊠ receives h f the field i S 20. Howe	- termittent ⊠ <u>s Falls)</u> Width: <u>2-6 fi</u> Muck ⊠ Ve <u>ydrology from a</u> <u>nvestigation. W</u> ever, stream is b	Ephemeral □ Ephemeral □ End End End End End End End End End End
Staff:       CJ, AS         Flow Direction:       South         Fed By:       Water diversion         Bank Height:       1 ft         Substrate:       Cobble         Photos?       Upstream         Other Comments:       Stre         WUS 20. Fish were observ	Drains Water Dept Gravel □ S Downstream am is fed from spr ed in the stream a low stream receiv hen pipe has beer	Perennial Into:	□ In IS 05 (Jone: Silt ⊠ receives h f the field i S 20. Howe	- termittent ⊠ <u>s Falls)</u> Width: <u>2-6 fi</u> Muck ⊠ Ve <u>ydrology from a</u> <u>nvestigation. W</u> ever, stream is b	Ephemeral □ Ephemeral □ End End End End End End End End End End



## APPENDIX D PHOTO DOCUMENTATION







Photo 1: WET 01 (Facing east)



Photo 2: WET 01 (Facing west)





Photo 3: WET 01 (Facing northeast)



Photo 4: WET 01 (Facing southeast)





Photo 5: WET 01-UPL (Facing south)



Photo 6: WET 02 (Facing northeast)





Photo 7: WET 02 (Facing northeast)



Photo 8: WET 02 (Facing north)



Photo 9: WET 02A (Facing west)



Photo 10: WET 03 (Facing northeast)





Photo 11: WET 02/WET 03-UPL Facing south)



Photo 12: WET 02/WET 03-UPL (Facing southeast)





Photo 13: WET 04 (Facing north)



Photo 14: WET 04 (Facing west)



Photo 15: WET 04 (Facing northwest)



Photo 16: WET 04 (Facing east)



Photo 17: WET 04-UPL (Facing east)



Photo 18: WET 04-UPL (Facing west)





Photo 19: WET 05 (Facing north)



Photo 20: WET 05 (Facing southeast)





Photo 21: WET 06-SP1 (Facing west)



Photo 22: WET 06-SP2 (Facing southeast)





Photo 23: WET 05/WET 06-UPL (Facing north)



Photo 24: WET 07 (Facing east)





Photo 25: WET 07 (Facing west)



Photo 26: WET 08-SP1 (Facing east)



Photo 27: WET 08-SP2 (Facing south)



Photo 28: WET 07/WET 08-UPL (Facing east)





Photo 29: WET 07/WET 08-UPL (Facing north)



Photo 30: WET 09-SP1 (Facing North)





Photo 31: WET 09-SP2 (Facing north)



Photo 32: WET 09-SP2 (Facing south)





Photo 33: WET 09-UPL (Facing west)



Photo 34: WET 10 (Facing north)





Photo 35: WET 10 (Facing east)



Photo 36: WET 10 (Facing south)





Photo 37: WET 10 (Facing southwest)



Photo 38: WET 10 (Facing west)



Photo 39: WET 10 (Facing west)



Photo 40: WET 10-UPL (Facing east)





Photo 41: WET 11 (Facing east)



Photo 42: WET 11 (Facing north)





Photo 43: WET 11-UPL (Facing east)



Photo 44: WET 12 (Facing north)







Photo 45: WET 20 (Facing south)



Photo 46: WET 21 (Facing southeast)





Photo 47: WET 21 (Facing south)



Photo 48: WET 21 (Facing northwest)





Photo 49: WET 22 (Facing east)



Photo 50: WET 22 (Facing south)





Photo 51: WET 22 (Facing south)



Photo 52: WET 20/WET 21/WET 22-UPL (Facing north)



Photo 53: WUS 01 downstream (Facing east)



Photo 54: WUS 01 upstream (Facing west)





Photo 55: WUS 01 upstream (Facing west)



Photo 56: WUS 02 downstream (Facing west)





Photo 57: WUS 02 upstream (Facing east)



Photo 58: WUS 02 upstream (Facing east)





Photo 59: WUS 03 upstream (Facing northeast)



Photo 60: WUS 04 downstream (Facing east)





Photo 61: WUS 04 downstream (Facing south)



Photo 62: WUS 04 downstream (Facing south)





Photo 63: WUS 04 upstream (Facing north)



Photo 64: WUS 04 upstream (Facing north)





Photo 65: WUS 04 upstream (Facing north)



Photo 66: WUS 04 upstream (Facing north)





Photo 67: WUS 04 upstream (Facing northwest)



Photo 68: WUS 05 drainage pipe (Facing southwest)





Photo 69: WUS 05 backwater area (Facing east)



Photo 70: WUS 05 downstream (Facing southeast)





Photo 71: WUS 05 downstream (Facing southeast)



Photo 72: WUS 05 downstream (Facing southeast)





Photo 73: WUS 05 downstream (Facing southeast)



Photo 74: WUS 05 downstream (Facing southeast)





Photo 75: WUS 05 downstream (Facing southeast)



Photo 76: WUS 05 island downstream (Facing east)



Photo 77: WUS 05 island (Facing northeast)



Photo 78: WUS 05 upstream (Facing northwest)



Photo 79: WUS 05 upstream (Facing southwest)



Photo 80: WUS 05 upstream (Facing southwest)





Photo 81: WUS 05 upstream (Facing west)



Photo 82: WUS 06 downstream (Facing southeast)





Photo 83: WUS 06 upstream (Facing northwest)



Photo 84: WUS 07 downstream (Facing southeast)





Photo 85: WUS 07 upstream (Facing northwest)



Photo 86: WUS 08 downstream (Facing south)





Photo 87: WUS 08 upstream (Facing north)



Photo 88: WUS 09 downstream (Facing east)





Photo 89: WUS 09 upstream (Facing west)



Photo 90: WUS 10 downstream (Facing south)





Photo 91: WUS 10 upstream (Facing north)



Photo 92: WUS 11 downstream (Facing east)



Photo 93: WUS 12 downstream (Facing east)



Photo 94: WUS 12 upstream (Facing west)





Photo 95: WUS 13 downstream (Facing north)



Photo 96: WUS 13 upstream (Facing south)





Photo 97: WUS 14 downstream (Facing south)



Photo 98: WUS 14 upstream (Facing north)





Photo 99: WUS 15 downstream (Facing south)



Photo 100: WUS 15 upstream (Facing north)







Photo 101: WUS 20 downstream (Facing southeast)



Photo 102: WUS 20 downstream (Facing east)







Photo 103: WUS 20 downstream (Facing east)



Photo 104: WUS 20 downstream (Facing south)







Photo 105: WUS 20 downstream (Facing southeast)



Photo 106: WUS 20 upstream (Facing north)







Photo 107: WUS 20 upstream (Facing northeast)



Photo 108: WUS 20 upstream (Facing northeast)







Photo 109: WUS 20 upstream (Facing northeast)



Photo 110: WUS 20 upstream (Facing northeast)







Photo 111: WUS 21 diversion box (Facing south)



Photo 112: WUS 21 downstream (Facing south)







Photo 113: WUS 21 downstream (Facing south)



Photo 114: WUS 21 downstream (Facing south)







Photo 115: WUS 21 downstream (Facing southeast)

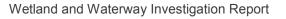


Photo 116: WUS 21 upstream (Facing north)





# APPENDIX E FUNCTIONS AND VALUES DATASHEETS





			aruc		
Total area of wetland 1.10 Human made? Yes	Is wetla	and part of a wildlife corridor?	/es	or a "habitat island"?_No	Wetland I.D. WET 01 Latitude 39.40665 Longitude -76.73563
Adjacent land use Forest and farm field		Distance to nearest road	dway o	r other development 0 ft	Prepared by: ERM Date 4/6/18
Dominant wetland systems present PEM, PSS, P	FO	Contiguous undevelop	ed buf	fer zone present_No	Wetland Impact: Type temporary Area 1.10
Is the wetland a separate hydraulic system? <u>No</u>	Evaluation based on:				
How many tributaries contribute to the wetland?		Wildlife & vegetation diversity	/abund	ance (see attached list)	Office X Field X
	Suitabilit Y / N	y Rationale	Princi	pal	Corps manual wetland delineation completed? Y <u>X</u> N omments
Groundwater Recharge/Discharge	Y	7, 9	Y	WUS 01 dissipates into this wetland and	is still developing a defined channel.
Floodflow Alteration	Y	9, 10, 13, 14, 15	Y	Retains/slows substantial amount of flow	r from WUS 01
-Fish and Shellfish Habitat					
Sediment/Toxicant Retention	Y	1, 2, 3, 10, 11, 14		Retains flow from WUS 01, which drains ac the downstream end of the wetland where	jacent farm fields, but sediment is being mobilized at NUS 01 is developing a channel.
Nutrient Removal	Y	3, 4, 12, 13		See above	
Production Export					
Sediment/Shoreline Stabilization					
🖢 Wildlife Habitat	Y	3, 5, 6, 7	Y		
<b>A</b> Recreation					
Educational/Scientific Value					
🔶 Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other				"Human made" because wetland receive	es hydrology from relocated stream.

					Wetland I.D. WET 02
Total area of wetland 0.28 Human made? Yes	Is wetla	nd part of a wildlife corridor?	res	or a "habitat island"? <u>No</u>	Latitude <u>39.40727</u> Longitude <u>-76.73378</u>
Adjacent land use Forest and farm field		Distance to nearest roa	dway o	r other development 40 ft	Prepared by: ERM Date 4/6/18
Dominant wetland systems present PEM, PFO		Contiguous undevelop	ed buff	er zone present Yes	Wetland Impact: Type Temporary Area 0.28
Is the wetland a separate hydraulic system? No	If no	ot, where does the wetland lie in	n the dr	ainage basin? Upper	Evaluation based on:
How many tributaries contribute to the wetland?		Wildlife & vegetation diversity	/abund:	ance (see attached list)	Office X Field X
			,		Corps manual wetland delineation completed? Y X N
Function/Value	Suitability Y / N		Princi Functi		omments
_				Wetland is fed by broken waterworks pip	
Groundwater Recharge/Discharge	Y	7		groundwater to some extent	
Floodflow Alteration	Y	2, 6, 8, 10		Located within Jones Falls floodplain; lik is largely disconnected from the floodpla	ely holds water during extremely large storms, but in
Fish and Shellfish Habitat					
Sediment/Toxicant Retention					
Nutrient Removal					
Production Export					
Sediment/Shoreline Stabilization					
🖢 Wildlife Habitat	Y	3, 4, 5, 6, 7	Y		
A Recreation					
Educational/Scientific Value					
★ Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other					

			, and		Wetland I.D. WET 03
Total area of wetland 0.01 Human made? N	Is wetla	and part of a wildlife corrido	<sub>r?</sub> Yes	or a "habitat island"? <mark>No</mark>	Latitude 39.40705 Longitude -76.73297
Adjacent land use Forest and farm land		Distance to nearest	roadway o	other development_0 ft	Prepared by: ERM Date 4/6/18
		Contiguous undeve	eloped buff	er zone present No	Wetland Impact: Type Temporary Area 0.01
Is the wetland a separate hydraulic system? <u>No</u>	If n	ot, where does the wetland li	ie in the dr	ainage basin? Upper	Evaluation based on:
How many tributaries contribute to the wetland?		Wildlife & vegetation diver	sity/abunda	ance (see attached list)	Office X Field X
		-	-		Corps manual wetland delineation completed? YX N
Function/Value	Suitability Y / N	y Rationale (Reference #)*	Princi Functi		omments
Groundwater Recharge/Discharge					
Floodflow Alteration					
Fish and Shellfish Habitat					
Sediment/Toxicant Retention	Y	1, 2, 3, 4, 5		Wetland is very small, so functions contr	ibuted to the watershed are limited.
Nutrient Removal	Y	3, 4, 7		See above	
Production Export					
Sediment/Shoreline Stabilization					
🖢 Wildlife Habitat	Y	5, 7, 17		Amphibian eggs were observed; this we functions as a vernal pool. However, it is	tland's small depression full of standing water likely s likely disturbed by farm equipment
<b>A</b> Recreation					
Educational/Scientific Value					
🔶 Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other				Located at edge of farm field	

					Wetland I.D. WET 04
Total area of wetland 0.84 Human made? No	Is wetla	and part of a wildlife corridor?	es	or a "habitat island"?	Wetland I.D. <u>W2 1 04</u> Latitude <u>39.40758</u> Longitude <u>-76.72995</u>
Adjacent land use Forest, farm field		Distance to nearest road	lway o	r other development_30 ft	Prepared by: ERM Date 4/6/18
Dominant wetland systems present PEM, PFO		Contiguous undevelope	ed buff	er zone present_No	Wetland Impact: Type Temporary Area 0.84
Is the wetland a separate hydraulic system? No	If n	ot, where does the wetland lie in	the dr	ainage basin? Upper	Evaluation based on:
How many tributaries contribute to the wetland?		Wildlife & vegetation diversity/	abunda	ance (see attached list)	Office X Field X
	Suitabilit		Princi		Corps manual wetland delineation completed? Y <u>X</u> N
Function/Value	Y/N	(Reference #)* H	unct		omments
Groundwater Recharge/Discharge	Y	10, 13, 15	Y	Large amounts of standing water presen	t in wetland, appears to be fed by springs
Floodflow Alteration	Y	2, 5, 6, 7, 8, 9, 10, 15		Located within the Jones Falls floodplair extremely large storms; largely disconne	n, but likely only receives flood flow during cted from floodplain.
Fish and Shellfish Habitat					
Sediment/Toxicant Retention	Y	1, 2, 3, 4, 5, 9	Y		
Nutrient Removal	Y	2, 3, 4, 5, 6, 7, 9, 10, 11	Y		
Production Export	Y	2, 10			
Sediment/Shoreline Stabilization					
🖢 Wildlife Habitat	Y	1, 3, 5, 7, 8, 9, 11, 13, 20	Y		
<b>A</b> Recreation					
Educational/Scientific Value					
★ Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other					

					Wetland I.D. WET 05
Total area of wetland 0.03 Human made? No	Is wetla	nd part of a wildlife corridor	? Yes	or a "habitat island"?_No	Latitude <u>39.40690</u> Longitude <u>-76.73077</u>
Adjacent land use_ Forest		Distance to nearest r	oadway oi	other development 200 ft	Prepared by: ERM Date 4/13/18
Dominant wetland systems present PEM		Contiguous undevel	oped buff	er zone present Yes	Wetland Impact: Type <u>Temporarv Area</u> 0.03
Is the wetland a separate hydraulic system? No	If no	ot, where does the wetland lie	e in the dra	ainage basin? Upper	Evaluation based on:
How many tributaries contribute to the wetland?		Wildlife & vegetation divers	itv/abunda	ince (see attached list)	Office X Field X
		C C	•		Corps manual wetland delineation completed? YX N
Function/Value	Suitability Y / N	y Rationale (Reference #)*	Princij Functi		omments
Groundwater Recharge/Discharge	Y Y	7		Located downslope from WET 06, seem	s likely that subsurface flow from that wetland is
				daylighting in this location	
Floodflow Alteration					
Fish and Shellfish Habitat					
Sediment/Toxicant Retention					
Nutrient Removal					
Production Export					
Sediment/Shoreline Stabilization					
🖢 Wildlife Habitat	Y	3, 4, 6, 7		Wetland is too small to provide substant	ial wildlife habitat
<b>A</b> Recreation					
Educational/Scientific Value					
★ Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other					

Total area of wetland 1.36 Human made? No	Is wetla	and part of a wildlife corridor	? Yes	or a "habitat island"?	Wetland I.D. WET 06 Latitude 39.40654 Longitude -76.73142
Adjacent land use Farm and forest		Distance to nearest r	oadway o	r other development 0 ft	Prepared by: ERM Date 4/13/18
Dominant wetland systems present PEM/PFO		Contiguous undeve		-	Wetland Impact: Type Temporary Area 0.78
Is the wetland a separate hydraulic system? No	If n	ot, where does the wetland lie	e in the dr	ainage basin? Upper	Evaluation based on:
					Office X Field X
How many tributaries contribute to the wetland?		Wildlife & vegetation divers	ity/abunda	ance (see attached list)	Corps manual wetland delineation
	Suitabilit	v Rationale	Princi	pal	completed? Y <u>X</u> N
Function/Value	Y/N	(Reference #)*	Functi		omments
Groundwater Recharge/Discharge	Y	5, 10, 13	Y	This wetland appears to be substantially Jones Falls, water from Jones Falls only	by groundwater; while there is a connection to flows into the wetland during high flow.
Floodflow Alteration	Y	5, 6, 8, 9, 13	Y	Connection can be observed with Jones overflow from the stream.	Falls; during periods of high flow, wetland receives
-Fish and Shellfish Habitat					
Sediment/Toxicant Retention	Y	1, 2, 3, 4, 10	Y		
Nutrient Removal	Y	3, 4, 5, 7, 8, 9, 10	Y		
Production Export					
Sediment/Shoreline Stabilization					
🖢 Wildlife Habitat	Y	3, 5, 7, 8, 9, 11, 13, 20	Y		
A Recreation					
Educational/Scientific Value					
★ Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other					

			, and c		
Total area of wetland 0.40 Human made? No	Is wetla	and part of a wildlife corridor	? Yes	or a "habitat island"?	Wetland I.D. WET 07 Latitude 39.40915 Longitude -76.73734
Adjacent land use Forest and farm land		Distance to nearest 1	roadway or	r other development 50 ft	Prepared by: ERM Date 4/13/18
		Contiguous undeve		_	Wetland Impact: Type Temporary Area 0.40
Is the wetland a separate hydraulic system? No	If n	ot, where does the wetland li	e in the dra	ainage basin? Upper	Evaluation based on:
How many tributaries contribute to the wetland?		Wildlife & vegetation divers	itu/ahunda	and (see attached list)	Office X Field X
How many inoutanes contribute to the wetland ?			sity/aduliua	ance (see attached list)	Corps manual wetland delineation
	Suitabilit	y Rationale	Princi		completed? Y <u>X</u> N
Function/Value	Y/N	(Reference #)*	Functi	on(s)/Value(s) C	omments
Groundwater Recharge/Discharge	Y	5, 10, 13	Y	Wetland appears to primarily be fed by g	groundwater
Floodflow Alteration	Y	2, 5, 6, 7, 8, 9, 10	Y		
-Fish and Shellfish Habitat					
Sediment/Toxicant Retention	Y	1, 2, 4, 9			
Nutrient Removal	Y	3, 4, 7			
Production Export					
Sediment/Shoreline Stabilization					
🖢 Wildlife Habitat	Y	1, 3, 5, 7			
A Recreation					
Educational/Scientific Value					
★ Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other					

			4140		
Total area of wetland_0.79Human made?_No	Is wetla	and part of a wildlife corridor?	Yes	or a "habitat island"?_No	Wetland I.D. WET 08 Latitude 39.40914 Longitude -76.73944
Adjacent land use_ forest, road		Distance to nearest ro	adway o	r other development 30 ft	Prepared by: ERM Date 4/13/18
Dominant wetland systems present_PEM, PFO		Contiguous undevelo	•	-	Wetland Impact: Type <u>TemporarvArea_0.70</u>
Is the wetland a separate hydraulic system? No	If n	ot, where does the wetland lie	in the dr	ainage basin? Upper	Evaluation based on:
How many tributaries contribute to the wetland?		Wildlife & vegetation diversit	y/abunda	ance (see attached list)	Office X Field X
		Ū.	•		Corps manual wetland delineation completed? Y X N
	Suitabilit	y Rationale	Princi		
Function/Value	Y/N	(Reference #)*	Funct		omments
Groundwater Recharge/Discharge	Y	5		Wetland appears to receive most of its h slowed within the wetland and likely rech	ydrology from the adjacent road; this hydrology is harges groundwater
	Y	5, 6, 7, 8, 9, 10		Located within the Jones Falls floodplair extremely large storms; largely disconne	, but likely only receives flood flow during cted from floodplain.
Fish and Shellfish Habitat					
Sediment/Toxicant Retention	Y	2, 4, 9	Y	Wetland captures flow from adjacent roa retains road salts.	d that lacks stormwater treatment. Wetland likely
Nutrient Removal					
Production Export					
Sediment/Shoreline Stabilization					
🖢 Wildlife Habitat	Y	3, 5, 6, 7, 8	Y		
A Recreation					
Educational/Scientific Value					
★ Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other					

			4140		Wetland I.D. WET 09
Total area of wetland 4.58 Human made? No	Is wetla	and part of a wildlife corridor	? Yes	or a "habitat island"?	Latitude <u>39.40830</u> Longitude <u>-76.73974</u>
Adjacent land use Forest, farm field		Distance to nearest ro	oadway oi	r other development_0 ft	Prepared by: ERM Date 4/13/18
Dominant wetland systems present PEM, PFO		Contiguous undevel	oped buff	er zone present_No	Wetland Impact: Type Temporary Area 4.59
Is the wetland a separate hydraulic system? <u>No</u>	If n	ot, where does the wetland lie	in the dr	ainage basin? Upper	Evaluation based on:
How many tributaries contribute to the wetland?		Wildlife & vegetation diversi	ty/abunda	ance (see attached list)	Office X Field X Corps manual wetland delineation
	0.1111	v Rationale	Princi	nal	completed? Y <u>X</u> N
Function/Value	Suitabilit Y / N	(Reference #)*		L	omments
Groundwater Recharge/Discharge	Y	5, 7, 10	Y		
Floodflow Alteration	Y	5, 6, 7, 8, 9, 10, 13		Located within the Jones Falls floodplair extremely large storms; largely disconne	n, but likely only receives flood flow during ected from floodplain.
-Fish and Shellfish Habitat					
Sediment/Toxicant Retention	Y	1, 2, 3, 4, 5	Y		
Nutrient Removal	Y	3, 4, 5, 7, 10	Y		
Production Export					
Sediment/Shoreline Stabilization					
🖢 Wildlife Habitat	Y	3, 5, 6, 7, 8, 20	Y		
<b>A</b> Recreation					
Educational/Scientific Value					
★ Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other					

	VV CU		aruc				
Total area of wetland 0.04 Human made? Yes	Is wetla	nd part of a wildlife corridor?	No	or a "habitat island"? <b>Yes</b>	Wetland I.D. WET 10 Latitude <u>39.40892</u> Longitude -76.73609		
Adjacent land use Trees and farm field	rees and farm field Distance to nearest roadway or other development_80 ft						
		Contiguous undevelo	ped buff	er zone present_Yes	Wetland Impact: Type <u>Temporarv</u> Area0.04		
Is the wetland a separate hydraulic system? Yes	If n	ot, where does the wetland lie	in the dr	ainage basin?	Evaluation based on:		
How many tributaries contribute to the wetland?		Wildlife & vegetation diversit	y/abunda	ance (see attached list)	Office X Field X Corps manual wetland delineation		
Function/Value	Suitability Y / N	y Rationale (Reference #)*	Princi Functi		completed? Y <u>X</u> N		
Groundwater Recharge/Discharge	Y	13, 15		Wetland has formed in an abandoned q appears to have intercepted the water to	uarry and is permanently inundated; the quarry able		
Floodflow Alteration							
Fish and Shellfish Habitat							
Sediment/Toxicant Retention							
Nutrient Removal							
Production Export							
Sediment/Shoreline Stabilization							
🖢 Wildlife Habitat	Y	4					
A Recreation							
Educational/Scientific Value							
★ Uniqueness/Heritage							
Visual Quality/Aesthetics							
ES Endangered Species Habitat							
Other							

	VV CU	and I unction-	value		
Total area of wetland 0.02 Human made? No	Is wetla	nd part of a wildlife corride	<sub>or?</sub> _Yes	or a "habitat island"? <u>No</u>	Wetland I.D. WET 11 Latitude 39.40747 Longitude -76.73444
Adjacent land use Farm field, forest		Distance to nearest	roadway oi	other development_10 ft	Prepared by: ERM Date 6/1/18
Dominant wetland systems present PEM		Contiguous undev	eloped buff	er zone present_No	Wetland Impact: Type_TemporarvArea_0.02
Is the wetland a separate hydraulic system? No	If no	ot, where does the wetland	lie in the dra	ainage basin? Upper	Evaluation based on:
How many tributaries contribute to the wetland?		Wildlife & vegetation diver	rsity/abunda	ance (see attached list)	Office X Field X Corps manual wetland delineation
Function/Value	Suitability Y / N	y Rationale (Reference #)*	Princij Functi		completed? Y <u>X</u> N Comments
Groundwater Recharge/Discharge	Y	5		Wetland appears to collect runoff from a some extent but function is limited by sr	adjacent farm fields, likely recharges groundwater to nall wetland size.
Floodflow Alteration					
Fish and Shellfish Habitat					
Sediment/Toxicant Retention					
Nutrient Removal					
Production Export					
Sediment/Shoreline Stabilization					
🖢 Wildlife Habitat					
A Recreation					
Educational/Scientific Value					
★ Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other				Wetland is likely connected to WUS 20,	WUS 21, and WUS 05 through subsurface flow

			aruc		
Total area of wetland 0.10 ac Human made? N	Is wetla	and part of a wildlife corridor?	Y	or a "habitat island"?	Wetland I.D. WET 12 Latitude 39.40630 Longitude -76.73447
Adjacent land use Agriculture		Distance to nearest ro	adway oi	other development 1,260 ft	Prepared by: AS Date 5/3/19
Dominant wetland systems present PEM		Contiguous undevelo	oped buff	er zone present Y	Wetland Impact: TypeArea
Is the wetland a separate hydraulic system? N	If n	ot, where does the wetland lie	in the dra	ainage basin? Upper	Evaluation based on:
How many tributaries contribute to the wetland?		Wildlife & vegetation diversit	Office X Field X Corps manual wetland delineation		
Function/Value	Suitabilit Y / N	y Rationale (Reference #)*	Princij Functi		completed? Y <u>X</u> N Comments
Groundwater Recharge/Discharge	Y	4,7,15			
Floodflow Alteration	Y	3,5,7,8,9,13,16,18	Y		
-Fish and Shellfish Habitat	N				
Sediment/Toxicant Retention	Y	1,10,11,16	Y		
Nutrient Removal	Y	4,8,9,10,12,14	Y		
Production Export	N	1			
Sediment/Shoreline Stabilization	Y	1,2,3,4,5,12			
← Wildlife Habitat	Y	5,7,8,17,18,20		Tadpoles and deer tracks	
<b>A</b> Recreation					
Educational/Scientific Value					
★ Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other					

	vv et	land Function-	value	Evaluation Form	
Total area of wetland 0.04 Human made? No	Is wetla	and part of a wildlife corrid	<sub>or?</sub> _No	or a "habitat island"? Yes	Wetland I.D. WET 20 Latitude <u>39.40844</u> Longitude <u>-76.73597</u>
Adjacent land use Farm field		Distance to nearest	Prepared by: ERM Date 4/13/18		
Dominant wetland systems present PEM		Contiguous undev	Wetland Impact: Type Temporary Area 0.04		
Is the wetland a separate hydraulic system? Yes	If no	ot, where does the wetland	Evaluation based on:		
How many tributaries contribute to the wetland?		Wildlife & vegetation dive	Office X Field X Corps manual wetland delineation		
Function/Value	Suitability Y / N	y Rationale (Reference #)*	Princi Functi	pal ion(s)/Value(s)	completed? Y <u>x</u> N Comments
Groundwater Recharge/Discharge	Y	5		Wetland appears to collect runoff from some extent but function is limited by	n adjacent farm fields, likely recharges groundwater to small wetland size.
Floodflow Alteration					
Fish and Shellfish Habitat					
Sediment/Toxicant Retention					
Nutrient Removal					
Production Export					
Sediment/Shoreline Stabilization					
🖢 Wildlife Habitat					
<b>A</b> Recreation					
Educational/Scientific Value					
★ Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other					

					WFT 21
Total area of wetland 0.03 Human made? No	Is wetla	nd part of a wildlife corrido	<sub>r?</sub> _Yes	or a "habitat island"?	Wetland I.D. WET 21 Latitude 39.40786 Longitude -76.73529
Adjacent land use_ Farm field and forest		Distance to nearest	Prepared by: ERM Date 4/13/18		
Dominant wetland systems present PEM		Contiguous undeve	Wetland Impact: Type <u>Temporarv Area</u> 0.03		
Is the wetland a separate hydraulic system? No	If no	ot, where does the wetland l	Evaluation based on:		
How many tributaries contribute to the wetland?	0 Wildlife & vegetation diversity/abundance (see attached list)				Office X Field X
					Corps manual wetland delineation completed? YX N
Function/Value	Suitability Y / N	<ul><li>Rationale</li><li>(Reference #)*</li></ul>	Princi Functi		omments
Groundwater Recharge/Discharge	Y Y	5			djacent farm fields, likely recharges groundwater to
Floodflow Alteration					
Fish and Shellfish Habitat					
Sediment/Toxicant Retention					
Nutrient Removal					
Production Export					
Sediment/Shoreline Stabilization					
🖢 Wildlife Habitat					
A Recreation					
Educational/Scientific Value					
★ Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other				Wetland is likely connected to WUS 21 a	and WUS 05 through subsurface flow

			- No	Yes	Wetland I.D. WET 22
Total area of wetland 0.10 Human made? Yes	Is wetla	ind part of a wildlife corridor	<u>?</u> <b>INO</b>	or a "habitat island"?	Latitude 39.40873 Longitude -76.73492
Adjacent land use Farm fields		Distance to nearest r	Prepared by: ERM Date 4/13/18		
Dominant wetland systems present PEM		Contiguous undevel	Wetland Impact: Type Temporary Area 0.10		
Is the wetland a separate hydraulic system? No	If no	ot, where does the wetland lie	Evaluation based on:		
				<i>.</i>	Office X Field X
How many tributaries contribute to the wetland?Wildlife & vegetation diversity/abundance (see attached list)				Corps manual wetland delineation	
	Suitability	v Rationale	Princi	nal	completed? Y <u>X</u> N
Function/Value	Y / N	(Reference #)*		1	omments
Groundwater Recharge/Discharge	Y	5		Excess flow from WUS 21 spreads into the water table	WET 22, and likely filters to some extent back into
Floodflow Alteration	Y	3, 9, 13, 14		During large rain fall events, flood flow li to WUS 21/WET 22 and is likely carried	kely is too large to be carried by the diversion pipe by WUS 20's channel
Fish and Shellfish Habitat					
Sediment/Toxicant Retention					
Nutrient Removal					
Production Export					
Sediment/Shoreline Stabilization					
🖢 Wildlife Habitat					
A Recreation					
Educational/Scientific Value					
★ Uniqueness/Heritage					
Visual Quality/Aesthetics					
ES Endangered Species Habitat					
Other					